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1. Summary

H-index: 53 (Web of Science), 56 (Scopus), 68 (Google Scholar).

Publications: Total of 906 publications: 37 published books and reports, 242 peer-review journal papers, 24 peer reviewed chapters, 229 non-peer reviewed chapters, 334 contract and other reports, 40 United Nations and other policy documents.

Media: c. 660 media reports including newspapers, radio and TV.

2. Books and Published Reports

2015

- B.37. Stahel W.R., Saritas O., Damianova Z., van den Hove S., Knudsen L.E., Kurppa S., Laurent L., Mueller A., Nieuwenhuijsen M.J., Nonhebel S., **Sutton M.A.** and Watson K. (2015) *The Junction of Health, Environment and Bioeconomy: Foresight and Implications for European Research & Innovation Policies*. Brussels: European Commission [ISBN: 978-92-79-44579-8] <http://ec.europa.eu/research/foresight/>
- B.36. Oenema O., Billen G., Lassaletta L., Brentrup F., Lammel J., Bascou P., Dobermann A., Erisman J.W., Garnett T., Hammel M., Haniotis T., Hoxha A., Jensen L.S., Oleszek W., Pallière C., Powlson D., Quemada M., **Sutton M.A.**, Vallejo A., Van Grinsven H.J.M., Winiwarter W. (2015) *Nitrogen Use Efficiency (NUE) - an indicator for the utilization of nitrogen in food systems*. (EU Nitrogen Expert Panel). Wageningen University, The Netherlands.
- * B.35. Westhoek H., Lesschen J.P., Rood T., Leip A., Wagner S., De Marco A., Murphy-Bokern D., Pallière C., Howard C.M., Oenema O. & **Sutton M.A.** (2015) *Nitrogen on the Table: The influence of food choices on nitrogen emissions and the European environment*. (European Nitrogen Assessment Special Report on Nitrogen and Food.) Edinburgh: Centre for Ecology and Hydrology. 67 pp. [ISBN: 978-1-906698-51-5]
- B.34. Reis S., Howard C.M. and **Sutton M.A.**, (eds) (2015) *Costs of ammonia abatement and the climate co-benefits*. Dordrecht: Springer. 284 pp.
- B.33. UNECE (2015) *United Nations Economic Commission for Europe Framework Code for Good Agricultural Practice for Reducing Ammonia Emissions* (authors: S. Bittman, M. Dedina, B. Amon, H. Menzi, J. Webb, K. Groenestein, T. Misselbrook, N. Hutchings, H. Dohler, K. van der Hoek, S. Gyldenkaerne, L. Valli, C. Pallière, C. Howard, O. Oenema and **M.A. Sutton**) Geneva: United Nations Economic Commission for Europe.

2014

- B.32. Wolseley P.A., Leith I.D., Sheppard L.J., Lewis J.E.J., Crittenden P. and **Sutton M.A.** (2014) *Guide to using a lichen based index to nitrogen air quality*. Field Studies Council. 8 pp [ISBN 978 1 908819 10 9].
- B.31. **Sutton M.A.**, Mason K.E., Sheppard L.J., Sverdrup H., Haeuber R. and Hicks W.K. (2014). (Eds.) *Nitrogen Deposition, Critical Loads and Biodiversity*. (Proceedings of the International Nitrogen Initiative Workshop, linking experts of the Convention on Long-range Transboundary Air Pollution and the Convention on Biological Diversity). Dordrecht: Springer. 534 pp.

B.30. Bittman S., Dedina M., Howard C.M., Oenema O. and **Sutton M.A.** (2014) (Eds.) *Options for ammonia mitigation: Guidance from the UNECE Task Force on Reactive Nitrogen*. Edinburgh: TFRN-CLRTAP, Centre for Ecology and Hydrology. [ISBN: 978-1-906698-46-1]

2013

- B.29. UNEP (2013) *Drawing Down N₂O to Protect Climate and the Ozone Layer*. A UNEP Synthesis Report. (Eds.: J. Alcamo, S.A. Leonard, A.R. Ravishankara and **M.A. Sutton**). ISBN: 978-92-807-3358-7. (14 + 57 pp), Nairobi: United Nations Environment Programme.
- B.28. Fowler D., Brunekreef B., Fuzzi S., Monks P.S., **Sutton M.A.**, Brasseur G.P., Friedrich R., Passante L.G., Jiménez Mingo J.M. (2013) Research Findings in support of the EU Air Quality Review. (Eds. Maione M. and Fuzzi S.). Brussels: European Commission, Directorate-General for Research and Innovation. 57 pp.
- B.27. Fowler D., Pyle J.A., Raven J.A. and **Sutton M.A.** (2013) (Eds.) The global nitrogen cycle of the twenty-first century. (Special Issue) *Philosophical Transactions of the Royal Society, Series B*. **368** (1621).
- * B.26. **Sutton M.A.**, Bleeker A., Howard C.M., Bekunda M., Grizzetti B., de Vries W., van Grinsven H.J.M., Abrol Y.P., Adhya T.K., Billen G., Davidson E.A, Datta A., Diaz R., Erisman J.W., Liu X.J., Oenema O., Palm C., Raghuram N., Reis S., Scholz R.W., Sims T., Westhoek H. & Zhang F.S., with contributions from Ayyappan S., Bouwman A.F., Bustamante M., Fowler D., Galloway J.N., Gavigo M.E., Garnier J., Greenwood S., Hellums D.T., Holland M., Hoysall C., Jaramillo V.J., Klimont Z., Ometto J.P., Pathak H., Ploq Fichelet V., Powlson D., Ramakrishna K., Roy A., Sanders K., Sharma C., Singh B., Singh U., Yan X.Y. & Zhang Y. (2013) *Our Nutrient World: The challenge to produce more food and energy with less pollution*. Global Overview of Nutrient Management. Edinburgh: Centre for Ecology & Hydrology on behalf of the Global Partnership on Nutrient Management and the International Nitrogen Initiative. 114 pp.

2012

B.25. **Sutton M.A.**, Billen G., Cellier P., Erisman J.W., Mosier A.R., Nemitz E., van Grinsven H., Voss M., Reis S., Sprent J., Beier C., and Skiba U. (2012) Nitrogen and global change. (Eds.) (Fifth NitroEurope Special Issue) *Biogeosciences* **9**. http://www.biogeosciences.net/special_issue93.html

2011

- B.24. de Vries, W., Cellier P., Erisman J.W. and **Sutton M.A.** (2011) Assessment of nitrogen fluxes to air and water from site scale to continental scale (Eds). (Fourth NitroEurope Special Issue) *Environmental Pollution*, **159** (11), 3143-3268.
- B.23. Goodale C.L., Dise N.B. and **Sutton M.A.** (2011) Special Issue Section: Nitrogen deposition, critical loads, and biodiversity (Eds). *Environ. Pollut.* **159** (10), 2211-2299.
- B.22. Ambus P., Skiba U., Butterbach-Bahl K. and **Sutton M.A.** (2011) Reactive nitrogen and greenhouse gas flux interactions in terrestrial ecosystems. (Third NitroEurope Special Issue) (Eds.) *Plant Soil* **343**, 1-185.
- * B.21. **Sutton M.A.**, Howard C., Erisman J.W., Billen G., Bleeker A., Grennfelt P., van Grinsven H. and Grizzetti B. (2011) *The European Nitrogen Assessment: Sources, Effects and Policy Perspectives* (Eds.) Cambridge University Press. 612 pp. (ISBN 978-1-107-00612-6).
- B.20. **Sutton M.A.**, Nemitz E., Skiba U.M., Beier C. Butterbach Bahl K., Cellier P., de Vries W., Erisman J.W., Reis S., Bleeker A., Bergamaschi P., Calanca P.L., Dalgaard T., Duyzer J., Gundersen P., Hensen A., Kros J., Leip A., Olesen J.E., Owen S., Rees R.M., Sheppard L.J., Smith P., Zechmeister-Boltenstern S., Soussana J.F., Theobald M.R., Twigg M., van Oijen M., Veldkamp T., Vesala T., Winiwarter W., Carter M.S., Dragosits U., Flechard C., Helfter C., Kitzler B., Rahn K.H., Reinds G.J., Schleppi P., with contributions from the NitroEurope community. (2011) The nitrogen cycle and its influence on the European greenhouse gas balance. Edinburgh: Centre for Ecology and Hydrology, 43 pp. [ISBN 978-1-906698-21-8].
- B.19. Hicks W.K, Whitfield C.P., Bealey W.J., and **Sutton M.A.** (2011) 'Nitrogen Deposition and Natura 2000: Science & practice in determining environmental impacts' (Eds.) (Findings of a European workshop linking scientists, environmental managers and policymakers, Brussels, 18th - 20th May, 2009), Brussels: COST Office.

2010

B.18. Beier C., Skiba U. and **Sutton M.A.** (2010) Greenhouse gas exchange with European ecosystems and their interactions with nitrogen – results from NitroEurope IP. (Eds.) *European Journal of Soil Science*. (Second NitroEurope Special Issue). **61** (5), 627-805.

2009

- B.17. Hjorth J., Raes F., Monks P., Isaksen I., Laj P., Fowler D., van Aardeene J., Cescatti A., Dentener F., Giechaskiel B., Leip A., Marmer E., Marotta A., Martini G., **Sutton M.** and Eyring V. (2009) Answers to the Gothenburg Questions. ACCENTs Second Policy-Driven Synthesis. Answers by the atmospheric chemistry and air pollution research community to questions posed by policy makers in view of the revision of the Gothenburg Protocol. Urbino: ACCENT Secretariat, 46 pp. (ISBN 978-92-79-13444-9).
- B.16. Reis S., Butterbach-Bahl K. and **Sutton M.A.** (2009) Reactive nitrogen in agro-ecosystems: integration with greenhouse gas interactions. (Eds.) *Agriculture, Ecosystems and Environment* (First NitroEurope Special Issue). **133** (3-4), 135-288.
- B.15. **Sutton M.A.**, Oenema O., Erisman J.W., Grennfelt P., Beier C., Billen G., Bleeker A., Britton C., Butterbach Bahl K., Cellier P., van Grinsven H., Grizzetti B., Nemitz E., Reis S., Skiba U., Voss M., de Vries W. and Zechmeister-Boltenstern S. (2009) *Managing the European Nitrogen Problem: A proposed strategy for integration of European Research on the multiple effects of reactive nitrogen*. Wallingford: Centre for Ecology and Hydrology / Partnership for European Environmental Research, 23 pp. (ISBN 978-1-906698-13-3).
- B.14. Pilegaard K., Schjoerring J.K. and **Sutton M.A.** (2009) Processes controlling the exchange of ammonia between grassland and the atmosphere (GRAMINAE). (Eds.) *Biogeosciences* (Special Issue). Vol. **6**. 15 ff.
- B.13. **Sutton M.A.**, Reis S., and Baker S.M.H. (2009) *Atmospheric Ammonia: Detecting emission changes and environmental impacts*. (Eds). Dordrecht: Springer, 464 pp.

2008

- B.12. Erisman J.W. and **Sutton M.A.** (2008) *Reduced nitrogen in ecology and the environment*. (Eds.) *Environmental Pollution* (Special Issue) **154** (3), 357-507.

2002

- B.11. DEFRA (2002) *Ammonia in the UK*. Department for Environment, Food and Rural Affairs, London. 89 pp.
- B.10. **Sutton M.A.** and Fowler D. (2002) Ammonia Special Section. (Eds.) *Environmental Pollution* 119 (1).

2000

- B.9. **Sutton M.A.**, Moreno J.M., van der Putten W. and Struwe S. (2000) *Terrestrial Ecosystem Research in Europe: Successes, Challenges and Policy* (Eds.) Final Conference of the Terrestrial Ecosystem Research Initiative - Concerted Action (TERICA). EUR 19375, Luxembourg: European Commission. 208 pp.
- B.8. Agricultural and Forest Meteorology (Ammonia Exchange Special Issue) Series of 6 peer review papers and foreword, co-ordinated by M.A Sutton.

1999

- B.7. **Sutton M.A.**, Beier C., van Breemen N., Byrne C., Cernusca A., Christensen T., Ekschmitt K., Heads P., Huntley B., Kertesz M., Lawton J.H., Moreno J.M., Mulder J., van der Putten W., Schulze E.D., Struwe S., Wolters V. (1999) Transects for European research in ecosystem functioning: site based measurement strategies in the Terrestrial Ecosystem Research Initiative. Edinburgh: ITE/TERICA. [ISBN: 1 870393 45 7].

1998

- B.6. Beier C., Brown V., Buchmann N., Byrne C., Cernusca C., Cramer W., Cruz A., Christensen T., de Angelis P., Ecksmitt K., Emmett B., Fernandez F., Ferrier R., Gallardo J., Giovannini G., Hulme P., Jenkins A., Kertesz M., Kjoller A., Lawton J.H., Moreno J.M., Mulder J., Perez B., Scarascia-Mugnozza G., Smith P., Struwe S., **Sutton M.A.**, Sykes M., Troumbis A., Vellejo R., van der Putten W., Whitmore A., Wolters V., Wookey P. and Zuazua E. (1998) Ecosystem research and the European Union policy needs. Report of the Terrestrial Ecosystem Research Initiative (TERI) Concerted Action Workshop, Toledo (April-May 1998), Universidad de Castilla-La Mancha, Toledo, Spain.
- B.5. **Sutton M.A.**, Lee D.S., Dollard G.J. and Fowler D. (1998) *International conference on atmospheric ammonia: emission, deposition and environmental impacts*. (Eds.) *Atmos. Environ. (Special Issue)* **32** (3) 269-594.

1997

B.4. Fowler D., Campbell G.W., Cape J.N., Choularton T.W., Dollard G.J., Irwin J.G., Smith R.I., Stedman J.R., **Sutton M.A.**, Weston K.J. and Pitcairn C.E.R. (1997) *Deposition fluxes in the United Kingdom*. UK Critical Loads Advisory Group sub-group report on deposition fluxes. London: Department of Environment / Edinburgh: Institute of Terrestrial Ecology. 45 pp.

B.3. Irwin J.G., Campbell G.W., ApSimon H.M., Bull K., Cape J.N., Carruthers D.J., Choularton T.W., Derwent R.G., Fisher B.E.A.), Fowler D., Lee D.S., Longhurst J.W.S., Metcalfe S.E., Rea J., Smith R.I., **Sutton M.A.** (1997) *Acid deposition in the United Kingdom 1986-1995*. Fourth report of the Review Group on Acid Rain. London: Department of Environment. 176 pp.

1996

B.2. **Sutton M.A.**, Lee D.S., Dollard G.J. and Fowler D. (1996) *Atmospheric ammonia: emission, deposition and environmental impacts*. (Eds.) Poster Proceedings of the International Conference on Atmospheric Ammonia (Oxford, UK 2-4 October 1995). Edinburgh: Institute of Terrestrial Ecology. 135 pp [ISBN: 1 870 393 32 5]

1995

B.1. Hornung M., **Sutton M.A.** and Wilson R.B. (1995) *Mapping and modelling of critical loads for nitrogen - a workshop report*. (Eds.) (Report of the UN-ECE workshop, Grange-over-Sands, 24-26 October 1994). Edinburgh: Institute of Terrestrial Ecology, 207 pp. [ISBN 1 870393 24 4].

3. Peer Review Journal papers

2016

P.242. Mills G., Harmens H., Wagg S., Sharps K., Hayes F., Fowler D., **Sutton M.**, Davies B. (2016) Ozone impacts on vegetation in a nitrogen enriched and changing climate. *Environmental Pollution* **208**, 898-908.

P.241. Riddick S.N., Blackall T.D., Dragosits U., Daunt F., Newell M., Braban C.F., Tang Y.S., Schmale J., Hill P.W., Wanless S., Trathan P. and **Sutton M.A.** (2015) Measurement of ammonia emissions from temperate and sub-polar seabird colonies. *Atmospheric Environment* **134**, 40-50. 10.1016/j.atmosenv.2016.03.016.

P.240. McKenzie R.M., Özel M.Z., Cape J.N., Drewer J., Dinsmore K.J., Nemitz E., Tang Y.S., van Dijk N., Anderson M., Hamilton J.M., **Sutton M.A.**, Gallagher M.W., Skiba U. (2016) The import and export of organic nitrogen species at a Scottish ombrotrophic peatland. *Biogeosciences* **13**, 2353-2365.

P.239. Vieno M., Heal M.R., Twigg M.M., MacKenzie I.A., Braban C.F., Lingard J.N.N., Ritchie S., Beck R.C., Möring A., Ots R., Di Marco C.F., Nemitz E., **Sutton M.A.** and Reis S. (2016) The UK particulate matter air pollution episode of March–April 2014: more than Saharan dust. *Environmental Research Letters* **11**, 044004, doi:10.1088/1748-9326/11/4/044004

P.238. Möring A., Vieno M., Doherty R.M., Laubach J., Taghizadeh-Toosi A. and **Sutton M.A.** (2016) A process-based model for ammonia emission from urine patches, GAG (Generation of Ammonia from Grazing): description and sensitivity analysis. *Biogeosciences* **13**, 1837-1861. doi:10.5194/bg-13-1837-2016

P.237. Bealey W.J., Dore A.J., Dragosits U., Reis S., Reay D.S. and **Sutton M.A.** (2016) The potential for tree planting strategies to reduce local and regional ecosystem impacts of agricultural ammonia emissions *Journal of Environmental Management* **165**, 106-116.

2015

P.236. Dore A.J., Carslaw D.C., Braban C., Cain M., Chemel C., Conolly C., Derwent R.G., Griffiths S.J., Hall J., Hayman G., Lawrence S., Metcalfe S.E., Redington A., Simpson D., **Sutton M.A.**, Sutton P., Tang Y.S., Vieno M., Werner M., Whyatt J.D. (2015) Evaluation of the performance of different atmospheric chemical transport models and inter-comparison of nitrogen and sulphur deposition estimates for the UK. *Atmospheric Environment* **119**, 131-143.

P.235. Brownlie W.J., Howard C.M., Pasda G., Navé B, Zerulla W. and **Sutton M.A.** (2015) Developing a global perspective on improving agricultural nitrogen use. *Environmental Development*. **15**, 145-151.

P.234. Theobald M.R., Sanz-Cobena A., Vallejo A. and **Sutton M.A.** (2015) Suitability and uncertainty of two models for the simulation of ammonia dispersion from a pig farm located in an area with frequent calm conditions. *Atmospheric Environment* **102**, 167-175.

- P.233. Dore A.J., Carslaw D.C., Braban C., Cain M., Chemel C., Conolly C., Derwent R.G., Griffiths S.J., Hall J., Hayman G., Lawrence S., Metcalfe S.E., Redington A., Simpson D., **Sutton M.A.**, Sutton P., Tang Y.S., Vieno M., Werner M., Whyatt J.D. (2015) Evaluation of the performance of different atmospheric chemical transport models and inter-comparison of nitrogen and sulphur deposition estimates for the UK. *Atmos. Environ.* **119**, 131-143. [10.1016/j.atmosenv.2015.10.062](https://doi.org/10.1016/j.atmosenv.2015.10.062).
- P.232. Fowler D., Steadman C.E., Stevenson D., Coyle M., Rees R.M., Skiba U.M., **Sutton M.A.**, Cape J.N., Dore A.J., Vieno M., Simpson D., Zaehle S., Stocker B.D., Rinaldi M., Facchini M.C., Flechard C.R., Nemitz E., Twigg M., Erisman J.W., Galloway J.N. (2015) Effects of global change during the 21st century on the nitrogen cycle. *Atmospheric Chemistry and Physics*. **15**, 13849-13893.
- P.231. Brunekreef B., Harrison R.M., Künzli N., Querol X., **Sutton M.A.**, Heederik D.J.J. and Sigsgaard T. (2015) Reducing the health effect of particles from agriculture. *Lancet Respiratory Medicine* (8 October 2015), [http://dx.doi.org/10.1016/S2213-2600\(15\)00413-0](http://dx.doi.org/10.1016/S2213-2600(15)00413-0).
- P.230. Leip A., Billen G., Garnier J., Grizzetti B., Lassaletta L., Reis S., Simpson D., **Sutton M.A.**, de Vries W., Weiss F. and Westhoek H. (2015) Impacts of European livestock production: nitrogen, sulphur, phosphorus and greenhouse gas emissions, land-use, water eutrophication and biodiversity. *Environ. Res. Lett.* **10**, 115004.
- P.229. Schneidmesser, E. Von., Monks P.S., Allan J.D., Bruwiler L., Forster P., Fowler D., Lauer D., Morgan W.T., Paasonen P., Righi M., Sindelarova K. and **Sutton M.A.** (2015) Chemistry and the linkages between air quality and climate. *Chemical Reviews*, **115**, 3856-3897. DOI: 10.1021/acs.chemrev.5b00089
- P.228. Berninger F., Susiluoto S., Gianelle D., Bahn M., Wohlfahrt G., **Sutton M.**, Garcia-Pausas J., Gimeno C., Sanz M.J., Dore S., Rogiers N., Furger M., Eugster W., Balzarolo M., Sebastià M.T., Tenhunen J., Staszewski T. and Cernusca A. (2015) Management and site effects on carbon balances of European mountain meadows and rangelands. *Boreal Environment Research* **20**: 748–760.
- P.227. Helfter C., Campbell C., Dinsmore K. J., Drewer J., Coyle M., Anderson M., Skiba U., Nemitz E., Billett M. F., and **Sutton M.A.** (2015) Drivers of long-term variability in CO₂ net ecosystem exchange in a temperate peatland. *Biogeosciences* **12**, 1799-1811. doi:10.5194/bg-12-1799-2015.
- P.226. Vogt E., Braban C.F., Dragosits U., Durand P., **Sutton M.A.**, Theobald M.R., Rees R.M, McDonald C., Murray S. and Billett M.F. (2015) Catchment land use effects on fluxes and concentrations of organic and inorganic nitrogen in streams. *Agriculture, Ecosystems & Environment*, **199**, 320-332. [doi:10.1016/j.agee.2014.10.010](https://doi.org/10.1016/j.agee.2014.10.010)
- P.225. Van Damme M., Clarisse L., Dammers E., Liu X., Nowak J.B., Clerbaux C., Flechard C.R., Galy-Lacaux C., Xu W., Neuman J.A., Tang Y.S., **Sutton M.A.**, Erisman, J.W. and Coheur P.F. (2015) Towards validation of ammonia (NH₃) measurements from the IASI satellite. *Atmos. Meas. Tech.* **8**, 1575-1591, doi:10.5194/amt-8-1575-2015.
- P.224. Crittenden P.D., Scrimgeour C.M., Minnullina G., **Sutton M.A.**, Tang Y.S. and Theobald M.R. (2015) Lichen response to ammonia deposition defines the footprint of a penguin rookery. *Biogeochemistry*, **122**, 295-311. DOI 10.1007/s10533-014-0042-7.

2014

- P223. Oenema O., Ju X.T., de Klein C., Alfaro M., del Prado A., Lesschen J.P., Zheng X.H, Velthof G., Ma L., Gao B., Kroeze C., and **Sutton M.** (2014) Reducing nitrous oxide emissions from the global food system. *Current Opinion in Environmental Sustainability*, **9**, 55-64.
- P222. Sheppard L.J., Leith I.D., Mizunuma T., Leeson S., Kivimaki S., Cape J.N., Dijk N., Leaver D., **Sutton M.A.**, Fowler D., Berg L.J.L, Crossley A., Field C., Smart S. (2014) Inertia in an ombrotrophic bog ecosystem in response to 9 years' realistic perturbation by wet deposition of nitrogen, separated by form. *Global change biology* **20** (2), 566-580.
- P221. Abdalla, M., Hastings, A., Bell, M.A., Smith, J.U., Richards, M., Nilsson, M.B., Peichl, M., Lofvenius, M.B., Lund, M., Helfter, C., Nemitz, E., **Sutton M.A.**, Aurela, M., Lohila, N., Laurila, T., Smith, P (2014) Simulation of ecosystem CO₂ fluxes and attribution analysis on European Peatland sites using the ECOSSE model. *Water Air Soil Pollut.* **225**, 2182; DOI: 10.1007/s11270-014-2182-8
- P.220. Bealey W.J., Loubet B., Braban C.F., Famulari D., Theobald M.R., Reis S., Reay D.S. and **Sutton M.A.** (2014) Modelling agro-forestry scenarios for ammonia abatement in the landscape. *Environ. Res. Letters* **9** 125001.
- P.219. Sanz-Cobena A., Lassaletta L. Estellés F., Del Prado A., Guardia G., Abalos D., Aguilera E., Pardo G., Vallejo A., **Sutton M.A.**, Garnier J. and Billen G. (2014) Yield-scaled mitigation of ammonia emission from N fertilization: the Spanish case. *Environ. Res. Letters* **9**, 125005. doi:10.1088/1748-9326/9/12/125005

- P.218. Theobald M.R., Sanz-Cobena A., Vallejo A. and **Sutton M.A.** (2014) Suitability and uncertainty of two models for the simulation of ammonia dispersion from a pig farm located in an area with frequent calm conditions. *Atmospheric Environment* **102**, 167-175.
- P.217. Vieno M., Heal M.R., Hallsworth S., Famulari D., Doherty R.M., Dore A.J., Tang Y.S., Braban C.F., Leaver D., **Sutton M.A.**, and Reis S. (2014) The role of long-range transport and domestic emissions in determining atmospheric secondary inorganic particle concentrations across the UK. *Atmospheric Chemistry and Physics* **14**, 8435-8447. doi: 10.5194/acp-14-8435-2014
- P.216. Gu, Baojing, **Sutton M.A.**, Chang S.X., Ge Y., Chang J. (2014) Agricultural ammonia emissions contribute to China's urban air pollution. *Frontiers in Ecology and Environment* **12**: 265-266 doi:10.1890/14.WB.007 <http://www.esajournals.org/doi/abs/10.1890/14.WB.007>
- P.215. Riddick S.N., Blackall T.D., Dragosits U., Daunt F., Braban C.F., Tang Y.S., MacFarlane W., Taylor S., Wanless S. and **Sutton M.A.** (2014) Measurement of ammonia emissions from tropical seabird colonies. *Atmospheric Environment* **89**, 35-42. 10.1016/j.atmosenv.2014.02.012
- P.214. Westhoek H., Lesschen J.P., Rood T., Wagner S., De Marco A., Murphy-Bockern D., Leip A., van Grinsven H., **Sutton M.A.**, & Oenema O. (2014) Food choices, health and environment: Effects of cutting Europe's meat and dairy intake. *Global Environmental Change* **26**, 196-205. <http://dx.doi.org/10.1016/j.gloenvcha.2014.02.004>
- P.213. **Sutton M.A.**, Skiba U.M., van Grinsven H., Oenema O., Watson C., Williams J., Hellums D., Maas R., Gyldenkaerne S., Pathak H. and Winiwarter W. (2014) Green Economy thinking and the control of nitrous oxide emissions. *Environmental Development* **9**, 76-85. <http://dx.doi.org/10.1016/j.envdev.2013.10.002>.
- P.212. Jones L., Provins A., Holland M., Mills G., Hayes F., Emmett B., Hall J., Sheppard L., Smith R., **Sutton M.**, Hicks K., Ashmore M., Haines-Young R., Harper-Simmonds L. (2013) A review and application of the evidence for nitrogen impacts on ecosystem services. *Ecosystem Services* **7**, 76-88.

2013

- P.211. Theobald M.R., Crittenden P.D., Tang Y.S. and **Sutton M.A.** (2013) The application of inverse-dispersion and gradient methods to estimate ammonia emissions from antarctic penguins. *Atmospheric Environment* **81**, 320-329. <http://dx.doi.org/10.1016/j.atmosenv.2013.09.009>
- P.210. Boegh E., Houborg R., Bienkowski J., Braban C.F., Dalgaard T., van Dijk N., Dragosits U., Holmes E., Magliulo V., Schelde K., Di Tommasi P., Vitale L., Theobald M.R., Cellier P. and **Sutton M.A.** (2013) Remote sensing of LAI, chlorophyll and leaf nitrogen pools of crop- and grasslands in five European landscapes. *Biogeosciences* **10**, 6279-6307. doi:10.5194/bg-10-6279-2013
- P.209. Winiwarter W., Erisman J.W., Galloway J.N., Klimont Z. and **Sutton M.A.** (2013) Estimating environmentally relevant fixed nitrogen demand in the 21st century. *Climatic Change* **120**, 889-90. <http://dx.doi.org/10.1007/s10584-013-0834-0>
- P.208. Schmale J., Schneider J., Nemitz E., Tang Y.S., Dragosits U., Blackall T.D., Trathan P.N., Phillips G.J., **Sutton M.** and Braban C.F. (2013) Sub-Antarctic marine aerosol: significant contributions from biogenic sources. *Atmos. Chem and Phys* **13**, 8669-8694. www.atmos-chem-phys.net/13/8669/2013/doi:10.5194/acp-13-8669-2013 (and: *Atmos. Chem and Phys, Discussions* **13**, 8261-8332.)
- P.207. Flechard C.R., Massad R.-S., Loubet B., Personne E., Simpson D., Bash J.O., Cooter E.J., Nemitz E. and **Sutton M.A.** (2013) Advances in understanding, models and parameterisations of biosphere-atmosphere ammonia exchange. *Biogeosciences* **10**, 5385-5497.
- P.206. Fowler D., Pyle J.A., Raven J.A. and **Sutton M.A.** (2013) The global nitrogen cycle of the twenty-first century. Introduction. *Philosophical Transactions of the Royal Society, B*. 368: 2130165. <http://dx.doi.org/10.1098/rstb.2013.0165>
- P.205. Fowler D., Coyle M., Skiba U., **Sutton M.A.**, Cape J.N., Reis S., Sheppard L.J., Jenkins A., Grizzetti B., Galloway J.N., Vitousek P., Leach A., Bouwman A.F., Butterbach-Bahl K., Dentener F., Stevenson D., Amann M. and Voss M. (2013) The global nitrogen cycle of the twenty-first century. *Philosophical Transactions of the Royal Society, B*. 368: 2130164. <http://dx.doi.org/10.1098/rstb.2013.0164>
- P.204. Vogt E., Dragosits U., Braban C.F., Theobald M.R., Dore A.J., van Dijk N., Tang Y.S., McDonald C., Murray S., Rees R.M. and **Sutton M.A.** (2013) Heterogeneity of atmospheric ammonia at the landscape scale and consequences for environmental impact assessment. *Environmental Pollution* **179**, 120-131.
- P.203. **Sutton M.A.**, Howard C.M., Bleeker A. and Datta A. (2013) The global nutrient challenge: From science to public engagement. *Environmental Development* **6**, 80-85.

- * P.202. **Sutton M.A.**, Reis R., Riddick S.N., Dragosits U., Nemitz E., Theobald M.R., Tang Y.S., Braban C.F., Vieno M., Dore A.J., Mitchell R.F., Wanless S., Daunt F., Fowler D., Blackall T.D., Milford. C., Flechard C.F., Loubet B., Massad R., Cellier P., Coheur P.F., Clarisse L., van Damme M., Ngadi, Y., Clerbaux C., Skj  th C.A., Geels C., Hertel O., Wichink Kruit R.J., Pinder, R.W., Bash J.O., Walker J.D., Simpson D., Horvath, L., Misselbrook, T.H., Bleeker A., Dentener F. & Wim de Vries V. (2013) Toward a climate-dependent paradigm of ammonia emission & deposition. *Phil. Trans. Roy. Soc. (Ser. B)*. 368: 20130166. <http://dx.doi.org/10.1098/rstb.2013.0166>
- P.201. Van Grinsven H.J.M., Holland M., Jacobsen B.H., Klimont Z., **Sutton M.A.** and Willems W.J. (2013) Costs and benefits of nitrogen for Europe and implications for mitigation. *Environmental Science & Technology* **47**, 3571-3579. dx.doi.org/10.1021/es303804g
- P.200. Skiba U., Jones S. K., Drewer J., Helfter C., Anderson M., Dinsmore K., McKenzie R., Nemitz E., and **Sutton M.A.** (2013) Comparison of soil greenhouse gas fluxes from extensive and intensive grazing in a temperate maritime climate. *Biogeosciences*, **10**, 1231-1241. (*Biogeosciences Discussions* **9**, 10057-10085, 2012)
- P.199. **Sutton M.A.** and Bleeker A. (2013) The shape of nitrogen to come. *Nature* **494**, 435-437. doi:10.1038/nature11954
- P.198. Vogt E., Braban C.F., Dragosits U., Theobald M.R., Billett M.F., Dore A.J., Tang Y.S., van Dijk N., Rees R.M., McDonald C., Murray S., Skiba U.M. and **Sutton M.A.** (2013) Estimation of nitrogen budgets for contrasting catchments at the landscape scale. *Biogeosciences* **10**, 119-133, 2013. (also: *Biogeosciences Discuss.*, **9**, 8989-9028, 2012).
- 2012**
- P.197. Hertel O., Skj  th C.A., Reis S., Bleeker A., Harrison R., Cape J.N., Fowler D., Skiba U., Simpson D., Jickells T., Kulmala M., Gyldenk  rne S., S  rensen L.L., Erisman J.W. and **Sutton M.A.** (2012) Governing processes for reactive nitrogen compounds in the European atmosphere. *Biogeosciences* **9**, 4921-4954. doi:10.5194/bg-9-4921-2012. (plus: *Biogeosciences Discuss.*, **9**, 9349-9423).
- P.196. Reis S., Grennfelt P., Klimont Z., Amann M., ApSimon H., Hettelingh J.P., Holland M., LeGall A.C., Maas R., Posch M., Spranger T., **Sutton M.A.**, Williams M. (2012) From Acid Rain to Climate Change. *Science*. **338**, 1153-1154.
- P.195. Niu, S.L, Luo, Y.Q., Fei, S.F., Yuan, W.P., Schimel, D., Law, B.E., Ammann, C., Arain, M.A., Arneth, A., Aubinet, M., Barr, A., Beringer, J., Bernhofer, C., Black, T.A., Buchmann, N., Cescatti, A., Chen, J.Q., Davis, K.J., Dellwik, E., Desai, A.R., Etzold, S., Francois, L., Gianelle, D., Gielen, B., Goldstein, A., Groenendijk, M., Gu, L.H., Hanan, N., Helfter, C., Hirano, T., Hollinger, D.Y., Jones, M.B., Kiely, G., Kolb, T.E., Kutsch, W.L., Lafleur, P., Lawrence, D.M., Li, L.H., Lindroth, A., Litvak, M., Loustau, D., Lund, M., Marek, M., Martin, T.A., Matteucci, G., Migliavacca, M., Montagnani, L., Moors, E., Munger, J.W., Noormets, A., Oechel, W., Olejnik, J., Kyaw, T.P.U., Pilegaard, K., Rambal, S., Raschi, A., Scott, R.L., Seufert, G., Spano, D., Stoy, P., **Sutton, M.A.**, Varlagin, A., Vesala, T., Weng, E.S., Wohlfahrt, G., Yang, B. Zhang, Z.D. and Zhou, X.H. (2012) Thermal optimality of net ecosystem exchange of carbon dioxide and underlying mechanisms *New Phytologist* **194**, 775-783. DOI: 10.1111/j.1469-8137.2012.04095.x
- P.194. Dore A.J., Kryza M., Hall J.R., Hallsworth S., Keller V.J.D., Vieno M. and **Sutton M.A.** (2012) The influence of model grid resolution on estimation of national scale nitrogen deposition and exceedance of critical loads. *Biogeosciences*, **9**, 1597-1609.
- P.193. Pinho P., Theobald M.R., Dias T., Tang Y.S., Cruz C., Martins Loucao M.A., Maguas C., **Sutton M.**, Branquinho C. (2012) Critical loads of nitrogen deposition and critical levels of atmospheric ammonia for semi-natural Mediterranean evergreen woodlands. *Biogeosciences* **9**, 1205-1215.
- P.192. Riddick S.N., Dragosits, U. Blackall T.D., Daunt F., Wanless S. and **Sutton M.A.** (2012) The global distribution of ammonia emissions from seabird colonies. *Atmospheric Environment* **55**, 319-327. DOI: 10.1016/j.atmosenv.2012.02.052
- P.191. Theobald M.R., L  fstr  m P., Walker J. Andersen H.V., Pedersen P., Vallejo A. and **Sutton M.A.** (2012) An intercomparison of models used to simulate the short-range atmospheric dispersion of agricultural ammonia emissions. *Environ. Model. & Software* **37**, 90-102.
- P.190. **Sutton M.A.**, Billen G., Cellier P., Erisman J.W., Mosier A.R., Nemitz E., van Grinsven H., Voss M., Reis S., Sprent J., Beier C., and Skiba U. (2012) Nitrogen and global change. *Biogeosciences* **9**, 1691-1693.

2011

- P.189. Ambus P., Skiba U., Butterbach-Bahl K. and **Sutton M.A.** (2011) Reactive nitrogen and greenhouse gas flux interactions in terrestrial ecosystems. (NitroEurope Special Issue) *Plant Soil* **343**, 1-3.
- P.188. de Vries, W., Cellier P., Erisman J.W. and **Sutton M.A.** (2011) Assessment of nitrogen fluxes to air and water from site scale to continental scale: An overview. *Environmental Pollution*, **159** (11), 3143-3148.
- P.187. Duret S., Drouet J.L., Durand P., Hutchings N.J., Theobald M.R., Salmon-Monviola J., Dragosits U., Maury O., **Sutton M.A.** and Cellier P. (2011) NitroScape: A model to integrate nitrogen transfers and transformations in rural landscapes. *Environmental Pollution* **159**, 3162-3170.
- P.186. Flechard C.R., Nemitz E., Smith R.I., Fowler D., Vermeulen A.T., Bleeker A., Erisman J.W., Simpson D., Zhang L., Tang Y.S., and **Sutton M.A.** (2011) Dry deposition of reactive nitrogen to European ecosystems: a comparison of inferential models across the NitroEurope network. *Atmos. Chem. Phys.*, **11**, 2703–2728.
- P.185. Goodale C.L., Dise N.B. and **Sutton M.A.** (2011) Introduction: Special issue on nitrogen deposition, critical loads, and biodiversity. *Environ. Pollut.* **159**, 2211-2213.
- P.184. Guerrieri R., Mencuccini M., Sheppard L.J., Saurer M., Perks M., Levy P., **Sutton M.A.**, Borghetti M. and Grace J. (2011) The legacy of enhanced N and S deposition as revealed by the combined analysis of delta 13C, delta ¹⁸O and delta ¹⁵N in tree rings. *Global Change Biology* **17**, 1946-1962. DOI: 10.1111/j.1365-2486.2010.02362.x
- P.183. Jones S.K., Famulari D., Di Marco C.F., Nemitz E., Skiba U.M., Rees R.M. and **Sutton M.A.** (2011) Nitrous oxide emissions from managed grassland: a comparison of eddy covariance and static chamber measurements. *Atmospheric Measurement Techniques*. **4**, 1079-1112.
- P.182. Junkermann, W., Vogel B. and **Sutton M.A.** (2011) The climate penalty for clean fossil fuel combustion. *Atmospheric Chemistry and Physics*. **11**, 12917–12924.
- P.181. Migliavacca, M., Reichstein, M., Richardson, A.D., Colombo, R., **Sutton M.A.**, Lasslop G., Tomelleri E., Wohlfahrt G., Carvalhais N, Cescatti A., Mahecha M.D., Montagnani L., Papale D., Zaehle S., Arain A., Arneth A., Black T.A., Carrara A., Dore S., Gianelle D., Helfter C., Hollinger D., Kutsch W.L., Lafleur P.M., Nouvellon Y., Rebmann C., da Rocha H.R., Rodeghiero M., Rouspard O., Sebastia M.T., Seufert G., Soussana J.F., van der Molen M.K. (2011) Semi-empirical modeling of abiotic and biotic factors controlling ecosystem respiration across eddy covariance sites. *Global Change Biology* **17**, 390-409.
- P.180. Owen S.M., Leaver D.S., Bealey W.J., Wilson R., Reis S. and **Sutton M.A.** (2011) A new database for time-series monitoring data: the nitroeuropa approach. *iForest* **4**, 226-232. [doi: 10.3832/ifer0595-004] www.sisef.it/iferest/contents/?doi=ifer0595-004
- P.179. Pinho P., Dias T., Cruz C., Tang Y.S., **Sutton M.A.**, Martins-Loucao M.A. Maguas C. and Branquinho C. (2011) Using lichen functional diversity to assess the effects of atmospheric ammonia in Mediterranean woodlands. *J. Applied Ecology* **48** (5), 1107-1116 (DOI: 10.1111/j.1365-2664.2011.02033.x)
- * P.178. Sheppard L.J., Leith I.D., Mizunuma T., Cape J.N., Crossley A., Leeson S., **Sutton M.A.**, van Dijk N. and Fowler, D. (2011) Dry deposition of ammonia gas drives species change faster than wet deposition of ammonium ions: evidence from a long-term field manipulation. *Global Change Biology* **17**, 3589-3607. [DOI: 10.1111/j.1365-2486.2011.02478.x]
- P.177. Smart J.C.R., Hicks K., Morrissey T., Heinemeyer A., **Sutton M.A.** and Ashmore M. (2011) Applying the ecosystem service concept to air quality management in the UK: a case study for ammonia. *Environmetrics* **22**, 649-661.
- * P.176. **Sutton M.A.**, Oenema O., Erisman J.W., Leip A., van Grinsven H. and Winiwarter W. (2011) Too much of a good thing. *Nature* **472**, 159-161.
- P.175. Twigg M.M., House E., Thomas R., Whitehead J., Phillips G.J., Famulari D., Fowler D., Gallagher M.W., Cape J.N., **Sutton M.A.**, Nemitz E. (2011) Surface/atmosphere exchange and chemical interactions of reactive nitrogen compounds above a manured grassland. *Agricultural and Forest Meteorology* **151**, 1488-1503.
- P.174. Winiwarter W., Obersteiner M., Smith K.A. and **Sutton M.A.** (2011) The European nitrogen cycle: commentary on Schulze et al., *Global Change Biology* (2010) 16, pp. 1451–1469. *Global Change Biology*, doi: 10.1111/j.1365-2486.2010.02353.x
- P.173. Kindler R., Siemens J., Kaiser K., Walmsley D.C, Bernhofer C., Buchmann N., Cellier C., Elbers J., Eugster W., Gleixner G., Grünwald T., Heim A., Ibrom A., Jans W., Jones S.K., Jones M., Klumpp K., Kutsch W., Steenberg Larsen K., Lehuger S., Loubet B., McKenzie R., Moors E., Osborne B., Pilegaard K., Rebmann C., Saunders M., Schmidt M.W.I., Seyfferth J., Skiba U., Soussana J.F., **Sutton M.A.**, Tefs C., Vowinkel B., Zeeman M.J., Kaupenjohann M. (2010) Dissolved carbon leaching is a major component of net ecosystem carbon balances. *Global Change Biology* **17**, 1167-1185. doi: 10.1111/j.1365-2486.2010.02282.x.

2010

- P.172. Misselbrook T.H, Cape J.N., Cardenas L.M., Chadwick D.R., Dragosits U., Hobbs P.J., Nemitz E., Reis S., Skiba U. and **Sutton M.A.** (2010) Key unknowns in estimating atmospheric emissions from UK land management. *Atmospheric Environment* doi:10.1016/j.atmosenv. 2010.11.014, 2010.
- P.171. Wolseley P., **Sutton M.**, Leith, I and van Dijk N. (2010) Epiphytic lichens as indicators of ammonia concentrations across the UK. *Bibliotheca Lichenologica* **105**: 75–85.
- P.170. Yi, C., Ricciuto, D., Li, R., Wolbeck, J., Xu, X., Nilsson, M., Aires, L., Albertson, J.D., Amman, C., Arain, M.A., de Araujo, A.C., Aubinet, M., Aurela, M., Barcza, Z., Barr, A., Berbigier, P., Beringer, J., Bernhofer, C., Black, A.T., Bolstad, P.V., Bosveld, F.C., Broadmeadow, M.S.J., Buchmann, N., Burns, S.P., Cellier, P., Chen, J., Chen, J., Ciais, P., Clement, R., Cook, B.D., Curtis, P.S., Dail, D.B., Dellwik, E., Delpierre, N., Desai, A.R., Dore, S., Dragoni, D., Drake, B.G., Dufrene, E., Dunn, A., Elbers, J., Eugster, W., Falk, M., Feigenwinter, C., Flanagan, L.B., Foken, T., Frank, J., Fuhrer, J., Gianelle, D., Golstein, A., Goulden, M., Granier, A., Grunwald, T., Gu, L., Guo, H., Hammerle, A., Han, S., Hanan, N.P., Haszpra, L., Heinesch, B., Helfter, C., Hendriks, D., Hutley, L.B., Ibrom, A., Jacobs, C., Johansson, T., Jongen, M., Katul, G., Kiely, G., Klumpp, K., Knohl, A., Kolb, T., Kutsch, W.L., Lafleur, P., Laurila, T., Leuning, R., Lindroth, A., Liu, H., Loubet, B., Manca, G., Marek, M., Margolis, H.A., Martin, T.A., Massman, W.J., Matamala, R., Matteucci, G., McCaughey, H., Merbold, L., Meyers, T., Migliavacca, M., Miglietta, F., Misson, L., Molder, M., Moncrieff, J., Monson, R.K., Montagnani, L., Montes-Helu, M., Moors, E., Moureaux, C., Mukelabai, M.M., Munger, J.W., Myklebust, M., Nagy, Z., Noormets, A., Oechel, W., Oren, R., Pallardy, S.G., Paw, U K.T., Pereira, J.S., Pilegaard, K., Pinter, K., Pio, C., Pita, G., Powell, T.L., Rambal, S., Randerson, J.T., von Randow, C., Rebmann, C., Rinne, J., Rossi, F., Roulet, N., Ryel, R.J., Sagerfors, J., Saigusa, N., Sanz, M.J., Scarascia Mugnozza, G., Schmid, H.P., Seufert, G., Siqueira, M., Soussana, J.-F., Starr, G., **Sutton, M.A.**, Tenhunen, J., Tuba, Z., Tuovinen, J.-P., Valentini, R., Vogel, C.S., Wang, J., Wang, S., Wang, W., Welp, L.R., Wen, X., Wharton, S., Wilkinson, M., Williams, C.A., Wohlfahrt, G., Yamamoto, S., Yu G., Zampedri, R., Zhao, B., Zhao, X., (2010). Climate control of terrestrial carbon exchange across biomes and continents. *Environmental Research Letters* **5**. doi: 10.1088/1748-9326/5/3/034007.
- * P.169. Hallsworth S., Dore A.J., Bealey W.J., Dragosits U., Vieno M., Hellsten S., Tang Y.S. and **Sutton M.A.** (2010) The role of indicator choice in quantifying the threat of atmospheric ammonia to the ‘Natura 2000’ network. *Environmental Science and Policy* **13**, 671-687.
- P.168. Ambus, P., Skiba, U., Drewer, J., Jones, S.K., Carter, M.S., Albert, K.R. and **Sutton, M.A.** (2010) Development of an accumulation-based system for cost-effective chamber measurements of trace gas fluxes. *European Journal of Soil Science* **61**, 785-792.
- P.167. Beier C., Skiba U. and **Sutton M.A.** (2010) Greenhouse gas exchange with European ecosystems and their interactions with nitrogen – results from NitroEurope IP. *European Journal of Soil Science*. **61**, 627-630.
- P.166. Drewer, J. Lohila A., Aurela M., Laurila T., Minkkinen K., Penttilä T., Dinsmore K.J., McKenzie R., Helfter C., Flechard C., **Sutton M.A.** and Skiba U.M. (2010) Comparison of greenhouse gas fluxes and nitrogen budgets from an ombrotrophic bog in Scotland and a pristine mire in Finland. *European Journal of Soil Science* **61**, 640-650.
- P.165. Famulari D., Fowler D., Storeton-West R.L., Nemitz E., Hargreaves K.J., Rutherford G., Tang Y.S., **Sutton M.A.**, and Weston K.J. (2009) Development of a low-cost system for measuring conditional time-averaged gradients of SO₂ and NH₃. *Environmental Monitoring and Assessment* **161**, 11-27. DOI: 10.1007/s10661-008-0723-6.
- P.164. Massad R.-S., Nemitz E. and **Sutton M.A.** (2010) Review and parameterisation of bi-directional ammonia exchange between vegetation and the atmosphere *Atmos. Chem. Phys.* **10**, 10359-10386. www.atmos-chem-phys.net/10/10359/2010/
- P.163. Schaufler G., Kitzler B., Schindlbacher A., Skiba U., **Sutton M.A.**, and Zechmeister-Bolternstern S. (2010) Greenhouse gas emissions from European soils under different land use: Effects of soil moisture and temperature. *European Journal of Soil Science*, **61**, 683-696.
- P.162. Vieno M., Dore A.J., Stevenson D.S., Doherty R., Heal M.R., Reis, S., Hallworth S., Tarrasón L., Wind P., Fowler D., Simpson D. and **Sutton M.A.** (2010) Modelling surface ozone during the 2003 heat wave in the UK. *Atmospheric Chemistry and Physics*. **10**, 7963-7978.
- P.161. Vieno M., Dore A.J., Bealey W.J., Stevenson D.S., **Sutton M.A.** (2010) The importance of source configuration in quantifying footprints of regional atmospheric sulphur deposition. *Science of the Total Environment*. **408**, (4), 985-995.

- P.160. von Bobruzki K., Braban C.F., Famulari D., Jones S.K., Blackall T., Smith T.E.L., Blom M., Coe H., Gallagher M., Ghalaieny M., McGillen M.M.R., Percival C. J., Whitehead J. D., Ellis R., Murphy J., Mohacsi A., Pogany A., Rantanen S., **Sutton M.A.** and E. Nemitz (2009) Field inter-comparison of eleven atmospheric ammonia measurement techniques. *Atmospheric Measurement Techniques*, **3**, 91-112.
- P.159. Wolf B., Zheng X., Brüggemann N., Chen W., Dannemann M., Han X., **Sutton M.A.**, Wu H., Yo Z. and Butterbach-Bahl K. (2010) Grazing-induced reduction of natural nitrous oxide release from continental steppe. *Nature* **464**, 881-884. DOI:10.1038/nature08931. (Plus on-line supplementary material at www.nature.com/nature.)
- P.158. Wichink Kruit R.J., van Pul W.A.J., Sauter F.J., van den Broek M., Nemitz E., **Sutton M.A.**, Krol M. and Holtslag A.A.M. (2010) Modeling the surface atmosphere exchange of ammonia. *Atmospheric Environment*. **44** (7), 945-957.

2009

- P.157. Burkhardt J., Flechard C.R., Gresens F., Mattsson M., Jongejan, P.A.C., Erisman J.W., Weidinger T., Meszaros R., Nemitz E., **Sutton M.A.** (2009) Modelling the dynamic chemical interactions of atmospheric ammonia with leaf surface wetness in a managed grassland canopy. *Biogeosciences* (GRAMINAE Special Issue) **6**, 67-83.
- * P.156. Cape J.N., van der Eerden L.J., Sheppard L.J., Leith I.D. and **Sutton M.A.** (2009) Evidence for changing the critical level for ammonia. *Environmental Pollution* **157**, 1033-1037. DOI: 10.1016/j.envpol.2008.09.049.
- P.155. David M., Loubet B., Cellier P., Mattsson M., Schjoerring J.K., Nemitz E., Roche R., Riedo M. and **Sutton M.A.** (2009) Ammonia sources and sinks in an intensively managed grassland using dynamic chambers. *Biogeosciences* (GRAMINAE Special Issue), **6**, 1903-1915.
- P.154. Fowler D., Pilegaard K., **Sutton M.A.**, Ambus P., Raivonen M., Duyzer J., Simpson D., Fagerli H., Schjoerring J.K., Neftel A., Burkhardt J., Daemmgen U., Neiryneck J., Personne E., Wichink-Kruit R., Butterbach-Bahl K., Flechard C., Tuovinen J.P., Coyle M., Gerosa G., Loubet B., Altimir N., Gruenhage L., Ammann C., Cieslik S., Paoletti E., Mikkelsen T.N., Ro-Poulsen H., Cellier C., Cape J.N., Horváth L., Loreto F., Niinemets Ü., Palmer P. I., Rinne J., Misztal P., Nemitz E., Nilsson D., Pryor S., Gallagher M.W., Vesala T., Skiba U., Brüggemann N., Zechmeister-Boltenstern S., Williams J., O'Dowd C., Facchini M.C., de Leeuw G., Flossman A., Chaumerliac N. and Erisman J.W. (2009) Atmospheric Composition Change: Ecosystems - Atmosphere interactions. *Atmospheric Environment* **43**, 5193–5267.
- P.153. Hensen A., Loubet B., Mosquera J., van den Bulk W.C.M., Erisman J.W., Dämmgen U., Milford C., Löpmeier F.J., Cellier P., Mikuška P. and **Sutton M.A.** (2009) Estimation of NH₃ emissions from a naturally ventilated livestock farm using local-scale atmospheric dispersion modelling. *Biogeosciences* (GRAMINAE Special Issue), **6**, 2847-2860.
- P.152. Hensen A., Nemitz E., Flynn M.J., Blatter A., Jones S. K., Sørensen L. L., Hensen B., Pryor S., Jensen B., Otjes R.P., Cobussen J., Loubet B., Erisman J.W., Gallagher M.W., Neftel A. and **Sutton M.A.** (2009) Inter-comparison of ammonia fluxes obtained using the Relaxed Eddy Accumulation technique. *Biogeosciences* (GRAMINAE Special Issue), **6**, 2575-2588.
- P.151. Herrmann B., Mattsson M., Jones S. K., Cellier P., Milford C., **Sutton M.A.**, Schjoerring J.K., and Neftel A. (2009) Vertical structure and diurnal variability of ammonia exchange potential within an intensively managed grass canopy. *Biogeosciences* (GRAMINAE Special Issue) **6**, 15-23.
- P.150. Loubet B., Milford C., Hensen A., Dämmgen U., Cellier P. and **Sutton M.A.** (2009) Advection of ammonia over a pasture field, and its effect on gradient flux measurements. *Biogeosciences* (GRAMINAE Special Issue), **6**, 1295-1309.
- P.149. Mattsson M., Herrmann B., David M., Loubet B., Riedo M., Theobald M.R., **Sutton M.A.**, Bruhn D., Neftel A. and Schjoerring J.K. (2009) Temporal variability in bioassays of the stomatal ammonia compensation point in relation to plant and soil nitrogen parameters in intensively managed grassland. *Biogeosciences* (GRAMINAE Special Issue) **6**, 171-179.
- P.148. Mattsson M., Herrmann B., Jones S., Neftel A., **Sutton M.A.**, and Schjoerring J. K. (2009) Contribution of different grass species to plant-atmosphere ammonia exchange in intensively managed grassland. *Biogeosciences* (GRAMINAE Special Issue) **6**, 59-66.
- P.147. Milford C., Theobald M. R., Nemitz E., Hargreaves K. J., Horvath L., Raso J., Dämmgen U., Neftel A., Jones S.K., Hensen A., Loubet B., Cellier P. and **Sutton M.A.** (2009) Ammonia fluxes in relation to cutting and fertilization of an intensively managed grassland derived from an inter-comparison of gradient measurements. *Biogeosciences* (GRAMINAE Special Issue) **6**, 819-834.

- P.146. Nemitz E., Dorsey J. R., Flynn M. J., Gallagher M.W., Hensen A., Erisman J.-W., Owen S.M., Dämmgen U. and **Sutton M.A.** (2009) Aerosol fluxes and particle growth above managed grassland. *Biogeosciences* (GRAMINAE Special Issue), **6**, 1627-1645.
- P.145. Nemitz E., Hargreaves K.J., Neftel A., Loubet B., Cellier P., Dorsey J.R., Flynn M., Hensen A., Weidinger T., Meszaros R., Horvath L., Dämmgen U., Fruehauf C., Löpmeier F.J., Gallagher M. W. and **Sutton M.A.** (2009) Inter-comparison and assessment of turbulent and physiological exchange parameters of grassland. *Biogeosciences* (GRAMINAE Special Issue) **6**, 1445-1466.
- P.144. Nemitz E., Loubet B., Lehmann B.E., Cellier P., Neftel A., Jones S. K., Hensen A., Ihly B., Tarakanov S. and **Sutton M.A.** (2009) Turbulence characteristics and transport mechanisms in grassland canopies. *Biogeosciences* (GRAMINAE Special Issue), **6**, 1519-1537.
- P.143. Personne E., Loubet B., Herrmann B., Mattsson M., Schjoerring J.K., Nemitz E., **Sutton M.A.** and Cellier, P. (2009) SURFATM-NH₃: a model combining the surface energy balance and the bi-directional exchanges of ammonia at the field scale. *Biogeosciences* (GRAMINAE Special Issue), **6**, 1371-1388.
- P.142. Pilegaard K., Schjoerring J.K. and **Sutton M.A.** (2009) Processes controlling the exchange of ammonia between grassland and the atmosphere (GRAMINAE) – results from the Braunschweig field experiment. *Biogeosciences* **6**, 3149-3150.
- P.141. Reis S., Pinder R.W., Zhang M., Lijie G. and **Sutton M.A.** (2009) Reactive nitrogen in atmospheric emission inventories. *Atmos. Chem. Phys.* **9**, 7657–7677.
- P.140. Skiba U., Dreuer J., Tang Y.S., van Dijk N., Helfter C., Nemitz E., Famulari D., Cape J.N., Jones S.K., Twigg M., Pihlatie M., Vesala T., Larsen K.S., Carter M.S., Ambus P., Ibrom A., Beier C., Hensen A., Frumau A., Erisman J.W., Brüggemann N., Gasche R., Butterbach-Bahl K., Neftel A., Spirig C., Horvath L., Freibauer A., Cellier P., Laville P., Loubet B., Magliulo E., Bertolini T., Geufert G., Andersson M., Manca G., Laurila T., Aurela M., Lohila A., Zechmeister-Boltenstern S., Kitzler B., Schaufler G., Siemens J., Kindler R., Flechard C. and **Sutton M.A.** (2009) Biosphere-atmosphere exchange of reactive nitrogen and greenhouse gases at the NitroEurope core flux measurement sites: Measurement strategy and first data sets. *Agriculture, Ecosystems & Environment*. (NitroEurope Special Issue) **133**, 139-149.
- * P.139. **Sutton M.A.**, Nemitz E., Milford C., Campbell C., Erisman J.W., Hensen A., Cellier P., David M., Loubet B., Personne E., Schjoerring J.K., Mattsson M., Dorsey J.R., Gallagher M.W., Horvath L., Weidinger T., Meszaros R., Dämmgen U., Neftel A., Herrmann B., Lehman B.E. Flechard C. and Burkhardt J. (2009) Dynamics of ammonia exchange with cut grassland: Synthesis of results and conclusions of the GRAMINAE Integrated Experiment. *Biogeosciences* (GRAMINAE Special Issue) **6**, 2907–2934.
- P.138. **Sutton M.A.**, Nemitz E., Theobald M.R., Milford C., Dorsey J.R., Gallagher M.W., Hensen A., Jongejan P.A.C., Erisman J.W., Mattsson M., Schjoerring J.K., Cellier P., Loubet B., Roche R., Neftel A., Herrmann B., Jones S.K., Lehman B.E., Horvath L., Weidinger T., Rajkai K., Burkhardt J., Löpmeier F.J., Dämmgen U. (2009) Dynamics of ammonia exchange with cut grassland: Strategy and implementation of the GRAMINAE Integrated Experiment. *Biogeosciences* (GRAMINAE Special Issue) **6**, 309-331.
- P.137. **Sutton M.A.**, Reis S. and Butterbach-Bahl K. (2009) Reactive nitrogen in agro-ecosystems: integration with greenhouse gas interactions. *Agriculture, Ecosystems and Environment*. (NitroEurope Special Issue), **133**, 135-138.
- P.136. Tang Y.S., Simmons I., van Dijk N., Di Marco C., Nemitz E., Dämmgen U., Gilke K., Djuricic V., Vidic S., Gliha Z., Borovecki D., Mitosinkova M., Hanssen J.E., Uggerud T.H., Sanz M.J., Sanz P., Chorda J.V., Flechard C.R., Fauvel Y., Ferm M., Perrino C. and **Sutton M.A.** (2009) European scale application of atmospheric reactive nitrogen measurements in a low-cost approach to infer dry deposition fluxes. *Agriculture, Ecosystems & Environment*. (NitroEurope Special Issue), **133**, 183-195.
- P.135. Theobald M.R., Bealey W.J., Tang Y.S., Vallejo A. and **Sutton M.A.** (2009) A simple model for screening the local impacts of atmospheric ammonia. *Science of the Total Environment*. **407** (23), 6024-6033.
- P.134. de Vries W., Solberg S., Dobbertin M.D., Sterba H., Laubhann D., van Oijen M., Evans C., Gundersen P., Kros J., Wamelink G.W., Reinds G.J. and **Sutton M.A.** (2009) The impact of nitrogen deposition on carbon sequestration by European forests and heathlands. *Forest Ecology and Management* **258**, 1814-1823.

2008

- P.133. Cape J.N., Jones M.R., Leith I.D., Sheppard van Dijk N., **Sutton M.A.** and Fowler D. (2008) Estimate of annual NH₃ dry deposition to a fumigated ombrotrophic bog using concentration-dependent deposition velocities. *Atmospheric Environment* **42** (27), 6637-6646.

- P.132. Vieno M., Dore A.J., Stevenson D.S., Doherty R., Heal M., Reis S., Hallsworth S., Tarrason L., Wind P., **Sutton M.A.** (2008) Modelling surface ozone during the 2003 heat wave in the UK. *Croatian Meteorological Journal*, **43** (H12_161), 83-87.
- P.131. Wohlfahrt G., Anderson-Dunn M. Bahn M., Balzarolo M., Berninger F., Campbell C., Carrara A., Cescatti A., Christensen T., Dore S., Eugster W., Friborg T., Furger M., Gianelle D., Gimeno C., Hargreaves K., Hari P., Haslwanter A., Johansson T. Marcolla B., Milford C., Nagy Z., Nemitz E., Rogiers N., Sanz M.J., Siegwolf R.T.W., Susiluoto S., **Sutton M.A.**, Tuba Z., Ugolini F., Valentini R., Zorer R., Cernusca A. (2008) Biotic, abiotic, and management controls on the net ecosystem CO₂ exchange of European mountain grassland ecosystems. *Ecosystems* **11** (8), 1338-1351. DOI: 10.1007/s10021-008-9196-2.
- P.130. Bleeker A., Reis S., Britton C., Erisman J.W. and **Sutton M.A.** (2008) Actividades relacionadas con el ciclo del Nitrógeno en Europa. *Seguridad Y Medio Ambiente* **111** (3), 22-31. (in Spanish) English summary: Nitrogen in Europe: Activities addressing the European nitrogen cycle. *Seguridad Y Medio Ambiente* **111**, 6-7.
- * P.129. Erisman J.W., **Sutton M.A.**, Galloway J.N., Klimont Z. and Winiwarter W. (2008) How a century of ammonia synthesis changed the world. *Nature Geoscience* **1**, 636-639, DOI: 10.1038/ngeo325.
- P.128. Erisman J.W. and **Sutton M.A.** (2008) Reduced nitrogen in ecology and the environment: Special issue of the ESF-FWF Conference in partnership with LFUI, October 2006. *Environmental Pollution* **154** (3), 357-358.
- P.127. Leith, I.D., Mitchell, R.J., Truscott, A-M, Cape, J.N., van Dijk, N., Smith, R.I., Fowler, D., **Sutton, M.A.** (2008) The influence of nitrogen in stemflow and precipitation on epiphytic bryophytes, *Isoetecium myosuroides* Brid., *Dicranum scoparium* Hewd. and *Thuidium tamariscinum* (Hewd.) Schimp of Atlantic oakwoods. *Environmental Pollution*. **155** (2), 237-246.
- P.126. Blackall T.D., Wilson L.J., Bull J., Theobald M.R., Bacon P.J., Hamer K.C., Wanless S. and **Sutton M.A.** (2008) Temporal variation in atmospheric ammonia concentrations above seabird colonies. *Atmospheric Environment* **42**, 6942-6950. DOI: 10.1016/j.atmosenv.2008.04.059
- * P.125. **Sutton M.A.**, Erisman J.W., Dentener F. and Moeller D. (2008) Ammonia in the environment: from ancient times to the present. *Environmental Pollution* **156** (3), 583-604. DOI: 10.1016/j.envpol.2008.03.013.
- P.124. Galloway J.N., Townsend A.R., Erisman J.W., Bekunda M., Cai Z., Freney J.R., Martinelli L.A., Seitzinger S.P. and **Sutton M.A.** (2008) Transformation of the Nitrogen Cycle: Recent Trends, Questions and Potential Solutions. *Science*, **320**, 889-892. DOI: 10.1126/science.1136674
- P.123. Hellsten S., Dragosits U., Place C.J., Vieno M., Dore A.J., Misselbrook T.H., Tang Y.S. and **Sutton M.A.** (2008) Modelling the spatial distribution of ammonia emissions in the UK. *Environmental Pollution* (Special Issue on Reduced Nitrogen) **154** (3), 370-379.
- P.122. Sheppard L.J., Leith I.D., Cape J.N., van Dijk N., Smith R.I., Fowler D. **Sutton M.A.** and Woods C. (2008) Stress responses of *Calluna vulgaris* to reduced and oxidised N applied under 'real world conditions'. *Environmental Pollution* **154** (3), 404-413.
- P.121. **Sutton M.A.**, Simpson D., Levy P.E., Smith R.I., Reis S., van Oijen M. and de Vries W. (2008) Uncertainties in the relationship between atmospheric nitrogen deposition and forest carbon sequestration. *Global Change Biology* **14**, 2057-2063. doi:10.1111/j.1365-2486.2008.01636.x
- P.120. Whitehead J.D., Twigg M., Famulari D., Nemitz E., **Sutton M.A.**, Gallagher M.W. and Fowler D. (2008) Evaluation of laser absorption spectroscopic techniques for eddy covariance flux measurements of ammonia. *Environ. Sci. Technol.* **42** (6), 2041-2046. DOI: 10.1021/es071596u
- * P.119. de Vries W., Solberg S., Dobbertin M., Sterba H., Laubhahn D., Reinds G.J., Nabuurs G.-J., Gundersen P. & **Sutton M.A.** (2008) Ecologically implausible carbon response? *Nature* **451**, E1-E3 (14 February 2008). doi:10.1038/nature06579.

2007

- P.118. Soussana J.F., Allard V., Pilegaard K., Ambus P., Amman C., Campbell C., Ceschia E., Clifton-Brown J., Czobel S., Domingues R., Flechard C., Fuhrer J., Hensen A., Horvath L., Jones M., Kasper G., Martin C., Nagy Z., Neftel A., Raschi A., Baronti S., Rees R.M., Skiba U., Stefani P., Manca G., **Sutton M.**, Tuba Z., Valentini R. (2007) Full accounting of the greenhouse gas (CO₂, N₂O, CH₄) budget of nine European grassland sites. *Agriculture Ecosystems and Environment* **121**, 121-134.
- P.117. Gilmanov T.G., Soussana J.F., Aires L., Allard V., Ammann C., Balzarolo M., Barcza Z., Bernhofer C., Campbell C.L., Cernusca A., Cescatti A., Clifton-Brown J., Dirks B.O.M., Dore S., Eugster W., Fuhrer J., Gimeno C., Gruenwald T., Haszpra L., Hensen A., Ibrom A., Jacobs A.F.G., Jones M.B., Lanigan G., Laurila T., Lohila A., Manca G., Marcolla B., Nagy Z., Pilegaard K., Pinter K., Pio C., Raschi A., Rogiers N., Sanz M.J., Stefani P., **Sutton M.**, Tuba Z., Valentini R., Williams M.L., Wohlfahrt G. (2007) Partitioning European

- grassland net ecosystem CO₂ exchange into gross primary productivity and ecosystem respiration using light response function analysis *Agriculture Ecosystems and Environment* **121**, 93-120.
- P.116. Jones M.R., Leith I.D., Fowler D., Raven J.A., **Sutton M.A.**, Nemitz E., Cape J.N., Sheppard L.J., Smith R.I. and Theobald M.R.. (2007). Concentration-dependent NH₃ deposition processes for mixed moorland semi-natural vegetation. *Atmospheric Environment* **41**, 2049–2060. doi:10.1016/j.atmosenv.2006.11.003.
- P.115. Jones M.R., Leith I.D., Fowler D., Raven J.A., **Sutton M.A.**, Nemitz E., Cape J.N., Sheppard L.J., and Smith R.I. (2007). Concentration-dependent NH₃ deposition processes for moorland plant species with and without stomata. *Atmospheric Environment* **41**, 8980-8994.
- P.114. Erisman J.W., Bleeker A., Galloway J. and **Sutton M.S.** (2007) Reduced nitrogen in ecology and the environment. *Environmental Pollution* **150**, 140-149.
- P.113. Fowler D., Smith R.I., Muller J., Cape J.N., **Sutton M.**, Erisman J.W. and Fagerli H. (2007) Long term trends in sulphur and nitrogen deposition in Europe and the cause of non-linearities. *Water, Soil and Air Pollution Focus*. **7**, 41-47.
- P.112. Blackall T. D., Wilson L.J., Theobald M.R., Milford C., Nemitz E., Bull J., Bacon P.J., Hamer K.C., Wanless S. and **Sutton M.A.** (2007) Ammonia emissions from seabird colonies. *Geophys. Res. Lett.* **34**, L10801, doi:10.1029/2006GL028928.
- * P.111. **Sutton M.A.**, Nemitz E., Erisman J.W., Beier C., Butterbach-Bahl K., Cellier P., de Vries W., Cotrufo F., Skiba U., Di Marco C., Jones S., Laville P., Soussana J.F., Loubet B., Twigg M., Famulari D., Whitehead J., Gallagher M.W., Neftel A., Flechard C.R., Herrmann B., Calanca P.L., Schjoerring J.K., Daemmgen U., Horvath L., Tang Y.S., Emmett B.A., Tietema A., Peñuelas J., Kesik M., Brueggemann N., Pilegaard K., Vesala T., Campbell C.L., Olesen J.E., Dragosits U., Theobald M.R., Levy P., Mobbs D.C., Milne R., Viovy N., Vuichard N., Smith J.U., Smith P., Bergamaschi P., Fowler D. and Reis S. (2007) Challenges in quantifying biosphere-atmosphere exchange of nitrogen species. *Environmental Pollution* **150**, 125-139.
- P.110. Dore A.J., Vieno, M., Tang, Y.S., Dragosits, U., Dosio A., Weston K.J. and **Sutton M.A.** (2007). Modelling the atmospheric transport and deposition of sulphur and nitrogen over the United Kingdom and assessment of the influence of SO₂ emissions from international shipping. *Atmospheric Environment* **41**, 2355-2367.
- P.109. Levy P.E., Mobbs D.C., Jones S.K., Milne R., Campbell C. and **Sutton M.A.** (2007). Simulation of fluxes of greenhouse gases from European grasslands using the DNDC model. *Agriculture, Ecosystems and Environment* **121**, 186–192.
- P.108. Hellsten S., Dragosits U., Place C. J., Misselbrook T.H., Tang Y.S., and **Sutton M.A.** (2007) Modelling seasonal dynamics from temporal variation in agricultural practices in the UK ammonia emission inventory. *Water Air and Soil Pollution, Focus* **7**, 3-13. (DOI 10.1007/s11267-006-9087-5).
- 2006**
- P.107. Loubet B, Cellier P., Milford C. and **Sutton M.A.** (2006) A coupled dispersion and exchange model for short-range dry deposition of atmospheric ammonia. *Quart. J. Royal. Meteor. Soc.* **132**, 1733-1763.
- P.106. Dragosits U., Theobald M.R., Place C.J., ApSimon H.M. and **Sutton M.A.** (2006) The potential for spatial planning at the landscape level to mitigate the effects of atmospheric ammonia deposition. *J. Environ. Sci. & Policy* **9**, 626-638.
- P.105. Pitcairn C., Fowler D., Leith I., Sheppard L., Tang S., **Sutton M.A.** and Famulari D. (2006). Diagnostic indicators of elevated nitrogen deposition. *Environmental Pollution* **144**, 941-950.
- P.104. Dore A.J., Vieno, M. Fournier N., Weston K.J. and **Sutton M.A.** (2006). Development of a new wind rose for the British Isles using radiosonde data and application to an atmospheric transport model. *Q. J. Royal Meteor. Soc.* **132**, 2769-2784
- P.103. **Sutton M.A.**, Dragosits U., Simmons, I., Tang Y.S., Hellsten S., Love L., Vieno M., Skiba U., di Marco C., Storeton-West R.L., Fowler D., Williams J., North P., Hobbs P. and Misselbrook T. (2006). Monitoring & Modelling trace-gas changes following the 2001 outbreak of Foot & Mouth Disease to reduce the uncertainties in agricultural emissions abatement. *Environmental Science & Policy* **9**, 407-422.
- P.102. Angus A.J., Hodge I.D. and **Sutton M.A.** (2006) Ammonia abatement strategies in livestock production: A case study of a poultry installation. *Agricultural Systems* **89** (1): 204-222.
- P.101. Wolseley P.A., James P. W., Theobald M. R. and **Sutton M.A.** (2006) Detecting changes in epiphytic lichen communities at sites affected by atmospheric ammonia from agricultural sources. *The Lichenologist* **38**(2), 161-176.

P.100. Theobald M.R., Crittenden P.D., Hunt A.P., Tang Y.S., Dragosits U. and **Sutton M.A.** (2006) Ammonia emissions from a Cape fur seal colony, Cape Cross, Namibia, *Geophys. Res. Lett.* **33** (3): Art. No. L03812.

2005

P.99. Mitchell R.J., Truscott A-M., Leith I.D., Cape J.N., van Dijk N., Tang Y.S., Fowler D., and **Sutton M.A.** (2005) A study of the epiphytic communities of Atlantic oak woods along an atmospheric nitrogen deposition gradient. *Journal of Ecology* **93**, 482-492

P.98. Fournier N., Tang Y.S., Dragosits U., de Kluizenaar Y. and **Sutton M.A.** (2005) Regional atmospheric budgets of reduced nitrogen over the British Isles assess using a multi-layer atmospheric transport model. *Water Air and Soil Pollution* **162**. 331-351.

P.97. Erisman J.W., Hensen A., Mosquera J., **Sutton M.A.** and Fowler D. (2005). Deposition monitoring networks: what monitoring is required to give reasonable estimates of ammonia/ammonium? *Environ.Pollut.* **135**, 419-431.

P.96. Fournier N., Weston K.J., Dore A.J. and **Sutton M.A.** (2005) Modelling the wet deposition of reduced nitrogen over the British Isles using a Lagrangian multi-layer atmospheric transport model. *Quart. J. Royal Meteor. Soc.* **131**, 703-722.

P.95 Erisman J.W., Vermeulen A., Hensen A., Flechard C., Dämmgen U., Fowler D., **Sutton M.**, Grünhage L and Tuovinen J.-P. (2005) Monitoring and Modelling of biosphere/atmosphere exchange of gases and aerosols in Europe. *Environ. Pollut.* **133**, 403-413.

2004

P.94. Misselbrook T.H., **Sutton M.A.** and Scholefield D. (2004). A simple process-based model for estimating ammonia emissions from agricultural land after fertilizer applications. *Soil Use and Management* **20** (4) 365-372.

P.93. Wilson L.J., Bacon P.J., Bull J., Dragosits U., McDonald A., Blackall T.D., Dunn T., Hamer K.C., **Sutton M.A.** and Wanless S. (2004). The spatial distribution of ammonia emitted from seabirds and its contribution to atmospheric nitrogen deposition in the UK. *Water, Air and Soil Pollution: Focus* **4** (6), 287-296.

P.92. Blackall T.D., Theobald, M.R., Milford, C., Hargreaves, K.J., Nemitz, E., Wilson L.J., Bull J., Bacon P.J., Hamer K.C., Wanless S. and **Sutton M.A.** (2004). Application of tracer ratio and inverse dispersion methods with boat-based plume measurements to estimate ammonia emissions from seabird colonies. *Water, Air and Soil Pollution: Focus* **4** (6), 279-285.

P.91. Smart S.M., Ashmore M.R., Hornung M., Scott W.A., Fowler D.A., Dragosits U., Howard D.C., **Sutton M.A.** and Famulari D. (2004). Detecting the signal of atmospheric N deposition in recent national-scale vegetation change across Britain. *Water, Air and Soil Pollution: Focus* **4** (6), 269-278.

P.90. Leith I.D., Sheppard L.J., Fowler, D., Cape, J.N., Jones, M., Crossley, A., Hargreaves, K.J., Tang, Y.S., Theobald, M. and **Sutton M.A.** (2004). Quantifying dry NH₃ Deposition to an Ombrotrophic Bog from an automated NH₃ field release system. *Water, Air and Soil Pollution: Focus* **4** (6), 207-218.

P.89. Famulari, D., Fowler, D., Hargreaves, K., Milford, C., **Sutton M.A.**, Nemitz, E. and Weston, K. (2004). Measuring eddy-covariance fluxes of ammonia using tunable diode laser absorption spectroscopy. GaNE special issue of *Water, Air and Soil Pollution: Focus* **4** (6), 151-158.

P.88. Theobald M.R., Dragosits U., Place C.J., Smith J.U. , Sozanska M., Brown L. , Scholefield D., Del prado A., Webb J. , Whitehead P.G., Angus A., Hodge I.D., Fowler D. and **Sutton M.A.** (2004) Modelling nitrogen fluxes at the landscape scale *Water, Air and Soil Pollution: Focus* **4** (6), 135-142.

P.87. Fowler D., O'Donoghue M., Muller J.B.A., Smith R.I., Dragosits U., Skiba U., **Sutton M.A.** and Brimblecombe P. (2004). A chronology of nitrogen deposition in the UK between 1900 and 2000. *Water, Air and Soil Pollution: Focus* **4** (6), 9 -23.

P.86. **Sutton M.A.**, Dragosits U., Hellsten S., Place C.J., Dore A.J., Tang Y.S., van Dijk N., Love L., Fournier N., Vieno M., Weston K.J., Smith R.I., Coyle M., Roy D., Hall J., and Fowler D. (2004) Ammonia emission and deposition in Scotland and its potential environmental impacts. *The Scientific World JOURNAL* **4**, 795-810.

P.85. Dunn S.M., Vinten A.J.A., Lilly A., DeGroot J., **Sutton M.A.** and McGechan M. (2004) Nitrogen Risk Assessment Model for Scotland: I. Nitrogen leaching. *Hydrology and Earth System Sciences* **8** (2), 191-204.

P.84. Cape J.N., Tang Y.S., van Dijk N., Love L., **Sutton M.A.** and Palmer S.C.F. (2004) Concentrations of ammonia and nitrogen dioxide at roadside verges, and their contribution to nitrogen deposition. *Environ Pollut.* **132** (3) 469-478.

- P.83. Wilson L.J., Bacon P.J., Bull J., Dragosits U., Blackall T.D., Dunn T., Hamer K. C., **Sutton M.A.** and Wanless S. (2004) The spatial distribution of ammonia emissions from seabirds in the UK. *Environ Pollut.* **131** 173-185.
- P.82 Mitchell R.J., **Sutton M.A.**, Truscott A.M., Leith I.D., Cape J.N., Pitcairn C.E.R. and van Dijk N. (2004) Growth and tissue N of epiphytic bryophytes following increased and decreased inputs of atmospheric N deposition. *Functional Ecology* **18**, 322-329
- P.81 **Sutton M.A.**, Dragosits U., Dore A.J., McDonald A.G., Tang Y.S., van Dijk N., Bantock T., Hargreaves K.J., Skiba U., Fowler D., Hobbs P., Williams J., Brown L., and Misselbrook T. (2004). The potential of NH₃, N₂O and CH₄ measurements following the 2001 outbreak of Foot and Mouth Disease in Great Britain to reduce the uncertainties in agricultural emissions abatement. *J. Environ. Science and Policy* **7**, 177-194
- P.80 Nemitz E., **Sutton M.A.**, Wyers G.P. and Jongejan P.A.C. (2004): Gas-particle conversions above a Dutch heathland: I. Surface exchange fluxes of NH₃, SO₂, HNO₃ and HCl. *Atmos. Chem. Phys.* **4**, 989-1005.
- P.79 Nemitz E., **Sutton M.A.**, Wyers G.P., Otjes R.P., Mennen M.G., van Putten E.M., Hellemond J. and Gallagher M.W. (2004): Gas-particle conversions above a Dutch heathland: II. Concentrations and surface exchange fluxes of atmospheric aerosol particles. *Atmos. Chem. Phys.* **4**, 1007-1024.
- P.78 Nemitz E. and **Sutton M.A.** (2004): Gas-particle conversions above a Dutch heathland: III. Modelling of size-dependent NH₄⁺ fluxes as modified by the NH₃-HNO₃-NH₄NO₃ equilibrium. *Atmos. Chem. Phys.* **4**, 1025-1045.
- P.77. Fournier N., Dore A.J., Vieno M., Weston K.J. and **Sutton M.A.** (2004) Modelling the deposition of atmospheric oxidised nitrogen and sulphur to the United Kingdom using a multi-layer long-range transport model. *Atmospheric Environment* **38**, 683-694.

2003

- P.76. Oxley T., Apsimon H., Dore A., **Sutton M.**, Hall J., Heywood E., Gonzales Del Campo T., and Warren R. (2003) The UK Integrated Assessment Model, UKAIM: A National Scale Approach to the Analysis of Strategies for Abatement of Atmospheric Pollutants Under the Convention on Long-Range Transboundary Air Pollution. *Integrated Assessment.* **4** (4), 236-249.
- P.75. Pais V.A., Fournier N., **Sutton M.A.**, Weston K.J. and Dragosits U. (2003) Using High Performance Fortran to parallelise a multi-layer atmospheric transport model. *Parallel Computing.* **30** (1), 21-33.
- P.74 Angus A.J., Hodge I.D., McNally S. and **Sutton M.A.** (2003) The setting of standards for agricultural nitrogen emissions: a case study of the Delphi technique. *Journal of Environmental Management* **69** (4), 323-337.
- P.73. Pitcairn C. E. R., Fowler D., Leith I.D., Sheppard L.J., **Sutton M.A.**, Kennedy V. and Okello E. (2003) Bioindicators of enhanced nitrogen deposition. *Environmental Pollution* **126**, 353-361.
- P.72. Erisman J.W., Grennfelt, P. and **Sutton M.A.** (2003) The European perspective on nitrogen emission and deposition. *Environment International* **29**, 311-325.
- P.71. **Sutton M.A.**, Asman W.A.H., Ellerman T., van Jaarsveld J.A., Acker K., Aneja V., Duyzer J.H., Horvath L., Paramonov S., Mitosinkova M., Tang Y.S., Achermann B., Gauger T., Bartnicki J., Neftel A. and Erisman J.W. (2003). Establishing the link between ammonia emission control and measurements of reduced nitrogen concentrations and deposition. *Environmental Monitoring and Assessment* **82** (2), 149-185.

2002

- P.70. Dragosits U., Theobald M.R., Place C.J., Lord E., Webb J., Hill J., ApSimon H.M. and **Sutton M.A.** (2002) Ammonia, emission, deposition and impact assessment at a field scale: a case study of sub-grid spatial variability. *Environmental Pollution* **117** (1) 147-158.
- P.69. Fournier N., Pais V.A., **Sutton M.A.**, Weston K.J., Dragosits U., Tang Y.S. and Aherne J. (2002) Parallelisation and application of a multi-layer atmospheric transport model to quantify dispersion and deposition of ammonia over the British Isles. *Environmental Pollution* **116** (1), 95-107.
- P.68. Gallagher M.W., Nemitz E., Dorsey J.R., Fowler D., **Sutton M.A.**, Flynn M. & Duyzer J. (2002) Measurements and parameterisations of small aerosol deposition velocities to grassland, arable crops and forest. Influence of surface roughness length on deposition. *J. geophys. Res.* **107** (D12), art no. 4154.
- P.67. Hill P.W., Raven J.A. and **Sutton M.A.** (2002) Leaf age-related differences in apoplastic NH₄⁺ concentration, pH and the NH₃ compensation point for a wild perennial. *J. Experimental Botany* **53**, 277-286.

- P.66. Klemm O., Milford C., **Sutton M.A.**, Spindler G. and van Putten E. (2002) A climatology of leaf wetness. *Theoretical and Applied Climatology* **71**, 107-117.
- P.65. Loubet B., Milford C., Hill, P.W. Tang Y.S., Cellier P., and **Sutton M.A.** (2002) Seasonal variability of apoplastic NH_4^+ and pH in an intensively managed grassland. *Plant and Soil* **238**, 97-110.
- P.64. Pitcairn C.E.R., Skiba U.M., **Sutton M.A.**, Fowler D., Munro R. and Kennedy V.K. (2002) Defining the spatial impacts of poultry farm ammonia emissions on species composition of adjacent woodland groundflora using Ellenberg indicators, nitrous oxide and nitric oxide and foliar nitrogen as marker variables. *Environmental Pollution* **119**, 9-21.
- * P.63. Riedo M., Milford C., Schmid M. and **Sutton M.A.** (2002) Coupling soil-plant-atmosphere exchange of ammonia with ecosystem functioning in grasslands. *Ecological Modelling* **158**, 83-110.
- P.62. **Sutton M.A.** and Fowler D. (2002) Introduction: Fluxes and impacts of atmospheric ammonia on national, landscape and farm scales. *Environmental Pollution* **119**, 7-8.

2001

- P.61. Erisman J.W., Grennfelt P. and **Sutton M.A.** (2001) Nitrogen emission and deposition: The European perspective. *TheScientificWorld* **1**, 879-896.
- P.60. Fowler D., Coyle M., Flechard C., Hargreaves K.J., Nemitz E., Storeton-West R., **Sutton M.A.**, Erisman J.W. (2001). Advances in micrometeorological methods for the measurement and interpretation of gas and particle nitrogen fluxes. *Plant and Soil* **228** (1):117-129.
- P.59. Fowler D., **Sutton M.A.**, Flechard C., Cape J.N., Storeton-West R., Coyle M. and Smith R.I. (2001) The control of SO_2 dry deposition on to natural surfaces by NH_3 and its effects on regional deposition. *Water, Air and Soil Pollution: Focus* **1** (5-6), 39-48.
- P.58. Hill P.W., Raven J.A., Loubet B., Fowler D., **Sutton M.A.** (2001) Comparison of gas exchange and bioassay determinations of the ammonia compensation point in *Luzula sylvatica* (Huds.) Gaud. *Plant Physiology* **125**, 476-487.
- P.57. Metcalfe S.E., Whyatt J.D., Broughton R., Derwent R.G., Finnegan D., Hall J., Mineter M., O'Donoghue M. and **Sutton M.A.** (2001). Developing the Hull Acid Rain Model: its validation and implications for policy makers. *Journal of Environmental Science and Policy* **4**, 25-37.
- P.56. Loubet B., Milford C., **Sutton M.A.** and Cellier P. (2001) Investigation of the interaction between sources and sinks of atmospheric ammonia in an upland landscape using a simplified dispersion-exchange model. *J. geophys Res. (Atmospheres)* **106**, 24,183-24,195.
- P.55. Milford C., Hargreaves K.J., **Sutton M.A.**, Loubet B., Cellier P. (2001) Fluxes of NH_3 and CO_2 over upland moorland in the vicinity of agricultural land. *J. geophys Res. (Atmospheres)* **106**, 24,169-24,181.
- P.54. Milford C., Theobald M.R., Nemitz E. and **Sutton M.A.** (2001) Dynamics of ammonia exchange in response to cutting and fertilizing in an intensively-managed grassland. *Water, Air and Soil Pollution: Focus*, **1**, 167-176.
- P.53. Nemitz E., Flynn M., Williams P.I., Milford C., Theobald M.R., Blatter A., Gallagher M.W., and **Sutton M.A.** (2001) A relaxed eddy accumulation system for the automated measurement of atmospheric ammonia fluxes. *Water, Air and Soil Pollution: Focus* **1**, 189-202.
- P.52. Nemitz E., Milford C. and **Sutton M.A.** (2001) A two-layer canopy compensation point model for describing bi-directional biosphere / atmosphere exchange of ammonia. *Q. J. Roy. Meteor. Soc.* **127**, 815-833.
- P.51. Spindler G., Teichmann U. and **Sutton M.A.** (2001) Ammonia dry deposition over grassland: Micrometeorological flux gradient measurements and bi-directional flux calculations using an inferential model. *Q. J. Roy. Meteor. Soc.* **127**, 795-814.
- P.50. **Sutton M.A.**, Milford C., Nemitz E., Theobald M.R., Hill P.W., Fowler D., Schjoerring J.K., Mattsson M.E., Nielsen K.H., Husted S., Erisman J.W., Otjes R., Hensen A., Mosquera J., Cellier P., Loubet B., David M., Genermont S., Neftel A., Blatter A., Herrmann B., Jones S.K., Horvath L., Führer E., Mantzanas K., Koukoura Z., Gallagher M., Williams P., Flynn M. and Riedo M. (2001) Biosphere-atmosphere interactions of ammonia with grasslands: experimental strategy and results from a new European initiative. *Plant and Soil* **228** (1):131-145.
- P.49. **Sutton M.A.**, Miners B., Tang Y.S., Milford C., Wyers G.P., Duyzer J.H. and Fowler D. (2001) Comparison of low-cost measurement techniques for long-term monitoring of atmospheric ammonia. *J. Environ. Monit.* **3**, 446-453.
- P.48. **Sutton M.A.**, Tang Y.S., Dragosits U., Fournier N., Dore T., Smith R.I., Weston K.J. and Fowler D. (2001) A spatial analysis of atmospheric ammonia and ammonium in the UK. *TheScientificWorld* **1** (S2), 275-286.

- P.47. **Sutton M.A.**, Tang Y.S., Miners B. and Fowler D. (2001) A new diffusion denuder system for long-term, regional monitoring of atmospheric ammonia and ammonium. *Water Air and Soil Pollution: Focus*, **1**, 145-156.
- P.46. Tang Y.S., Cape J.N. and **Sutton M.A.** (2001) Development and types of passive samplers for NH₃ and NO_x. *TheScientificWorld* **1**, 513-529.
- P.45. Theobald M.R., Milford C., Hargreaves K.J., Sheppard L.J., Nemitz E., Tang Y.S., Phillips V.R., Sneath R., McCartney L., Harvey F.J., Leith I.D., Cape J.N. Fowler D. and **Sutton M.A.** (2001) Potential for Ammonia Recapture by Farm Woodlands: Design and Application of a New Experimental Facility. *TheScientificWorld* **1**(S2), 791-801.

2000

- P.44. Bower K.N., Choularton T.W., Gallagher M.W., Beswick K.M., Flynn M.J., Allan A.G., Davison B.M., James J.D., Robertson L., Harrison R.M., Hewitt C.N., Cape J.N., McFadyen G.G., Milford C., **Sutton M.A.**, Martinsson B.G., Frank G., Swietlicki E., Zhou J., Berg O.H., Menten B., Papaspiropoulos G., Hansson H.C., Leck C., Kulmala M., Aalto P.I., Vakeva M., Berner A., Bizjak M., Fuzzi S., Laj P., Facchini M.C., Orsi G., Ricci L., Nielsen M., Allan B.J., Coe H., McFiggans G., Plane J.M.C., Collett J.L., Moore K.F. and Sherman D.E. (2000). ACE-2 HILLCLOUD. An overview of the ACE-2 ground based cloud experiment. *Tellus (series B)*. **52**, 750-778.
- P.43. Husted S., Schjoerring J.K., Nielsen K.H., Nemitz E. and **Sutton M.A.** (2000) Stomatal compensation points for ammonia in oilseed rape plants under field conditions. *Agric. For. Meteorol.* (Ammonia Exchange Special Issue) **105** (4), 371-383.
- P.42. Milford C., **Sutton M.A.**, Allen A.G., Karlsson A., Rosman K., Davidson B., Harrison R.M. and Cape J.N. (2000) Marine and land-based influences on atmospheric ammonia and ammonium over Tenerife. *Tellus* **52B**, 273-289.
- P.41. Nemitz E., **Sutton M.A.**, Gut A., San José R., Husted S. and Schjoerring J.K. (2000) Sources and sinks of ammonia within an oilseed rape canopy. *Agric. For. Meteorol.* (Ammonia Exchange Special Issue) **105** (4), 385-404.
- P.40. Nemitz E., **Sutton M.A.**, Schjoerring J.K., Husted S. and Wyers G.P. (2000) Resistance modelling of ammonia exchange over oilseed rape. *Agric. For. Meteorol.* (Ammonia Exchange Special Issue) **105** (4), 405-425.
- P.39. Nemitz E., **Sutton M.A.**, Wyers G.P., Otjes R., Schjoerring J.K., Gallagher M.W., Parrington J., Fowler D. and Choularton T.W. (2000) Surface/atmosphere exchange and chemical interaction of gases and aerosols over oilseed rape. *Agric. For. Meteorol.* (Ammonia Exchange Special Issue) **105** (4), 427-445.
- P.38. Smith R.I., Fowler D., **Sutton M.A.**, Flechard C. and Coyle M. (2000) Regional estimation of pollutant gas deposition in the UK: model description, sensitivity analyses and outputs. *Atmos. Environ.* **34**, 3757-3777.
- P.37. **Sutton M.A.**, Dragosits U., Tang Y.S. and Fowler D. (2000) Ammonia emissions from non-agricultural sources in the UK. *Atmos. Environ.* **34** (6), 855-869.
- * P.36. **Sutton M.A.**, Nemitz E., Fowler D., Wyers G.P., Otjes R.P., Schjoerring J.K., Husted S., Nielsen K., San José R., Moreno J., Gallagher M.W. Gut A. (2000) Fluxes of ammonia over oilseed rape: Overview of the EXAMINE experiment. *Agric. For. Meteorol.* (Ammonia Exchange Special Issue) **105** (4), 327-349.
- P.35. **Sutton M.A.**, Nemitz E., Milford C., Fowler D., Moreno J., San Jose R., Wyers G.P., Otjes R., Harrison R., Husted S. and Schjoerring J.K. (2000) Micrometeorological measurements of net ammonia fluxes over oilseed rape during two vegetation periods. *Agric. For. Meteorol.* (Ammonia Exchange Special Issue) **105** (4), 351-369.
- Williams M.L. and Ghazi A. (2000) Foreword: The EXAMINE North Berwick experiment. Fluxes of ammonia and interacting chemical species between oilseed rape and the atmosphere. *Agric. For. Meteorol.* (Ammonia Exchange Special Issue) **105** (4), 325-326.

1999

- P.34. Bower K.N., Choularton T.W., Gallagher M.W., Colville R.N., Beswick K.M., Inglis D.W.F., Bradbury C., Martinsson B.G., Swietlicki E., Berg O.H., Cederfelt S.-I., Frank G., Zhou J., Cape J.N., **Sutton M.A.**, Hargreaves K.J., Birmili W., Yuskiewicz B.A., Wiedensohler A., Stratman F., Berner A., Ctyroky P., Galambos Z., Mesfin S.H., Dusek U., Dore C.J., Lee D.S., Pepler S.A., Bizjak M. and Divjak B. (1999) The Great Dun Fell Experiment 1995: an overview. *Atmospheric Research* **50**, 151-184.
- P.33. Flechard C., Fowler D., **Sutton M.A.** and Cape J.N. (1999) A dynamic chemical model of bi-directional ammonia exchange between semi-natural vegetation and the atmosphere. *Q. J. R. Met. Soc.* **125**, 2611-2641.

P.32. Hansen B., Wyers G.P., Nørnberg P., Nemitz E. and **Sutton M.A.** (1999) Intercalibration of a passive wind-vane sampler against a continuous-flow denuder for the measurement of atmospheric ammonia concentrations and surface exchange fluxes. *Atmos. Environ.* **33**, 4379-4388.

1998

P.31. Asman W.A.H., **Sutton M.A.** and Schjoerring J.K. (1998) Ammonia: emission, atmospheric transport and deposition. *New Phytologist* **139**, 27-48.

P.30. Beswick K.M., Simpson T.W., Fowler D., Choularton T.W., Gallagher M.W., Hargreaves K.J., **Sutton M.A.** and Kaye A. (1998) Methane emissions on large scales. *Atmos. Environ.* **32**(19), 3283-3291.

P.29. Bull K.R. and **Sutton M.A.** (1998) Critical loads and the relevance of ammonia to an effects based nitrogen protocol. (Eds. **Sutton M.A.**, Lee D.S., Dollard G.J. and Fowler D.) *Atmospheric Environment (Ammonia Special Issue)* **32** (3), 565-572.

P.28. Burkhardt J., **Sutton M.A.**, Milford C., Storeton-West R.L. and Fowler D. (1998) Ammonia concentrations at a site in S. Scotland from continuous measurements over 2 years. (Eds. **Sutton M.A.**, Lee D.S., Dollard G.J. and Fowler D.) *Atmospheric Environment (Ammonia Special Issue)* **32**, 325-331.

P.27. Dragosits U., **Sutton M.A.**, Place C.J. and Bayley A. (1998) Modelling the spatial distribution of ammonia emissions in the UK. *Environ. Pollut.* (Nitrogen Conference Special Issue). **102**, S1, 195-203.

P.26. Fowler D., Flechard C.R., **Sutton M.A.** and Storeton-West R.L. (1998) Long term measurements of land-atmosphere exchange of ammonia over moorland. (Eds. **Sutton M.A.**, Lee D.S., Dollard G.J. and Fowler D.) *Atmospheric Environment (Ammonia Special Issue)* **32**, 453-459.

P.25. Fowler D., Pitcairn C.E.R., **Sutton M.A.**, Flechard C., Loubet B., Coyle M. and Munro R.C. (1998) The mass budget of atmospheric ammonia within 1 km of livestock buildings *Environ. Pollut.* (Nitrogen Conference Special Issue). **102**, S1, 343-348.

P.24. Fowler D., **Sutton M.A.**, Smith R.I., Pitcairn C.E.R., Coyle M., Campbell G. and Stedman J. (1998) Regional mass budgets of oxidized and reduced nitrogen and their relative contribution to the N inputs of sensitive ecosystems. *Environ. Pollut.* (Nitrogen Conference Special Issue). **102**, S1, 337-342.

P.23. Horváth L. and **Sutton M.A.** (1998) Long term record of ammonia and ammonium concentrations at K-puszta, Hungary. (Eds. **Sutton M.A.**, Lee D.S., Dollard G.J. and Fowler D.) *Atmospheric Environment (Ammonia Special Issue)* **32**, 339-344.

P.22. Pitcairn C.E.R., Leith I.D., Sheppard L.J., **Sutton M.A.**, Fowler D., Munro R.C., Tang S. & Wilson D. (1998) The relationship between nitrogen deposition, species composition and foliar N concentrations in woodland flora in the vicinity of intensive livestock farms. *Environ. Pollut.* (Nitrogen Conference Special Issue). **102**, S1, 41-48.

P.21. Singles R.J., **Sutton M.A.** and Weston K.J. (1998) A multi-layer model to describe the atmospheric transport and deposition of ammonia in Great Britain. (Eds. **Sutton M.A.**, Lee D.S., Dollard G.J. and Fowler D.) *Atmospheric Environment (Ammonia Special Issue)* **32**, 393-399.

* P.20. **Sutton M.A.**, Burkhardt J.K., Guerin D., Nemitz E. and Fowler D. (1998) Development of resistance models to describe measurements of bi-directional ammonia surface atmosphere exchange. (Eds. **Sutton M.A.**, Lee D.S., Dollard G.J. and Fowler D.) *Atmospheric Environment (Ammonia Special Issue)* **32** (3), 473-480.

P. 19. **Sutton M.A.**, Lee D.S., Dollard G.J. and Fowler D. (1998) Atmospheric ammonia: emission, deposition and environmental impacts. Introduction. (Eds. **Sutton M.A.**, Lee D.S., Dollard G.J. and Fowler D.) *Atmospheric Environment (Ammonia Special Issue)* **32** (3), 269-271.

* P.18. **Sutton M.A.**, Milford C., Dragosits U., Place C.J., Singles R.J., Smith R.I., Pitcairn C.E.R., Fowler D., Hill J., ApSimon H.M., Ross C., Hill R., Jarvis S.C., Pain B.F., Phillips V.C., Harrison R., Moss D., Webb J., Espenhahn S.E., Lee D.S., Hornung M., Ullyett J., Bull K.R., Emmett B.A., Lowe J. and Wyers G.P. (1998) Dispersion, deposition and impacts of atmospheric ammonia: quantifying local budgets and spatial variability. *Environ. Pollut.* (Nitrogen Conference Special Issue). **102**, S1, 349-361.

1997

P.17. Bower K.N., Choularton T.W., Gallagher M.W., Colvile R.N., Wells M., Beswick K.M., Wiedensohler A., Hansson H.-C., Svenningsson B., Swietlicki E., Wendisch M., Berner A., Krusiz C., Laj P., Facchini M.C., Fuzzi S., Bizjak M., Dollard G., Jones B., Acker K., Wiprecht W., Preiss M., **Sutton M.A.**, Hargreaves K.J., Storeton-West R.L., Cape J.N. and Arends B.G. (1997) Observations and modelling of the processing of aerosol by a hill cap cloud. In: *Special Issue on the Great Dun Fell Cloud Experiment 1993*, (Ed. S. Fuzzi) *Atmos. Environ.* **31**, 2527-2544.

- P.16. Choularton T.W., Colvile R.N., Bower K.N., Gallagher M.W., Wells M., Beswick K.M., Arends B.G., Möls J.J., Kos G.P.A., Fuzzi S., Lind J.A., Orsi G., Facchini M.C., Laj P., Gieray R., Wieser P.I., Engelhardt T., Berner A., Krusiz C., Möller D., Acker K., Wieprecht W., Luettke J., Levson K., Bizjak B., Hansson H.-C., Cederfeldt S.-I., Frank G., Mentes B., Martinsson B., Orsini D., Svenningsson B., Swietlicki E., Wiedensohler A., Noone K.J., Pahl S., Winkler P., Seyffer E., Helas G., Jaeschke W., Georgii H.W., Wobrock W., Preiss M., Maser R., Schell D., Dollard G., Jones B., Davies T., Sedlak D.L., David M.M., Wendisch M., Cape J.N., Hargreaves K.J., **Sutton M.A.**, Storeton-West R.L., Fowler D., Hallberg A., Harrison R.M. and Peak J.D. (1997) The Great Dun Fell Cloud Experiment 1993: an overview. In: *Special Issue on the Great Dun Fell Cloud Experiment 1993*, (Ed. S. Fuzzi) *Atmos. Environ.* **31**, 2393-2405.
- P.15. Laj P., Fuzzi S., Facchini M.C., Lind J.A., Orsi G., Preiss M., Maser R., Jaeschke W., Seyffer E., Helas G., Acker K., Wieprecht W., Möller D., Arends B.G., Möls J.J., Colvile R.N., Gallagher M.W., Beswick K.M., Hargreaves K.J., Storeton-West R.L. and **Sutton M.A.** (1997) Cloud processing of soluble gases. In: *Special Issue on the Great Dun Fell Cloud Experiment 1993*, (Ed. S. Fuzzi) *Atmos. Environ.* **31**, 2589-2598.
- P.14. **Sutton M.A.**, Perthue E., Fowler D., Storeton-West R.L., Cape J.N., Arends B.G. and Möls J.J. (1997) Vertical distribution and fluxes of ammonia at Great Dun Fell. In: *Special Issue on the Great Dun Fell Cloud Experiment 1993*, (Ed. S. Fuzzi) *Atmos. Environ.* **31**, 2615-2624.
- P.13. Wells M., Bower K.N., Choularton T.W.), Cape J.N., **Sutton M.A.**, Storeton-West R.L., Fowler D., Wiedensohler A., Hansson H.-C., Svenningsson B., Swietlicki E., Wendisch M., Jones B., Dollard G., Acker K., Wieprecht W., Preiss M., Arends B.G., Pahl S., Berner A., Krusiz C., Laj P., Facchini M.C., and Fuzzi S. (1997) The reduced nitrogen budget of an orographic cloud. In: *Special Issue on the Great Dun Fell Cloud Experiment 1993*, (Ed. S. Fuzzi) *Atmos. Environ.* **31**, 2599-2614.

1995

- P.12. Fowler D., Flechard, C., Storeton-West, R.L., **Sutton M.A.**, Hargreaves, K.J. and Smith, R.I. (1995). Long term measurements of SO₂ dry deposition over vegetation and soil and comparisons with models. In: *Acid rain research: do we have enough answers?* Edited by G.J. Heij & J.W. Erisman, 9-19. Amsterdam: Elsevier.
- P.11. **Sutton M.A.** and Fowler D. (1995) Atmospheric deposition of nitrogen compounds to heathlands. *Aarhus Geoscience*, **4**, 61-71.
- P.10. Bower K.N., Wells M., Choularton T.W. and **Sutton M.A.** (1995) A model of ammonia/ammonium conversion and deposition in a hill cap cloud. *Quart. J. Roy. Meteor. Soc.* **121**, 569-591.
- P.9. Hornung M. and **Sutton M.A.** (1995) Impacts of nitrogen deposition in terrestrial ecosystems. *Atmospheric Environment* **29**, 3395-3396.
- P.8. **Sutton M.A.**, Fowler D., Burkhardt J.K. and Milford C. (1995) Vegetation atmosphere exchange of ammonia: Canopy cycling and the impacts of elevated nitrogen inputs. In: *Acid Reign '95? Special Issue*. (Eds: Grennfelt P., Rohde H., Thörmelöf E. and Wisniewski J.) *Water, Soil and Air Pollution*. **85**, 2057-2063.
- P.7. **Sutton M.A.**, Place C.J., Eager M., Fowler D. and Smith R.I. (1995) Assessment of the magnitude of ammonia emissions in the United Kingdom. *Atmos. Environ.* **29**, 1393-1411.
- * P.6. **Sutton M.A.**, Schjørring J.K. and Wyers G.P. (1995) Plant - atmosphere exchange of ammonia. *Phil. Trans. Roy. Soc., London. Series A.* **351**, 261-275.
- P.6a. Duyzer J.H., **Sutton M.A.**, Ineson P., Powlson D.S. (1995) Plant - atmosphere exchange of ammonia - Discussion. *Phil. Trans. Roy. Soc., London. Series A.* **351**, 276-278.

1994

- P.5. **Sutton M.A.**, Asman W.A.H. and Schjørring J.K. (1994) Dry deposition of reduced nitrogen. *Tellus* **46B**, 255-273.

1993

- * P.4. **Sutton M.A.**, Fowler D. and Moncrieff J.B. (1993) The exchange of atmospheric ammonia with vegetated surfaces. I: Unfertilized vegetation. *Quart. J. Roy. Meteor. Soc.* **119**, 1023-1045.
- P.3. **Sutton M.A.**, Fowler D., Moncrieff J.B. and Storeton-West R.L. (1993) The exchange of atmospheric ammonia with vegetated surfaces. II: Fertilized vegetation. *Quart. J. Roy. Meteor. Soc.* **119**, 1047-1070.
- * P.2. **Sutton M.A.**, Pitcairn C.E.R. and Fowler D. (1993) The exchange of ammonia between the atmosphere and plant communities. *Adv. Ecol. Research.* **24**, 301-393.

1992

P.1. **Sutton M.A.**, Moncrieff J.B. and Fowler D. (1992) Deposition of atmospheric ammonia to moorlands. *Environ. Pollut.* **75**, 15-24.

4. Peer reviewed Chapters

2014

- PC.24. Oenema O., **Sutton M.A.**, Bittman S., Dedina M. and Howard C.M. (2014) Executive Summary: In: *Options for ammonia mitigation: Guidance from the UNECE Task Force on Reactive Nitrogen*. (Eds.: Bittman S., Dedina M., Howard C.M., Oenema O. and **Sutton M.A.**) pp vii-xii. TFRN-CLRTAP, Centre for Ecology and Hydrology, UK.
- PC.23. Oenema O., **Sutton M.A.**, Bittman S., Dedina M. and Howard C.M. (2014) Introduction. Chapter 1, in: *Options for ammonia mitigation: Guidance from the UNECE Task Force on Reactive Nitrogen*. (Eds.: Bittman S., Dedina M., Howard C.M., Oenema O. and **Sutton M.A.**) pp 1-3. TFRN-CLRTAP, Centre for Ecology and Hydrology, UK.
- PC.22. Oenema O., Bittman S., Dedina M. and **Sutton M.A.** (2014) Livestock production and developments. Chapter 2, in: *Options for ammonia mitigation: Guidance from the UNECE Task Force on Reactive Nitrogen*. (Eds.: Bittman S., Dedina M., Howard C.M., Oenema O. and **Sutton M.A.**) pp 4-5. TFRN-CLRTAP, Centre for Ecology and Hydrology, UK.
- PC.21. Oenema O., Bittman S., Dedina M. Howard C.M., **Sutton M.**, Hutchings N.J. and Winiwarter W. (2014) Nitrogen management, taking account of the whole nitrogen cycle. Chapter 3, in: *Options for ammonia mitigation: Guidance from the UNECE Task Force on Reactive Nitrogen*. (Eds.: Bittman S., Dedina M., Howard C.M., Oenema O. and **Sutton M.A.**) pp 6-9. TFRN-CLRTAP, Centre for Ecology and Hydrology, UK.
- PC.20. Webb J., Lalor S.T.J., Bittman S., Misselbrook T., **Sutton M.A.**, Menzi H., Döhler H., Smith K., Gyldenkaerne S., Hutchings N.J., van der Hoek K., Fiani E., Lukin S. and Klimont Z. (2014) Chapter 7, in: *Options for ammonia mitigation: Guidance from the UNECE Task Force on Reactive Nitrogen*. (Eds.: Bittman S., Dedina M., Howard C.M., Oenema O. and **Sutton M.A.**) pp 29-40. TFRN-CLRTAP, Centre for Ecology and Hydrology, UK.
- PC.19. Misselbrook T., Webb J., Palliere C., **Sutton M.A.**, Lukin S. and Wade B. (2014) Fertilizer application. Chapter 8, in: *Options for ammonia mitigation: Guidance from the UNECE Task Force on Reactive Nitrogen*. (Eds.: Bittman S., Dedina M., Howard C.M., Oenema O. and **Sutton M.A.**) pp 41-44. TFRN-CLRTAP, Centre for Ecology and Hydrology, UK.
- PC.18. Bittman S. and **Sutton M.A.** (2014) Other measures related to agricultural nitrogen. Chapter 9, in: *Options for ammonia mitigation: Guidance from the UNECE Task Force on Reactive Nitrogen*. (Eds.: Bittman S., Dedina M., Howard C.M., Oenema O. and **Sutton M.A.**) pp 45-46. TFRN-CLRTAP, Centre for Ecology and Hydrology, UK.
- PC.17. Bittman S., Dedina M., Oenema O. and **Sutton M.A.** (2014) Non-agricultural stationary and mobile sources. Chapter 10, in: *Options for ammonia mitigation: Guidance from the UNECE Task Force on Reactive Nitrogen*. (Eds.: Bittman S., Dedina M., Howard C.M., Oenema O. and **Sutton M.A.**) pp 47-49. TFRN-CLRTAP, Centre for Ecology and Hydrology, UK.
- PC.16. Oenema O., Bittman S., Dedina M., Howard C.M. and **Sutton M.A.** (2014) Supplementary Information: Nitrogen Management. Annex I, in: *Options for ammonia mitigation: Guidance from the UNECE Task Force on Reactive Nitrogen*. (Eds.: Bittman S., Dedina M., Howard C.M., Oenema O. and **Sutton M.A.**) pp 50-61. TFRN-CLRTAP, Centre for Ecology and Hydrology, UK.

2013

- PC.15. Ravishankara A.R., **Sutton M.A.**, Davidson E.A., Kanter D. and Daniel J.S. (2013) Introduction. Chapter 1, in: *Drawing Down N₂O to Protect Climate and the Ozone Layer*. A UNEP Synthesis Report. (Eds.: J. Alcamo, S.A. Leonard, A.R. Ravishankara and **M.A. Sutton**), pp 1-2, United Nations Environment Programme, Nairobi.
- PC.14. Oenema O., Ju X., de Klein C., Alfaro M., del Prado A., Lesschen J.P., Zheng X., Velthof G., Ma L., Gao B. Kroeze C. and **Sutton M.A.** (2013) Reducing emissions from agricultural sources. Chapter 4, in: *Drawing Down N₂O to Protect Climate and the Ozone Layer*. A UNEP Synthesis Report. (Eds.: J. Alcamo, S.A. Leonard, A.R. Ravishankara and **M.A. Sutton**), pp 17-25, United Nations Environment Programme, Nairobi.
- PC.13. **Sutton M.A.**, Skiba U.M., Davidson E., Kanter D., van Grinsven H.J.M., Oenema O., Maas R. and Pathak H. (2013) Drawing-Down N₂O Emissions: Scenarios, Policies and the Green Economy. Chapter 8, in: *Drawing*

Down N₂O to Protect Climate and the Ozone Layer. A UNEP Synthesis Report. (Eds.: J. Alcamo, S.A. Leonard, A.R. Ravishankara and M.A. Sutton), pp 1-2, United Nations Environment Programme, Nairobi.

2011

- PC.12. Sutton M.A., van Grinsven H., Billen G., Bleeker A., Bouwman A.F., Bull K., Erisman J.W., Grennfelt P., Grizzetti B., Howard C.M., Oenema O., Spranger T. and Winiwarter W. (2011) Summary for Policy Makers. In: *The European Nitrogen Assessment* (Eds. Sutton M.A., Howard C.M., Erisman J.W., Billen G., Bleeker A., Grennfelt P., van Grinsven H. and Grizzetti B.) pp xxiv-xxxiv, Cambridge University Press.
- PC.11. Sutton M.A., Billen G., Bleeker A., Erisman J.W., Grennfelt P., van Grinsven H., Grizzetti B., Howard C.M., and Leip A. (2011) Technical Summary. In: *The European Nitrogen Assessment* (Eds. Sutton M.A., Howard C.M., Erisman J.W., Billen G., Bleeker A., Grennfelt P., van Grinsven H. and Grizzetti B.) pp xxxv-li, Cambridge University Press.
- PC.10. Sutton M.A., Howard C., Erisman J.W., Billen G., Bleeker A., Grennfelt P., van Grinsven H. and Grizzetti B. Assessing our nitrogen inheritance. Chapter 1, in: *The European Nitrogen Assessment* (Eds. Sutton M.A., Howard C.M., Erisman J.W., Billen G., Bleeker A., Grennfelt P., van Grinsven H. and Grizzetti B.) pp 1-6, Cambridge University Press.
- PC.9. Erisman J.W., van Grinsven H., Grizzetti B., Bouraoui F., Powlson D., Sutton M.A., Bleeker A. and Reis S. (2011) The European nitrogen problem in a global perspective. Chapter 2, in: *The European Nitrogen Assessment* (Eds. Sutton M.A., Howard C.M., Erisman J.W., Billen G., Bleeker A., Grennfelt P., van Grinsven H. and Grizzetti B.) pp 9-31, Cambridge University Press.
- PC.8. Sutton M.A., Howard C.M., Erisman J.W., Bealey W.J., Billen G., Bleeker A., Bouwman A.F., Grennfelt P., van Grinsven H. and Grizzetti B. (2011). The challenge to integrate nitrogen science and policies: the European Nitrogen Assessment approach. Chapter 5 in: *The European Nitrogen Assessment* (Eds. Sutton M.A., Howard C.M., Erisman J.W., Billen G., Bleeker A., Grennfelt P., van Grinsven H. and Grizzetti B.) Cambridge University Press pp 82-96.
- PC.7. Cellier P., Bleeker A., Breuer L., Dalgaard T., Dragosits U., Drouet J.L., Durand P., Duret S., Hutchings N., Kros J., Loubet B., Oenema O., Olesen J.E., Mérot P., Theobald M.R., Viaud V., de Vries W. and Sutton M.A. Dispersion and fate of nitrogen in rural landscapes. Chapter 11, in: *The European Nitrogen Assessment* (Eds. Sutton M.A., Howard C.M., Erisman J.W., Billen G., Bleeker A., Grennfelt P., van Grinsven H. and Grizzetti B.) pp 229-248. Cambridge University Press.
- PC.6. Svirejeva-Hopkins A., Reis S., Magid J., Nardoto G., Barles S., Bouwman A.F., Erzi I., Kousoulidou M., Howard C.M. and Sutton M.A. (2011) Nitrogen flows and fate in urban landscapes. Chapter 12, in: *The European Nitrogen Assessment* (Eds. Sutton M.A., Howard C.M., Erisman J.W., Billen G., Bleeker A., Grennfelt P., van Grinsven H. and Grizzetti B.) pp 249-270. Cambridge University Press.
- PC.5. Leip A., Achermann B., Billen G., Bleeker A., Bouwman L., de Vries W., Dragosits U., Döring U., Fernall D., Geupel M., Johnes P., Le Gall A.C., Monni S., Neverčič R., Orlandini L., Prud'homme M., Reuter H., Simpson D., Seufert G., Spranger T., Sutton M.A., van Ardenne J., Voss M. and Winiwarter W. (2011) Integrating nitrogen fluxes at the European scale. Chapter 16 in: *The European Nitrogen Assessment* (Eds. Sutton M.A., Howard C.M., Erisman J.W., Billen G., Bleeker A., Grennfelt P., van Grinsven H. and Grizzetti B.), pp. 345-376, Cambridge University Press.
- PC.4. Butterbach-Bahl K., Nemitz E., Zaehle S., Billen B., Boeckx P., Erisman J.W., Garnier J., Upstill-Goddard R., Kreuzer M., Oenema O., Reis S., Schaap M., Simpson D., de Vries W., Winiwarter W. and Sutton M.A. (2011) Effect of reactive nitrogen on the European greenhouse balance. Chapter 19 in: *The European Nitrogen Assessment* (Eds. Sutton M.A., Howard C.M., Erisman J.W., Billen G., Bleeker A., Grennfelt P., van Grinsven H. and Grizzetti B.) pp 434-462. Cambridge University Press.
- PC.3. Oenema O., Salomez J., Branquinho C., Budňáková, Černák P., Geupel M., Johnes P., Tompkins C., Spranger T., Erisman J.W., Pallière C., Maene L., Alonso R., Maas R., Magid J., Sutton M.A. and van Grinsven H. (2011) Developing integrated approaches to nitrogen management. Chapter 23 in: *The European Nitrogen Assessment* (Eds. Sutton M.A., Howard C.M., Erisman J.W., Billen G., Bleeker A., Grennfelt P., van Grinsven H. and Grizzetti B.) pp 541-550. Cambridge University Press.
- PC.2. Winiwarter W., Hettelingh J.P., Bouwman L., de Vries W., Erisman J.-W., Galloway J., Svirijsjeva-Hopkins A., Klimont Z., Leach A., Leip A., Palliere C., Schneider U., Spranger T., Sutton M.A., van der Hoek K. and Witzke P. (2011) Future scenarios of nitrogen in Europe. Chapter 24 in: *The European Nitrogen Assessment* (Eds. Sutton M.A., Howard C.M., Erisman J.W., Billen G., Bleeker A., Grennfelt P., van Grinsven H. and Grizzetti B.) pp 551-569. Cambridge University Press.

PC.1. Bull K., Hoft R. and **Sutton M.A.** (2011) Coordinating European nitrogen policies between international conventions and intergovernmental organizations. Chapter 25, in: *The European Nitrogen Assessment* (Eds. **Sutton M.A.**, Howard C.M., Erisman J.W., Billen G., Bleeker A., Grennfelt P., van Grinsven H. and Grizzetti B.) pp 570-584. Cambridge University Press.

5. Other chapters and papers

2015

- C.229. Winiwarter W., Grizzetti B. and **Sutton M.A.** (2015) Nitrogen pollution in the EU: Best management strategies, regulations and science needs. *EM* (Air & Waste Management Association) (Special Issue: Reactive Nitrogen and possible management approaches). September 2015, 18-23.
- C.228. Cordovil C. M.d.S., **Sutton M.**, Dragosits U. and Dalgaard T. (2015) Tema em destaque. O Azoto, ou Nitrogénio. Uma questão emergente. (Cover Feature: 'Azote' or Nitrogen. An emerging issue.) *Quercus Ambiente* (July/August 2015), pp 10-11. (in Portuguese).
- C.227. **Sutton M.A.** and Dalgaard T. (2015) Foreword. In: *Costs of ammonia abatement and the climate co-benefits*. (Eds: Reis S., Howard C.M. and **Sutton M.A.**) pp v-vi, Springer.
- C.226. Reis, S., **Sutton M.A.** and Howard C.M. (2015) Overview, Aims and Scope. Chapter 1, In: *Costs of ammonia abatement and the climate co-benefits*. (Eds: Reis S., Howard C.M. and **Sutton M.A.**) pp 1-6, Springer.
- C.225. **Sutton M.A.**, Howard C., Reis R., Abalos D., Bracher A., Bryukhanov A., Condor-Golec R.D., Kozlova N., Lalor S.T.J., Menzi H., Maximov D., Misselbrook T., Raaflaub M., Sanz-Cobena A., von Alzigen-Sollberger E., Spring P., Vallejo A and Wade B. (2015) Country case studies. Chapter 8. In: *Costs of ammonia abatement and the climate co-benefits*. (Eds: Reis S., Howard C.M. and **Sutton M.A.**) pp 169-231, Springer.
- C.224. Howard C.M., **Sutton**, Oenema O. and Bittman S. (2015) Costs of ammonia abatement: Summary, Conclusions and Policy Context. Chapter 10. In: *Costs of ammonia abatement and the climate co-benefits*. (Eds: Reis S., Howard C.M. and **Sutton M.A.**) pp 263-281, Springer.
- C.223. **Sutton M.A.**, Dalgaard T., Cordovil C. and Howard C. (2015). Foreword in: *United Nations Economic Commission for Europe Framework Code for Good Agricultural Practice for Reducing Ammonia Emissions*. United Nations Economic Commission for Europe, Geneva. <http://www.unece.org/environmental-policy/conventions/envlirtapwelcome/publications.html>
- C.222. Dragosits U., Carnell E.J., **Sutton M.A.** and Misselbrook T.H. (2015) Assessing sources of atmospheric nitrogen input to designated sites for spatially targeted mitigation. Conference abstract, CAPER meeting Manchester, 30-Mar to 1-Apr 2015.
- C.221. Carnell E.J., Dragosits U., **Sutton M.A.** and Misselbrook T.H. (2015) Assessing the threat of N deposition from local sources to a designated site. Conference abstract, CAPER meeting Manchester, 30-Mar to 1-Apr 2015.
- C.220. van Dijk N., Jones M., Leeson S., Coyle M., Mullinger N., Tomlinson S.J., Dragosits U., Dise N. and **Sutton M.A.** (2015) Whim Bog: a new nitrogen-ozone interaction experiment. Conference abstract, CAPER meeting Manchester, 30-Mar to 1-Apr 2015.
- C.219. Massad R.S., **Sutton M.A.**, Bash J.O., Bedos C., Carrara A., Cellier P., Delon C., Famulari D., Genermont S., Hovarth L., Merbold L., Stella P. (2015) Soil and litter exchange of reactive trace gases. In: *Review and integration of Biosphere-Atmosphere modelling of reactive trace gases and volatile aerosols* (Joint COST-ABBA - ECLAIRE Workshop. Paris 25–27 September 2012, AgroParisTech). Eds. R.S. Massad and B. Loubet. pp 151-157. Queae (INRA) and Springer.
- C.218. Bash J.O., Flechard C., Adon M., Cellier P., Drouet J.L., Genermont S., Grosz B., Horvath L., Massad R.-S., **Sutton M.A.**, Theobald M.R. and Wichink Kruit R. (2015) Modelling the air-surface exchange of ammonia from the field to global scale. In: *Review and integration of Biosphere-Atmosphere modelling of reactive trace gases and volatile aerosols* (Joint COST-ABBA - ECLAIRE Workshop. Paris 25–27 September 2012, AgroParisTech). Eds. R.S. Massad and B. Loubet. pp 112-118 Queae (INRA) and Springer.
- C.217. Flechard C.R., Massad R.-S., Loubet B., Personne E., Simpson D., Bash J.O., Cooter E.J., Nemitz E. and **Sutton M.A.** (2015) Advances in understanding, models and parameterisations of biosphere-atmosphere ammonia exchange. In: *Review and integration of Biosphere-Atmosphere modelling of reactive trace gases and volatile aerosols* (Joint COST-ABBA - ECLAIRE Workshop. Paris 25–27 September 2012, AgroParisTech). Eds. R.S. Massad and B. Loubet. pp 13-55. Queae (INRA) and Springer.

2014

- C.216. Brownlie W., Spears B. and **Sutton M.** (2014) Putting a phosphorus bounty on society's bad behaviour. *SCOPE Newsletter* (European Phosphorus Sustainability Platform), **106**, 5-6 (August 2014).
- C.215. **Sutton M.A.**, Oenema O., Dalgaard T. and Howard C.M. (2014) Preface: In: *Options for ammonia mitigation: Guidance from the UNECE Task Force on Reactive Nitrogen*. (Eds.: Bittman S., Dedina M., Howard C.M., Oenema O. and **Sutton M.A.**) pp v-vi. TFRN-CLRTAP, Centre for Ecology and Hydrology, UK.
- C.214. **Sutton M.A.**, Mason K.E., Sheppard L.J., Sverdrup H., Haeuber R. and Hicks W.K. (2014). Preface. In: *Nitrogen Deposition, Critical Loads and Biodiversity*. (Eds.: **Sutton M.A.**, Mason K.E., Sheppard L.J., Sverdrup H., Haeuber R. and Hicks W.K.) (Proceedings of the International Nitrogen Initiative Workshop, linking experts of the Convention on Long-range Transboundary Air Pollution and the Convention on Biological Diversity). pp v-vi. Springer: Dordrecht.
- C.213. Hicks W.K., Haeuber R. and **Sutton M.A.** (2014) Nitrogen Deposition, Critical Loads and Biodiversity: Introduction. In: *Nitrogen Deposition, Critical Loads and Biodiversity*. (Eds.: **Sutton M.A.**, Mason K.E., Sheppard L.J., Sverdrup H., Haeuber R. and Hicks W.K.) (Proceedings of the International Nitrogen Initiative Workshop, linking experts of the Convention on Long-range Transboundary Air Pollution and the Convention on Biological Diversity). pp 1-4. Springer: Dordrecht.
- C.212. Dore A.J., Werner M., Hall J.R., Dore C.J., Hallsworth S., Kryza M., Smith R.I., Dragosits U., Tang Y.S., Vieno V. and **Sutton M.A.** (2014) Regional Scale Modelling of the Concentration and Deposition of Oxidised and Reduced Nitrogen in the UK. Chapter 5 in: *Nitrogen Deposition, Critical Loads and Biodiversity*. (Eds.: **Sutton M.A.**, Mason K.E., Sheppard L.J., Sverdrup H., Haeuber R. and Hicks W.K.) pp 39-48. Springer: Dordrecht.
- C.211. Bealey W.J., Dore A.J., Whitfield C.P., Hall J.R., Vieno M. and **Sutton M.A.** (2014). Source Attribution of Eutrophying and Acidifying Pollutants on the UK Natura 2000 Network. Chapter 39 in: *Nitrogen Deposition, Critical Loads and Biodiversity*. (Eds.: **Sutton M.A.**, Mason K.E., Sheppard L.J., Sverdrup H., Haeuber R. and Hicks W.K.) pp 369-374. Springer: Dordrecht.
- C.210. Aas W., Carou S., Alebic-Juretic A., Aneja V.P., Balasubramanian R., Berge H., Cape J.N., Delon C., Denmead O.T., Dennis R.L., Dentener F., Dore A.J., Du E., Forti M.C., Galy-Lacaux C., Geupel M., Haeuber R., Iacoban C., Komarov A.S., Kubin E., Kulshrestha U.C., Lamb B., Liu X., Patra D.D., Pienaar J.J., Pinho P., Rao P.S.P., Shen J., **Sutton M.A.**, Theobald M.R., Vadrevu K.P. and Vet R. (2014) Progress in Nitrogen Deposition Monitoring and Modelling. Chapter 48 in: *Nitrogen Deposition, Critical Loads and Biodiversity*. (Eds.: **Sutton M.A.**, Mason K.E., Sheppard L.J., Sverdrup H., Haeuber R. and Hicks W.K.) pp 455-463. Springer: Dordrecht.
- C.209. Hicks W.K., Haeuber R., **Sutton M.A.**, Aas W., Barber M., Baron J.S., Blett T., Carou S., Clair T., Erisman J.W., Leach A. and Galloway J.N. (2014) Workshop on Nitrogen Deposition, Critical Loads and Biodiversity: Scientific Synthesis and Summary for Policy Makers. Chapter 52 in: *Nitrogen Deposition, Critical Loads and Biodiversity*. (Eds.: **Sutton M.A.**, Mason K.E., Sheppard L.J., Sverdrup H., Haeuber R. and Hicks W.K.) pp 507-528. Springer: Dordrecht.

2013

- C.208. Vieno M., Heal M.R., Hallsworth S., Famulari D., Doherty R.M., Dore A.J., Tang Y.S., Braban C.F., Leaver D., **Sutton M.A.**, Reis, S. (2013) The role of long-range transport and domestic emissions in determining atmospheric secondary inorganic particle concentrations across the UK. *Atmospheric Chemistry and Physics Discussions*, **13** (12). 33433-33462. 10.5194/acpd-13-33433-2013
- C.207. Theobald M.R. and **Sutton M.A.** (2013) Improving the low-wind performance of the AERMOD atmospheric dispersion model for predicting short-range impacts of livestock ammonia emissions. Proceedings of 15th conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, Madrid, Spain, May 6-9 2013.
- C.206. **Sutton M.A.**, Reis S., Howard C.M., Bealey W.J., Nemitz E., Fowler D., Bleeker A., Hicks K.W., Beier C., Butterbach-Bahl K., de Vries W., Oenema O., Erisman J.W., Holland M., Klimont Z., Winiwarter W., Amman M. (2013) Nitrogen. Chapter 4. In: *Research Findings in support of the EU Air Quality Review*. (Fowler D., Brunekreef B., Fuzzi S., Monks P.S., **Sutton M.A.**, Brasseur G.P., Friedrich R., Passante L.G., Jiménez Mingo J.M. (2013) (Eds. Maione M. and Fuzzi S.). pp 57-70. European Commission, Directorate-General for Research and Innovation, Brussels.

2012

- C.205. Dore A.J., Werner M., Hallworth S., Hall J., Dore C., Kryza M., Smith R., Dragosits U., Tang S., Vieno M. and **Sutton M.A.** (2011) Nitrogen deposition in the UK: the influence of grid-space and time on the exceedance of critical loads and levels. In: Steyn D.G., and Gastelli S.T. (eds). *Air Pollution Modelling and its Application XXI*. Springer, pp 669-673.
- C.204. Drouet J.L., Cellier P., Duret S., Maury O., Durand P., Flechard C., Salmon-Monviola J., Theobald M.R., Dragosits, U., Braban C., Hutchings N.J., Olesen J.E., Dalgaard T., Schelde K., Breuer L., Kraft P., Vaché K.B., Butterbach-Bahl K., Bleeker A., Frumau, A., Bienkowski J., Kedziora A., Magliulo P., **Sutton M.A.** (2011) Integrating nitrogen interactions at the farm and landscape scales to assess the impact of management scenarios. In: *Proceedings of the 16th Nitrogen Workshop*.
- C.203. Reis S., Ambelas-Skjoth C., Vieno M., Geels C., Steinle S., Lang M. and **Sutton M.A.** (2012) Why time and space matters - arguments for the improvement of temporal emission profiles for atmospheric dispersion modeling of air pollutant emissions. In Chan, F., Marinova, D. and Anderssen, R.S. (eds) MODSIM2011, 19th International Congress on Modelling and Simulation. Modelling and Simulation Society of Australia and New Zealand, December 2011, pp. 1817-1823. ISBN: 978-0-9872143-1-7, <http://www.mssanz.org.au/modsim2011/E1/reis.pdf>
- C.202. Theobald M.R., Løfstrøm P., Andersen H.V., Pedersen P., Walker J., Vallejo A. and **Sutton M.A.** (2011) An intercomparison of models used to simulate the atmospheric dispersion of agricultural ammonia emissions. In: *International Conference on the Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes* (HARMO 13 , Paris 2010).

2011

- C.201. Skiba U. and **Sutton M.A.** (2011) National contributions to the assessment of nitrogen: United Kingdom. In: *Assessing and managing nitrogen fluxes in the atmosphere-biosphere system in Europe. Final report of COST Action 729*. (Eds. Bleeker A. and Erisman J.W.) pp 186-190, ECN for COST, Strasbourg. [ISBN: 978-90-817039-1-8].
- C.200. Bealey W.J., Bleeker A., Spranger T., Bernotat D., Buchwald E. and **Sutton M.A.** (2011) Approaches to assessing the impact of new plans and projects on Natura 2000 sites (Theme 1). Background Document. In: *'Nitrogen Deposition and Natura 2000: Science & practice in determining environmental impacts'* (Eds: W.K. Hicks, C.P. Whitfield, W.J. Bealey and **M.A. Sutton**), pp 13-29. COST Office, Brussels.
- C.199. **Sutton M.A.**, Leith I.D., Bealey W.J., van Dijk N., Tang Y.S. (2011) Moninea Bog: A case study of atmospheric ammonia impacts on a Special Area of Conservation. In: *'Nitrogen Deposition and Natura 2000: Science & practice in determining environmental impacts'* (Eds: W.K. Hicks, C.P. Whitfield, W.J. Bealey and **M.A. Sutton**), pp 59-71. COST Office, Brussels.
- C.198. Nordin A., Sheppard L.J., Strengbom J., Bobbink R., Gunnarsson U., Hicks W.K. and **Sutton M.A.** (2011) New science on the effects of nitrogen deposition and concentrations on Natura 2000 sites (Theme 3). Background document. In: *'Nitrogen Deposition and Natura 2000: Science & practice in determining environmental impacts'* (Eds: W.K. Hicks, C.P. Whitfield, W.J. Bealey and **M.A. Sutton**), pp 115-128. COST Office, Brussels.
- C.197. Sheppard L.J., Leith I.D., Mizunuma T., van Dijk N., Cape J.N. and **Sutton M.A.** (2011) All forms of reactive nitrogen deposition to Natura 2000 sites should not be treated equally: effects of wet versus dry and reduced versus oxidised nitrogen deposition. In: *'Nitrogen Deposition and Natura 2000: Science & practice in determining environmental impacts'* (Eds: W.K. Hicks, C.P. Whitfield, W.J. Bealey and **M.A. Sutton**), pp 181-189. COST Office, Brussels.
- C.196. Mizunuma T., Leith I.D., Gray A., **Sutton M.A.** and Sheppard L.J. (2011) Evaluation of nitrogen indicators on ombrotrophic acid bogs: observations from a nitrogen manipulation study. In: *'Nitrogen Deposition and Natura 2000: Science & practice in determining environmental impacts'* (Eds: W.K. Hicks, C.P. Whitfield, W.J. Bealey and **M.A. Sutton**), pp 190-200. COST Office, Brussels.
- C.195. **Sutton M.A.**, Bleeker A., Dragosits U., Hicks W.K., Bealey W.J. and Hallsworth S. (2011) Current and future policy options for tackling nitrogen deposition impacts on Natura 2000 sites (Theme 5) Background Document. In: *'Nitrogen Deposition and Natura 2000: Science & practice in determining environmental impacts'* (Eds: W.K. Hicks, C.P. Whitfield, W.J. Bealey and **M.A. Sutton**), pp 223-243. COST Office, Brussels.
- C.194. Hicks W.K. Spranger T., **Sutton M.A.**, Whitfield C.P., Bareham S., Bjerregaard H., Breukel S.J.M., Dirnböck T., Dragosits U., Erisman J.W., de Bruin S., Martins-Loução M.A., Surkus B. and Roels B. (2011) Current and future policy options for tackling nitrogen deposition impacts on Natura 2000 sites (Theme 5), Working Group Report. In: *'Nitrogen Deposition and Natura 2000: Science & practice in determining*

- environmental impacts*' (Eds: W.K. Hicks, C.P. Whitfield, W.J. Bealey and **M.A. Sutton**), pp 244-249. COST Office, Brussels.
- C.193. Hallsworth S., Dragosits U., Dore A.J., Bealey W.J., Vieno M., Tang Y.S., Hellsten S. and **Sutton M.A.** (2011) Quantifying the threat of atmospheric ammonia to UK 'Natura 2000' sites at 1 km resolution. In: '*Nitrogen Deposition and Natura 2000: Science & practice in determining environmental impacts*' (Eds: W.K. Hicks, C.P. Whitfield, W.J. Bealey and **M.A. Sutton**), pp 281-285. COST Office, Brussels.
- C.192. Hicks W.K., **Sutton M.A.**, Bealey W.J. and Ashmore M.R. (2011) Beyond nitrogen critical loads – is there a role for the 'Ecosystem Services' approach? In: '*Nitrogen Deposition and Natura 2000: Science & practice in determining environmental impacts*' (Eds: W.K. Hicks, C.P. Whitfield, W.J. Bealey and **M.A. Sutton**), pp 286-293. COST Office, Brussels.
- C.191. **Sutton M.A.**, Whitfield, C., Bealey, B. and Hicks, W.K. (2011). Summary for Policy Makers. In: '*Nitrogen Deposition and Natura 2000: Science & practice in determining environmental impacts*' (Eds: W.K. Hicks, C. Whitfield, B. Bealey and **M.A. Sutton**) COST 729 Workshop, Brussels, 18th - 20th May, 2009. <http://cost729.ceh.ac.uk/n2kworkshop/documents>.

2010

- C.190. Nemitz E., Phillips G.J., di Marco C., Ryder J., **Sutton M.A.**, Frumau A., Jongejan P.A.C., Wichink Kruit R. and Stolk A. (2010) Study of NH₃-HNO₃-NH₄NO₃ chemistry above a Dutch forest through size- and composition resolved aerosol fluxes. International Aerosol Conference Helsinki 2010, Abstract P214.
- C.189. Di Marco, C.F, Phillips G.J., Thomas R., Tang S., Nemitz E., **Sutton M.A.**, Fowler D., Lim S.F., (2010) Reactive nitrogen deposition to South East Asian rainforest. *Geophysical Research Abstracts*, 12, EGU2010-11614, EGU General Assembly, 2010.
- C.188. Dore, A.J., Bealey, W., Kryza, M., Vieno, M. and **Sutton M.A.** (2010) Modelling the individual contributions of gaseous emissions sources to the deposition of sulphur and nitrogen in the UK. In: Steyn, Douw G.; Rao, S.T., (Eds.) *Air pollution modelling and its application XX*. pp 207-211. Dordrecht, Netherlands, Springer, (NATO Science for Peace and Security Series B-Physics and Biophysics).
- C.187. Theobald M.R., Løfstrøm P., Andersen H.V., Pedersen P., Walker J., Vallejo A. and **Sutton M.A.** (2010) An intercomparison of models used to simulate the atmospheric dispersion of agricultural ammonia emissions. In: *International Conference on the Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes* (HARMO 13 , Paris 2010).
- C.186. Massad R.-S., Nemitz E. and **Sutton M.A.** (2010) Review and parameterisation of bi-directional ammonia exchange between vegetation and the atmosphere *Atmos. Chem. Phys. Discuss.*, **10**, 10335-10398.

2009

- C.185A. Medinets S. V., Pitsyk V. Z., Medinets V. I., Duricic V., Vidic S., Tang Y. S., **Sutton M.**, Derevencha V. M. Results of background atmospheric monitoring of pollutants in lowest atmospheric layer nearby Odessa in 2007-2008. National Ukrainian academic and research conf. ["Ecology of the cities and recreation zones"], (Odessa, 4-5th August 2009) / Od: Invatz, 2009. – p. 103-107. – ISBN 978-966-8885-28-0. (in Russian)
- C.185. Drouet, J.L., Cellier, P., Duret, S., Maury, O., Durand, P., Flechard, C., Salmon-Monviola, J., Theobald, M.R., Dragosits, U., Braban, C., Hutchings, N., Olesen, J.E., Dalgaard, T., Schelde, K., Breuer, L., Kraft, P., Vache, K.B., Butterbach-Bahl, K., Bleeker, A., Frumau, A., Bienkowski, J., Kedziora, A., Magliulo, E., Magliulo, P. & **Sutton M.A.** (2009). Integrating nitrogen interactions at the farm and landscape scales to assess the impact of management scenarios. I Proceedings of the 16th Nitrogen Workshop. Connecting different scales of nitrogen use in agriculture. s.521-522.
- C.184. Vieno M., Dore A.J., Stevenson D.S., Doherty R., Heal M.R., Reis, S., Hallworth S., Tarrasón L., Wind P., Fowler D., Simpson D. and **Sutton M.A.** (2009) Modelling surface ozone during the 2003 heat wave in the UK. *Atmos. Chem. Phys. Discuss.*, **9**, 19509-19544.
- C.183. Reis S., Pinder R.W., Zhang M., Lijie G. and **Sutton M.A.** (2009) Reactive nitrogen in atmospheric emission inventories – a review. *Atmos. Chem. Phys. Discuss.*, **9**, 12413-12464.
- C.182. **Sutton M.A.** (2009) Introduction. Chapter 1, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 1-11, Springer.
- C.181. Cape J.N., van der Eerden L.J., Sheppard L.J., Leith I.D. and **Sutton M.A.** (2009). Reassessment of critical levels for atmospheric ammonia. Chapter 2, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 15-39, Springer.

- C.180. **Sutton M.A.**, Sheppard L.J. and Fowler D. (2009) Potential for the further development and application of critical levels to assess the environmental impacts of ammonia. Chapter 3, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 41-48, Springer.
- C.179. Sheppard L.J., Leith I.D., Crossley A., van Dijk N., Cape J.N., Fowler D. & **Sutton M.A.** (2009) Long-term cumulative exposure exacerbates the effects of atmospheric ammonia on an ombrotrophic bog: implications for critical levels. Chapter 4, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 49-58, Springer.
- C.178. Pitcairn C.E.R., Leith I.D., van Dijk N., Sheppard L.J., **Sutton M.A.** and Fowler D. (2009) The application of transects to assess the effects of ammonia on woodland groundflora. Chapter 5, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 59-69, Springer.
- C.177. **Sutton M.A.**, Wolseley P.A., Leith, I.D. van Dijk N, Tang Y.S., James P.W., Theobald M.R. and Whitfield, C.P. (2009) Estimation of the ammonia critical level for epiphytic lichens based on observations at farm, landscape and national scales. Chapter 6, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 71-86, Springer.
- C.176. **Sutton M.A.**, van Pul A., Sauter F., Tang Y.S. and Horvath L. (2009) Over which averaging period is the ammonia critical level most precautionary? Chapter 8, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 93-99, Springer.
- C.175. Wolseley P.A., Leith I.D., van Dijk N., **Sutton M.A.** (2009) Macrolichens on twigs and trunks as indicators of ammonia concentrations across the UK – a practical method. Chapter 9, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 101-108, Springer.
- C.174. Pinho P., Branquinho C., Cruz C., Tang Y.S., Dias T., Rosa A.P., Máguas C., Martins-Loução M.A., **Sutton M.A.** (2009) Assessment of critical levels of atmospheric ammonia for lichen diversity in cork-oak woodland, Portugal. Chapter 10, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 109-120, Springer.
- C.173. Bleeker A., **Sutton M.A.**, Acherman B., Alebic-Juretic A., Aneja V.P., Ellermann T., Erisman J.W., Fowler D., Fagerli H., Gauger T., Harlen K.S., Hole L.R., Horváth L., Mitosinkova M., Smith R.I., Tang Y.S., van Pul. A. (2009) Linking ammonia emission trends to measured concentrations and deposition of reduced nitrogen at different scales. Chapter 11, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 123-180, Springer.
- C.172. Horváth L., Fagerli H. and **Sutton M.A.** (2009) Long-Term Record (1981–2005) of ammonia and ammonium concentrations at K-Puszta Hungary and the effect of sulphur dioxide emission change on measured and modelled concentrations. Chapter 12, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 181-186, Springer.
- C.171. Tang Y.S., Dragosits U., van Dijk N., Love L., Simmons I. and **Sutton M.A.** (2009) Assessment of ammonia and ammonium trends and relationship to critical levels in the UK National Ammonia Monitoring Network (NAMN). Chapter 13, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 187-194, Springer.
- C.170. Loubet B., Asman W.A.H., Theobald M.R., Hertel O., Tang Y.S., Robin P., Hassouna M., Daemmgen U., Genermont S., Cellier P. and **Sutton M.A.** (2009) Ammonia deposition near hot spots: processes, models and monitoring methods. Chapter 15, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 205-267, Springer.
- C.169. Leith I.D., van Dijk N., Pitcairn C.E.R., Sheppard L.J. and **Sutton M.A.** (2009) Standardised grasses as biomonitors of ammonia pollution around agricultural point sources. Chapter 16, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 269-279, Springer.
- C.168. van Dijk N., Leith I.D., Pitcairn C.E.R. and **Sutton M.A.** (2009) Soluble ammonium in plants as a bioindicator for atmospheric nitrogen deposition: refinement and testing of a practical method. Chapter 17, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 281-289, Springer.
- C.167. Dragosits U., Theobald M.R., Place C.J., ApSimon H.M. and **Sutton M.A.** (2009) Spatial planning as a complementary tool to abate the effects of atmospheric ammonia deposition at the landscape scale. Chapter 18, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 291-298, Springer.

- C.166. Vieno M., Dore A.J., Wind P., Di Marco C., Nemitz E., Phillips G., Tarrason L. and **Sutton M.A.** (2009) Application of the EMEP Unified Model to the UK with a horizontal resolution of $5 \times 5 \text{ km}^2$. Chapter 21, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 367-372, Springer.
- C.165. Cape J.N., van der Eerden L., Fangmeier A., Ayres J., Bareham S., Bobbink R., Branquinho C., Crittenden P., Cruz C., Dias T., Leith I., Martins-Loução M.A., Pitcairn C., Sheppard L., Spranger T., **Sutton M.A.**, van Dijk N. and Wolseley P.A. (2009) Critical levels for ammonia. Chapter 22, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 375-384, Springer.
- C.164. Spranger T., Klimont Z., Sponar M., Raes C., Baker S.M.H., **Sutton M.A.**, Gillespie C., Tang Y.S., Andersen H.V., Ellerman E., Flechard C. and Hutchings N.J. (2009) Ammonia policy context and future challenges. Chapter 27, In: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. **M.A. Sutton**, S. Reis and S.M.H. Baker), pp 435-444, Springer.
- C.163. **Sutton M.A.**, Reis S. and Baker S.M.H. (2009) Synthesis and Summary for Policy Makers. Chapter 28, in: *Atmospheric Ammonia: Detecting emission changes and environmental impacts* (Eds. M.A. Sutton, S. Reis and S.M.H. Baker), pp 445-454, Springer.
- C.162. Hensen A., Loubet B., Mosquera J., van den Bulk W.C.M., Erisman J.W., Dämmgen U., Milford C., Löpmeier F.J., Cellier P., Mikuska P. and **Sutton M.A.** (2009) Estimation of NH_3 emissions from a naturally ventilated livestock farm using local-scale atmospheric dispersion modelling. *Biogeosciences Discussions* **6**, 825-862.
- C.161. Loubet B., Milford C., Hensen A., Dämmgen U., Erisman J.W., Cellier P. and **Sutton M.A.** (2009) Advection of ammonia over a pasture field, and its effect on gradient flux measurements. *Biogeosciences Discussions* **6**, 163-196.
- C.160. David M., Loubet B., Cellier P., Mattsson M., Schjoerring J.K., Nemitz E., Roche R., Riedo M. and **Sutton M.A.** (2009) Ammonia sources and sinks in an intensively managed grassland using dynamic chambers. *Biogeosciences Discussions* **6**, 1625-1655.
- C.159. David M., Roche R., Mattsson M., **Sutton M.A.**, Dämmgen U. Schjoerring J.K. & Cellier P. (2009) The effects of management on ammonia fluxes over a grassland using dynamic chambers. *Biogeosciences Discussions* **6**, 1599-1623.
- C.158. Nemitz E., Loubet B., Cellier P., Lehmann B.E., Neftel A., Jones S.K., Hargreaves K.J. and **Sutton M.A.** (2009) Turbulence characteristics and transport mechanisms in grassland canopies. *Biogeosciences Discussions* **6**, 437-489.
- C.157. Personne E., Loubet B., Herrmann B., Mattsson M., Schjoerring J.K., Nemitz E., **Sutton M.A.** and Cellier P. (2009) SURFATM- NH_3 : a model combining the surface energy balance and the bi-directional exchanges of ammonia at the field scale. *Biogeosciences Discussions* **6**, 71-114.
- C.156. Nemitz E., Dorsey J.R., Flynn M.J., Gallagher M.W., Hensen A., Owen S.M., Dämmgen U. and **Sutton M.A.** (2009) Aerosol fluxes and particle growth above managed grassland. *Biogeosciences Discussions* **6**, 341-389.
- C.155. **Sutton M.A.**, Nemitz E., Milford C., Campbell C., Erisman J.W., Hensen A., Cellier P., David M., Loubet B., Personne E., Schjoerring J.K., Mattsson M., Dorsey J.R., Gallagher M.W., Horvath L., Weidinger T., Meszaros R., Dämmgen U., Neftel A., Herrmann B., Lehman B.E. Flechard C. and Burkhardt J. (2009) Dynamics of ammonia exchange with cut grassland: Synthesis of results and conclusions. *Biogeosciences Discussions* **6**, 1121-1184.
- C.154. Nemitz E., Hargreaves K.J., Neftel A., Loubet B., Cellier P., Dorsey J.R., Flynn M.J., Hensen A., Weidinger T., Meszaros R., Horvath L., Dämmgen U., Fruehauf C., Löpmeier F.J., Gallagher M.W. and **Sutton M.A.** (2009) Inter-comparison and assessment of turbulent and physiological exchange parameters of grassland. *Biogeosciences Discussions* **6**, 241-290.

2008

- C.153. Dore A.J., Kryza M., Vieno M. and **Sutton M.A.** (2008) Modelling the contribution of SO_2 and NO_x emissions from international shipping to sulphur and oxidised nitrogen deposition. (In: *Proc. The 12th International Conference on Harmonization within Atmospheric Dispersion Modelling for Regulatory Purposes, Croatia 2008*) *Croatian Meteorological Journal*, **43**, H12-46. pp. 98-102.
- C.152. Vieno, M., Dore, A.J., Stevenson, D.S., Doherty, R., Heal, M., Reis, S., Hallsworth, S., Tarrasón, L., Wind, P. and **Sutton, M.A.** (2008), Modelling surface ozone during the 2003 heat wave in the UK. In: *Proc. The 12th*

International Conference on Harmonization within Atmospheric Dispersion Modelling for Regulatory Purposes, Croatia 2008, pp. 83-87.

- C.151. **Sutton M.A.**, Nemitz, E., Reis, S., Beier, C., Butterbach-Bahl, K., Cellier, P., Cotrufo, M.F., Erisman, J.W., Skiba, U., de Vries, W., Zechmeister-Baltenstern, S., Bleeker, A., Calanca, P., Dalgaard, T., Dragosits, U., Duyzer, J.H., Gundersen, P., Hensen, A., Kros, H., Leip, A., Obersteiner, M., Olesen, J.E., Phillips, G., Rees, R.M., Smith, P.E., Sourssana, J., Tang, Y.S., Theobald, M., van Amstel, A., van Oijen, M.A., Bakker, M., Vesala, T. (2008) Quantifying Nitrogen Fluxes and Their Influence on the Greenhouse gas Balance- Research Strategy and new Findings From the NitroEurope Integrated Project. *Eos, Transactions, American Geophysical Union*, 89(53), Fall Meet. Suppl. (Abstract B21D-07). 1, pp.
- C.150. Milford C., Theobald M.R., Nemitz E., Hargreaves K.J., Horvath L., Raso J., Dämmgen U., Neftel A., Jones S.K., Hensen A., Loubet B., and **Sutton M.A.** (2008) Ammonia fluxes in relation to cutting and fertilization of an intensively managed grassland derived from an inter-comparison of gradient measurements. *Biogeosciences Discussions* 5, 4699-4744.
- C.149. Hensen A., Nemitz E., Flynn M., Blatter A., Jones S.K., Sørensen L.L., Hensen B., Pryor S., Jensen B., Otjes R.P., Cobussen J., Loubet B., Erisman J.W., Gallagher M.W., Neftel A. and **Sutton M.A.** (2008) Inter-comparison of ammonia fluxes obtained using the Relaxed Eddy Accumulation technique. *Biogeosciences Discussions* 5, 3965-4000.
- C.148. **Sutton M.A.**, Nemitz E., Theobald M.R., Milford C., Dorsey J.R., Gallagher M.W., Hensen A., Jongejan P.A.C., Erisman J.W., Mattsson M.E., Schjoerring J.K., Cellier P., Loubet B., Roche R., Neftel A., Herrmann B., Jones S.K., Lehman B.E., Horvath L., Weidinger T., Rajkai K., Burkhardt J., Löpmeier F.J., Dämmgen U. (2008) Dynamics of ammonia exchange with cut grassland: Strategy and implementation of the GRAMINAE Integrated Experiment. *Biogeosciences Discussions* 5, 3347-3407.
- C.147. Herrmann B., Mattsson M., Jones S.K., Cellier P., Milford C., **Sutton M.A.**, Schjoerring J.K. and Neftel A. (2008) Vertical structure and diurnal variability of ammonia emission potential within an intensively managed grass canopy. *Biogeosciences Discussions* 5, 2897-2921.
- C.146. Mattsson M., Herrmann B., David M., Loubet B., Riedo M., Theobald M.R., **Sutton M.A.**, Bruhn D., Neftel A. & Schjoerring J.K. (2008) Temporal variability in bioassays of ammonia emission potential in relation to plant and soil N parameters in intensively managed grassland. *Biogeosciences Discussions* 5, 2749-2772.
- C.145. Mattsson M., Herrmann B., Jones, S.K., Neftel A., **Sutton M.A.** and Schjoerring J.K. (2008) Contribution of different grass species to plant-atmosphere ammonia exchange in intensively managed grassland. *Biogeosciences Discussions* 5, 2583-2605.
- C.144. Burkhardt J., Flechard C.R., Gressens F., Mattsson M.E., Jongejan, P.A.C., Erisman J.W., Weidinger T., Meszaros R., Nemitz E. and **Sutton M.A.** (2008) Modelling the chemical interactions of atmospheric ammonia and other trace gases fluxes with measured leaf surface wetness in a managed grassland canopy. *Biogeosciences Discussions* 5, 2505-2539.
- C.143. Dore A.J., Theobald M.R., Kryza M., Vieno M., Tang Y.S. and **Sutton M.A.** (2008) Modelling the deposition of Reduced Nitrogen at different scales in the United Kingdom. *Proc. 29th NATO/SPS International Technical Meeting on Air Pollution Modelling and its Application, Aveiro, Portugal 2007*, pp.127-135.
- C.142. Dore A.J., Theobald M.R., Vieno M., Tang Y.S. and **Sutton M.A.** (2008) Modelling of Ammonia Concentrations and Deposition of Reduced Nitrogen in the United Kingdom. In: *Proc.11th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, Cambridge, 2007*, pp. 266-270.
- C.141. Dragosits U., Dore A.J., Sheppard L.J., Vieno M., Tang Y.S., Theobald M.R. and **Sutton M.A.** (2008) Ammonia in the Atmosphere: Sources, Dispersion and Fate of Atmospheric Ammonia. In: *Nitrogen in the Environment* (2nd Edition) (Eds. J. Hatfield and R. Follett R.), pp 333-393. Academic Press (ISBN 978-0-12-374347-3).

2007

- C.140. Dore A.J., Błaś M., Kryza M., Hall J., Dore C.J., Vieno M., Weston K.J. and **Sutton M.A.** (2007) Modelling past and future trends in sulphur and nitrogen deposition in the United Kingdom. *Proc..Air pollution modelling and its application XVIII*, Leipzig, 764-767 doi:10.1016/S1474-8177(07)06812-X
- C.139. Mills G., Ashmore M., Bermejo V., Braun S., Broadmeadow M., Cape J.N., Danielsson H., Emberson L., Fuhrer J., Gimeno B., Holland M., Karlsson P.E., Karlsson G.P., Pleijel H., Simpson D. and **Sutton M.A.** (2007) Mapping Critical Levels for Vegetation. Chapter 3, In: *Manual of Methodologies for Mapping Critical Loads and Levels of Air Pollutants*. 76 pp. UNECE, Geneva.

- C.138. Reis S., **Sutton M.A.**, deVries W, Kros J (2007) Modelling multidimensional problems: The case of integrated nitrogen management. In: Oxley, L. and Kulasiri, D. (eds) *MODSIM 2007 International Congress on Modelling and Simulation*. Modelling and Simulation Society of Australia and New Zealand, December 2007, pp. 2083-2089. ISBN : 978-0-9758400-4-7.
- C.137. Skiba, U., Nemitz E., Flechard C., Vesala T., Ambus P., Brüggemann N., Hensen A., Duyzer J., Cellier P., Freibauer A., Magliulo E., Seufert G., Neftel A., Horvath A., Drewer J., Tang Y.S., Laurila T., Zechmeister-Boltenstern S., Cotrufo M.F., Fowler D. and **Sutton M.A.** (2007) Land atmosphere exchange of reactive nitrogen. ACCENT publication of the 2ND ACCENT Symposium, Urbino July 2007, <http://www.accent-network.org/portal/science/articles/2-nd-accent-symposium-oral-presentations>
- C.136. Wolseley P.A., Leith I., van Dijk N. and **Sutton M.** (2007) Macrolichens on twigs and trunks as indicators of ammonia concentrations across the UK – a practical method. In: *20th Task Force of the ICP Vegetation. Programme Abstracts*. Joint Institute for Nuclear Research, 74.
- C.135. Fowler D., Smith, R.I., Muller J., Cape J.N., **Sutton M.A.**, Erisman, J.W., Fagerli H. (2007) Long term trends in sulphur and nitrogen deposition in Europe and the cause of non-linearities. In: Brimblecombe et al, Peter, (ed.) *Acid rain - deposition to recovery*. pp. 41-47. Dordrecht, Springer.
- C.134. **Sutton M.A.**, Erisman J.W. and Oenema O. (2007) Strategies for controlling nitrogen emissions from agriculture: Regulatory, voluntary and economic approaches. In: *Fertilizer Best Management Practices: General Principles, Strategy for their Adoption and Voluntary Initiatives vs Regulations*. pp. 245-259. International Fertilizer Industry Association, Paris. (ISBN 2-9523139-2-X).
- C.133. Erisman J.W., Spranger T. (chairs), **Sutton M.A.** (rapporteur), Akselsson C., Amin-Hanjani S., Anderson H.V., ApSimon H., Fagerli H., Harmens H., Havlikova M., Hetteling J.P., Hicks K., Horvath L., Hutchings N., Maasikimets M., Maione M., Reis S., Stenby C. (2007) Working Group 5 : Nitrogen – integrated environmental policies. Proceedings of the UNECE/EC Saltsjobaden 3 Workshop.
- C. 132. Galloway J., Erisman J.W, Townsend A., Davidson E., Bekunda M., Cai Z., Freney J., Martinelli L., Seitzinger S. and **Sutton M.A.** (2007) Human alteration of the nitrogen cycle: threats, benefits and opportunities. *UNESCO-SCOPE Policy Briefs*. April 2007, No. 4. United Nations Educational Scientific and Cultural Organization, Scientific Committee on Problems of Environment of ISCU, Paris.
- C. 131. Hellsten S., Dragosits U., Place C.J., Misselbrook T.H., Tang Y.S. and **Sutton M.A.** (2007) Modelling seasonal dynamics from temporal variation in agricultural practices in the UK Ammonia Emission Inventory. In: Brimblecombe P., Hara H., Houle D. and Novak M. (Eds.) *Acid rain - deposition to recovery*. Dordrecht, The Netherlands, Springer, 3-13.
- C.130. **Sutton M.A.**, Giles E. and Baker S. (2007) Atmospheric ammonia: Detecting emission changes and environmental impacts. Summary report of the UNECE Ammonia Workshop. In: *Ammonia Emissions in Agriculture*. (Eds. G.J. Monteny and E. Hartung), pp 52-57. Wageningen Academic Publishers.
- C.129. Theobald M.R., Bealey W.J. and **Sutton M.A.** (2007) SCAIL: a tool to predict atmospheric concentrations and deposition of ammonia downwind of sources. In: *Towards a better efficiency in N use*. (Eds. A. Bosch, M.R. Teira and J.M. Villar) pp 294-296. Editorial Milenio, Lleida (Spain) ISBN: 978-84-9743-247-4.
- C.128. Vieno M., Wind P., Weston K.J., Dore A.J., Tarrasón L. and **Sutton M.A.** (2007) Fine scale application of the EMEP unified air pollution model to the United Kingdom. In: *Proceedings of the 10th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purpose, Sissi (Malia), Crete 2005*, pp.250-254.
- C.127. Wolseley P.A., James P.W., Leith I., van Dijk N., Pitcairn C. and **Sutton M.A.** (2007) Lichens as bioindicators of atmospheric ammonia: a transect case study in the vicinity of a Scottish poultry farm. In: *20th Task Force Meeting of the ICP Vegetation. Programme abstracts*. Joint Institute for Nuclear Research, 73.

2006

- C.126. Fowler, D., Cape, J.N., Muller, J., Coyle, M., **Sutton M.**, Smith, R., Jeffree, C. (2006) Atmospheric composition and the phyllosphere - the role of foliar surfaces in regulating biogeochemical cycles. In: *Microbial ecology of aerial plant surfaces*, (Ed. Bailey M.J. et al.) pp 305-315. CABI Wallingford.
- C.125. Nemitz E., **Sutton M.A.**, Tang S., Thomas R., Phillips R., Otjes R., Erisman J.W. (2006) Ammonia-ammonium interactions: effects on surface / atmosphere exchange fluxes and the atmospheric aerosol loading. Reduced Nitrogen in Ecology and the Environment. ESF-FWF Conference, Obergurgl, 14-18 October 2006. At: <http://www.nine-esf.org/sites/nine-esf.org/files/obergurgl/presentations/Nemitz.pdf>
- C.124. **Sutton M.A.**, Nemitz, E., Beier, C., Butterbach-Bahl, K., Cellier, P., de Vries, W., Erisman, J.W. and Catrufo, F. (2006) Land-atmosphere exchange of nitrogen in Europe: current advances and NEU challenges.

- Proceedings of the 1st iLEAPS Science Conference, Boulder, Colorado, 21-26 January 2006; Report Series in Aerosol Science No. 79, Finnish Association for Aerosol Research, FAAR, Helsinki, Finland, pp 106-107.
- C.123. Dore A.J., Błaś M., Kryza M., Hall J., Dore C.J., Vieno M., Weston K.J., **Sutton M. A.** (2006) .Modelling past and future trends in sulphur and nitrogen deposition in the United Kingdom Extended abstract submitted to 28th NATO/CCMS International Technical Meeting on Air Pollution Monitoring and its Application
- C.122. Dragosits U., Theobald M.R., Place C.J., ApSimon H.M. and **Sutton M.A.** (2006) How to reduce the Impact of Ammonia Pollution? DG Environment News abstract. "Science for Environment Policy, DG Environment News Alert Service TEXT Version. 14 December, 2006. Issue 47. http://ec.europa.eu/environment/integration/newsalert/themes_en.html.
- C.121. **Sutton M.A.**, Reis S., Beier C., Butterbach-Bahl K., Cellier P., Francesca Cotrufo M., Erisman J.W., Nemitz E., Skiba U. and de Vries W. (2006) The Nitrogen Cycle and Its Influence on the European Greenhouse Gas Balance. *IGAC Activities Newsletter* (of the International Global Atmospheric Chemistry Project). Issue 34 (Dec 2006), pp. 11-18.
- C.120. Theobald M.R., Loubet B., Dragosits U., Tang Y.S., Nemitz E., Milford C. and **Sutton M.A.** (2006) Modelling Short-Range Dispersion and Deposition of Ammonia - in: *Understanding and quantifying the atmospheric nitrogen cycle (The 2nd ACCENT Barnsdale Expert Meeting)*, (Eds: Tony Cox, Paul Monks, David Fowler and Peter Borrell) pp175-179. ACCENT Secretariat Urbino.
- C.119. **Sutton M.A.**, Nemitz E., Erisman J.W., Beier C., Butterbach Bahl K., Cellier P., de Vries W., Cotrufo F., Skiba U., Di Marco C., Jones S., Laville P., Soussana J.F., Loubet B., Twigg M., Famulari D., Whitehead J., Gallagher M.W., Neftel A., Flechard C.R., Herrmann B., Calanca P.L. , Mattsson M.E. , Schjoerring J.K., Daemmgen U., Horvath L., Tang Y.S., Campbell C., Olsesen J.E., Dragosits U., Theobald M.R., Levy P., Mobbs D., Milne R., Reid M., Viovy N., Vuichard N., Smith J.U., Smith P.E., Bergamaschi P., Muller J. and Fowler D. (2006) Challenges in Quantifying Atmosphere-Biosphere Exchange of Nitrogen Species - in: *Understanding and quantifying the atmospheric nitrogen cycle (The 2nd ACCENT Barnsdale Expert Meeting)*, (Eds: Tony Cox, Paul Monks, David Fowler and Peter Borrell) pp55-73 ACCENT Secretariat Urbino.

2005

- C.118. Vieno M., Wind P., Weston K.J., Dore A.J., Tarrasón L. and **Sutton M.A.** (2005). Fine scale application of the EMEP Unified air pollution model to the United Kingdom. *Harmonisation conference proceedings*, Crete, Greece, 2005.
- C.117. Famulari D., Fowler D., Weston K., Storeton-West R.L., Nemitz E.G., Hargreaves K., **Sutton M.A.** (2005) Development of a low cost system for measuring deposition fluxes on the field scale by micrometeorology. In: Werner, A. and Sorensen, L.L. (Eds.) *ACCENT-BIAFLUX Workshop 2005, Trace gas and aerosol flux measurement and techniques*. Abstract Book. Riso-R-1508(EN). Riso National Laboratory, Roskilde, Denmark. p. 26.
- C.116. Tang Y.S., Cape J.N., Fowler D. and **Sutton M.A.** (2005) Low-Cost Strategies for Local and Regional Monitoring of Reactive Atmospheric Nitrogen Compounds. In: *3rd International Nitrogen Conference* (Eds. Zhu Zhaoliang, Katsu Minami and James Galloway) - Contributed Papers, Atmospheric N Deposition and Its Environment Consequences, Oct 12-16, 2004, p. 672 – 678, Science Press USA Inc. (peer reviewed)
- C.115B. Dore A.J., Vieno M., Tang Y.S, Dosio A., Weston K.J., **Sutton M.A.** (2006) Long range transport modelling of sulphur and nitrogen deposition over the United Kingdom for emission abatement strategies Proceedings of the 1st ACCENT Symposium. Extended abstract submitted to 28th NATO/CCMS International Technical Meeting on Air Pollution Monitoring and its Application
- C.115A. Nemitz E., Smith R., **Sutton M.A.**, Simpson D., Fagerli H., Erisman J.W. Fowler, D. (2005) Deriving operational parameterisations of NH₃/SO₂ co-deposition effects on canopy uptake resistances. In: *The Changing Chemical Climate of the Atmosphere*, First ACCENT Symposium, Urbino, Sep 12-16, 2005, Programme and Abstracts, p. 93.
- C.114. Fagerli H., Simpson D., Nemitz E., Smith R., **Sutton M.** (2005) Modeling European trends in sulphur in air, 1980-2003 - The effect of the SO₂-NH₃ co-deposition process. In: *The Changing Chemical Climate of the Atmosphere*, First ACCENT Symposium, Urbino, Sep 12-16, 2005, Programme and Abstracts, p. 89.
- C.113. Twigg M.M., Famulari D., Nemitz E., **Sutton M.A.**, Fowler D., Rippey B. (2005) Principles and development of tunable diode laser spectroscopy for measuring fluxes of ammonia and nitric acid. In: *The Changing Chemical Climate of the Atmosphere*, First ACCENT Symposium, Urbino, Sep 12-16, 2005, Programme and Abstracts, p. 94

C.112. **Sutton M.A.**, Nemitz, E., Skiba, U., Theobald, M.R., Dragosits, U., Fowler, D., Erismann, J.W., Hensen, A., Bleeker, A., Cellier, P., Loubet, B., Schjoerring, J.K., Nefel, A., Flechard, C., Horvath, L., Gallagher, M., Daemmgen, U., Pilegaard, K., Duyzer, J., Simpson, D., Brüggemann, N., Butterbach-Bahl, K. (2005) Land-atmosphere exchange of reactive species of nitrogen in Europe. In: *The Changing Chemical Climate of the Atmosphere (Proceedings of the first ACCENT Symposium, Urbino, Sept 12-16 2005)*, (Eds: S. Fuzzi and M. Maione) pp94-101 MMVI ARACNE editrice S.r.l., Rome [ISBN 88-548-0851-2].

2004

C. 111. Wolseley P.A., James P.W., **Sutton M.A.** and Theobald M.R (2004) Using lichen communities to assess changes in sites of known ammonia concentrations. In: *Lichens in a changing pollution environment*, English Nature workshop (Eds. P. Wolseley and P. Lambley) pp 89-98. English Nature Research Reports, No 525 [ISSN 0967-876X].

C. 110. Sheppard L.J., Leith I.D., Crossley A., Jones M., Tang Y.S., Carfrae J.A., **Sutton M.A.**, Theobald M.R., Hargreaves K.J., Cape J.N. and Fowler, D. (2004) Responses of *Cladonia portentosa* growing on an ombrotrophic bog, Whim Moss, to a range of atmospheric ammonia concentrations. In: *Lichens in a changing pollution environment*, English Nature workshop (Eds. Wolseley and Lambley) pp 84-88. English Nature Research Reports, No 525 [ISSN 0967-876X].

C. 109. **Sutton M.A.**, Leith I.D., Pitcairn C.E.R., van Dijk N., Tang Y.S., Sheppard L.J., Dragosits U., Fowler D., James P.W. and Wolseley P.A. (2004) Exposure of ecosystems to atmospheric ammonia in the UK and the development of practical bioindicator methods. In: *Lichens in a changing pollution environment*, English Nature workshop (Eds. Wolseley and Lambley) pp 51-62. English Nature Research Reports, No 525 [ISSN 0967-876X].

C.108. **Sutton M.A.**, Dragosits U., Theobald M.R., McDonald A.G., Nemitz E., Blyth J.F., Sneath R., Williams A., Hall J., Bealey W.J., Smith R.I., Fowler D. (2004) The role of trees in landscape planning to reduce the impacts of atmospheric ammonia deposition. In: *Landscape ecology of trees and forests*. (Ed. R. Smithers) pp 143-150. IALE (UK)/ Woodland Trust, Grantham. [ISBN 0 9547130 1 X].

C.107. Nemitz E., **Sutton M.A.**, Wyers G.P. and Jongejan P.A.C. (2004): Gas-particle conversions above a Dutch heathland: I. Surface exchange fluxes of NH₃, SO₂, HNO₃ and HCl. *Atmos. Chem. Phys. Disc.* **4**, 1473-1517.

C.106. Nemitz E., **Sutton M.A.**, Wyers G.P., Otjes R.P., Mennen M.G., van Putten E.M., Hellemond J. and Gallagher M.W. (2004): Gas-particle conversions above a Dutch heathland: II. Concentrations and surface exchange fluxes of atmospheric aerosol particles. *Atmos. Chem. Phys. Disc.* **4**, 1519-1565.

C.105. Nemitz E. and **Sutton M.A.** (2004): Gas-particle conversions above a Dutch heathland: III. Modelling of size-dependent NH₄⁺ fluxes as modified by the NH₃-HNO₃-NH₄NO₃ equilibrium. *Atmos. Chem. Phys. Disc.* **4**, 1567-1621.

2003

C.104. Tang Y.S. and **Sutton M.A.** (2003) A new passive sampler for long-term ambient monitoring of atmospheric ammonia. *The Diffusive Monitor* 14, 7-9. (Published by the Health and Safety Laboratory, Sheffield). (<http://www.hsl.gov.uk/publications/diffuse-monitor.htm>)

C.103. Tang Y.S. and **Sutton M.A.** (2003) Quality management in the UK national ammonia monitoring network. In: *Proceedings of the International Conference: QA/QC in the field of emission and air quality measurements: harmonization, standardization and accreditation, held in Prague, 21-23 May 2003* (Eds. Borowiak A., Hafkenscheid T., Saunders A. and Woods P.) pp 297-307. European Commission, Ispra, Italy. [ISBN: 92-894-6523-9]

C.102. **Sutton M.A.**, Cape J.N., Rihm B., Sheppard L.J., Smith R.I., Spranger T. and Fowler D. (2003) The importance of accurate background atmospheric deposition estimates in setting critical loads for nitrogen. In: *Empirical critical loads for Nitrogen* (UNECE Expert Workshop, Berne 11-13 November 2002) (Eds. B. Achermann and R. Bobbink) pp 231-257. SAEFL, Berne, Switzerland.

C.101. Mitchell R.J., Truscott A.-M., Leith I.D., Tang, Y.S. , van Dijk N., Smith R.I. & **Sutton M.A.** (2003) Impact of atmospheric nitrogen deposition on epiphytes in Atlantic Oakwoods. In: *Empirical critical loads for Nitrogen* (UNECE Expert Workshop, Berne 11-13 November 2002) (Eds. B. Achermann and R. Bobbink) pp 265-271. SAEFL, Berne, Switzerland.

C.100. **Sutton M.A.**, U. Dragosits, S. Hellsten, C.J. Place, A.J. Dore, Y.S.Tang, N. van Dijk, L. Love, N. Fournier, M. Vieno, K.J. Weston, R.I. Smith, M. Coyle, D. Roy, J. Hall and D. Fowler (2003) The spatial distribution of ammonia emissions, deposition and potential environmental impacts in Scotland. In: *Agriculture, Waste and*

the Environment (Eds. I. McTaggart and L. Gairns), pp 33-47. (Selected papers from the SAC/SEPA Biennial Conference III. Edinburgh, March 2002), SAC, Edinburgh [ISBN: 1 85482 784 7]

- C.99. Fowler D., Erisman J.W., **Sutton M.A.**, Nemitz E., Pilegaard K., Gallagher M., Tovinen J.-P., Duyzer J., Grünhage L., Dämmgen U. and Cieslik S. (2003) Deposition fluxes of air pollutants to terrestrial surfaces in Europe. Chapter 2, in: *Towards a cleaner air for Europe: Science, Tools and Applications. Part 1: Results from the EUROTRAC-2 Synthesis and Integration Project*. (Eds. Midgley P.M. and Reuther M.) pp 41-71. Backhuys / Margraf, Leiden.

2002

- C.98. Fournier N., Pais V.A., **Sutton M.A.**, Weston K.J., Dragosits U., Tang S.Y and Aherne J. (2002) Parallelisation and Application of a Multi-layer Atmospheric Transport Model to Quantify Dispersion and Deposition of Ammonia over the British Isles. In: *Air Pollution Modelling and Simulation*. (Proceedings from Second Conference on Air Pollution, Modelling and Simulation, APMS'01 Champs-sur-Marne, April 9-12, 2001) (Ed. Bruno Sportisse) pp 3-12.
- C.97. Fournier N., Weston K.J., **Sutton M.A.** and Dore A.J. (2002) Parameterisation of the wet deposition process in a multi-layer atmospheric transport model. In: *Transport and Air Pollution*. (Proceedings from 10th International Symposium September 17-19, 2001 – Boulder, Colorado, USA.) (ed. Water F. Dabberdt) pp 249-256.
- C.96. Fournier N., Weston K.J., **Sutton M.A.** and Dore A.J. (2002) Inclusion of an improved parameterisation of the wet deposition process in an atmospheric transport model. In: 25th NATO/CCMS, International Technical Meeting on Air Pollution, Modelling and its Application, 15-19 October 2001, Belgium.) (Eds. Gryning & Schiermeier) pp 181-188.
- C.95. Erisman J.W., Vermeulen A., Hensen A., Flechard C., Dämmgen U., Fowler D., **Sutton M.**, Grünhage L and Tuovinen J.-P. (2002) Monitoring and Modelling of Biosphere/Atmosphere Exchange of Gases and Aerosols. In: *Transport and chemical transformation in the troposphere*. (Proceedings from the EUROTRAC Symposium 2002.) (Eds. P.M. Midgley and M. Reuther) pp 39-48, Margraf Verlag, Weikersheim.
- C.94. Fowler D., Erisman J.W., Duyzer J., **Sutton M.**, Pilegaard K. and Tuovinen J.-P. (2002) Progress in understanding deposition processes. In: *Transport and chemical transformation in the troposphere*. (Proceedings from the EUROTRAC Symposium 2002.) (Eds. P.M. Midgley and M. Reuther) pp 33-38, Margraf Verlag, Weikersheim.
- C.93. Hornung M., Ashmore M.R. and **Sutton M.A.** (2002) Environmental impacts of ammonia on semi-natural habitats. Chapter 3. In: *Ammonia in the UK*. pp 24-33. DEFRA, London.
- C.92. Jarvis S.C. and **Sutton M.A.** (2002) Other livestock: sheep, goats, farmed deer and horses. Chapter 8. In: *Ammonia in the UK*. pp 62-65. DEFRA, London..
- C.91. McDonald A.G., Nemitz E., Dragosits U., **Sutton M.A.** and Fowler D. (2002) Modelling heavy metal deposition across Scotland. In: *Proceedings of the SNH/SEPA Conference on the State of the Scottish Environment*, 11-12 Sept 2001.
- C.90. Milford C., Theobald M.R., Nemitz E. and **Sutton M.A.** (2002) Seasonal parametrisations of NH₃ exchange over intensively managed grassland. In: *Transport and chemical transformation in the troposphere*. (Proceedings from the EUROTRAC Symposium 2002 on CD) (Eds. P.M. Midgley and M. Reuther) pp 49-60, Margraf Verlag, Weikersheim.
- C.89. Nemitz E., Dorsey J.R., Flynn M., Gallagher M.W., and **Sutton M.A.** (2002) Particle growth above a grassland following NH₄NO₃ fertilizer application. In: *Transport and chemical transformation in the troposphere*. (Proceedings from the EUROTRAC Symposium 2002 on CD) 5 pp (Eds. P.M. Midgley and M. Reuther) pp 49-60, Margraf Verlag, Weikersheim.
- C.88. **Sutton M.A.** and Dragosits U. (2002) Emissions from non-agricultural sources. Chapter 10. In: *Ammonia in the UK*. pp 74-79. DEFRA, London.
- C.87. **Sutton M.A.** and Fowler D. (2002) Atmospheric concentrations and deposition. Chapter 2. In: *Ammonia in the UK*. pp 14-23. DEFRA, London.
- C.86. **Sutton M.A.** and Harrison R. (2002) Emissions from fertilizers and crops. Chapter 9. In: *Ammonia in the UK*. pp 66-73. DEFRA, London.
- C.85. **Sutton M.A.**, C. Milford, E. Nemitz, M.R. Theobald, M. Riedo, K.J. Hargreaves, P.W. Hill, U. Dragosits, D. Fowler, J.K. Schjoerring, M.E. Mattsson, S. Husted, J.W. Erisman, A. Hensen, J. Mosquera, R. Otjes, P. Cellier, B. Loubet, M. David, A. Neftel, B. Hermann, S.K. Jones, A. Blatter, L. Horvath, T. Weidinger, R. Meszaros, J. Raso, K. Mantzanas, Z. Koukoura, M. Gallagher, J. Dorsey, M. Flynn, B. Lehman, J. Burkhardt

- and U. Daemmgen (2002) Ammonia exchange with vegetation: measurement, modelling & application. In: *Transport and chemical transformation in the troposphere*. (Proceedings from the EUROTRAC Symposium 2002.) (Eds. P.M. Midgley and M. Reuther) pp 49-60, Margraf Verlag, Weikersheim.
- C.84. Webb J., Misselbrook T., **Sutton M.A.** and (ApSimon H.M.) (2002). Estimating total ammonia emissions from the UK. Chapter 4. In: *Ammonia in the UK*. pp 34-38. DEFRA, London.
- C.83. Webb J., Pain B. and **Sutton M.A.** (2002) Background to the problem of ammonia in the UK. Chapter 1. In: *Ammonia in the UK*. pp 6-13. DEFRA, London.
- 2001**
- C.82. Dämmgen U. and **Sutton M.A.** (2001) Die Umwelt-Wirkungen von Ammoniak-Emissionen. (The environmental effects of ammonia emissions – in German). In: *Messmethoden für Ammoniak-Emissionen* (Ed. T. Hinz, B. Brehme and E. Grimm). pp 14-25. FAL, Folkenrode, Germany.
- C.81. Fowler D. Cieslik S, Duyzer J.H., Erisman J.W., Pilegaard K., Pio C., Schjoerring J.K., Steinbrecher R. and **Sutton M.A.** (2001) BIATEX-2: Biosphere Atmosphere Exchange of Pollutants. Annual Report 1998-1999. (Eds). EUROTRAC-2 ISS, GSF, Munich, 169pp.
- C.80. Fowler D., Coyle M., Flechard C., Hargreaves K., Nemitz E., Storeton-West R., and **Sutton M.A.** (2001) Advances in micrometeorological methods for the measurement and interpretation of pollutant gas and aerosol fluxes. In: EUROTRAC-2, BIATEX-2 Annual Report 1998/1999. ISS, GSF-Forschungszentrum fuer Umwelt und Gesundheit GmbH, Munich. pp 129-154.
- C.79. Milford C., Theobald M.R., Nemitz E. and **Sutton M.A.** (2001) Long-term measurements of ammonia exchange over intensively managed grassland. In: *Proc. for the EUROTRAC Symposium 2000*. (Eds. PM Midgely, Reuther M and M Williams), Springer Verlag, Berlin. pp 417-421.
- C.78. **Sutton M.A.** Hutchings N.J., Achermann B., Asman W.A.H, Jerzy Bartnicki, Ian Davidson, Logar L., Neftel N., Paramonov S., Rihm B., van Jaarsveld J.A. (2001) Making the link between ammonia emissions, concentrations and deposition. Report of Working Group 2. . In: *UNECE Ammonia Expert Group (Berne 18-20 Sept 2000) Proceedings* (Eds: Menzi H. and Achermann B.) pp 19-34. Swiss Agency for Environment, Forest and Landscape (SAEFL), Bern.
- C.77. **Sutton M.A.**, Asman W.A.H., Ellerman T., van Jaarsveld J.A., Acker K., Aneja V., Duyzer J.H., Horvath L., Paramonov S., Mitosinkova M., Tang Y.S., (Achermann B., Gauger T., Bartnicki J., Neftel A. and Erisman J.W.) (2001). Establishing the link between ammonia emission control and measurements of reduced nitrogen concentrations and deposition. In: *UNECE Ammonia Expert Group (Berne 18-20 Sept 2000) Proceedings* (Eds: Menzi H. and Achermann B.) pp 57-84 Swiss Agency for Environment, Forest and Landscape (SAEFL), Bern.
- C.76. **Sutton M.A.**, J.K. Schjoerring, C. Milford, P. Cellier, D. Chadwick, J.W. Erisman, S. Finck, D. Fowler, (M.N. Hansen, L. Horvath, B. Herrmann, S. Jones, B. Loubet, W. Luke, G. Mack, M. Martin, P. Mattila, M.E. Mattsson, T. Misselbrook, D. Moss, A. Neftel, K. H. Nielsen, A., Packolski, C. Schimming, J. Sitkey, S.G. Sommer, N. Wellbrock, J. Williamson, S. Wulf) (2001) Measurements and modelling of NH₃ fluxes with European ecosystems. In BIATEX-2 Annual Report. pp 155-166. EUROTRAC ISS, GSF, Munich.
- C.75. **Sutton M.A.**, C. Milford, E. Nemitz, M.R. Theobald, P.W. Hill, D. Fowler, J.K. Schjoerring, M.E. Mattsson, K.H. Nielsen, J.W. Erisman, R. Otjes, A. Hensen, J. Mosquera, P. Cellier, B. Loubet, M. David, S. Genermont, A. Neftel, A. Blatter, B. Herrmann, S.K. Jones, L. Horvath, T. Weidinger, R. Meszaros, J. Raso, C. Mantzanas, Z. Koukoura, M. Gallagher, M. Flynn and M. Riedo (2000) Exchange of atmospheric ammonia with European grasslands. In: *Air surface exchange of gases and particles: Poster proceedings*. (Eds. D. Fowler, C.E.R. Pitcairn, L. Douglas and J.W. Erisman) pp 42-47, CEH Edinburgh [ISBN 1 870393 59 7].
- C.74. **Sutton M.A.**, C. Milford, M.R. Theobald, E. Nemitz, P.W. Hill, D. Fowler, J.K. Schjoerring, M.E. Mattsson, S. Husted, J.W. Erisman, R. Otjes, A. Hensen, J. Mosquera, P. Cellier, B. Loubet, M. David, A. Neftel, A. Blatter, B. Herrmann, S.K. Jones, L. Horvath, T. Weidinger, J. Raso, R. Meszaros, K. Mantzanas, Z. Koukoura, V. Papanastasis, D. Papakosta, M. Flynn, J. Dorsey, P. Williams, M.W. Gallagher and M. Riedo (2001) Biosphere-atmosphere interactions of ammonia with grasslands across Europe. In: BIATEX-2 Annual Report. pp 64-68. EUROTRAC ISS, GSF, Munich.
- C.73. Tang, Y.S., Dragosits, U., Theobald, M.R. Fowler D. and **Sutton M.A.** (2001) Sub-grid variability in ammonia concentrations and dry deposition in an upland landscape. In: *Air surface exchange of gases and particles: Poster proceedings*. (Eds. D. Fowler, C.E.R. Pitcairn, L. Douglas and J.W. Erisman) pp 48-57, CEH Edinburgh [ISBN 1 870393 59 7].

C.72. Williams P.I., Nemitz E., Theobald M.R., Milford C., **Sutton M.A.** and Gallagher M.W. (2001) A general technique for making REA measurements – an ammonia case study. In: *Proc. for the EUROTRAC Symposium 2000*. (Eds. PM Midgely, Reuther M and M Williams), Springer Verlag, Berlin. (in press).

2000

C.71. Baxter R., Evans S.P., Emmett B., Harmens H., Huntley B., Kjöllér A., Milne R., Mulder J., O'Donnell A., Schulze E.-D., Struwe S., **Sutton M.A.**, Tipping E.W., Wookey P.A. (2000) European carbon budgets: linking C and N cycles. Report of the TERICA Working Group 5 In: *Terrestrial Ecosystem Research in Europe: Successes, Challenges and Policy* (Eds. **Sutton M.A.**, Moreno J.M., van der Putten W. and Struwe S.) pp 54-64, EUR 19375, European Commission, Luxembourg.

C.70. Smith P.E., Bolton S., Coleman K., Ingram J. and **Sutton M.A.** (2000) Policy conflicts: solving one problem creates another – ecosystem and multi-sectoral perspectives. Report of the TERICA Working Group 8: In: *Terrestrial Ecosystem Research in Europe: Successes, Challenges and Policy* (Eds. **Sutton M.A.**, Moreno J.M., van der Putten W. and Struwe S.) pp 94-100, EUR 19375, European Commission, Luxembourg.

C.69. **Sutton M.A.**, Chapman S., Christensen T., Emmett B.A., Erisman J.W., Fowler D., Hoosbeek M.R., Jones M.), Milford C., Nemitz E., Pilegaard K., Riedo M. Schjoerring J.K. and Wookey P.A. (2000) Trace gas fluxes and ecosystem functioning. Report of the TERICA Working Group 6 In: *Terrestrial Ecosystem Research in Europe: Successes, Challenges and Policy* (Eds. **Sutton M.A.**, Moreno J.M., van der Putten W. and Struwe S.) pp 65-74, EUR 19375, European Commission, Luxembourg.

C.68. **Sutton M.A.**, Dragosits U., Milford C., Tang Y.S., Place C.J., Fowler D., Loubet B. and Cellier P. (2000) Scaling atmospheric ammonia emissions, their spatial variability and local deposition. In: (Ed: Friedrich R.) Annual report 1998, EUROTRAC-2: GENEMIS: Generation and evaluation of emission data. pp 110-116. EUROTRAC-2 ISS, GSF- Forschungszentrum fuer Umwelt und Gesundheit GmbH., Munich.

C.67. **Sutton M.A.**, C. Milford, M.R. Theobald, E. Nemitz, D. Fowler, J.K. Schjoerring, M.E. Mattsson, S. Husted, J.W. Erisman, R. Otjes, A. Hensen, P. Cellier, B. Loubet, A. Neftel, A. Blatter, B. Herrmann, S.K. Jones, L. Horvath, K. Mantzanas, Z. Koukoura, V. Papanastasis, D. Papakosta, P. Williams, M. Gallagher and M. Riedo (2000) GRAMINAE: Quantifying biosphere-atmosphere interactions of ammonia with European grasslands. In: *Terrestrial Ecosystem Research in Europe: Successes, Challenges and Policy* (Eds. **Sutton M.A.**, Moreno J.M., van der Putten W. and Struwe S.) pp 117-120, EUR 19375, European Commission, Luxembourg.

C.66. **Sutton M.A.**, Dragosits U. and Cramer W. (2000) Application of European scale transects in the Terrestrial Ecosystem Research Initiative. In: *Terrestrial Ecosystem Research in Europe: Successes, Challenges and Policy* (Eds. **Sutton M.A.**, Moreno J.M., van der Putten W. and Struwe S.) pp 189-196, EUR 19375, European Commission, Luxembourg.

1999

C.65. Fowler D., Smith R.I., Skiba U.M., Coyle M., Flechard C., Pitcairn C.E.R. and **Sutton M.A.** (1999) The atmospheric nitrogen cycle and the role of anthropogenic activity. Chapter 9 In: *Managing risks of nitrates to humans and the environment*. (Eds. Wilson W.S., Ball A.S. and Hinton R.H.) 121-138. Royal Society of Chemistry, Cambridge.

C.64. Lawton J.H., Moreno J.M. and **Sutton M.A.** (1999) The TERI approach: evolution and limits. In: *From ecosystem research to sustainable development*. (Ed. M. Catizzone) pp 19-36. Ecosystems Research Report 26. EUR 18847EN. European Commission, Brussels.

C.63. Loubet B., Cellier P., Milford C. and **Sutton M.A.** (1999) Short range ammonia deposition: investigating the effects of vegetation structure on local recapture. In: *10th Nitrogen Workshop* (23-26 August 1999). II.43 (4 pp). KVL, Copenhagen.

C.62. Mantzanas K., Koukoura Z., Papanastasis V., Papakosta, D., Theobald M., Milford C., Nemitz E. and **Sutton M.A.** (1999) Testing of long term ammonia flux measurement techniques for application to Greek grasslands. In: *10th Nitrogen Workshop* (23-26 August 1999). II.44 (3 pp). KVL, Copenhagen.

C.61. Metcalfe, S.E., Fowler, Derwent, R.G., **Sutton M.A.**, Smith R.I. and Whyatt J.D. (1999). Spatial and temporal aspects of nitrogen deposition. In: *The impact of nitrogen deposition on natural and semi-natural ecosystems*. (Ed. S. Langan). Proceedings of Nitrogen Deposition Workshop, MLURI, Aberdeen, September 1996. pp 15-50, Kluwer Academic, Dordrecht.

C.60. Milford C., **Sutton M.A.**, Theobald M.R. and Nemitz E. (1999) Fluxes of ammonia with an intensively managed cut grassland in southern Scotland. In: *10th Nitrogen Workshop* (23-26 August 1999). II.47 (3 pp). KVL, Copenhagen.

- C.59. Nemitz E., **Sutton M.A.**, Schjørring J.K., Husted S., San-José R., Neftel A. and Gut A. (1999) Canopy cycling of ammonia in an oilseed rape canopy. In: P. Borrell *et al.* (eds) *Proceedings of EUROTRAC Symposium 98' Volume 2*. 135-139. WITpress, Southampton.
- C.58. Nemitz E., **Sutton M.A.**, Wyers G.P., Otjes R.P., Mennen M.G. and van Putten E.M. (1999) Exchange fluxes of NH_4^+ aerosols above a heathland as influenced by the $\text{NH}_3\text{-NH}_4^+(\text{s,aq})$ equilibrium. in: P. Borrell *et al.* (eds) *Proceedings of EUROTRAC Symposium 98' Volume 2*. 140-144. WITpress, Southampton.
- C.57. **Sutton M.A.**, Dragosits U., C. Milford, C.J. Place, D. Fowler, E. Lord, J. Webb, J. Hill, H. ApSimon, B. Loubet & P. Cellier (1999) The importance of modelling fine-scale spatial variability and local deposition in the assessment of ammonia emissions. In: P. Borrell *et al.* (eds) *Proceedings of EUROTRAC Symposium 98' Volume 2*. 152-157.
- C.56. **Sutton M.A.**, C. Milford, E. Nemitz, M.R. Theobald, D. Fowler, J.K. Schjørring, S. Husted, M.E. Mattsson, K.H. Nielsen, J.W. Erisman, R. Otjes, P. Cellier, B. Loubet, S. Generomont, A. Neftel, A. Blatter, B. Herrmann, M. Riedo, L. Horvath, E. Führer, C., Mantzanas K., Koukoura Z., V. Papanastasis, M. Gallagher and P. Williams (1999) Biosphere-atmosphere interactions of ammonia with grasslands across Europe. Experimental strategy and first results of the EU GRAMINAE project. In: *10th Nitrogen Workshop (23-26 August 1999)*. II.5 (6 pp). KVL, Copenhagen.
- C.55. **Sutton M.A.**, Milford C., Corriol A.-L., Nemitz E., Flechard C. and Hargreaves K.J. (1999) Trace gas exchange with upland moorland in the Cairngorm Mountains. In: Land use changes in European mountain ecosystems. ECOMONT Concepts and Results. (Eds. A Cernusca, U Tappeiner and N. Bayfield). Europaeische Akademie Bozen, Blackwell Scientific. pp 328-338.
- C.54. **Sutton M.A.**, E. Nemitz, C. Milford, D. Fowler, J.K. Schjørring, S. Husted, M. Mattsson, J.W. Erisman, P. Cellier, B. Loubet, A. Neftel, A. Blatter, L. Horvath, E. Führer, D. Papakosta, Z. Koukoura, K. Mantanas, M. Gallagher, P. Williams. (1999) GRAMINAE: A new initiative to examine biosphere-atmosphere interactions of ammonia with grasslands across Europe. In: P.M. Borrell and P. Borrell (eds) *Proceedings of EUROTRAC Symposium 98'* 145-151. WITpress, Southampton.

1998

- C.53. Nemitz E., **Sutton M.A.**, Choularton T.W., Wyers G.P. and Otjes R.P. (1998): Investigations into vertical gradients of the gas-aerosol phase equilibrium $\text{NH}_3(\text{g})\text{-NH}_4^+(\text{aq})$ above vegetative surfaces. *J. Aerosol Sci.* **29**(Suppl. 1): S885-S886.
- C.52. **Sutton M.A.** (1998) Air quality and protection of the natural heritage - a perspective from the Institute of Terrestrial Ecology. *Natural Matters (SEPA)* Issue 3: 1-3.
- C.51. **Sutton M.A.**, Tang Y.S. and Fowler D. (1998) Monitoring of atmospheric ammonia: First results. *ECN Newsletter* Summer 1998, (10), 2-3.
- C.50. Webb J., **Sutton M.**, Kroeze C., Skiba U., Winiwater W., Pain B., Bonazzi G., Svedinger I. and D. Simpson (1998) Cultures without fertilizers (Unfertilized agricultural land). (Report of the Expert Panel on Agricultural Emissions) In: Emission Inventory Guidebook. pp 1020-1 – 1020-21. TFEI, CORINAIR/EEA, Copenhagen.
- C.49. Webb J., **Sutton M.**, Kroeze C., Skiba U., Winiwater W., Pain B., Bonazzi G., Svedinger I. and D. Simpson (1998) Cultures with fertilizers (Fertilized agricultural land). (Report of the Expert Panel on Agricultural Emissions) In: Emission Inventory Guidebook. pp 1010-1 – 1010-31. TFEI, CORINAIR/EEA, Copenhagen.
- C.48. Winiwarter W., Bretschneider B., Berg H.-M., Spitzenberger F. **Sutton M.A.** and Völk F.H. (1998) Animals and humans. SNAP Code 1107. In: *Emissions from natural sources. Contribution of the Nature Expert Panel to the EMEP/CORINAIR Atmospheric Emission Inventory Guidebook*. (Eds. Simpson D. and Winiwarter W.), Umweltbundesamt Report R-147, Vienna.

1997

- C.47. Fowler D., Smith R., Coyle M., **Sutton M.**, Campbell G., Downing C. and Vincent K. (1997) Rural air pollution in the United Kingdom. In: *Air pollution in the United Kingdom* (Eds: G. Davison and C.N. Hewitt) pp 39-56, The Royal Society of Chemistry, Cambridge.
- C.46. Fowler D., **Sutton M.A.**, Flechard C. and Pitcairn C.E.R. (1997) Ammonia sources, land-atmosphere exchange and effects: a European perspective. In: *Proceedings of the Workshop on Atmospheric Nitrogen Compounds: Emissions, Transformation, Deposition and Assessment*. North Carolina State University, Raleigh, NC, USA. pp 36-46.
- C.45. Lövblad G. and **Sutton M.A.** (1997) The requirements for monitoring data for the assessment of transboundary air pollution effects to man and ecosystems. In: *EMEP/WMO Workshop on strategies for*

- monitoring of regional air pollution in relation to the need within EMEP, GAW and other international bodies.* [Aspenaas Herrgaard, Sweden 2-4 June 1997]) (Eds. J. Schaug and K. Uhse), pp 83-119. EMEP/CCC Report 10/97. NILU, Kjeller, Norway.
- C.44. Lövblad G. and **Sutton M.A.** (1997) Working Group 3 Report: Assessment of effects. In: EMEP/WMO *Workshop on strategies for monitoring of regional air pollution in relation to the need within EMEP, GAW and other international bodies.* [Aspenaas Herrgaard, Sweden 2-4 June 1997]) (Eds. J. Schaug and K. Uhse), pp 10-16. EMEP/CCC Report 10/97. NILU, Kjeller, Norway.
- C.43. Nemitz E., **Sutton M.A.**, Fowler D., Choularton T.W. and Gallagher M.W. (1997) Modelling the size-dependent concentration and flux profiles of NH_4NO_3 aerosol modified by gas-to-particle conversion of NH_3 and HNO_3 . In: *Proceedings of EUROTRAC Symposium 96'* (Eds: P.M. Borrell, P. Borrell, K. Kelly and W. Seiler) Volume 1. pp 205-210. Computational Mechanics Publications, Southampton.
- C.42. Nemitz E., **Sutton M.A.**, Choularton T.W. and Gallagher M.W. (1997) Modelling the concentration and flux profiles of size and composition distributed NH_4^+ aerosol as modified by the $\text{NH}_3\text{-HNO}_3\text{-NH}_4\text{NO}_3$ equilibrium. *J. Aerosol Sci.* **28**, S387-S388.
- C.41. Nemitz E., **Sutton M.A.**, Choularton T.W., Wyers G.P., Otjes R.P., Møls J.J., Mennen M.G., van Putten E.M. and van Hellemond J. (1997) Field investigations into the potential influence of ammonia and acidic gases on concentrations and surface - atmosphere exchange of aerosols. *J. Aerosol Sci.* **28**, S337-S338.
- C.40. Pitcairn C.E.R., Leith I.D., **Sutton M.A.**, Fowler D., Binnie J., Monro R.C., Sheppard and Rossall M.J. (1997) Effects of ammonia emissions from two poultry farms on woodland ground flora. In: *Proceedings of Workshop on nitrogen deposition and the acidification of natural and semi-natural ecosystems.* MLURI, Aberdeen.
- C.39. **Sutton M.A.**, Milford C., Dragosits U., Singles R., Fowler D., (Ross C., Hill R., Jarvis S.C., Pain B.P., Harrison R., Moss D., Webb J., Espenhahn S.E., C. Halliwell, Lee D.S., G.P. Wyers, Hill J. and ApSimon H.M. (1997) Gradients of atmospheric ammonia concentrations and deposition downwind of ammonia emissions: first results of the ADEPT Burrington Moor experiment. In: *Gaseous exchange with grassland systems.* (Eds: Pain B.P. and Jarvis S.C.) pp 131-139. CAB International, Wallingford, UK.
- C.38. **Sutton M.A.**, Nemitz E., Fowler D., Wyers G.P., Otjes R., San Jose R., Moreno J., Schjoerring J.K., Husted S., Meixner F.X., Ammann C., Nefel A. and Gut A. (1997) The EXAMINE project: Exchange of atmospheric ammonia with European ecosystems. In: *Proceedings of EUROTRAC Symposium 96'* (Eds: P.M. Borrell, P. Borrell, K. Kelly and W. Seiler) Volume 2. pp 155-161. Computational Mechanics Publications, Southampton.
- C.37. **Sutton M.A.**, Wyers G.P., Meixner F.X., Schjørring J.K., Kesselmeier J., Kramm G. and Duyzer J.H. (1997) Biosphere - atmosphere exchange of ammonia. Chapter 2. In: *Biosphere - atmosphere exchange of pollutants and trace substances.* (Ed. S. Slanina) pp 15-44. Volume 4. *Transport and chemical transformation of pollutants in the troposphere.* Springer Verlag, Berlin.

1996

- C.36. Dragosits U., **Sutton M.A.** and Place C.J. (1996) The spatial distribution of ammonia emission in Great Britain for 1969 and 1988 assessed using GIS techniques. In: *Atmospheric ammonia: emission, deposition and environmental impacts.* (Eds: **Sutton M.A.**, Lee D.S., Dollard G.J. and Fowler D.). Poster Proceedings of the International Conference on Atmospheric Ammonia (Culham, Oxford, UK, 2-4 October 1995). pp 46-49. Institute of Terrestrial Ecology, Edinburgh.
- C.35. Fowler D., Flechard C., Storeton-West R.L., **Sutton M.A.**, Hargreaves K.J. and Smith R.I. (1996) Long term measurements of SO_2 dry deposition over vegetation and comparisons with models. In: *Acid rain research: do we have enough answers?* (Eds: G.J. Heij and J.W. Erisman). Elsevier Scientific BV.
- C.34. Fowler D., **Sutton M.A.**, Skiba U. and Hargreaves K.J. (1996) Agricultural nitrogen and emissions to the atmosphere. In: *Agricultural Chemicals and the Environment.* (Eds: R.E. Hester and R.M. Harrison) *Issues in Environmental Science and Technology* **5**, 57-84 Royal Society of Chemistry, Letchworth, UK.
- C.33. Horváth L. and **Sutton M.A.** (1996) Az ammónium és az ammónia koncentrációjának trendje a K-Pusztai Háttérlégszennyezettség-mérő Állomáson (Trend of concentration of ammonia and ammonium at the K-pusztai background air pollution monitoring station.) In: *Proceedings of the 3rd Hungarian Aerosol Conference.* (Ed. A. Czitrovsky). pp 17-20. Hungarian Academy of Sciences, Budapest. (In Hungarian)
- C.32. Nemitz E., **Sutton M.A.**, Fowler D. and Choularton T.W. (1996) Application of a NH_3 gas-to-particle conversion model to measurement data. In: *Atmospheric ammonia: emission, deposition and environmental impacts.* (Eds: **Sutton M.A.**, Lee D.S., Dollard G.J. and Fowler D.). Poster Proceedings of the International

- Conference on Atmospheric Ammonia (Culham, Oxford, UK, 2-4 October 1995). pp 98-103. Institute of Terrestrial Ecology, Edinburgh.
- C.31. Pitcairn C.E.R., Leith I.D., **Sutton M.A.**, Fowler D., Binnie J., Munro R.C., Sheppard L.J. and Rossall M.R. (1996) Effects of ammonia on forest ground flora in the vicinity of a poultry farm. In: *Atmospheric ammonia: emission, deposition and environmental impacts*. (Eds: **Sutton M.A.**, Lee D.S., Dollard G.J. and Fowler D.). Poster Proceedings of the International Conference on Atmospheric Ammonia (Culham, Oxford, UK, 2-4 October 1995). p 128. Institute of Terrestrial Ecology, Edinburgh.
- C.30. **Sutton M.A.** (1996) *Ammonia emissions from cultures with and without fertilizers*. Cultures Chapter: UNECE Expert Panel on Ammonia Emissions. In: *Atmospheric Emissions Inventory Guide Book* (Ed. G. McInnes) UNECE/EC Atmospheric Emissions Inventory Task Force, European Environment Agency, Copenhagen.
- C.29. **Sutton M.A.** and Lee D.S. (1996) International conference on atmospheric ammonia: emission, deposition and environmental impacts. Conference Report. *EURASAP Newsletter* **27**, 5-7.

1995

- C.28. DOE (1995) *Effects of Air Pollution on the Environment. Synthesis of findings (1984-1994) from the Department of Environment Research Programme*. (Proceedings of a Symposium, Grange-over-Sands, Cumbria, UK). Ensis Publishing, London. 60 pp. (section contributor)
- C.27. Singles R.J., **Sutton M.A.** and Weston K.J. (1995) Fine resolution modelling of ammonia transport and deposition in the Great Britain. In: *Acid rain research: do we have enough answers?* (Eds: G.J. Heij and J.W. Erisman) pp 449-352. (s-Hertogensbosch 10-12 October 1994). Elsevier Scientific BV.
- C.26. **Sutton M.A.**, Burkhardt J.K., Guerin D. and Fowler D. (1995) Measurement and modelling of ammonia exchange over arable croplands. In: *Acid rain research: do we have enough answers?* (Eds: G.J. Heij and J.W. Erisman) pp 71-80. (s-Hertogensbosch 10-12 October 1994). Elsevier Scientific BV.
- C.25. **Sutton M.A.** and Fowler D. (1995) Atmospheric deposition of nitrogen compounds to heathlands. (Special Issue: Process Studies on Dry Sandy Soils) (Ed. P. Nørnberg) *Aarhus Geoscience* **4**, 61-71.
- C.24. **Sutton M.A.** and Fowler D. (1995) Continuous measurements of ammonia deposition to acidic moorland and application of a new inferential technique to describe ammonia exchange with the plant canopy. In: *Acid rain and its impact: the critical loads debate*. (Ed. R. W. Battarbee). Proceedings of a conference held at University College London, September 1993. pp 162-169. Ensis Publishing, London. [ISBN 1 871275 20 2].

1994

- C.23. INDITE (1994) *Impacts of nitrogen deposition in Terrestrial Ecosystems*. Report of a DOE Review group. Department of the Environment, London. (Fluxes sub-group contributor).
- C.22. **Sutton M.A.** and Fowler D. (1994) A canopy model for inferring bi-directional plant - atmosphere exchange of ammonia. In: *Physico-chemical behaviour of atmospheric pollutants*. (Proc. 6th European Symposium, Varese, 18-22 October 1993) (Eds: Angeletti G. and Restelli G.). Report EUR 15609, CEC Brussels.
- C.21. **Sutton M.A.**, Perthue E., Cape J.N., Storeton-West R.L., Fowler D., Arends B.G., Muls H., Choularton T.W., Wells M. and Bower K.N. (1994) Measurements of the NH_x budget over Great Dun Fell: surface atmosphere exchange and cloud chemistry. In: *EUROTRAC symposium 1994*. (Ed: P.M. Borrell, P. Borrell, T. Cvitas and W Seiler) pp 1148-1152. SPB Academic Publishing bv, The Hague.
- C.20. Wells M., Bower K.N., Choularton T.W., **Sutton M.**, Cape J.N., Fowler D., Hargreaves K.J., Dollard G.J. and Davies T. (1994) A study of the ammonia budget through a hill cap cloud. In: *EUROTRAC symposium 1994*. (Ed: P.M. Borrell, P. Borrell, T. Cvitas and W Seiler) pp 1119-1122. SPB Academic Publishing bv, The Hague.

1993

- C.19. Andersen H.V., ApSimon H., Asman W., Barrett K., Kulweit J., Schjørring J. and **Sutton M.** (1993) Working group report on dry deposition of reduced nitrogen. Chapter 5. In: *Models and methods for the quantification of atmospheric input to ecosystems*. (Eds: Lövblad G., Erisman J.W. and Fowler D.) pp 25 - 32. Nordiske Seminar- og Arbejdsrapporter 1993:573. Nordic Council of Ministers, Copenhagen.
- C.18. Gallagher M.W., Choularton T.W., Wicks A., Beswick K.M., Coe H., **Sutton M.**, Fowler D., (Duyzer J.H. and Wyers P. (1993) Measurements of aerosol exchange to a Dutch heather moor. In: *Proceedings of the EUROTRAC Symposium '92*. (Eds: Borrell P.M., Borrell P., Cvitaš T. and Seiler W.) pp 694-698. SPB Academic Publishing, The Hague.

- C.17. **Sutton M.A.**, Asman W.A.H. and Schjørring J.K. (1993) Dry deposition of reduced nitrogen. In: *Models and methods for the quantification of atmospheric input to ecosystems*. (Eds: Lövblad G., Erisman J.W. and Fowler D.) pp 125 - 143. Nordiske Seminar- og Arbejdsrapporter 1993:573. Nordic Council of Ministers, Copenhagen.
- C.16. **Sutton M.A.** and Fowler D. (1993) A model for inferring bi-directional fluxes of ammonia over plant canopies. In: *Proceedings of the WMO conference on the measurement and modelling of atmospheric composition changes including pollutant transport*. (Sofia 4-8 October 1993). World Meteorological Organization, Geneva. pp 179-182.
- C.15. **Sutton M.A.** and Fowler D. (1993) Estimating the relative contribution of SO_x, NO_y and NH_x inputs to effects of atmospheric deposition. In: *Critical loads: concept and applications*. ITE Symposium no. 28. Proceedings of the Critical Loads Conference, February 1992, Grange-over-Sands, Cumbria. (Eds: Hornung M. and Skeffington R.A.) pp 119-126, HMSO, London.
- C.14. **Sutton M.A.** and Fowler D. (1993) Interactions of atmospheric NH₃ and SO₂ exchange with plant communities. *Report of the Institute of Terrestrial Ecology 1992-93*. pp 59-62, Natural Environment Research Council, Swindon, UK.
- C.13. **Sutton M.A.**, Fowler D., Hargreaves K.J. and Storeton-West R.L. (1993) Exchange of ammonia and sulphur dioxide with vegetation. *EUROTRAC Annual report 1992: Part 4. BIATEX*. (pp. 213-224). EUROTRAC/CEC. EURATRAC ISS, Garmisch-Partenkirchen, Germany.
- C.12. **Sutton M.A.**, Fowler D., Hargreaves K.J. and Storeton-West R.L. (1993) Interactions of NH₃ and SO₂ exchange inferred from simultaneous flux measurements over a wheat canopy. In: *General Assessment of biogenic emissions and deposition of nitrogen compounds, sulphur compounds and oxidants in Europe*. Proceedings of the joint CEC/BIATEX workshop, Aveiro (May 1993), (Ed: Slanina J., Angeletti G., and Beilke S.), pp 165-182. Air Pollut. Res. Report 47, CEC, Brussels.
- C.11. **Sutton M.A.**, Fowler D., Smith R.I., Eager M., Place C.J. and Asman W.A.H. (1993) Modelling the net exchange of reduced nitrogen. In: *General Assessment of biogenic emissions and deposition of nitrogen compounds, sulphur compounds and oxidants in Europe*. Proceedings of the joint CEC/BIATEX workshop, Aveiro (May 1993), (Eds.: Slanina J., Angeletti G., and Beilke S.), pp 117-131. Air Pollut. Res. Report 47, CEC, Brussels.
- C.10. **Sutton M.** and Skiba U. (1993) Agriculture and atmospheric pollution: Research into N fluxes. *Bush Telegraph*. Jan 1993, No. 9, pp10-11.

1992

- C.9. Duyzer J.H., Westrate J.H., Verhagen H.L.M., Coe H., Gallagher M., Fowler D. and **Sutton M.A.** (1992) The joint experiment on surface exchange of trace gases over the Leende heathland. Paper presented at the joint COST/BIATEX workshop, Delft. TNO - report PU92/015, TNO, Delft, The Netherlands. Also published in *EUROTRAC Newsletter 10* (Summer 1992) pp 30-36.
- C.8. Fowler D., Cape J.N., **Sutton M.A.**, Mourné R., Hargreaves K.J., Duyzer J.H. and Gallagher M.W. (1992) Deposition of acidifying compounds. In: *Acidification research: evaluation and policy applications*. Proceedings of an international conference, Maastricht, 14-18 October 1991. Studies in Environmental Science 50. (Ed. T. Schneider) pp 553-572. Elsevier, Amsterdam.
- C.7. Fowler D., Hargreaves K.J., **Sutton M.A.**, Skiba U., Storeton-West R.L. and J. Arah (1992) The exchange of nitric oxide, nitrogen dioxide, nitrous oxide, ammonia, sulphur dioxide and ozone with vegetation. *EUROTRAC Annual report 1991: BIATEX*. EURATRAC ISS, Garmisch-Partenkirchen, Germany. pp 158-171.
- C.6. Fowler D. and **Sutton M.A.** (1992) Atmospheric budget for fixed nitrogen species in the UK. *Report of the Institute of Terrestrial Ecology 1991-92*. pp 36-39. Natural Environment Research Council, Swindon, UK.
- C.5. **Sutton M.A.** and Fowler D. (1992) Dry deposition of ammonia to frozen land surfaces and analysis of the uncertainties in fluxes deriving from measurement errors. In proceedings of the COST 611 workshop, Rome (April 1992). *Development of analytical techniques for air pollution measurement*. (Ed. I. Allegrini). pp 9-19. CEC, Brussels.
- C.4. **Sutton M.A.**, Fowler D., Hargreaves K.J. and Storeton-West R.L. (1992) Effects of land-use and environmental conditions on the exchange of ammonia between vegetation and the atmosphere. In: *Field measurements and interpretation of species related to photooxidants and acid deposition*. Proceedings of the COST/BIATEX workshop, Delft (October 1991). Air Pollution report 39. (Eds: G. Angeletti, S. Beilke and J. Slanina) pp 211-217. CEC, Brussels.

1991

- C.3. Fowler D., Hargreaves K.J., **Sutton M.A.** and Storeton-West R.L. (1991) Measurements of the exchange of atmospheric NO, NO₂, O₃ and NH₃ with vegetated surfaces. pp 45-59. *EUROTRAC Annual report 1990: Part 4, BIATEX*. EURATRAC ISS, Garmisch-Partenkirchen, Germany.
- C.2. **Sutton M.A.**, Fowler D. and Moncrieff J.B. (1991) The dry deposition of atmospheric ammonia. In: *Proceedings of the Second International Conference on Environmental Pollution*, Thessaloniki. (15-18 April 1991) Eds.: A. Anagnostopoulos and P. Day. pp 119-129. University of Thessaloniki, Greece.

1989

- C.1. **Sutton M.A.**, Moncrieff J.B. and Fowler D. (1989) Measurement of atmospheric ammonia and the assessment of its exchange with vegetated surfaces. In: *Changing composition of the troposphere*. (WMO technical conference, Sofia, 23-27 October 1989) Special Environmental Report No. 17. pp 154-157. World Meteorological Organization, Geneva, Switzerland.

6. Contract and other reports

2016

- R.340. Braban C.F., Tang Y.S., Leith I., Twigg M., Coyle M., Kentisbeer J., Leeson S., Di Marco C., Nemitz E., Bealey W.J., Leaver D., Poskitt J., Beith S., Thacker S., Simmons I., van Dijk N., Letho K., Wood C., Pereira G. & **Sutton M.A.**, Conolly C., Yardley R., Davies M., Knight D., Vincent K., Lingard J., Richie S., Telling S. and Donovan B. AQ0647 *UKEAP Annual Report for 2012 to Defra*.
- R.339. Tomlinson S.J., Carnell E.J., Tang Y.S., **Sutton M.A.** and Dragosits U. (2016) Modelling and mapping UK emissions of ammonia, methane and nitrous oxide from agriculture, nature, waste disposal and other miscellaneous sources for 2014 (Contribution to the UK National Atmospheric Emission Inventory and Greenhouse Gas Inventory). Annual Report to Ricardo-AEA/Defra on the NAEI/GHGI Project. CEH Report. 22pp. (March 2016)

2015

- R.338. Tang, Y.S., Cape, J.N., Braban, C.F., Twigg, M.M., Poskitt, J., Jones, M.R., Rowland, P., Bentley, P., Hockenhull, K., Woods, C., Leaver, D., Simmons, I., van Dijk, N., Nemitz, E. and **Sutton, M.A.** (2015) Development of a new model DELTA sampler and assessment of potential sampling artefacts in the UKEAP AGANet DELTA system: summary and technical report. London, Defra. (CEH Project no. C04544, C04845).
- R.337. **Sutton M.A.**, Howard, C.M., Nemitz, E.G., Arneth A., Simpson D., Mills G., de Vries W., Winiwarter W., Amann M., Alonso R., Ammann C., Bealey W.J., Bermejo V., Bleeker A., Cescatti A., Dentener F., Emberson L., Evans C., Flechard C., Haas E., Hettelingh J.-P., Holland M., Mentel T., Paoletti E., Posch. M., Reinds G.J., Theobald M.R., Albert K., Skjoth C.A., Andersen H.V., Ashworth K., Astrom S., Azouz N., Bassin S., Becher A., Beier C., Briolat A., Broberg M., Bueker P., Burkhardt J., Butterbach-Bahl K., Calvete H., Carozzi M., Cellier P., Centoni F., Chiesa M., Cieslik S., Clarisse L., Coheur P., Coyle M., Decuq C., Di Marco C., Diaz-Pines E., Djuricic V., Doherty R., Dragosits U., Drouet J.-L., Grgicin V.D., Egger F., Elvira S., Engardt M., Etzold S., Falk R., Fares S., Fauvel Y., Finco A., Flura D., Fowler D., Franz M., Frumau A., Fumagalli I., Ganzeveld L., Gomez H.G., Gasche R., Geels C., Genermont S., Gerosa G., Fernandez I.G., Gonzalez-Aparicio I., Gritsch C., Gruening C., Hagberg D., Hakan P., Haller H., Harmens H., Hasler B., Hauglustine D., Hayes F., Hendriks C., Hertel O., Heyes C., Hicks K., Hoglund-Isaksson L., Horvath L., Houborg R., Joensuu J., Jones L., Karlsson P.E., Klimont Z., Komarov A., Kramer K., Lamaud E., Langford B., Lathiere J., Leaver D., Leip A., Lequy E., Lindblad M., Loubet B., Loretto F., Maas R., Marzuoli R., Massad R.S., Maury O., Medinets S., Mercado L., Messina P., Migliavacca M., Mikkelsen T., Herrera S.M., Monga R., Moring A., Munzi S., Nainggolan D., Ngadi Y., Ogee J., Olin S., Oliver R., Ots R., Owen S., Pariyar S., Pokorska O., Potier E., Pripitina I., Rabago I., Rantala P. Reay D., Reis S., Rinne J., Roberts E., Robinson E., Rowe E., Ruuskanen T., Sanz J., Sanz-Cobena A., Sawicka K., Schaap M., Schallart S., Schopp W., Sharps K., Sheppard L., Sovic J.S., Skiba U., Smith B., Tiefenbacher A., Tomlinson S., Touvinen J.-P., Twigg M., Valino F., Vallejo A., Van Damme M., Van Dijk N., Velikova V., Vellinga N., Vidic S., Vieno M., Voylokov P., Vuolo M., Weidinger T., Kruit R.W., Wolff V., Woolley R., Wu C., Zaehle S., Zechmeister-Boltenstern S., Zuazo P. and Zubkova E. 2015 ECLAIRE: Effects of Climate Change on Air Pollution Impacts and Response Strategies for European Ecosystems. Project final report. ECLAIRE project, 68pp. (Oct 2015)

- R.336. **Sutton M.A.**, Howard, C.M., Nemitz, E.G., Arneth A., Simpson D., Mills G., de Vries W., Winiwarter W., Amann M., Alonso R., Ammann C., Bealey W.J., Bermejo V., Bleeker A., Cescatti A., Dentener F., Emberson L., Evans C., Flechard C., Haas E., Hettelingh J.-P., Holland M., Mentel T., Paoletti E., Posch. M., Reinds G.J., Theobald M.R., Albert K., Skjoth C.A., Andersen H.V., Ashworth K., Astrom S., Azouz N., Bassin S., Becher A., Beier C., Briolat A., Broberg M., Bueker P., Burkhardt J., Butterbach-Bahl K., Calvete H., Carozzi M., Cellier P., Centoni F., Chiesa M., Cieslik. S., Clarisse L., Coheur P., Coyle M., Decuq C., Di Marco C., Diaz-Pines E., Djuricic V., Doherty R., Dragosits U., Drouet J.-L., Grgicin V.D., Egger F., Elvira S., Engardt M., Etzold S., Falk R., Fares S., Fauvel Y., Finco A., Flura D., Fowler D., Franz M., Frumau A., Fumagalli I., Ganzeveld L., Gomez H.G., Gasche R., Geels C., Genermont S., Gerosa G., Fernandez I.G., Gonzalez-Aparicio I., Gritsch C., Gruening C., Hagberg D., Hakan P., Haller H., Harmens H., Hasler B., Hauglustine D., Hayes F., Hendriks C., Hertel O., Heyes C., Hicks K., Hoglund-Isaksson L., Horvath L., Houborg R., Joensuu J., Jones L., Karlsson P.E., Klimont Z., Komarov A., Kramer K., Lamaud E., Langford B., Lathiere J., Leaver D., Leip A., Lequy E., Lindblad M., Loubet B., Loretto F., Maas R., Marzuoli R., Massad R.S., Maury O., Medinets S., Mercado L., Messina P., Migliavacca M., Mikkelsen T., Herrera S.M., Monga R., Moring A., Munzi S., Nainggolan D., Ngadi Y., Ogee J., Olin S., Oliver R., Ots R., Owen S., Pariyar S., Pokorska O., Potier E., Pripulina I., Rabago I., Rantala P. Reay D., Reis S., Rinne J., Roberts E., Robinson E., Rowe E., Ruuskanen T., Sanz J., Sanz-Cobena A., Sawicka K., Schaap M., Schallart S., Schopp W., Sharps K., Sheppard L., Sovic J.S., Skiba U., Smith B., Tiefenbacher A., Tomlinson S., Touvinen J.-P., Twigg M., Valino F., Vallejo A., Van Damme M., Van Dijk N., Velikova V., Vellinga N., Vidic S., Vieno M., Voylokov P., Vuolo M., Weidinger T., Kruit R.W., Wolff V., Woolley R., Wu C., Zaehle S., Zechmeister-Boltenstern S., Zuazo P. and Zubkova E. (2015) ECLAIRE third periodic report. ECLAIRE project, 370pp. (Oct 2015).
- R.335. Tomlinson S.J, Carnell E.J., Tang Y.S., **Sutton M.A.** and Dragosits U. (2015) Modelling and mapping UK emissions of ammonia, methane and nitrous oxide from agriculture, nature, waste disposal and other miscellaneous sources for 2013 (Contribution to the UK National Atmospheric Emission Inventory and Greenhouse Gas Inventory). Annual Report to Ricardo-AEA/Defra on the NAEI/GHGI Project. CEH Report. 22pp. (May 2015)
- R.334. Dragosits U., Carnell E.J., Misselbrook T.H., Stevens C., Jones L., Rowe E., Hall. J.R., Dise N., Dore A.J., Tomlinson S.J, Sheppard L.J., O’Shea L., Reis S., Bealey W., Braban C.F., Smyntek P. and **Sutton M.A.** (2015) Identification of Potential “Remedies” for Air Pollution (nitrogen) Impacts on Designated Sites ([RAPIDS](#)). Final Report. Defra Project NEC0534 / AQ0834. CEH / Defra. (October 2015).
- R.333. Dragosits U. and **Sutton M.A.** (2015) Definition of Scenarios. Appendix 1 in: Identification of Potential “Remedies” for Air Pollution (nitrogen) Impacts on Designated Sites ([RAPIDS](#)). (Dragosits et al.) 4 pp. Final Report. Defra Project NEC0534 / AQ0834. CEH / Defra. (October 2015).
- R.332. Dragosits U., Carnell E., **Sutton M.A.** and Stevens C. (2015) Background and data sources for source attribution. Appendix 2 in: Identification of Potential “Remedies” for Air Pollution (nitrogen) Impacts on Designated Sites ([RAPIDS](#)). (Dragosits et al.) 4 pp. Final Report. Defra Project NEC0534 / AQ0834. CEH / Defra. (October 2015).
- R.331. Stevens C., **Sutton M.**, Reis R., Dragosits U. and Carnell E. (2015). Mechanisms for the delivery of reduced NH_x and NO_y emissions, concentrations and deposition. Appendix 4 in: Identification of Potential “Remedies” for Air Pollution (nitrogen) Impacts on Designated Sites ([RAPIDS](#)). (Dragosits et al.) 20 pp. Final Report. Defra Project NEC0534 / AQ0834. CEH / Defra. (October 2015).
- R.330. Dragosits U., Carnell E., Bealey B., Tomlinson S., Dore T. and **Sutton M.A.** (2015). Pilot Scenario allocation to UK SACs and A/SSSIs. Appendix 5 in: Identification of Potential “Remedies” for Air Pollution (nitrogen) Impacts on Designated Sites ([RAPIDS](#)). (Dragosits et al.) 16 pp. Final Report. Defra Project NEC0534 / AQ0834. CEH / Defra. (October 2015).
- R.329. Dragosits U., Carnell E., Tomlinson S., Dore T. and **Sutton M.A.** (2015). Case studies to illustrate source attribution and assessment of potential mitigation measures (‘remedies’) to reduce N pollution impacts on UK SACs and A/SSSIs. Appendix 6 in: Identification of Potential “Remedies” for Air Pollution (nitrogen) Impacts on Designated Sites ([RAPIDS](#)). (Dragosits et al.) 29 pp. Final Report. Defra Project NEC0534 / AQ0834. CEH / Defra. (October 2015).
- R.328. Jones L., Rowe E., Misselbrook T., Smyntek P., Stevens C., Dise N. and **Sutton M.A.** (2015) Timescales of intervention and recovery, and evidence of success. Appendix 9 in: Identification of Potential “Remedies” for Air Pollution (nitrogen) Impacts on Designated Sites ([RAPIDS](#)). (Dragosits et al.) 19 pp. Final Report. Defra Project NEC0534 / AQ0834. CEH / Defra. (October 2015).
- R.327. Carnell E., Dragosits U., **Sutton M.** and Stevens C. (2015). Guidance for producing action plans on atmospheric N pollution for individual nature conservation sites. Appendix 10 in: Appendix 1 in: Identification

of Potential “Remedies” for Air Pollution (nitrogen) Impacts on Designated Sites ([RAPIDS](#)). (Dragosits et al.) 11 pp. Final Report. Defra Project NEC0534 / AQ0834. CEH / Defra. (October 2015).

2014

- R.326. Dragosits U., Carnell E.J., Misselbrook T.H. and **Sutton M.A.** (2014) Site categorisation for nitrogen measures. Final report to Natural England on project IPENS-049. October 2014. 20pp. + appendix.
- R.325. Tomlinson S.J., Dragosits U., Tang Y.S. and **Sutton M.A.** (2014) Ammonia emissions from UK non-agricultural sources in 2013: contribution to the National Atmospheric Emission Inventory. CEH Report. Centre for Ecology & Hydrology, Edinburgh Research Station, Bush Estate, Penicuik. 19pp (December 2014)
- R.324. **Sutton M.A.**, Howard, C.M., Nemitz, E.G., Arneth A., Simpson D., Mills G., de Vries W., Winiwarter W., Amann M., Alonso R., Ammann C., Bealey W.J., Bermejo V., Bleeker A., Cescatti A., Dentener F., Emberson L., Evans C., Flechard C., Haas E., Hettelingh J.-P., Holland M., Mentel T., Paoletti E., Posch. M., Reinds G.J., Theobald M.R., Albert K., Skjoth C.A., Andersen H.V., Ashworth K., Astrom S., Azouz N., Bassin S., Becher A., Beier C., Briolat A., Broberg M., Bueker P., Burkhardt J., Butterbach-Bahl K., Calvete H., Carozzi M., Cellier P., Centoni F., Chiesa M., Cieslik S., Clarisse L., Coheur P., Coyle M., Decuq C., Di Marco C., Diaz-Pines E., Djuricic V., Doherty R., Dragosits U., Drouet J.-L., Grgicin V.D., Egger F., Elvira S., Engardt M., Etzold S., Falk R., Fares S., Fauvel Y., Finco A., Flura D., Fowler D., Franz M., Frumau A., Fumagalli I., Ganzeveld L., Gomez H.G., Gasche R., Geels C., Genermont S., Gerosa G., Fernandez I.G., Gonzalez-Aparicio I., Gritsch C., Gruening C., Hagberg D., Hakan P., Haller H., Harmens H., Hasler B., Hauglustine D., Hayes F., Hendriks C., Hertel O., Heyes C., Hicks K., Hoglund-Isaksson L., Horvath L., Houborg R., Joensuu J., Jones L., Karlsson P.E., Klimont Z., Komarov A., Kramer K., Lamaud E., Langford B., Lathiere J., Leaver D., Leip A., Lequy E., Lindblad M., Loubet B., Loretto F., Maas R., Marzuoli R., Massad R.S., Maury O., Medinets S., Mercado L., Messina P., Migliavacca M., Mikkelsen T., Herrera S.M., Monga R., Moring A., Munzi S., Nainggolan D., Ngadi Y., Ogee J., Olin S., Oliver R., Ots R., Owen S., Pariyar S., Pokorska O., Potier E., Pripulina I., Rabago I., Rantala P. Reay D., Reis S., Rinne J., Roberts E., Robinson E., Rowe E., Ruuskanen T., Sanz J., Sanz-Cobena A., Sawicka K., Schaap M., Schallart S., Schopp W., Sharps K., Sheppard L., Sovic J.S., Skiba U., Smith B., Tiefenbacher A., Tomlinson S., Touvinen J.-P., Twigg M., Valino F., Vallejo A., Van Damme M., Van Dijk N., Velikova V., Vellinga N., Vidic S., Vieno M., Voylokov P., Vuolo M., Weidinger T., Kruit R.W., Wolff V., Woolley R., Wu C., Zaehle S., Zechmeister-Boltenstern S., Zuazo P. and Zubkova E. (2014) ECLAIRE. Effects of Climate Change on Air Pollution Impacts and Response Strategies for European Ecosystems. Periodic report for April 2013 to October 2014. 338 pp.
- R.323. Dragosits U., Carnell E., **Sutton M.A.** and Stevens C. (2014). Background and datasources for source attribution. Appendix 2, in: Identification of Potential “Remedies” for Air Pollution (nitrogen) Impacts on Designated Sites (R.A.P.I.D.S.). Defra project AQ0834. CEH Edinburgh for Defra.
- R.322. Tomlinson S.J., Carnell E.J., Tang Y.S., **Sutton M.A.** and Dragosits U (2014) Modelling and mapping UK emissions of ammonia, methane and nitrous oxide from agriculture, nature, waste disposal and other miscellaneous sources for 2012. (Contrib. to the UK National Atmospheric Emission Inventory and GHG Inventory). Report to Ricardo-AEA/Defra on the NAEI/GHGI. CEH Report. 22pp. (May 2014)
- R321. Dragosits U Carnell E.J., Jones L., Rowe E., Hall J.R., Dise N., Dore A.J., Tomlinson S.J., Sheppard L., Reis S., Bealey W., Braban C.F., Misselbrook T.H., Stevens C., O’Shea L., Smyntek P. and **Sutton M.A.** (2014) Identification of Potential “Remedies” for Air Pollution (nitrogen) Impacts on Designated Sites (R.A.P.I.D.S.). Draft final report on Defra project AQ0834. 59 pp + 11 Appendices (Nov 2014).
- R.320. Braban, C.F., Leith, I.D., Leeson, S., Tang, Y.S., van Dijk, N., Sheppard, L.J., Solera Garcia, M.A. and **Sutton M.A.** (2014) Bi-directional ammonia. Final report to the Environment Agency. NERC Centre for Ecology & Hydrology, 22pp. (CEH Project no. C04765)
- R.319. Dore A.J., Dragosits U., Tang Y.S., Smith R.I. and **Sutton M.A.** (2014). Calculation of the exceedance of the critical level for ammonia using high resolution (1 km) emissions data. CEH Edinburgh report for Defra.
- R.318. Braban C.F., Tang Y.S., Leith I.D., Twigg M., Coyle M., Kentisbeer J., Leeson S., Di Marco C., Nemitz E., Bealey W.J., Leaver D., Poskitt J., Beith S., Thacker S., Simmons I., van Dijk N., Lehto K., Woods C., Sleep D., Pereira G. and **Sutton M.A.** (2013-2014) C Conolly, R Yardley, A Collings, M Davies, D Knight, K Vincent, J Lingard, S Richie, S Telling, B. *UKEAP quarterly progress reports to Defra: Jun13, Sep13, Dec 13, Mar14.* CEH Edinburgh.
- R.317. Braban C.F., Leith I.D., Leeson S., Tang Y.S., van Dijk N., Sheppard L.J., Solera Garcia M.A. and **Sutton M.A.** (2014) *Directional ammonia. Final report.* NERC/Centre for Ecology & Hydrology, 22pp. (CEH Project no. C04765).

2013

- R.317. Dore A.J., Werner M., Hallsworth S., Tsilkos I., Hall J., Kryza M., Ots R., Vieno M., Dragosits U., Bealey W.J., Smith R.I., Tang Y.S., Keller V., Malcolm H., Booth S. and **Sutton M.A.** (2013) Modelling the deposition and concentration of long range air pollutants: Final Report. Defra contract AQ0719. CEH Edinburgh. 55 pp.
- R.316. Dragosits U., Tomlinson S.J., Tang Y.S. and **Sutton M.A.** (2013) Ammonia emissions from UK non-agricultural sources in 2012: contribution to the National Atmospheric Emission Inventory. Annual Report to Ricardo-AEA/Defra on the NAEI/GHGI Project. CEH Report. 16pp. (Nov 2013).
- R.315. Dragosits U., Mitchell R.F., Dore A.J., Misselbrook T.H., Hall J.R., ApSimon H.M. and **Sutton M.A.** (2013) Future patterns of ammonia emissions across the UK and the potential impact of local emission reduction measures. Final Report on Defra project AC0109. CEH Report, 29 pp + Appendices (April 2013).
- R.314. Dragosits U., Tang Y.S., Cape J.N. and **Sutton M.A.** (2013) Ammonia emissions from UK non-agricultural sources in 2011: contribution to the National Atmospheric Emission Inventory. Annual Report to AEA/Defra on the NAEI/GHGI Project. CEH Report. 16pp. (April 2013).
- R.313. Dragosits U., Mitchell R.F., Tang Y.S. and **Sutton M.A.** (2013) Modelling and mapping UK emissions of ammonia, methane and nitrous oxide from agriculture, nature, waste disposal and other miscellaneous sources for 2011 (Contribution to the UK National Atmospheric Emission Inventory and Greenhouse Gas Inventory). Annual Report to AEA/Defra on the NAEI/GHGI Project. CEH Report. 21pp. (April 2013).
- R.312. Dragosits U. and **Sutton M.A.** (2013) The spatial distribution of ammonia, methane and nitrous oxide emissions from agriculture in the UK 2011. (Contribution to the UK National Atmospheric Emission Inventory and Greenhouse Gas Inventory). Annual Report on Defra Project AC0112. CEH Report. 13pp. (April 2013).
- B.311. Bealey W.J., Braban C.F., Famulari D., Dragosits U., Dore A.J., Nemitz E., Tang Y.S., Twigg M., Leeson S., **Sutton M.A.**, Loubet B., Valantin G., Wheat A., Helfter C., Coyle M., Williams A., and Sanders D. (2013) Agroforestry for ammonia abatement. Summary Report on Defra Project AC0201. CEH report, 19 pp.

2012

- R.310. Hall, J., Field, C., Stevens, C., Leith, I., Sheppard, L., Bealey, B., Caporn, S. and **Sutton, M.A.** (2012). Air Quality Risk Assessment and SSSI Survey project: To refine the understanding of air quality risk assessments (based on modelling) and site specific responses to atmospheric ammonia pollution. Final report to Natural England ITT_183-23875, Sept 2012. Centre for Ecology and Hydrology.
- R.309. Braban C.F., Cape J.N., Tang Y.S., Leith I., Twigg M., Coyle M., Kentisbeer J., Leeson S., Di Marco C., Nemitz E., Bealey W.J., Leaver D., Poskitt J., Beith S., Thacker S., Simmons I., van Dijk N., Letho K., Wood C., Pereira G., **Sutton M.A.**, Conolly C., Yardley R., Davies M., Knight D., Vincent K., Lingard J., Richie S., Telling S., Donovan B. (2012). United Kingdom Europhication and Acidification Pollution atmospheric monitoring network (UKEAP) AQ0647 Annual Report for 2011 to Defra. Centre for Ecology and Hydrology and AEA Technology, Sep 2012.
- R.308. Vieno M., Reis S., Hallsworth S., Cape J.N., Marsailidh T., Braban C.F., Famulari D., Dore T., Tang Y.S. and **Sutton M.A.** (2012) Long term modelling of UK surface concentration of SO₂ and NO₂ as a basis to select possible locations for monitoring sites affected by shipping emissions. CEH Report to Defra (July 2012).
- R.307. Dragosits U., Tang Y.S., Cape J.N. and **Sutton M.A.** (2012) Ammonia emissions from UK non-agricultural sources in 2010: contribution to the National Atmospheric Emission Inventory. Annual Report to AEA/Defra on the NAEI/GHGI Project. CEH Report. 16pp. (April 2012).
- R.306. Vieno M., Reis, S., Dore A.J. and **Sutton M.A.** (2012) "Further development of the UK application of the EMEP Model (EMEP4UK). AQ0702 final project report, NERC Centre for Ecology and Hydrology, Edinburgh, 29 pp.
- R.305. Bleeker A., **Sutton M.A.**, Leach A. Erisman J.W. and Galloway J. (2012) How to meet the CBD N target for reducing critical load exceedance. Informal report to the Secretariat of the Convention on Biological Diversity. ECN Netherlands. 29 pp.
- R.304. Dragosits U. and **Sutton M.A.** (2012) Modelling and mapping UK emissions of ammonia, methane and nitrous oxide from agriculture, nature, waste disposal and other miscellaneous sources for 2010 (Contribution to the UK National Atmospheric Emission Inventory and Greenhouse Gas Inventory). Annual Report to AEA/Defra on the NAEI/GHGI Project. CEH Report. 20 pp. (April 2012).
- R.303. Dragosits U. and **Sutton M.A.** (2012) The spatial distribution of ammonia, methane and nitrous oxide emissions from agriculture in the UK 2010. (Contribution to the UK National Atmospheric Emission Inventory and Greenhouse Gas Inventory). Annual Report on Defra Project AC0112. CEH Report. 13pp. (April 2012).

2011

- R.302. Cape J.N., Tang Y.S., Bealey W.J., Leaver D., Poskitt J., Beith S., Thacker S., Hockenhull K., Woods C., Simmons I., Braban C.F., van Dijk N., Rowland P., Fowler D., **Sutton M.A.**, Conolly C., Vincent K., Donovan B., Davies M., Knight D. and Clark T.. AQ0616 UK Eutrophying and Acidifying Atmospheric Pollutants (UKEAP) Annual Report to Defra. Dec 2011.
- R.301. Wagner F., Winiwarter W., Klimont Z., Amann M. and **Sutton M.A.** (2011) Ammonia reductions and costs implied by the three ambition levels proposed in the Draft Annex IX to the Gothenburg protocol. IIASA/CEH. CIAM report 5/2011, IIASA, Austria. 21 pp. <http://www.unece.org/index.php?id=26917> (Informal Document No. 5).
- R.300. Bleeker A., Winiwarter W., Leip A. and **Sutton M.A.** (2011) Potential for OECD to develop a high-level nitrogen indicator. Invited brief the Organization for Economic Cooperation and Development, Paris. 4 pp. ECN, Petten, The Netherlands.
- R.299. Conolly C., Lawrence H., Vincent K., Donovan B., Davies M., Colbeck C., Cape J.N., Tang Y.S., Bealey W.J., Leaver D., Poskitt J., Beith S., Thacker S., Hockenhull K., Woods C., Simmons I., Braban C.F., van Dyke N., Rowland P., Fowler D. and **Sutton, M.A.** (2011) UK Eutrophying and Acidifying Atmospheric Pollutants (UKEAP) Annual Report 2010. AEA Technology and NERC/Centre for Ecology and Hydrology, 33pp. (CEH Project Number: C03645).
- R.298. Dragosits U. and **Sutton M.A.** (2011) Ammonia emissions from UK non-agricultural sources in 2009: contribution to the National Atmospheric Emission Inventory. Annual Report to AEA on the NAEI/GHGI Project. CEH Report. 15pp. (April 2011).
- R.297. Dragosits U. and **Sutton M.A.** (2011) Modelling and mapping UK emissions of ammonia, methane and nitrous oxide from agriculture, nature, waste disposal and other miscellaneous sources for 2009 (Contribution to the UK National Atmospheric Emission Inventory and Greenhouse Gas Inventory. Annual Report to AEA on the NAEI/GHGI Project. CEH Report. 20pp. (April 2011).
- R.296. Dragosits U. and **Sutton M.A.** (2011) The spatial distribution of ammonia, methane and nitrous oxide emissions from agriculture in the UK 2009. (Contribution to the UK National Atmospheric Emission Inventory and Greenhouse Gas Inventory. Annual Report on Defra Project AC0112) CEH Report. 14pp. (April 2011).

2010

- R.295. Braban C.F., Lawrence H., Tang, Y.S., Fowler, D., Vincent K., **Sutton M.A.**, Cape J.N., Smith R.I., Stedman J., Bealey W.J., Leaver D. and Donovan B. (2009) UK Eutrophying and Acidifying Atmospheric Pollutants network (UKEAP). A Review for Defra. CEH Edinburgh.
- R.294. Dragosits U., Hallsworth S. and **Sutton M.A.** (2010) Ammonia emissions from UK non-agricultural sources in 2008: contribution to the National Atmospheric Emissions Inventory. CEH Report 15 pp.
- R.293. Dragosits U., Hallsworth S. and **Sutton M.A.** (2010) Modelling and mapping UK emissions of ammonia, methane and nitrous oxide from agriculture, nature, waste disposal and other miscellaneous sources for 2008. (Contribution to the National Atmospheric Emissions Inventory and Greenhouse Gas Inventory. Annual report to AEA on the NAEI/GHGI project. CEH Report 20 pp. (April 2010).
- R.292. Dragosits U. and **Sutton M.A.** (2010) The spatial distribution of ammonia, methane and nitrous oxide emissions from agriculture in the UK 2008. (Contribution to the National Atmospheric Emissions Inventory and Greenhouse Gas Inventory. Annual Report on Defra project AC0112) CEH Report. 12 pp.
- R.291. Leith I., Lewis J., Wolseley P., Sheppard L., van Dijk N. and **Sutton M.A.** (2010) Epiphyte biomonitoring for atmospheric nitrogen effects on terrestrial habitats. CEH report under UKPIR 16 to SNIFFER, Edinburgh. 41 pp.
- R.290. Misselbrook T.H., Cape J.N., Cardenas L.M., Chadwick D.R., Dragosits U., Hobbs P.J., Nemitz E., Reis S., Skiba U. and **Sutton M.A.** (2010) An appraisal of unknown sources/sinks of GHG, ammonia and other emissions from UK land management. Final Report on Defra Project AC0108. NorthWyke Research Okehampton, 22 pp.
- R.289. **Sutton M.A.**, Reis S., Nemitz E., Skiba U., Beier C., Butterbach-Bahl K., Cellier P., de Vries W., Erisman J.W. (eds.) (2010) NitroEurope IP: Second Annual Activity Report to the European Commission, 396 pp.

2009

- R.288. Dore A.J., Kryza M., Hallsworth S., Matejko M., Hall J., van Oijen M., Zhang Y., Vieno M., Tang Y.S., Bealey W.J., Smith R.I., Dragosits U. and **Sutton M.A.** (2009) Modelling the Deposition and Concentration

- of Long Range Air Pollutants: Final report. Centre for Ecology and Hydrology, 65pp. (CEH Project Number: C03021).
- R.287. Dragosits U., Luk J. and **Sutton M.A.** (2009) Ammonia emissions from UK non-agricultural sources 2007 for the National Atmospheric Emission Inventory. CEH Report AS08/08. 15pp.
- R.286. Dragosits U. and **Sutton M.A.** (2009) The spatial distribution of ammonia, methane and nitrous oxide emissions from agriculture in the UK 2007. Report AS 09/02. Centre for Ecology and Hydrology, Edinburgh. 12 pp.
- R.285. Dragosits U. and **Sutton M.A.** (2009) Modelling and mapping UK ammonia emissions from agriculture, nature, waste disposal and other miscellaneous sources for 2007. Report AS 03/09. Centre for Ecology and Hydrology, Edinburgh. 19 pp.
- R.284. Misselbrook T.H., Dore A.J., Dragosits U., Tang Y.S., **Sutton M.A.**, J. Hall J., Reis S., Anthony S.G., Dore C. (2009). Underpinning evidence for development of policies to abate ammonia emissions. Defra Project AQ0602. Final Report to DEFRA. Jan 2009. 47 pp +appendices.
- R.283. Pitcairn C.E.R., Leith I.D., Bealey W.J. and **Sutton M.A.** (2009) Site Surveys for Natural England's Evidence Team and the Norfolk & Suffolk Area Team. Evidence of ammonia impacts to selected S.S.S.I.s. Report under C03438 (Pollution Casework Advice with Natural England), CEH Edinburgh. 26 pp.
- R.282. Smith K.A., Anthony S.G., ApSimon H.M., Dragosits U., Fawcett C., Hellsten S., Humphries S., Misselbrook T.H., Oxley S., **Sutton M.A.**, Theobald M.R., Vogt E., and Webb J. (2009) Development and evaluation of the NARSES model. Final Report to Defra on Project AM0113. ADAS, CEH, NWR, IC. 35 pp (+Appendices) (September 2009).
- R.281. **Sutton M.A.** and Oenema O. (2009) Next steps in preparing inputs on the Gothenburg Protocol Revision for the Working Group on Strategies and Review (WGSR). Task Force on Reactive Nitrogen, Informal Note. (July 2009). CEH Edinburgh, 7 pp.
- R.280. **Sutton M.A.**, Reis, S., Zechmeister-Baltenstern S., Beier C., Butterbach-Bahl K., Cellier P., de Vries W. and Erisman J.W. (2009) Response of the NEU Scientific Steering Committee to the 3rd Report the NEU External Advisory Group. NitroEurope report to the European Commission, CEH Edinburgh.
- R.279. **Sutton M.A.**, Reis S., Nemitz E., Skiba U., Beier C., Butterbach-Bahl K., Cellier P., de Vries W., Erisman J.W. (eds.) (2009) NitroEurope IP: Second Annual Activity Report to the European Commission, 441 p
- R.278. **Sutton M.A.** and Townsend A. (2009) International Nitrogen Assessment. First Scoping Workshop for a Global Nitrogen Assessment, Paris, April 6-8, 2009. Meeting Summary and Next Steps. 9 pp. University of Colorado / CEH Edinburgh.
- R.277. Tang Y.S., van Dijk N., Anderson M., Simmons I., Armas-Sanchez E., Lawrence H., Smith R.I., Cape J.N., Fowler D. and **Sutton M.A.** (2009) Monitoring of nitric acid, particulate nitrate and other species in the UK-2007. Annual report under the UK Acid Deposition Monitoring Network to NETCEN/DEFRA. 53pp.
- R.276. Tang Y.S., van Dijk N., Simmons I., Anderson M., Dore A.J., Dragosits U., Bealey W.J., Leaver D., Storeton-West R., Smith R.I., Cape J.N., Fowler D. and **Sutton M.A.** (2009) National Ammonia Monitoring Network. Project Final Report for UK NAMN (RMP 1906) to Defra. 35 pp.

2008

- R.275. Dragosits U. and **Sutton M.A.** (2008) Maps of ammonia emissions from agriculture, waste, nature and other miscellaneous sources for the NAEI 2006. Interim report on the National Atmospheric Emission Inventory (NAEI) and Greenhouse Gas Inventory (GHGI) to AEAT for Defra. CEH Edinburgh Report AS 08/02, 15pp. (April 2008)
- R.274. Dragosits U. and **Sutton M.A.** (2008) Spatial estimation of CH₄ and N₂O emissions from agriculture, waste and other sources for the 2006 GHG Inventory. Interim report on the National Atmospheric Emission Inventory (NAEI) and Greenhouse Gas Inventory (GHGI) to AEAT for Defra. CEH Edinburgh Report AS 08/01, 10pp. (April 2008)
- R.273. Dragosits U., Misselbrook T. and **Sutton M.A.** (2008) Interim report to Defra on Project AC0109: Future patterns of ammonia emissions across the UK and the potential impact of local emission reduction measures. 6pp. (April 2008)
- R.272. Hicks K., Morrissey T., Ashmore M., Raffaelli D., **Sutton M.**, Smart J., Ramwell C., Heinemeyer A., Bealey B. and van den Berg L. (2008) Applying the ecosystems approach to air quality policy. Report to Defra (NR0120), Stockholm Environment Institute at York, 58 pp (July 2008).

- R.271. Misselbrook T.H., Chadwick D.R., Chambers B.J., Smith K.A., **Sutton M.A.** and Dore C. (2008) An inventory of methods to control ammonia emissions from agricultural and non-agricultural sources: Ammonia mitigation user manual. IGER North Wyke (May 2008).
- R.270. Stevens C.J., Mills G., Harmens H., Hall, J., Evans C., Rowe E.C., Jones M.L.M., Emmett B.A. and **Sutton M.A.** (2008). Alignment of ecosystem objectives related to atmospheric deposition and air quality with biodiversity targets. Final Report to Defra (Contract AQ0810, CEH C03077). The ICP Coordination Centre, CEH Bangor CEH Bangor, 40 pp (July 2008).
- R.269. **Sutton M.A.** (2008) Short review of ammonia emissions reporting in the National Atmospheric Emissions Inventory. For Defra/AEAT. (Report 08/03) CEH Edinburgh, 22 pp. (June 2008).
- R.268. **Sutton M.A.** and Britton C. (2008) Chairmanship and secretariat of the UNECE Task Force on Reactive Nitrogen (TFRN) Progress report to Defra, CEH Edinburgh 9 pp. (November 2008).
- R.267. **Sutton M.A.**, Reis S., Nemitz E., Skiba U., Beier C., Butterbach-Bahl K., Cellier P., de Vries W., Erisman J.W. (eds.) (2008) NitroEurope IP: Second Annual Activity Report to the European Commission, 384 pp.
- R.266. Tang Y.S., van Dijk N., Anderson M., Simmons I., Dore A.J., Dragosits U., Bealey W.J., Leaver D., Smith R.I. and **Sutton M.A.** (2008) Analysis of temporal and spatial patterns of NH₃ and NH₄⁺ over the UK – 2007. Report to DEFRA (project RMP 1906), AS 08/06, CEH Edinburgh.
- R.265. Vieno M., Dore A.J., Wind P., Tarrasón L. and **Sutton M.A.** (2008) Application of the EMEP model to the UK with a resolution of 5 x 5 km² grid – EMEP4UK. Report on CPEA27. CEH Edinburgh to Defra. 38 pp.

2007

- R.264. Tang, Y.S., **Sutton, M.A.**, Cape, J.N., Donovan, B.J., Gibson, N and Houlgreave, J. (2007) Overview of ammonia and ammonium measurement techniques applicable to the assessment of ambient levels of ammonia and ammonium close to source - primarily farms (pig and poultry operations). Report to the Environment Agency. CEH, Edinburgh.
- R.263. Bealey B., **Sutton M.A.** and Theobald M.R. (2007) Approaches for ammonia screening assessments. Environment Agency, Bristol. 30 pp.
- R.262. Dragosits U. & **Sutton M.A.** (2007) Spatial estimation of CH₄ and N₂O emissions from agriculture, waste and other sources for the 2005 GHG Inventory. Interim report on the National Atmospheric Emission Inventory (NAEI) and Greenhouse Gas Inventory (GHGI) to AEAT for Defra (April 2007). CEH Edinburgh Report AS 07/02, 10pp.
- R.261. Dragosits U. and **Sutton M.A.** (2007) Feasibility study: Spatial disaggregation of the British Survey of Fertilizer Practice (BSBF) and possibilities for incorporation into NARSES to allow regional variations in N fertilizer application. Appendix. Contribution to NARSES-2 Final Report to Defra (AM0133), CEH Edinburgh.
- R.260. Dragosits U. and **Sutton M.A.** (2007) Maps of Ammonia emissions from agriculture, waste, nature and other miscellaneous sources for the NAEI 2005. Interim report on the National Atmospheric Emission Inventory (NAEI) and Greenhouse Gas Inventory (GHGI) to AEAT for Defra. CEH Edinburgh Report AS 07/03, 16pp. (April 2007)
- R.259. Dragosits U., Hellsten S., Place C.J. and **Sutton M.A.** (2007) Coupling of NARSES to fine scale spatial estimates for the UK. Appendix. Contribution to NARSES-2 Final Report to Defra (AM0133), CEH Edinburgh.
- R.258. Dragosits U., Jones S. and **Sutton M.A.** (2007) Disaggregation of agricultural census data to establish a new base year of 2004. Appendix. Contribution to NARSES-2 Final Report to Defra (AM0133), CEH Edinburgh.
- R.257. Dragosits U., Luk J. and **Sutton M.A.** (2007) 2006 Update on ammonia emissions for non-agricultural sources for the NAEI (National Atmospheric Emissions Inventory). Report AS 07/12 to AEAT and Defra. CEH Edinburgh. 14 pp.
- R.256. Dragosits U., Vogt E. and **Sutton M.A.** (2007) Feasibility study for introducing an option to run the NARSES model for different sectors according to farm size. Appendix. Contribution to NARSES-2 Final Report to Defra (AM0133), CEH Edinburgh.
- R.255. Emmett B., Ashmore, M., Britton, A., Broadmeadow, M., Bullock, J., Cape, N., Caporn, S.M.J., Carroll J.A., Cresser, M.S., Crossley, A., d'Hooghede, P., De Lange I., Edmondson J., Evans C.D., Field, C., Fowler D., Grant H., Green, E., Green, S.M., Griffiths, B., Haworth B., Helliwell, R., Hicks, K., Hinton, C., Holding, H., Hughes, S., James, M., Jones, A., Jones, M., Jones, M.L.M., Leake, J., Leith I., Maskell, L., McNamara, N., Moy, I., Oakley, S., Ostle, N., Pilkington, M., Power, S., Prendergast M., Ray, N., Reynolds B., Rowe, E., Roy, D., Scott, A., Sheppard, L., Smart, S., Sowerby, A., **Sutton, M.** Terry, A., Tipping, E, van den Berg, L., van Dijk, N., van Zetten, E., Vanguelova, E., Williams, B., Williams, D., Williams, M. Terrestrial Umbrella

- Effects of Eutrophication and Acidification on Terrestrial Ecosystems. Terrestrial Umbrella Final Report July 2007. Defra, London.
- R.254. Fowler D., Cape J.N., Smith R., Nemitz E., **Sutton M.**, Dore T., Coyle M., Crossley A., Storeton-West R., Muller J., Phillips G., Thomas R., Vieno M., Tang Y.S., Famulari D., Twigg M, Benham D, Hayman G, Lawrence H & Vincent K (2007) Final Report for C02379NEW - Acid Deposition Processes. Report to defra. February 2007.
- R.253. Leith I.D., Thomson A., Bealey B., Owen S., van Dijk N., Reis S., Innes D., Heron B. and **Sutton M.A.** (2007) Report of Your Turn Event: CEH Edinburgh, 13 pp.
- R.252. Oenema O., Oudendag D.A., Witzke H.P., Monteny G.J., Velthof G.L., Pietrzak S., Britz W., Schwaiger E., Erisman J.W., de Vries W., van Grinsven J.J.M. and **Sutton M.A.** (2007) Integrated measures in agriculture to reduce ammonia emissions; final summary report. EC Service Contract 070501/2005/422822/MAR/C1. www.scammonia.wur.nl Alterra, Wageningen, The Netherlands. 186 pp.
- R.251. **Sutton M.A.**, Reis, S., Cotrufo F., Beier C., Butterbach-Bahl K., Cellier P., de Vries W. and Erisman J.W. (2007) Response of the NEU Scientific Steering Committee to the First Report the NEU External Advisory Group. 19 April 2007. Component NitroEurope Report to the NEU EAG and the European Commission.
- R.250. **Sutton M.A.**, Reis S., Nemitz E., Skiba U, Beier C., Butterbach-Bahl K., Cellier P., de Vries W. and Erisman J.W. (eds.) (2007) NitroEurope IP: First Annual Activity Report to the European Commission. CEH Edinburgh, 404 pp.
- R.249. **Sutton M.A.** (2007) Report of site visit 16 January 2007 to Moninea Bog, Special Area of Conservation, Northern Ireland, including results from foliar bioassay determinations and subsequent ammonia monitoring. Expert Witness Report to EHS Northern Ireland in relation to Public Planning Appeal and Prosecution in relation to the PPC Regulations Northern Ireland. 20 pp. CEH Edinburgh.
- R.248. **Sutton M.A.**, Leith I.D., van Dijk N. and Rowland P. (2007) Appendix 1: Results of chemical analysis of foliar chemistry on Moninea Bog. 8 pp. In: Sutton M.A. (2007) Report of site visit 16 January 2007 to Moninea Bog, Special Area of Conservation, Northern Ireland, including results from foliar bioassay determinations and subsequent ammonia monitoring. CEH Edinburgh.
- R.247. **Sutton M.A.**, Tang Y.S., van Dijk N., Simmons I. and Bealey B. (2007) Appendix 2: Ammonia monitoring on Moninea Bog and comparison with nearby reference sites. 5 pp. In: Sutton M.A. (2007) Report of site visit 16 January 2007 to Moninea Bog, Special Area of Conservation, Northern Ireland, including results from foliar bioassay determinations and subsequent ammonia monitoring. CEH Edinburgh.
- R.246. **Sutton M.A.**, Reis S., Nemitz E., Skiba U., Beier C., Butterbach-Bahl K., Cellier P., de Vries W., Erisman J.W. (eds.) (2007) NitroEurope IP: First Annual Activity Report to the European Commission, 404 pp.
- R.245. **Sutton, M.A.**, Leith, I.D., van Dijk, N and Rowland, P. 2007. Appendix 1: Results of chemical analysis of foliar chemistry on Moninea Bog. In: Report of site visit 16 January 2007 to Moninea Bog, Special Area of Conservation, Northern Ireland, including results from foliar bioassay determinations. Environment and Heritage Service Northern Ireland (EHS) Contract Report, 15 pp.
- R.244. Tang Y.S., van Dijk N., Love L., Simmons I., Dore T., Dragosits U., Vogt E., Cape J.N., Smith R.I. and **Sutton M.A.** (2007). Annual Report: Analysis of spatial and temporal patterns of NH₃ and NH₄⁺ over the UK, and reporting on other monitoring activities. 30 pp + appendix. November 2007.
- R.243. Tang Y.S., **Sutton M.A.**, Simmons I., Love L., Vogt E., van Dijk N., Cape J.N., Smith R.I., Armas-Sanchez E., Lawrence H., & Hayman G. Monitoring of nitric acid, particulate nitrate and other species in the UK -2006. Interim report under the UK Acid Deposition Monitoring Network to NETCEN/DEFRA, 26 p + appendix. August 2007.
- R.242. Tang Y.S., van Dijk N., Love L., Simmons I., Dore A.J., Dragosits U., Vogt E., Cape J.N., Smith R. I. and **Sutton M.A.** (2007) Annual Report: Analysis of spatial and temporal patterns of NH₃ and NH₄⁺ over the UK, and reporting on other monitoring activities. CEH Edinburgh Report No AS07/10. 30 pp (+ Appendix).
- R.241. Tang Y.S., van Dijk N., Love L., Simmons I., Dore T., Dragosits U., Vogt E., Cape J.N., Smith R.I., & **Sutton M.A.** (2007) Analysis of temporal and spatial patterns of NH₃ and NH₄⁺ over the UK -2006. Annual report to DEFRA, 30 p, November 2007
- R.240. Tang Y.S., van Dijk., Love L., Bealey B., Davies S.E. and **Sutton M.A.** (2007) Lower Clovelly Sewage Treatment Works, Local impact assessment of NH₃ emissions from a sewage treatment work. 19 p September 2007
- R.239. Theobald, M.R., Bealey, W.J. and **Sutton, M.A.** (2007) Approaches for ammonia screening assessments. CEH Edinburgh. Contract report for the Environment Agency.

2006

- R.238. Fowler D., Cape J.N., Derwent R., Hayman G., Harrison R., Laxen D., Loader A., Moorcroft S., Stedman J. and **Sutton M.A.** (2006) A review of the UK urban network for measurement of Black Smoke, SO₂ and NO₂: Summary Report. CEH Edinburgh, 5 pp
- R.237. Pitcairn C., Leith I., Sheppard L. and **Sutton M.A.** (2006) Development of a nitrophobe/nitrophile classification for woodlands, grasslands and upland vegetation in Scotland. (AS06/03) NERC / CEH, 24 pp (CEH project number CO3066).
- R.236. Emmett B., Williams B., Ashmore, Britton A., Broadmeadow M., Bullock J., Cape J.N., Caporn J., Carroll J., Cresser M., Crossley A., de Lange I., Edmondson J., Evans C., Fowler D., Grant H., Green E., Green S., Griffiths B., Hall J., Haworth B., Helliwell R., Hinton C., Hughes S., Jones A., Jones M., Leake J., Leith I., Maskell L., McNamara N., Moy I., Oakley S., Ostle N., Power S., Prendergast M., Price E., Reynolds B., Rowe E., Roy D., Scott A., Sheppard L., Smart S., Sowerby A., **Sutton M.**, Thacker S., Tipping E., van Dijk N., Vangelova E., van Zetten E., Williams D., Wilson D. and Wright S. (2006) Terrestrial Umbrella Report July 2006. Defra, London.
- R.235. Theobald M.R., Bealey W.J. and **Sutton M.A.** (2006) Refining the current Simple Calculation of Ammonia Impact Limits (SCAIL) for application in Scotland. CEH Edinburgh. Contract report for the Scottish Executive.
- R.234. Tang Y.S, **Sutton M.A.** and Cape J.N. (2006) Ammonia and ammonium measurement techniques applicable to the assessment of ambient levels of ammonia and ammonium close to sources: primarily farms (pig and poultry operations). CEH Edinburgh. Report to AEA Technology/ Environment Agency, October 2006. 30 pp.
- R.233. Tang Y.S, Love L., van Dijk N., Simmons I., Storeton-West R., Smith R.I., Dore A.J., M. Vieno, Dragosits U., Theobald M.R., Fowler D. and **Sutton M.A.** (2006) Ammonia in the United Kingdom: Spatial Patterns and Temporal Trends 1996-2005. CEH Edinburgh. Final Report to DEFRA. 103 pp.
- R.232. Tang Y.S, **Sutton M.A.**, Love L., Smith R., Kendall M. & Hayman G. (2006) Monitoring of nitric acid, particulate nitrate and other species in the UK: Interim report under the UK Acid Deposition Monitoring Network. CEH Edinburgh for NETCEN/Defra. 30 pp.
- R.231. Tang Y.S, Bealey B., van Dijk N., Love L., Simmons I. and **Sutton M.A.** (2006) 2005 status report on UK NAMN. Interim Report (RMP1906) to DEFRA. CEH Edinburgh, 12 pp.
- R.230. Tang Y.S., Love L., Van Dijk N. and **Sutton M.A.** (2006) Ammonia monitoring at Fenn's Moss NNR. Supplementary Report to DEFRA. CEH Edinburgh, 16 pp.
- R.229. Tang Y.S., Love L., Van Dijk N. and **Sutton M.A.** (2006) Intercomparison of ammonia measurements with the CEH DELTA and RIVM AMOR systems at Zegveld, NL. Supplementary Report to DEFRA. CEH Edinburgh, 12 pp.
- R.228. Tang Y.S, Love L., Simmons I., Storeton-West R., van Dijk N., Smith R.I., Dore A.J., Dragosits U., Theobald M.R., Fowler D and **Sutton M.A.** (2006) Ammonia in the United Kingdom: Spatial Patterns and Temporal Trends 1996-2005. Project report to Defra. CEH Edinburgh AS 06/11. August 2006. 103 pp.
- R.227. Dragosits U., Jones S.K. and **Sutton M.A.** (2006) 2005 Update on Ammonia emissions from non-agricultural sources for the NAEI. Interim report to AEAT for Defra (AS06/20). CEH Edinburgh. 14 pp. (December 2006)
- R.226. van Dijk N., Tang Y.S., Love L. and **Sutton M.A.** (2006) Ammonia monitoring (2004 and 2005) near Holly Farm, Upton Marshes, Norfolk. Report CEH Edinburgh. 12 pp (June 2006).
- R.225. Sheppard L.J., Leith I.D., Crossley A., Van Dijk N., Jones M., **Sutton M.A.**, Cape J.N., Fowler D., Prendergast M., de Lange I. and van Zetten E. (2006) Whim Moss N manipulation experiment and open top chamber flux work. Task 7 of the Nitrogen Effects Umbrella research Project. CEH Interim Report to Defra (June 2006).
- R.224. Dragosits U. and **Sutton M.A.** (2006) 2004 maps of ammonia emissions from agriculture, waste, nature and other miscellaneous sources. Interim report for the National Atmospheric Emission Inventory (NAEI) and Greenhouse Gas Inventory (GHGI) to AEAT for Defra. CEH Edinburgh. 16 pp. (February 2006)
- R.223. Dore A., Vieno M., MacDougall, M., Kryza M., Blas M., Hall J., Dosio A., Tang Y.S., Smith R.I., Bealey W.J. and **Sutton M.A.** (2006) Modelling the deposition and concentrations of long range air pollutants. Final Report to Defra. February 2006. CEH Edinburgh. 79 pp.

2005

- R.222. Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.** (2005) Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing (eds). Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp. www.jncc.gov.uk/default.aspx?page=3886
- R.221. van Dijk N., Leith I.D., Tang Y.S. and **Sutton M.A.** (2005) Measurement methods for monitoring atmospheric nitrogen compounds at the study sites. Chapter 2, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 26-30, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.220. Leith I.D., Pitcairn C.E.R., van Dijk N., Wolseley P.A. and **Sutton M.A.** (2005) Intensive sites: site descriptions and atmospheric N monitoring data. Chapter 3, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 31-45, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.219. Pitcairn C.E.R., Leith I.D., van Dijk N. and **Sutton M.A.** (2005) Refining and testing the Ellenberg Index biomonitoring method at the intensive sites. Chapter 4, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 46-66, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.218. Leith I.D., van Dijk N., Pitcairn C.E.R., Woods C. and **Sutton M.A.** (2005) Evaluating *Deschampsia flexuosa* as a standardised grass N bioindicator. Chapter 5, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 67-90, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.217. Leith I.D., van Dijk N., Pitcairn C.E.R., Woods C. and **Sutton M.A.** (2005) Impacts of N on pleurocarpous mosses at the intensive sites. Chapter 6, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 91-107, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.216. Wolseley P.A., James P., Leith I.D., van Dijk N. and **Sutton M.A.** (2005) Lichen diversity: intensive sites. Chapter 7, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 108-126, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.215. Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A. and **Sutton M.A.** (2005) Synthesis of the intensive sites study. Chapter 8, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 127-134, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.214. Leith I.D., Wolseley P.A., Pitcairn C. E.R., van Dijk N. and **Sutton M.A.** (2005) Extensive UK scale study: biomonitoring methods. Chapter 9, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley, P.A., Whitfield C.P. and **Sutton, M.A.**) pp 135-146, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.213. Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Woods C. and **Sutton M.A.** (2005) Extensive scale UK study: tissue N content and soluble NH₄-N concentration in pleurocarpous mosses. Chapter 10, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 147-164, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.212. Wolseley P.A., Leith I.D., van Dijk N. and **Sutton M.A.** (2005) UK Extensive Study: lichen diversity. Chapter 11, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 165-182, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.211. Wolseley P.A., Leith I.D., van Dijk N. and **Sutton M.A.** (2005) Extensive UK scale study: Comparison of expert and non-expert sampling. Chapter 12, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 183-188, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.210. Leith I.D., Wolseley P.A., Pitcairn C.E.R., van Dijk N., Whitfield C.P. and **Sutton M.A.** (2005) Nitrogen impact assessment for 32 UK extensive sites: synthesis of biomonitoring methods. Chapter 13, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 189-204, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.

- R.209. Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton M.A.** (2005) Biomonitoring protocols for example scenarios. Chapter 14, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 205-213, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.208. Leith I.D., Pitcairn C.E.R., Whitfield C.P, Wolseley P.A., van Dijk N. and **Sutton M.A.** (2005) Assessment of nitrogen impacts on condition and integrity of four case study sites. Chapter 15, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 214-227, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.207. **Sutton M.A.**, Leith I.D., Pitcairn C.E.R., Wolseley P.A., van Dijk N. and Whitfield C.P. (2005) Future challenges: the importance of benchmarking and intercalibration for integrated application of nitrogen indicators by conservation agencies. Chapter 16, In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 228-245, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.206. van Dijk N., Leith I.D., Pitcairn C.E.R. and **Sutton M.A.** (2005) Development of methods for the measurement of foliar soluble nitrogen as a bioindicator of atmospheric nitrogen deposition. Appendix I. In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 252-273, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.205. Leith I.D., van Dijk N., Pitcairn C.E.R., Woods C. and **Sutton M.A.** (2005) Evaluating lolium multiflorum as a standardised grass bioindicator for gaseous ammonia. Appendix II., In: *Biomonitoring methods for assessing the impacts of nitrogen pollution: refinement and testing* (eds: Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P.A., Whitfield C.P. and **Sutton, M.A.**) pp 274-281, Report 386. Joint Nature Conservation Committee, Peterborough, 290 pp.
- R.204. Dragosits U., Coyle M., **Sutton M.A.** and Fowler D. (2005) Ozone and Ammonia – Maps and statistics for Scotland. Final Report to SEPA (AS05/19). CEH Edinburgh. 12 pages. (November 2005)
- R.203. Leith I.D., Chapman C., Ellis N., Gillespie C., Masters Z., McIntosh A., Pitcairn C.E.R., Redshaw J., Sheppard L.J., **Sutton M.A.**, Whitfield C.P., van Dijk N., and Wolseley P.A. (2005) Biological monitoring to assess impacts of atmospheric nitrogen deposition and concentration on the ecological condition and integrity of statutory nature conservation sites. Report of One-day Workshop. 23 June 2005. CEH.
- R.202. Tang Y.S., **Sutton M.A.**, van Dijk N., Bealey B., Theobald M., Fowler D., and Baker S. (2005) Monitoring of ammonia concentrations in the United Kingdom. Presentation summaries from the site operators meeting, March 2005
- R.201. Hayman G., Vincent K.J., Lawrence H., Smith M., Davies M., **Sutton M.A.**, Tange Y.S., Dragosits U., Love L., Fowler D., Kendall M., Page H. (2005) Management and operation of the UK Acid Deposition Monitoring Network: Data Summary for 2004. AEAT/ENV/R/2093 Issue 1. December 2005. AEA Technology plc, CEH Edinburgh, Harwell Scientifics Ltd.
- R.200. **Sutton M.A.**, Dragosits U., Tang Y.S, Vieno M. and others (2005) Recovery after Foot and Mouth used to test models of ammonia emission from farm animals. p 19. Annual Report 2004-2005, Centre for Ecology and Hydrology, Edinburgh.
- R.199. Bareham S.A., **Sutton M.A.**, van Hinsberg A., Dirnböck T., Hens M., Sponar M., Blagodatsky S., Feest A., Horlyck V., Bleeker A., Teller A. and Delbaere B. (2005) *SEBI2010: Streamlining European 2010 Biodiversity Indicators; Expert Group 4: Nitrogen Deposition*. First Annual Report: Selection of a European Indicator for Nitrogen Deposition. 20 pp. (December 2005).
- R.198. Tang Y.S. and **Sutton M.A.** (2005) Reporting of Air Ammonia Concentrations for TRL - Measurements by CEH ALPHA samplers and Diffusion Tubes., 8pp. (December 2005)
- R.197. Theobald M.R., Loubet B., Cellier P. and **Sutton M.A.** (2005) Scenario results - modelling the recapture of ammonia immediately downwind of sources. Appendix 23, In: An assessment of how process modelling can be used to estimate agricultural ammonia emissions and the efficacy of abatement techniques, Final report for Defra project AM0130. 5 pp. (November 2005).
- R.196. Theobald M.R., Rosnoblet J., Dragosits U., Gabrielle B., Loubet B., Genermont S., Le Cadre E., Cellier P. and **Sutton M.A.** (2005) Use of process models for ammonia emission in national inventories. Appendix 22, In: An assessment of how process modelling can be used to estimate agricultural ammonia emissions and the efficacy of abatement techniques, Final report for Defra project AM0130. 11 pp. (November 2005).

- R.195. Williams A.G., Rosnoblet J., Campbell C., Theobald M.R., Cumby T., Demmers T.G.M., Genermont S., Gabrielle B., Loubet B., Le Cadre E., Cellier P. and **Sutton M.A.** (2005) Ammonia emissions experimental datasets. Appendix 14, In: An assessment of how process modelling can be used to estimate agricultural ammonia emissions and the efficacy of abatement techniques, Final report for Defra project AM0130. 4 pp. (November 2005).
- R.194. Campbell C., Theobald M.R. and **Sutton M.A.** (2005) Sensitivity screening of the Pasture Simulation Model (Pasim). Appendix 13, In: An assessment of how process modelling can be used to estimate agricultural ammonia emissions and the efficacy of abatement techniques, Final report for Defra project AM0130. 21 pp. (November 2005).
- R.193. Parsons D., Theobald M.R., Williams A., Nemitz E., Rosnoblet J., Gabrielle B., van Oijen M., Loubet B., Genermont S., Le Cadre E., Cellier P. and **Sutton M.A.** (2005) Protocol for sensitivity screening of ammonia process models. Appendix 9, In: An assessment of how process modelling can be used to estimate agricultural ammonia emissions and the efficacy of abatement techniques, Final report for Defra project AM0130. 2 pp. (November 2005).
- R.192. Loubet B., Rosnoblet J., Gabrielle B., Genermont S., Le Cadre E., Cellier P., Theobald M.R. and **Sutton M.A.** (2005) Critical analysis of canopy recapture models for atmospheric ammonia. Appendix 8, In: An assessment of how process modelling can be used to estimate agricultural ammonia emissions and the efficacy of abatement techniques, Final report for Defra project AM0130. 19 pp. (November 2005).
- R.191. Campbell C., Theobald M.R. and **Sutton M.A.** (2005) Critical analysis of the PaSim model for cut and grazed grasslands with particular reference to ammonia exchange. Appendix 6, In: An assessment of how process modelling can be used to estimate agricultural ammonia emissions and the efficacy of abatement techniques, Final report for Defra project AM0130. 4 pp. (November 2005).
- R.190. Theobald M.R., Williams A.G. and **Sutton M.A.** (2005) Ammonia emission processes. Appendix 1, In: An assessment of how process modelling can be used to estimate agricultural ammonia emissions and the efficacy of abatement techniques, Final report for Defra project AM0130. 4 pp. (November 2005).
- R.189. M.R. Theobald, Williams A.G., Rosnoblet J., Campbell C., Cumby T.R., Demmers T.G.M., Loubet B., Parsons D.J., Gabrielle B., Nemitz E., Génormont S., Le Cadre E., Dragosits U., Van Oijen M., Cellier P. and **Sutton M.A.** (2005) An assessment of how process modelling can be used to estimate agricultural ammonia emissions and the efficacy of abatement techniques. CEH Edinburgh. Final report for Defra project AM0130. 8 pp. (November 2005).
- R.188. Tang Y.S., Gadsdon S., Love L. and **Sutton M.A.** (2005) Ammonia measurements at Epping Forest. Report to Imperial College. CEH Edinburgh. 20 pp. (September 2005).
- R.187. Hellsten S., Dragosits U., Place C.J. and **Sutton M.A.** (2005) Developing the basis for improving the spatial distribution of ammonia emissions from poultry farming in the UK (Confidential report). Collaboration between CEH, The University of Edinburgh and Grampian Country Food Group Ltd. CEH Report AS 05/13. CEH Edinburgh, Bush Estate, Midlothian EH26 0QB, UK.
- R.186. Tang Y.S., **Sutton M.A.**, Love L., Kendall M. & Hayman G. (2005). Monitoring of nitric acid, particulate nitrate and other species in the UK. Interim Report under the UK Acid Deposition Monitoring Network to NETCEN/DEFRA. CEH Edinburgh. 30pp. (June 2005).
- R.185. Dragosits U. and **Sutton M.A.** (2005) 2003 maps of ammonia emissions from agriculture, waste, nature and other miscellaneous sources for the NAEI. Interim report to AEA Technology for the National Atmospheric Emissions Inventory (NAEI). CEH Edinburgh. 14 pp. (September 2005)
- R.184. Vieno, M., Wind P., Weston K.J., Dore A.J., Tarrason L. and **Sutton M.A.** (2005) Application of the EMEP model to the UK with a resolution of 5 km grid – First report of EMEP4UK to Defra (AEQ) and devolved administrations. (Report AS 05/08) CEH Edinburgh, 11 pages (April 2005).
- R.183. Leith I.D., N. van Dijk, C.E.R. Pitcairn, , P.A. Wolseley, C.P. Whitfield and **M.A. Sutton** (2005) Refinement and testing of biomonitoring methods & development of protocols, for assessing impacts of atmospheric nitrogen deposition or concentrations on statutory nature conservation sites Draft Final Report, CEH and NHM to JNCC. (Report AS 05/04) 205 pp. (April 2005).
- R.182. **Sutton M.A.**, U. Dragosits, I. Simmons, Y.S. Tang, S. Hellsten, L.Love, M. Vieno, A.G. McDonald, U. Skiba, C. Di Marco, D. Fowler, T. Misselbrook, J. Williams, P. North, P. Hobbs (2005) Monitoring & modelling trace-gas changes following the 2001 outbreak of Foot & Mouth Disease to reduce the uncertainties in agricultural emissions abatement. Summary Final Report on Project AM0118 to Defra., (Report AS 05/07) CEH Edinburgh. 25 pp (April 2005).

- R.181. **Sutton M.A.**, U. Dragosits, I. Simmons, Y.S. Tang, S. Hellsten, L.Love, M. Vieno, A.G. McDonald, U. Skiba, C. Di Marco, D. Fowler, T. Misselbrook, J. Williams, P. North, P. Hobbs (2005) Monitoring & modelling trace-gas changes following the 2001 outbreak of Foot & Mouth Disease to reduce the uncertainties in agricultural emissions abatement. Detailed Final Science Report on Project AM0118 to Defra. (Report AS 05/05) CEH Edinburgh. 50 pp (April 2005).
- R.180. Tang Y.S., Rippey B., Love L. & **Sutton M.A.** (2005) Ammonia monitoring in Northern Ireland: Comparison of NH₃ concentrations downwind of two types of Broiler house in Northern Ireland. Final Contract Report to SNIFFER. (Report AS 05/03) CEH Edinburgh. 25 pp. (February 2005).
- R.179. Dragosits U., Skiba U. and **Sutton M.A.** (2005). Spatial estimation of CH₄ and N₂O emissions from agriculture, waste and other sources for the 2002 GHG Inventory. Interim Report to AEA Technology, (Report AS05/02) CEH Edinburgh. 10pp. (February 2005).
- R.178. Van Dijk N., Tang, Y.S, & **Sutton, M.A.** (2005) Ammonia and Bioindicator monitoring at Venn Ottery. Consultancy Report for East Devon District Council. (Report AS 05/01) CEH Edinburgh. 14 pp. (February 2005).
- R.177. Anderson Dunn, M., Campbell C., Nemitz E., Bayfield N. and **Sutton M.A.** (2005) Effects of land use changes on sources, sinks and fluxes of carbon in European mountain areas (CARBOMONT). Detailed partner report. In: In CARBOMONT final Report to the European Commission. (Ed. A. Cernusca, M. Bahn and G. Wohlfart), Univ. Innsbruck, Austria. (January 2005).
- R.176. Campbell C., Anderson Dunn, M., Ugolini F., Nemitz E., Milford C., Hargreaves K.J., Levy P. and **Sutton M.A.** (2005) Quantifying the annual carbon balance, its components and variability. In CARBOMONT final Report to the European Commission. (Ed. A. Cernusca, M. Bahn and G. Wohlfart), Univ. Innsbruck, Austria. (January 2005).
- R.175. Anderson Dunn, M., Campbell C., Ugolini F., Nemitz E., Milford C., Hargreaves K.J., Levy P. and **Sutton M.A.** (2005) The effect of grazing on carbon pool components. In CARBOMONT final Report to the European Commission. (Ed. A. Cernusca, M. Bahn and G. Wohlfart), Univ. Innsbruck, Austria. (January 2005).
- R.174. Anderson Dunn, M., Campbell C., Ugolini F., Nemitz E., Milford C., Hargreaves K.J., Levy P. and **Sutton M.A.**, Tang Y.S., Love L., Anderson Dunn, M., Campbell C., Horvath L., Staszewski T., Gimeno C. and Jose Sanz M. (2004) Estimation of nitrogen deposition and re-emission to CO₂ exchange. In CARBOMONT final Report to the European Commission. (Ed. A. Cernusca, M. Bahn and G. Wohlfart), Univ. Innsbruck, Austria. (January 2005).
- R.173. Martin C., Pinares C., Jouany J.P., Dhour P., Todd A., Roberts D., Nemitz E., **Sutton M.A.**, Jones. M. and Hensen A. (2005) WP1- CH₄ fluxes from enteric fermentation by grazing cattle. Report of WP1, in GREENGRASS final Report pp. 36- 43. (Ed. J.F. Soussana). INRA Clermont Ferrand, France. (January 2005).
- R.172. Flechard C., Neftel A., Jocher M., Ammann C., Fuhrer J., Thalman E., Ambus P., Pilegaard K., Di Marco C., Skiba U., Campbell C., Nemitz E., Levy P., **Sutton M.A.**, Jones S., Rees R.M., Hensen A., van de Bulk W.C.M., Groot T., Blom M., Gunnink H., van den Pol A., Kasper G., Allard V., Laville P., Henault C., Bizouard F., Jolivot D., Soussana J.F., Abdalla M., Williams M., Jones M., Clifton Brown J., Baronti S., Beretti F., Raschi A., Horvath L., Grosz B., Domingues R., and van Amstel A. (2005). Nitrous oxide flux monitoring over European grasslands. Report of WP1, in GREENGRASS final Report pp. 44- 53. (Ed. J.F. Soussana). INRA Clermont Ferrand, France. (January 2005).
- R.171. Allard V., Soussana J.F., Ambus P., Ammann C., Campbell C., Nemitz E., Di Marco C., Anderson Dunn M., Levy P.E., Clifton Brown J., Czobel S., Domingues R., Flechard C., Fuhrer J., Hensen A., Horvath L., Jones M., Kasper G., Martin C., Nagy Z., Neftel A., Pilegaard K., Raschi A., Baronti S., Rees R.M., Skiba U., Stefani P., Mancha G., **Sutton M.A.**, and Tuba Z. (2005) Assessing the greenhouse gas balance of the GREENGRASS network of sites. Report of WP1, in GREENGRASS final Report pp. 60-68. (Ed. J.F. Soussana). INRA Clermont Ferrand, France. (January 2005).
- R.170. Jones S., Rees R.M., Skiba U., Tuba Z., Czobel S., Nagy Z., Balogh J. and **Sutton M.A.** (2005). Emissions of N₂O as affected by nitrogen supply, irrigation and N forms in small grassland plots. Report of WP2, in GREENGRASS final Report pp. 78-80. (Ed. J.F. Soussana). INRA Clermont Ferrand, France. (January 2005).
- R.169. Calanca P., Campbell C., **Sutton M.A.**, Vuichard N., Viovy N., Soussana J.F. and Fuhrer J. (2005) Mitigation options at the plot scale: simulations with PaSim. Report of WP3, in GREENGRASS final Report pp. 90-94. (Ed. J.F. Soussana). INRA Clermont Ferrand, France. (January 2005).
- R.168. **Sutton M.A.** and Soussana J.F. (2005) Overview of GREENGRASS achievements in upscaling European Net Greenhouse gas Exchange (NGE) and future challenges. Report of WP5, in GREENGRASS final Report., pp 110-112. (Ed. J.F. Soussana). INRA Clermont Ferrand, France. (January 2005).

R.167. Levy P.E., Mobbs D.C., Milne R., Campbell C. and **Sutton M.A.** (2005) Simulation of fluxes of greenhouse gases from European grasslands using the DNDC model. Report of WP5, in GREENGRASS final Report., pp 118-122. (Ed. J.F. Soussana). INRA Clermont Ferrand, France. (January 2005).

2004

- R.166. Bealey W.J. and **Sutton M.A.** (2004) Process Industry Regulation (PIR) casework advice for Dorset Heaths cSAC, Dorset Heaths (Purbeck and Wareham) and Studland Dunes SAC, and Dorset Heathlands SPA. Report to English Nature (AS 04/22) CEH Edinburgh 8 pp (December 2004).
- R.165. Dragosits U. and **Sutton M.A.** (2004) Interim Report: 2003 Update on Ammonia emissions from non-agricultural sources for the NAEI. Report to AEA Technology and Defra. (Report AS 04/19) CEH Edinburgh, 13 pp. (December 2004).
- R.164. Bealey W.J. and **Sutton M.A.** (2004) Process Industry Regulation (PIR) casework advice for River Camel cSAC. Report to English Nature. (Report AS 04/21), CEH Edinburgh, 5 pp (November 2004).
- R.163. Bealey W.J., Dore A.J. and **Sutton M.A.** (2004) Process Industry Regulation (PIR) casework advice for Solent Maritime cSAC, Solent & Southampton Water SPA, Solent & Isle of White Lagoons cSAC, Portsmouth Harbour SPA, Chichester & Langstone Harbours SPA. Report to English Nature. (Report AS 04/20) CEH Edinburgh, 15 pp (October 2004).
- R.162. Dore A.J., MacDougall M., Smith R.I. and **Sutton M.A.** (2004) Analysis of parameter uncertainties in the FRAME model and consequences for model estimates. Report to Defra. (Report AS 04/14) CEH Edinburgh. 12 pp. (September 2004).
- R.161. Leith I.D., van Dijk N., Pitcairn C.E.R., Wolseley P. and **Sutton M.A.** (2004) Refinement and testing of bio-monitoring methods, & development of protocols, for assessing impacts of atmospheric nitrogen deposition or concentrations on statutory nature conservation sites. Interim report to Joint Nature Conservation Committee (JNCC), Contract number: F90-01-635. (Report AS 04/15) CEH Edinburgh. 22 pp (September 2004).
- R.160. Maberly S., Carvalho L., Fisher J., May L., Reynolds B., Theobald M., **Sutton M.** and Defew L. (2004) Deriving practical guidance on the importance of nitrogen in freshwater eutrophication. Final report to the Scottish Executive, Contract reference ENV/7/03/07. 97pp (September 2004).
- R.159. Tang Y.S., **Sutton M.A.**, Love L., Sansom L., Kendall M. and Hayman G. (2004) Monitoring of nitric acid, particulate nitrate and other species in the UK. Interim report under the UK Acid Deposition Monitoring Network to NETCEN/DEFRA, Project 14704078. (Report AS 04/12) CEH Edinburgh, 30pp (September 2004).
- R.158. Bealey W.J., Theobald M.R. and **Sutton M.A.** (2004) Application of the SCAIL model for screening potential impacts of ammonia adjacent to Pond Head Farm, Dorset. Report to English Nature (Report AS 04/11) CEH Edinburgh. 15 pp (June 2004).
- R.157 Palmer S.C.F., Cape J.N., Truscott A-M, Black H.I.J, Tang Y. S., Swaine E., van Dijk N., Smart S M., **Sutton M.A.**, and Fowler D. (2004) Biodiversity in Roadside Verges. Final Report to SEERAD, Project C01759. 112pp (August 2004).
- R.156. Tang Y.S., van Dijk N., Love L., Dragosits U., Rippey B. and **Sutton M.A.** (2004) Ammonia Monitoring in Northern Ireland. Final Report to SNIFFER, Project UKPIR04 230/8046. 42 pp (June 2004).
- R.155. **Sutton M.A.**, Dragosits U., Simmons I., Tang Y.S., Hellsten S., Love L., McDonald A.G., Skiba U., Di Marco C., Fowler D. and Misselbrook T., Williams J. and Hobbs P. (2004) Monitoring & modelling trace-gas changes following the 2001 outbreak of Foot & Mouth Disease to reduce the uncertainties in agricultural emissions abatement. Interim Report to DEFRA, Project AM0118. CEH Edinburgh. 39 pp (May 2004).
- R.154. Fowler D., Smith R.I., **Sutton M.A.**, Cape J.N., Nemitz E., Coyle M, Muller J., Milford C., Famulari D., Anderson-Dunn M., Tang Y.S., Storeton-West R., Crossley A., Harvey F., Twigg M., Riedo M., Loubet B., Vincent K., Hayman G., Choularton T. and Beswick K. (2004) Acid Deposition Processes. Final Report to DEFRA, Project EPG 1/3/166. CEH, NETCEN, UMIST. 180 pp (May 2004).
- R.153. **Sutton M.A.**, Theobald M., Dragosits U., Place C.J., Tang Y.S., Love L., van Dijk N., D. Fowler, Smith J., Sozanska M., Scholefield D., Jarvis S.C., Del Prado A., Brown L., Angus A., Hodge I., Webb J., Wade A. and Whitehead P. (2004) Landscape analysis of the transport, transformation and fate of reactive nitrogen and abatement strategies (LANAS) Final Report to NERC, Project NER/T/S/1999/00123. CEH, UoEdinburgh, UoAberdeen, IGER, UoCambridge, ADAS and UoReading. 7 pp (May 2004).
- R.152. Webb J., Antony S., Fawcett C., **Sutton M.A.**, Hellsten S., Dragosits U., Place C.J., Misselbrook T., Scholefield D., Sneath R. and ApSimon H.M. (2004) National Ammonia Reduction Strategy Evaluation System (NARSES) Final Report to Defra, Project AM0101. ADAS, CEH, UoE, IGER, SRI and ICON. 25 pp (May 2004).

- R.151. Hellsten S., Dragosits U., **Sutton M.A.**, and Place, C.J., (2004) Agricultural Census Data, Annex 1 in: National Ammonia Reduction Strategy Evaluation System (NARSES) Final Report to Defra, Project AM0101 5 pp. (May 2004).
- R.150. Misselbrook T., **Sutton M.A.**, and Scholefield, D. (2004) Fertilizer/crop emission sub-model, Annex 3b in: National Ammonia Reduction Strategy Evaluation System (NARSES) Final Report to Defra, Project AM0101 12 pp. (May 2004).
- R.149. Hellsten S., Dragosits U., Place C.J., Fawcett C., and **Sutton M.A.** (2004) Methodology for the fine resolution spatial ammonia emissions modelling adapted to link with the NARSES engine, Annex 4 in: National Ammonia Reduction Strategy Evaluation System (NARSES) Final Report to Defra, Project AM0101 15 pp. (May 2004).
- R.148. Dragosits U., Hellsten S. and **Sutton M.A.** (2004) 2002 maps of ammonia emissions from agriculture, waste, nature and other miscellaneous sources for the NAEI. Interim report to AEA Technology for the National Atmospheric Emissions Inventory (NAEI). CEH Edinburgh. 13 pp. (March 2004)
- R.147. **Sutton M.A.**, Pitcairn C.E.R. and Whitfield C.P. (2004) Bioindicator and biomonitoring methods for assessing the effects of atmospheric nitrogen on statutory nature conservation sites. (Eds.) Final report to JNCC for contract no. F90-01-535. CEH Edinburgh. 247 pp. (April 2004)
- R.146. **Sutton M.A.**, Pitcairn C.E.R., Whitfield C.P. (2004) Introduction: Bioindicators and biomonitoring for atmospheric nitrogen. Chapter 1, In: *Bioindicator and biomonitoring methods for assessing the effects of atmospheric nitrogen on statutory nature conservation sites.* (Eds. **M.A. Sutton**, C.E.R. Pitcairn, C.P. Whitfield) pp 17-20. Final report to JNCC for contract F90-01-535. CEH Edinburgh.
- R.145. **Sutton M.A.**, Tang Y.S. and Fowler D. (2004) Physical methods for measuring atmospheric nitrogen concentrations and deposition. Chapter 2, In: *Bioindicator and biomonitoring methods for assessing the effects of atmospheric nitrogen on statutory nature conservation sites.* (Eds. **M.A. Sutton**, C.E.R. Pitcairn, C.P. Whitfield) pp 21-27. Final report to JNCC for contract F90-01-535. CEH Edinburgh.
- R.144. Pitcairn C.E.R., Leith I.D., Sheppard L.J, Fowler D., and **Sutton M.A.** (2004) Bioindicator methods based on foliar nitrogen accumulation: total tissue nitrogen. Chapter 3, In: *Bioindicator and biomonitoring methods for assessing the effects of atmospheric nitrogen on statutory nature conservation sites.* (Eds. **M.A. Sutton**, C.E.R. Pitcairn, C.P. Whitfield) pp 29-44. Final report to JNCC for contract F90-01-535. CEH Edinburgh.
- R.143. **Sutton M.A.**, Pitcairn C.E.R., Sheppard L.J., Leith I.D., van Dijk N. and Fowler D. (2004) Bioindicator methods based on foliar nitrogen accumulation: other nitrogen parameters. Chapter 4, In: *Bioindicator and biomonitoring methods for assessing the effects of atmospheric nitrogen on statutory nature conservation sites.* (Eds. **M.A. Sutton**, C.E.R. Pitcairn, C.P. Whitfield) pp 45-58. Final report to JNCC for contract F90-01-535. CEH Edinburgh.
- R.142. Sheppard L.J., Pitcairn C.E.R., Skiba U., **Sutton M.A.** and Fowler D. (2004) Bioindicator methods based on biochemical responses to nitrogen. Chapter 5, In: *Bioindicator and biomonitoring methods for assessing the effects of atmospheric nitrogen on statutory nature conservation sites.* (Eds. **M.A. Sutton**, C.E.R. Pitcairn, C.P. Whitfield) pp 59-69. Final report to JNCC for contract F90-01-535. CEH Edinburgh.
- R.141. Pitcairn C.E.R., Smart S.M., Fowler D. and **Sutton M.A.** (2004) Bioindicator methods for nitrogen based on Community Species Composition: higher plants and bryophytes. Chapter 6, In: *Bioindicator and biomonitoring methods for assessing the effects of atmospheric nitrogen on statutory nature conservation sites.* (Eds. **M.A. Sutton**, C.E.R. Pitcairn, C.P. Whitfield) pp 70-80. Final report to JNCC for contract F90-01-535. CEH Edinburgh.
- R.140. Wolseley P.A., James P.W., Purvis O.W., Leith I.D. and **Sutton M.A.** (2004) Bioindicator methods for nitrogen based on Community Species Composition: Lichens. Chapter 7, In: *Bioindicator and biomonitoring methods for assessing the effects of atmospheric nitrogen on statutory nature conservation sites.* (Eds. **M.A. Sutton**, C.E.R. Pitcairn, C.P. Whitfield) pp 81-92. Final report to JNCC for contract F90-01-535. CEH Edinburgh.
- R.139. Mitchell R.M., Leith I.D., Pitcairn C.E.R., Wolseley P.A. and **Sutton M.A.** (2004) Bioindicator methods for nitrogen based on transplantation: native reciprocal transplants. Chapter 9, In: *Bioindicator and biomonitoring methods for assessing the effects of atmospheric nitrogen on statutory nature conservation sites.* (Eds. **M.A. Sutton**, C.E.R. Pitcairn, C.P. Whitfield) pp 98-106. Final report to JNCC for contract F90-01-535. CEH Edinburgh.
- R.138. Leith I.D., van Dijk N., Pitcairn C.E.R., Sheppard L.J. and **Sutton M.A.** (2004) Bioindicator methods for nitrogen based on transplantation: Standardised model plants. Chapter 10, In: *Bioindicator and biomonitoring methods for assessing the effects of atmospheric nitrogen on statutory nature conservation sites.* (Eds. **M.A.**

- Sutton**, C.E.R. Pitcairn, C.P. Whitfield) pp 107-112. Final report to JNCC for contract F90-01-535. CEH Edinburgh.
- R.137. **Sutton M.A.**, Pitcairn C.E.R., Sheppard L.J., Leith I.D. and Wolseley P.A. (2004) Evaluation of Bioindicator methods for application to statutory nature conservation sites. Chapter 11, In: *Bioindicator and biomonitoring methods for assessing the effects of atmospheric nitrogen on statutory nature conservation sites.* (Eds. **M.A. Sutton**, C.E.R. Pitcairn, C.P. Whitfield) pp 112-129. Final report to JNCC for contract F90-01-535. CEH Edinburgh.
- R.136. Pitcairn C.E.R., Leith I.D., Sheppard L.J., van Dijk N., Y. Tang Y.S., Wolseley P., James P., and **Sutton M.A.** (2004) Field inter-comparison of different bio-indicator methods to assess the impacts of nitrogen deposition. Annex 1, In: *Bioindicator and biomonitoring methods for assessing the effects of atmospheric nitrogen on statutory nature conservation sites.* (Eds. **M.A. Sutton**, C.E.R. Pitcairn, C.P. Whitfield) pp 142-180. Final report to JNCC for contract F90-01-535. CEH Edinburgh.
- R.135. Pitcairn C.E.R., Leith I.D., Sheppard L.J., Smart S., Mitchell R.J., Wolseley P., James P., Purvis O.W., Fowler D., and **Sutton M.A.** (2004) Datasheets of bio-indicator methods for atmospheric nitrogen concentrations, deposition and impacts. Annex 2, In: *Bioindicator and biomonitoring methods for assessing the effects of atmospheric nitrogen on statutory nature conservation sites.* (Eds. **M.A. Sutton**, C.E.R. Pitcairn, C.P. Whitfield) pp 181-225. Final report to JNCC for contract F90-01-535. CEH Edinburgh.
- R.134. **Sutton M.A.**, Smith R.I., Cape J.N., Nemitz E. and Fowler D. (2004) Response to “Comments to the UK proposal on an alternative monitoring strategy for EMEP.” Policy Paper for DEFRA and the European Monitoring and Evaluation Program (EMEP). CEH Edinburgh (March 2004). 10 pp.
- R.133. **Sutton M.A.**, Smith R.I., Cape J.N., Nemitz E. and Fowler D. (2004) European monitoring of transboundary air pollution – the challenge to expand the EMEP network without unrealistic additional resources. Policy Paper for DEFRA and the European Monitoring and Evaluation Program (EMEP). CEH Edinburgh (February 2004). 10 pp.
- R.132. Bealey W.J., Sheppard L.J., Malcom H., Cape J.N., Davison A., Carvahlo L., Dragosits U., Harding K., Hall J., Fowler D., Osborn D. and **Sutton M.A.** (2004) Development of the UK Air Pollution Information System (APIS) Contract report to JNCC, contract F90-01-538. CEH Edinburgh, 51 pp
- R.131. Theobald M.R., McDonald A.G., Dragosits U. and **Sutton M.A.** (2004) Estimating the benefits of farm woodlands to recapture ammonia at the national scale. Appendix 13 In: AMBER: Ammonia Mitigation By Enhanced Recapture. Impact of vegetation and/or other on-farm features on net ammonia emissions from livestock farms. Final Report on Project WA0719 to Defra (Land Management Improvement Division). CEH Edinburgh. 5 pp.
- R.130. Theobald M.R., Dragosits U. and **Sutton M.A.** (2004) The benefits of farm woodland to recapture ammonia emissions and reduce deposition to semi-natural areas investigated at a landscape level. Appendix 12 In: AMBER: Ammonia Mitigation By Enhanced Recapture. Impact of vegetation and/or other on-farm features on net ammonia emissions from livestock farms. Final Report on Project WA0719 to Defra (Land Management Improvement Division). CEH Edinburgh. 3 pp.
- R.129. Sanders D., Blyth J., Theobald M.R., **Sutton M.A.** and Sneath R. (2004) Perspectives on the profitability of tree belts for capturing ammonia emissions from livestock farms. Appendix 11 In: AMBER: Ammonia Mitigation By Enhanced Recapture. Impact of vegetation and/or other on-farm features on net ammonia emissions from livestock farms. Final Report on Project WA0719 to Defra (Land Management Improvement Division). CEH Edinburgh. 21 pp.
- R.128. Sanders D., Theobald M.R., **Sutton M.A.**, Blyth J., Sneath R. and Phillips V.R. (2004) Farm case studies of the application of existing and new woodland plantings to capture ammonia emissions. Appendix 10 In: AMBER: Ammonia Mitigation By Enhanced Recapture. Impact of vegetation and/or other on-farm features on net ammonia emissions from livestock farms. Final Report on Project WA0719 to Defra (Land Management Improvement Division). CEH Edinburgh. 7 pp.
- R.127. Sneath R., Sanders D., Blyth J., Theobald M.R. and **Sutton M.A.** (2004) The AMBER draft design and management guide. Tree belts and shelter lines to reduce and recapture ammonia emissions from livestock farms. Appendix 8 In: AMBER: Ammonia Mitigation By Enhanced Recapture. Impact of vegetation and/or other on-farm features on net ammonia emissions from livestock farms. Final Report on Project WA0719 to Defra (Land Management Improvement Division). CEH Edinburgh. 12 pp.
- R.126. Blyth J., Theobald M.R., Sneath R. and **Sutton M.A.** (2004) Design of tree belts to maximize recapture of ammonia emission: Consideration of species suitability, management and grants. Appendix 7 In: AMBER: Ammonia Mitigation By Enhanced Recapture. Impact of vegetation and/or other on-farm features on net

- ammonia emissions from livestock farms. Final Report on Project WA0719 to Defra (Land Management Improvement Division). CEH Edinburgh. 9 pp.
- R.125. Theobald M.R., Loubet B., Cellier P., Hargreaves K.J., Nemitz E. and **Sutton M.A.** (2004) Lagrangian stochastic modelling of the advective recapture of ammonia by tree canopies. Appendix 4 In: AMBER: Ammonia Mitigation By Enhanced Recapture. Impact of vegetation and/or other on-farm features on net ammonia emissions from livestock farms. Final Report on Project WA0719 to Defra (Land Management Improvement Division). CEH Edinburgh. 19 pp.
- R.124. Leith I.D., Jones M., Tang Y.S., **Sutton M.A.**, Fowler D. and Theobald M.R. (2004) Controlled experiments on the saturation of ammonia deposition to the canopy of different tree species. Appendix 3 In: AMBER: Ammonia Mitigation By Enhanced Recapture. Impact of vegetation and/or other on-farm features on net ammonia emissions from livestock farms. Final Report on Project WA0719 to Defra (Land Management Improvement Division). CEH Edinburgh. 3 pp.
- R.123. Theobald M.R., Milford C., Hargreaves K.J., Sheppard L.J., Nemitz E., Tang Y.S., Phillips V.R., Sneath R., McCartney L., Harvey F.J., Leith I.D., Cape J.N., Fowler D. and **Sutton M.A.** (2004) Experiments to quantify ammonia recapture by a woodland canopy. Appendix 2 In: AMBER: Ammonia Mitigation By Enhanced Recapture. Impact of vegetation and/or other on-farm features on net ammonia emissions from livestock farms. Final Report on Project WA0719 to Defra (Land Management Improvement Division). CEH Edinburgh. 15 pp.
- R.122. Theobald M.R., Milford C., Hargreaves K.J., Sheppard L.J., Nemitz E., Tang Y.S., Dragosits U., McDonald A.G., Harvey F.J., Leith I.D., Sneath I.D., Williams A.G., Hoxey R.P., Quinn A.D., McCartney L., Sanders D.L., Phillips V.R., Blyth J., Cape J.N., Fowler D. and **Sutton M.A.** (2004) AMBER: Ammonia Mitigation By Enhanced Recapture. Impact of vegetation and/or other on-farm features on net ammonia emissions from livestock farms. Final Report on Project WA0719 to Defra (Land Management Improvement Division). CEH Edinburgh. 22 pp (+ 110 pp appendices).
- R.121. **Sutton M.A.** (2004) Proof of evidence and Summary of Dr. Mark Alexander Sutton BSc, ARCS, PhD on behalf of East Dorset District Council and English Nature. Appeal (under Section 78 of the Town and Country Planning Act 1990) by Mr M.E. Gardner against the decision of East Dorset District Council, to refuse planning permission at The Barn, Earles Road, Three Legged Cross, Dorset. Planning Inspectorate Reference APP/U1240/A/03/112225. 19 pp + 16 appendices. [Test case Public Inquiry regarding the effects of atmospheric ammonia from a proposed poultry unit on an adjacent heathland Special Area of Conservation].
- R.120. Bealey W., Dragosits U., Harding K.I.M. and **Sutton M.A.** (2004) UK Air Pollution Information System (APIS), implemented on the web. (For staff of the UK pollution and countryside agencies). <http://www.apis.ceh.ac.uk>

2003

- R.119. Palmer S.C.F., Truscott A.-M., Cape J.N., Black H.I.J., Clarke E., Tang Y.S., Ellwood S., **Sutton M.A.**, Murray T.D., van Dijk N., Poskitt J., Brooker R., Love L., Ross L. & Smart S.M. (2003) Biodiversity in roadside verges. 48 pp. Progress Report to SEERAD. Jan 2003
- R.118. Tang Y.S., **Sutton M.A.**, Love L., Hasler S., Sansom L. and Hayman G. (2003) Monitoring of nitric acid, particulate nitrate and other species in the UK. CEH Edinburgh. 30 pp.
- R.117. Theobald M.R., Y.S. Tang, Dragosits U., Pitcairn C.E.R., Fowler D. and **Sutton M.A.** (2003) Measurement and modelling of the ammonia emitted from the Cantley British Sugar Factory. Report to British Sugar. CEH Edinburgh 73 pp.
- R.116. **Sutton M.A.**, Campbell C., Milford C., Vuichard N., Viovy N., Soussana J-F., Milne R., Brown T., Rees R., Smith P., Smith J. and Wattenbach M. (2003) Section 3: Detailed report for WP5 including data on individual partner contributions. GREENGRASS 2nd Year Report. CEH Edinburgh.
- R.115. Saletes S., Fiorelli J.-L., Hacala S., Olesen J.E., **Sutton M.A.**, Vuichard N. and Soussana J.F. (2003) FARMSIM: a tool to calculate the greenhouse gas balance at grazing livestock farm level. User's guide. INRA, Agronomy Unit, Clermont Ferrand, France.
- R.114. Dore A.J. and **Sutton M.A.** (2003) Generation of Deposition Source-Receptor Matrices for input to the United Kingdom Integrated Assessment Model. CEH Edinburgh (December 2003). 9 pp.
- R.113. Theobald M.R. and **Sutton M.A.** (2003) A critical assessment of the ADAS 'Ammonia Deposition and Concentration Study' for planned broiler houses, Bunns Lane, Frome, Somerset. Report AS 03/01. CEH Edinburgh, 9 pp (October 2003).

- R.112. Leith I.D., van Dijk N., Pitcairn C.E.R., Sheppard L.J., Tang Y.S., Wolseley P. and **Sutton M.A.** (2003) Refinement and testing of bio-monitoring methods, & development of protocols, for assessing impacts of atmospheric nitrogen deposition or concentrations on statutory nature conservation sites. Interim Report to JNCC. (contract F90-01-635). Report AS 03/02. CEH Edinburgh 12 pp.
- R.111. Environmental Resources Management Ltd, CEH Edinburgh and Imperial College Consultants (2003) Development of a methodology for appropriate assessment for air pollution impacts on European sites. R&D Technical Report P4-083 (6). 154 pp + Appendices. (August 2003).
- R.110. Theobald M., C. Milford, K. Hargreaves, L. Sheppard, E. Nemitz, S. Tang, R. Phillips, R. Sneath, L. McCartney, F. Harvey, I. Leith, N. Cape, D. Fowler and **M.A. Sutton** (2003) Experiments to quantify ammonia recapture by a woodland canopy. Appendix 2, in AMBER Final Report to DEFRA (WA0719): Ammonia Mitigation By Enhanced Recapture. 15 pp. CEH Edinburgh (August 2003).
- R.109. Theobald M.R., C. Milford, K.J. Hargreaves, L.J. Sheppard, E. Nemitz, Y.S. Tang, U. Dragosits, A.G. McDonald, F.J. Harvey, I.D. Leith, (R.W. Sneath, A.G. Williams, R.P. Hoxey, A.D. Quinn, L. McCartney, D.L. Sandars, V.R. Phillips, J. Blyth), J.N. Cape, D. Fowler and **M.A. Sutton** (2003) Impact of vegetation and/or other on-farm features on net ammonia emissions from livestock farms. AMBER: Ammonia Mitigation By Enhanced Recapture. Summary Final Report to DEFRA on project WA0719. 24 pp. CEH Edinburgh (August 2003).
- R.108. **Sutton M.A.**, U. Dragosits, I. Simmons, Y.S. Tang, N. van Dijk, L. Love, A.G. McDonald, U. Skiba, F. Zampa, D. Fowler, T. Misselbrook, J. Williams, P. North and P. Hobbs (2003) Monitoring & modelling trace-gas changes following the 2001 outbreak of Foot & Mouth Disease to reduce the uncertainties in agricultural emissions abatement. Interim CEH Report to DEFRA. 43 pp. (August 2003).
- R.107. Dore A., Heywood E., Vieno M., Fournier N., Smith R., Weston W., Hall J. and **Sutton M.A.** (2003) Modelling the transport and deposition of sulphur and reduced and oxidised nitrogen in the UK. Status Report to DEFRA, as a contribution to Long Range Transport of Pollutants in the UK. CEH Edinburgh. (July 2003).
- R.106. **Sutton M.A.** (2003) Environmental impacts of ammonia and implications for the development of mitigation strategies. In: *The Practicalities, costs and added benefits of abating ammonia emissions on farms.* (Editors: J.A. Laws and B.F. Pain). pp 6-9. Proceedings of a workshop held on 4th March, Bristol, UK. IGER/ADAS.

2002

- R.105. Theobald M.R. and **Sutton M.A.** (2002) SCAIL v 1.1. (Simple Calculation of Ammonia Impact Limits) Computer Model written in C++ as a screening tool for the impacts of large pig/poultry units on semi-natural habitats. CEH Edinburgh, for the Environment Agency.
- R.104. **Sutton M.A.**, Tang Y.S., van Dijk N., Love L. and Fowler D. (2002) Monitoring of nitric acid in the UK. Interim report to AEA Technology/DEFRA.
- R.103. Pitcairn, C.E.R., Leith, I.D., Sheppard, L.J., van Dijk, N., Fowler, D., Skiba, U. (Wolseley, P., James, P.) & **Sutton, M.A.** (2002) Biomonitoring tools for assessing effects of atmospheric nitrogen deposition on statutory nature conservation sites. Interim report to Joint Nature Conservation Committee, November 2002.
- R.102. Vieno M., Weston K.J., Dore A.J. and **Sutton M.A.** (2002) Application of FRAME to estimate Alpha factors for ammonia at a 5 km grid resolution for the UK. Report to DEFRA and Devolved Administrations. Contract EPG 1/3/94, CEH Edinburgh. 16 pp.
- R.101. Tang Y.S. and **Sutton M.A.** (2002) WG11 Pilot Study (September 2002): Air Ammonia Results. CEH Edinburgh. 8 pp.
- R.100. **Sutton M.**, Cellier P., van der Hoek K., Klimont Z. and Webb J. (2002) Working Group 2 Report: Review of Simpler Methodology for Calculating European Ammonia Emissions from Fertilized Cultures (100100). TFEI Agriculture Panel: (Vienna, 28-30 October 2002). CEH Edinburgh, November 2002, 6 pp.
- R.99. **Sutton M.A.**, C. Milford, E. Nemitz, J.K. Schjoerring, M.E. Mattsson, J.W. Erisman, A. Hensen, P. Cellier, B. Loubet, A. Neftel, L. Horvath, K. Mantzanas, Z. Koukoura, J.R. Dorsey and M. Gallagher (2002) Biosphere-atmosphere interactions of ammonia with European grasslands. Technological Implementation Plan (Final Version). Contracts: ENV4-CT98-0722 and IN2O-CT98-0118. Centre for Ecology and Hydrology, Edinburgh, September 2002. 110 pp.
- R.98. Dore A., Broughton R., Dragosits U., Loh T., ApSimon H. and **Sutton M.A.** (2002). Preliminary assessment of spatially targeted ammonia abatement strategies for the UK. Final Report to DEFRA, as a contribution to EPG 1/3/94. CEH Edinburgh. November 2002. 46 pp.
- R97. **Sutton M.A.**, C. Milford, E. Nemitz, M.R. Theobald, K.J. Hargreaves, D. Fowler, J.K. Schjørring, M.E. Mattsson, S. Husted, J.W. Erisman, R. Otjes, A. Hensen, J. Mosquera, P. de Bulk, P. Jongejon, H. Mols, P.

- Cellier, B. Loubet, M. David, R. Roche, B. Durant, P. Laville, A. Neftel, A. Blatter, B. Hermann, S.K. Jones, M. Riedo, L. Horvath, T. Weidinger, R. Meszaros, J. Raso, M., Rajkai K., Gallagher, J. Dorsey, M. Flynn, B. Lehmann, J. Burkhardt and U. Dämmgen (2001) GRAMINAE: Braunschweig Integrated Experiment – Intermediate Data. CD-ROM. CEH Edinburgh.
- R.96. Jones G., McIntyre A., Owen M., Wilson K., Hellsten S., Fowler D. and **Sutton M.A.** (2002) Compilation of Scottish emissions data 1990-1999. Report of ENTEC and CEH to The Scottish Executive, September 2002. 136 pp.
- R.95. Fowler D., Dragosits U., Coyle M., **Sutton M.A.**, Hall J., Ulyett J. and Holbrook J. (2002) Natural Heritage Trends: Air Pollution. Information Note, Scottish Natural Heritage, Edinburgh. 11 pp.
- R.94. **Sutton M.A.**, Dragosits U., Dore A.J., McDonald A.G., Tang Y.S., van Dijk N., Bantock T., Hargreaves K.J., Skiba U., Fowler D., Misselbrook T. and Hobbs P. (2002). The potential to use trace-gas changes following the 2001 outbreak of Foot and Mouth Disease to reduce the uncertainties in agricultural emissions abatement. Final Contract Report on AM0116 to DEFRA, CEH Edinburgh. 23 pp.
- R.93. **Sutton M.A.**, Theobald M.R., Phillips V.R. and Blyth J. (2002) Impact of vegetation and/or other on-farm features on net ammonia emissions from livestock farms (AMBER). Review reports on project WA0719. (Parts 1 and 2). Review of DEFRA's R&D on ammonia. CEH Edinburgh/SRI and University of Edinburgh, 11 pp
- R.92. **Sutton M.A.** and Hobbs. P. (2002). The potential to use trace-gas changes following FMD to reduce the uncertainties in agricultural emissions abatement. Review reports on projects AM0116 and AM0118. (Parts 1 and 2) Review of DEFRA's R&D on ammonia. CEH Edinburgh/IGER North Wyke. 8 pp.
- R.91. Fowler D., Dragosits U., Pitcairn C., **Sutton M.**, Hall J., Roy D., Weidemann A. (2002) Deposition of acidity and nitrogen and exposure of terrestrial surfaces to ozone in Scotland: mapping critical loads, critical levels and exceedances. Research, Survey and Monitoring Report No. 169. Scottish Natural Heritage, Edinburgh. 38 pp
- R.90. **Sutton M.A.**, Harding K.I.M., Bealey W., Fowler D., Dragosits U., Langan S., Douglas R. and Rippey B., Holbrook J. and Mathieson S. (2002) The impacts of air pollutants on the Scottish and Northern Irish environments. Report SR(02)2F, Scotland and Northern Ireland Forum For Environmental Research (SNIFFER), Edinburgh, 26 pp. + Annex A: Run-time version on CD-ROM (R.89) + Annex B: Hard copy of the APIS database: query results, overviews and references (approx. 500 pages).
- 2001**
- R.89. **Sutton M.A.**, Dragosits U., Harding K.I.M., Fowler D., Dragosits U., (Langan S., Douglas R. and Rippey B.) (2001) The SNIFFER Air Pollution Information System: Access database supplied as run time version on CD, CEH Edinburgh.
- R.88. **Sutton M.A.** (2001) Discussion note: On the need for low-cost speciated monitoring of NH_x within the European Monitoring and Evaluation Programme (EMEP). CEH Edinburgh.
- R.87. **Sutton M.A.**, Dragosits U. and Theobald M.R. (2001) Inventory of ammonia emissions from non-agricultural sources in the UK, 1999. Contract report to MAFF under project AM0108. Centre of Ecology and Hydrology, Edinburgh.
- R.86. **Sutton M.A.** and Cellier P. (2001) Modelling atmospheric ammonia dry deposition close to agricultural sources. Report for 2000 to the Alliance Programme. Project number PN 99.033. CEH Edinburgh/ INRA.
- R.85. **Sutton M.A.**, Y.S. Tang, U. Dragosits, L. Love, D. Fowler, S. Hasler, L. Sansom and G. Hayman (2001) Monitoring of nitric acid, particulate nitrate and other species in the UK. CEH Report to NETCEN/DETR. February 2001, 20 pp.
- R.84. Fowler D., Dragosits U., Pitcairn C.E.R., **Sutton M.A.**, Hall J., Roy D., Weidmann A. (2001) Deposition of acidifying air pollutants in Scotland. Mapping critical loads, critical levels and exceedances. Report to Scottish Natural Heritage (Feb 2001), CEH Edinburgh. 23 pp + 54 maps.
- R.83. **Sutton M.A.**, Tang Y.S., Miners B. and Fowler D. (2001) A new diffusion denuder system for long-term, regional monitoring of atmospheric ammonia and ammonium. Draft Report, CEH Edinburgh. 15 pp.
- R.82. **Sutton M.A.**, C. Milford, E. Nemitz, M.R. Theobald, K.J. Hargreaves, P.W. Hill D. Fowler, J.K. Schjørring, M.E. Mattsson, K.H. Nielsen, S. Husted, J.W. Erisman, R. Otjes, A. Hensen, J. Mosquera, P. de Bulk, P. Jongejon, H. Mols, P. Cellier, B. Loubet, M. David, R. Roche, B. Durant, P. Laville, A. Neftel, A. Blatter, B. Hermann, S.K. Jones, M. Riedo, L. Horvath, T. Weidinger, E. Führer, R. Meszaros, J. Raso, K. Mantzanas, Z. Koukoura, M. Gallagher, J. Dorsey, M. Flynn, B. Lehmann, J. Burkhardt and U. Dämmgen (2001) GRAMINAE: Overview of presentations at 5th GRAMINAE workshop, Paris 4-6 December 2000. Braunschweig Joint Experiment and European Transect results. Draft Report. CEH Edinburgh. 94pp.

2000

- R.81. Fowler D., (Erisman J.W., Duyzer J., Pilegaard K., Pio C., Schjoerring J.K., Cieslik S., Steinbrecher R.) and **Sutton M.A.** (2000) *BIATEX-2 Biosphere/Atmosphere Exchange of Pollutants: Subproject Description*. (Eds.) International Scientific Secretariat. EUROTRAC-2, GSF, Munich, Germany.
- R.80. **Sutton M.A.** (2000) Exchange of atmospheric ammonia with semi-natural and agricultural ecosystems. In: *BIATEX-2: Biosphere/Atmosphere Exchange of Pollutants. Subproject Description*. pp 102-103. International Scientific Secretariat. EUROTRAC-2, GSF, Munich, Germany.
- R.79. **Sutton M.A.** (2000) Mapping of atmospheric ammonia emissions on regional and local scales. In: *GENEMIS: Generation and Evaluation of Emission Data. Subproject Description*. pp 74-75. International Scientific Secretariat, EUROTRAC-2, GSF, Munich, Germany.
- R.78. **Sutton M.A.**, Dragosits U. and Theobald M.R. (2000) Inventory of ammonia emissions from non-agricultural sources in the UK, 1999. Interim contract report to MAFF under project AM0108. Centre of Ecology and Hydrology, Edinburgh.
- R.77. **Sutton M.A.**, C. Milford, M.R. Theobald, E. Nemitz, P.W. Hill, D. Fowler, (J.K.Schjoerring, M.E. Mattsson, S. Husted, J.W. Erisman, R.P. Otjes, A. Hensen, J. Mosquera, P. Cellier, B. Loubet, M. David, A. Neftel, A. Blatter, B. Herrmann, S.K. Jones, L. Horváth, T. Weidinger, J. Raso, R. Meszaros, K. Mantzanas, Z.Koukoura, V. Papanastasis, D. Papakosta, M. Flynn, J. Dorsey, P. Williams, M.W. Gallagher and M. Riedo) (2001) Biosphere-atmosphere interactions of ammonia with grasslands across Europe. In: *BIATEX-2 Annual Report*. EUROTRAC-2, ISS, Munich.
- R.76. **Sutton M.A.**, J.K. Schjoerring, C. Milford, P. Cellier, D. Chadwick, J.W. Erisman, S. Finck, D. Fowler, M.N. Hansen, L. Horvath, B. Herrmann, S. Jones, B. Loubet, W. Luke, G. Mack, M. Martin, P. Mattila, M.E. Mattsson, T. Misselbrook, D. Moss, A. Neftel, K. H. Nielsen, A., Packolski, C. Schimming, J. Sitkey, S.G. Sommer, N. Wellbrock, J. Williamson, S. Wulf (2000) Measurements and modelling of NH₃ fluxes with European ecosystems. Report of Working Group 2.3. 10th Nitrogen Workshop, Copenhagen (August 1999). http://www.agsci.kvl.dk/planteer/nitrogen/working_group_summary.htm
- R.75. **Sutton M.A.**, U. Dragosits, M. Coyle, R.I. Smith and D. Fowler, J. Ullyett and J. Hall (2000) Deposition of Acidifying and Eutrophying Air Pollutants across Scotland –Mapping Critical Loads and Levels Exceedances. Interim Report to Scottish Natural Heritage.
- R.74. **Sutton M.A.**, C. Milford, M.R. Theobald, E. Nemitz, P.W. Hill, D. Fowler, J.K.Schjoerring, M.E. Mattsson, S. Husted, J.W. Erisman, R.P. Otjes, A. Hensen, J. Mosquera, P. Cellier, B. Loubet, M. David, A. Neftel, A. Blatter, B. Herrmann, S.K. Jones, L. Horváth, T. Weidinger, J. Raso, R. Meszaros, K. Mantzanas, Z.Koukoura, V. Papanastasis, D. Papakosta, M. Flynn, J. Dorsey, P. Williams, M.W. Gallagher and M. Riedo. (2000) Second year report for GRAMINAE: grassland ammonia interactions across Europe. Report to the European Commission, CEH Edinburgh.
- R.73. **Sutton M.A.** (2000) Co-ordinators overview report. In: *Second year report to for GRAMINAE to the European Commission*. (Eds. **Sutton M.A.** et al.), CEH Edinburgh.
- R.72. Milford C., Theobald E., Nemitz E. and **Sutton M.A.** (2000) Exchange of ammonia over managed grassland in Scotland. In: *Second year report to for GRAMINAE to the European Commission*. (Eds. **Sutton M.A.** et al.), CEH Edinburgh.

1999

- R.71. Cape J.N., McFadyen G.G., Milford C. and **Sutton M.A.** (1999) Cloud processing of aerosol – the mountain top experiment. Final Report to NERC. GST/02/1284 July 1999, ITE Edinburgh
- R.70. Cape J.N., McFadyen G.G., Milford C. and **Sutton M.A.** (1999) Individual report from ITE. In: Final report ofr the HILLCLOUD experiment of ACE-2 to the European Commission. UMIST, UK.
- R.69. Loubet B., Hill P.W., **Sutton M.A.**, Tang Y.S and Cellier P. (1999) Apoplastic and bulk ammonia in leaves of *Lolium perenne* L. and *Zea mays*. L. effects of management and fertilization. Report INRA, Thiverval Grignon / Institute of Terrestrial Ecology, Edinburgh Research Station.
- R.68. **Sutton M.A.** and Erisman J.W. (1999) Concerns over the effectiveness of ammonia emissions abatement in Europe. Summary of a policy discussion from the EC GRAMINAE project in relation to the EU Acidification Strategy. Institute of Terrestrial Ecology, Edinburgh.
- R.67. **Sutton M.A.**, C. Milford, B. Loubet, C. Flechard, E. Nemitz, A. Corriol and M. Bahn. (1999) Biosphere-atmosphere exchange of trace gases at the Scottish ECOMONT composite site. In ECOMONT Final Report (Eds. A. Cernusca, U. Tappeiner and N. Bayfield). University of Innsbruck, Austria.

- R.66. **Sutton M.A.**, Y.S. Tang, C. Milford, A. Haria, M. Rosset, F. Fillat, G. Wohlfahrt, E. Tasser, W. Bitterlich and N.G. Bayfield (1999) Assessment of ammonia fluxes for European mountain ecosystems: application of a bi-directional inferential model for the ECOMONT transect. In ECOMONT Final Report (Eds. A. Cernusca, U. Tappeiner and N. Bayfield). University of Innsbruck, Austria.
- R.65. **Sutton M.A.** and Dragosits U. (1999) Initial survey of data sources relevant to the Global Nitrogen Enrichment (GANE) thematic programme. Report March 1999. Institute of Terrestrial Ecology, Edinburgh. Also published at: http://www.nerc.ac.uk/science/gane/data_survey.htm
- R.64. **Sutton M.A.**, C. Milford, M.R. Theobald, E. Nemitz, P.W. Hill, D. Fowler, J.K. Schjoerring, M.E. Mattsson, S. Husted, J.W. Erisman, R.P. Otjes, A. Hensen, J. Mosquera, P. Cellier, B. Loubet, M. David, A. Neftel, A. Blatter, B. Herrmann, S.K. Jones, L. Horváth, T. Weidinger, J. Raso, R. Meszaros, K. Mantzanas, Z. Koukoura, V. Papanastasis, D. Papakosta, M. Flynn, J. Dorsey, P. Williams, M.W. Gallagher and M. Riedo. (1999) First year science overview report for GRAMINAE: grassland ammonia interactions across Europe: experimental strategy and results from 1998-1999. Report to the European Commission, CEH Edinburgh.

1998

- R.63. Coyle M. and **Sutton M.A.** (1998) Home page of the Terrestrial Ecosystem Research Initiative Concerted Action (TERICA). <http://www.nbu.ac.uk/terica>. Institute of Terrestrial Ecology, Draft report Nov 1998.
- R.62. **Sutton M.A.**, Dragosits U., Tang Y.S. and Fowler D. (1998) Ammonia emissions from non-agricultural sources in the UK. Final report on WA0649 to MAFF. ITE Edinburgh. 20 pp.
- R.61. **Sutton M.A.**, Tang Y.S., Miners B.P., Coyle M., Smith R.I. and Fowler D. (1998) Spatial and temporal patterns of ammonia concentration in the UK. Results of the National Ammonia Monitoring Network. Final report to the DETR. ITE Edinburgh, December 1998. 79 pp.
- R.60. **Sutton M.A.**, Beier C., van Breemen N., Byrne C., Cernusca A., Christensen T., Ekschmitt K., Heads P., Huntley B., Kertesz M., Lawton J.H., Moreno J.M., Mulder J., van der Putten W., Schulze E.D., Struwe S., Wolters V. (1998) Transects for European research in ecosystem functioning: site based measurement strategies in the Terrestrial Ecosystem Research Initiative. Draft Report May 1998. ITE Edinburgh.

1997

- R.59. Dragosits U., **Sutton M.A.** and Place C.J. (1997) A spatially disaggregated ammonia emissions inventory for Northern Ireland. In: *ADEPT Final Report to MAFF, Volume 3*. (WA0613). 6 pp. ITE Edinburgh.
- R.58. Dragosits U., **Sutton M.A.**, Lord E., Webb J. and Place C.J. (1997) A local emissions inventory for ammonia using field level data. Case study in Boughton NSA. In: *ADEPT Final Report to MAFF, Volume 3*. (WA0613). 11 pp ITE Edinburgh.
- R.57. Dragosits U., **Sutton M.A.**, Place C.J. and Bayley A. (1997) The spatial distribution of ammonia emissions in the United Kingdom. In: *ADEPT Final Report to MAFF, Volume 3*. (WA0613). 22 pp. ITE Edinburgh.
- R.56. Harrison R., Moss D., Walker J., Hurst C., Wintrip A., Webb J., Phillips R., Böttger U. and **Sutton M.A.** (1997) The ADEPT Gleadthorpe Experiment. II. Seasonal variability in emissions and horizontal fluxes of ammonia from a poultry farm. In: *ADEPT Final Report to MAFF, Volume 2*. (WA0613). 9 pp. ITE Edinburgh.
- R.55. Hill J., ApSimon H.M., Hill R.A., Harrison R., Espenhahn S.E., Milford C. and **Sutton M.A.** (1997) Application of a local scale atmospheric transport model to examine horizontal gradients and depletion of ammonia downwind of slurry spreading. In: *ADEPT Final Report to MAFF, Volume 2*. (WA0613). 41 pp. ITE Edinburgh.
- R.54. Hill J., ApSimon H.M., Wilson K.M., Brassington D.J., Milford C., **Sutton M.A.**, Espenhahn S.E. and Harrison R. (1997) The ADEPT Gleadthorpe Experiment: VII. Prediction of ammonia dispersion from buildings and comparison with measurements. In: *ADEPT Final Report to MAFF, Volume 2*. (WA0613). 31 pp. ITE Edinburgh.
- R.53. Hill J., ApSimon H.M., Pitcairn C.E.R., Dragosits U. and **Sutton M.A.** (1997) Development and application of an atmospheric transport model to investigate the field scale variability of ammonia concentrations and deposition. In: *ADEPT Final Report to MAFF, Volume 3*. (WA0613). 30 pp. ITE Edinburgh.
- R.52. Hill R.A., Ross C.A., Pain B.F., Jarvis S.C., Espenhahn S.E., Milford C. and **Sutton M.A.** (1997) High temporal resolution estimates of ammonia emissions from slurry spreading using automated sampling and atmospheric dispersion modelling. In: *ADEPT Final Report to MAFF, Volume 2*. (WA0613). 18 pp. ITE Edinburgh.

- R.51. Hornung M., Hall J. R., Gascoyne J., Ullyett J., Dyke H. and **Sutton M.A.** (1997) Prediction of effects of NH_x deposition on a national scale using critical loads approaches. In: *ADEPT Final Report to MAFF, Volume 3.* (WA0613). 9 pp. ITE Edinburgh.
- R.50. Milford C., **Sutton M.A.**, Dragosits U., Harrison R., Moss D., Espenhahn S., Lee D.S., Hill J. and Wyers G.P. (1997) Measurements of horizontal concentration gradients of NH_3 and NH_4^+ downwind of slurry spreading. In: *ADEPT Final Report to MAFF, Volume 2.* (WA0613). 23 pp. ITE Edinburgh.
- R.49. Milford C., **Sutton M.A.**, Nemitz E., Fowler D. and (Ross C.) (1997) The ADEPT Gleadthorpe Experiment: IV. Bi-directional exchange of atmospheric ammonia with wheat stubble. In: *ADEPT Final Report to MAFF, Volume 2.* (WA0613). 14 pp. ITE Edinburgh.
- R.48. Pitcairn C.E.R., Leith I.D., Sheppard L.J., **Sutton M.A.**, Fowler D., Monro R.C., Tang S. and Rosswall M.J. (1997) The potential for ammonia impacts on nature conservation. Final contract report to English Nature and Countryside Council for Wales. app. 40 pp.
- R.47. Ross C.R., Hill R.A., Jarvis S.C., Pain B.F., Dragosits U., Milford C., Pitcairn C.E.R., **Sutton M.A.**, Espenhahn S.E., Lee D.S. and Harrison R. (1997) The ADEPT Gleadthorpe Experiment: III. Spatial patterns of ammonia air concentrations and impacts in the vicinity of a poultry farm. In: *ADEPT Final Report to MAFF, Volume 2.* (WA0613). 7 pp. ITE Edinburgh.
- R.46. Singles R.J., Weston K.J.) and **Sutton M.A.** (1997) Application of the FRAME atmospheric transport model to address the spatial distribution of ammonia deposition and local recapture of emitted ammonia. In: *ADEPT Final Report to MAFF, Volume 3.* (WA0613). 6 pp. ITE Edinburgh.
- R.45. **Sutton M.A.**, Milford C., Hargreaves K.J., Dragosits U., Fowler D., Ross C.A. and Wyers G.P. (1997) Exchange of atmospheric ammonia with cut grassland during the Burrington Moor Experiment. In: *ADEPT Final Report to MAFF, Volume 2.* (WA0613). 20 pp. ITE Edinburgh.
- R.44. **Sutton M.A.**, Hill P.W., Fowler D. and Raven J.A. (1997) Impacts of nitrogen deposition on plant physiological parameters controlling the ammonia compensation point. Interim Report to the Department of the Environment, Institute of Terrestrial Ecology, Edinburgh (Sept. 1997). App. 15 pp.
- R.43. **Sutton M.A.**, Milford C., Dragosits U., Böttger U., Nemitz E., Fowler D., Harrison R., Moss D., Webb J., Clarke A., Blundell P., Hill J., Wilson K., Brassington D., ApSimon H.M., Espenhahn S.E., Dore C., Lee D.S., Hill R., Ross C., Jarvis S.C., Pain B.F., Phillips R. (1997) The ADEPT Gleadthorpe Experiment: Dispersion and deposition of ammonia emitted from a complex farm source. I. Overview. In: *ADEPT Final Report to MAFF, Volume 2.* (WA0613). 13 pp. ITE Edinburgh.
- R.42. **Sutton M.A.**, Milford C., Dragosits U., Place C.J., Singles R.J., Smith R.I., Pitcairn C.E.R., Fowler D., Hill J., Wilson K., Brassington D., ApSimon H.M., Hill R., Ross C., Jarvis S.C., Pain B.F., Phillips R., Harrison R., Moss D., Webb J., Espenhahn S.E., Dore C., Lee D.S., Hornung M., Howard D.C., Ullyett J., Dyke H., Bull K.R., Emmett B.A. and Lowe J. (1997) The Ammonia Distribution and Effects Project (ADEPT): Distribution, deposition and environmental impacts of ammonia emitted by agriculture. Final Report to MAFF, Volume 1 (Overview). Contract WA0613, 20 pp ITE Edinburgh.
- R.41. **Sutton M.A.**, Milford C., Dragosits U., Place C.J., Singles R.J., Smith R.I., Pitcairn C.E.R., Fowler D., Hill J., Wilson K., Brassington D., ApSimon H.M., Hill R., Ross C., Jarvis S.C., Pain B.F., Phillips R., Harrison R., Moss D., A. Clarke, Webb J., Espenhahn S.E., Dore C., Lee D.S., Hornung M., Howard D.C., Hall J., Dyke H., Emmett B.A. and Lowe J. (1997) Ammonia Distribution and Effects Project (ADEPT): Distribution, deposition and environmental impacts of ammonia emitted by agriculture. Volume 2: Annex to Final Report to MAFF. Contract WA0613, 296 pp ITE Edinburgh.
- R.40. **Sutton M.A.**, Milford C., Dragosits U., Place C.J., Singles R.J., Smith R.I., Pitcairn C.E.R., Fowler D., Hill J., Wilson K., Brassington D., ApSimon H.M., Hill R., Ross C., Jarvis S.C., Pain B.F., Phillips R., Harrison R., Moss D., A. Clarke, Webb J., Espenhahn S.E., Dore C., Lee D.S., Hornung M., Howard D.C., Hall J., Dyke H., Emmett B.A. and Lowe J. (1997) Ammonia Distribution and Effects Project (ADEPT): Distribution, deposition and environmental impacts of ammonia emitted by agriculture. Volume 3: Annex to Final Report to MAFF. Contract WA0613, 120 pp ITE Edinburgh.
- R.39. **Sutton M.A.**, Milford C., Dragosits U., Singles R.J., Fowler D., Ross C., Hill R., Jarvis S.C., Pain B.F., Harrison R., Moss D., Clarke A., Webb J., Espenhahn S.E., Halliwell C., Lee D.S., Wyers G.P., Hill J. and ApSimon H.M. (1997) Overview of the Burrington Moor experiment: Dispersion and deposition of ammonia emitted from manured land. In: *ADEPT Final Report to MAFF, Volume 2.* (WA0613). 18 pp ITE Edinburgh.
- R.38. **Sutton M.A.**, Milford C., Dragosits U., Singles R.J., Smith R.I., Fowler D., Hill J., ApSimon H.M., Hill R., Ross C., Jarvis S.C., Pain B.F., Harrison R., Moss D., Webb J., Espenhahn S.E., Dore C., Lee D.S., Hornung M., Howard D.C., Dyke H., Bull K.R. and J. Lowe (1997) Ammonia Distribution and Effects Project (ADEPT):

- Distribution, deposition and environmental impacts of ammonia emitted by agriculture. WA0613 / CSA2644. Progress report to MAFF, February 1997. Institute of Terrestrial Ecology, Edinburgh. 44 pp.
- R.37. **Sutton M.A.**, Milford C., Nemitz E., Singles R.J., Smith R.I. and Fowler D. (1997) Exchange of atmospheric ammonia with ecosystems in the United Kingdom. Final Report to the DETR. 57 pp + Annexes. ITE Edinburgh.
- R.36. **Sutton M.A.**, Miners B.P., Wyers G.P., Duyzer J.H., Milford C., Cape J.N. and Fowler D. (1997) National ammonia concentration monitoring in the United Kingdom: sampling intercomparison, network structure and initial network results. Interim Report to the Department of the Environment (EPG 1/3/58), Institute of Terrestrial Ecology, Edinburgh.
- R.35. **Sutton M.A.**, Tang Y.S., Milford C. and Fowler D. (1997) National ammonia concentration monitoring in the United Kingdom. Summary Report to the Department of Environment, Transport and the Regions. October 1997. ITE Edinburgh. 4 pp.
- R.34. **Sutton M.A.**, Y.S. Tang, M. Coyle, Pitcairn C.E.R., Fowler D. and Dyke H. (1997) Monitoring of ammonia concentrations in the United Kingdom. Presentation summaries from the site operators meeting, November 1997. Confidential report to DETR and the network site operators. ITE Edinburgh. December 1997.
- R.33. Wilson K. M., Brassington D. J., Hill J., Moss D., **Sutton M.A.** and ApSimon H.M. (1997) The ADEPT Gleadthorpe Experiment: V. Mobile TDLAS measurements of ammonia and comparison with model estimates. In: *ADEPT Final Report to MAFF, Volume 2.* (WA0613). 12 pp. ITE Edinburgh.

1996

- R.32. Fowler D., Flechard C.R., Milford C., Hargreaves K.J., Storeton-West R.L., Nemitz E. and **Sutton M.A.** (1996) Measurements of pollutant concentrations and deposition fluxes to moorland at Auchencorth Moss in southern Scotland during 1995. 47 pp Commission of the European Communities.
- R.31. Husted S., Schjørring J.K., Nielsen K.H., Nemitz E. and **Sutton M.A.** (1996) Determination of stomatal compensation points for ammonia in oilseed rape plants (*Brassica napus*) under field conditions. In: *Exchange of atmospheric ammonia with European ecosystems (EXAMINE)*. (Eds. Sutton *et al.*). Final report to the European Commission. Volume 1. (EV5V-CT94-0426) 25 pp. Institute of Terrestrial Ecology, Edinburgh.
- R.30. Leith I.D., Sheppard L.J., Pitcairn C.E.R., **Sutton M.A.**, Fowler D. and Cape J.N. (1996) Impacts of nitrogen deposition on upland vegetation. Interim report to Department of Environment.
- R.29. Nemitz E., **Sutton M.A.**, Fowler D., Schjørring J.K., Husted S., Wyers G.P. (1996) Resistance modelling of ammonia exchange over oilseed rape. In: *Exchange of atmospheric ammonia with European ecosystems (EXAMINE)*. (Eds. Sutton *et al.*). Final report to the European Commission. Volume 1. (EV5V-CT94-0426) 23 pp. Institute of Terrestrial Ecology, Edinburgh
- R.28. Nemitz E., **Sutton M.A.**, Gut A., San José R., Husted S. and Schjørring J.K. (1996) The analysis of the turbulent structure and the sources and sinks of ammonia within an oilseed rape canopy. In: *Exchange of atmospheric ammonia with European ecosystems (EXAMINE)*. (Eds. Sutton *et al.*). Final report to the European Commission. Volume 1. (EV5V-CT94-0426) 29 pp. Institute of Terrestrial Ecology, Edinburgh.
- R.27. **Sutton M.A.** (1996) Exchange of atmospheric ammonia with European ecosystems (EXAMINE). Confidential report to the European Commission. Applicability of the results and plans for exploitation. (EV5V-CT94-0426) 22pp. Institute of Terrestrial Ecology, Edinburgh.
- R.26. **Sutton M.A.**, Dragosits U., Fowler D. and Place C.J. (1996) A preliminary map of the distribution of methane emissions from livestock sources in Great Britain. Draft Report August 1996, 6pp. Institute of Terrestrial Ecology (Edinburgh Research Station), Bush Estate, Penicuik, Midlothian, EH26 0QB, UK.
- R.25. **Sutton M.A.**, Dragosits U., Place C.J. and Bayley A. (1996) Case for using post-1988 agricultural census data at a parish level for mapping ammonia emissions in Great Britain. Confidential report to MAFF under contract WAO613/CSA2644 (ADEPT). 21pp. Institute of Terrestrial Ecology, Edinburgh.
- R.24. **Sutton M.A.**, Hill P.W., Fowler D. and Raven J.A. (1996) Impacts of nitrogen deposition on plant physiological parameters controlling the ammonia compensation point. Annual report of ITE to the Department of Environment (Umbrella Nitrogen effects project). 11pp. ITE, Edinburgh.
- R.23. **Sutton M.A.**, Miners B.P., Milford C., Cape J.N. and Fowler D. (1996) Monitoring of atmospheric ammonia in the United Kingdom: Identification of Monitoring strategy and preliminary results. Interim report to the Department of Environment. April 1996. 31pp. ITE Edinburgh.
- R.22. **Sutton M.A.** and Nemitz E. (1996) Ammonia surface-atmosphere exchange and the relevance of gas-to-particle conversion. In: *Exchange of atmospheric ammonia with European ecosystems (EXAMINE)*. (Eds.

- Sutton *et al.*). Final report to the European Commission. Volume 2. Partner contributions. (EV5V-CT94-0426) 9pp. Institute of Terrestrial Ecology, Edinburgh.
- R.21. **Sutton M.A.**, Nemitz E., Fowler D., Wyers G.P., Otjes R.P., San José R., Moreno J., Schjørring J.K., Husted S., Meixner F.X., Ammann C., Neftel A. and Gut A. (1996) Exchange of atmospheric ammonia with European ecosystems (EXAMINE). Final report to the European Commission. Volume 1. (EV5V-CT94-0426) 266 pp. Institute of Terrestrial Ecology, Edinburgh.
- R.20. **Sutton M.A.**, Nemitz E., Fowler D., Wyers G.P., Otjes R.P., San José R., Moreno J., Schjørring J.K., Husted S., Meixner F.X., Ammann C., Neftel A. and Gut A. (1996) Exchange of atmospheric ammonia with European ecosystems (EXAMINE). Final report to the European Commission. Volume 2. Partner contributions (EV5V-CT94-0426) 242pp. Institute of Terrestrial Ecology, Edinburgh.
- R.19. **Sutton M.A.**, Nemitz E., Fowler D., Wyers G.P., Otjes R.P., Schjørring J.K., Husted S., Nielsen K., San José R., Moreno J., Gallagher M.W. and Gut A. (1996) Fluxes of ammonia and related species over oilseed rape: overview of the North Berwick experiment. In: *Exchange of atmospheric ammonia with European ecosystems (EXAMINE)*. (Eds. Sutton *et al.*). Final report to the European Commission. Volume 1. (EV5V-CT94-0426) 21pp. Institute of Terrestrial Ecology, Edinburgh.
- R.18. **Sutton M.A.**, Nemitz E., Fowler D., Wyers G.P., Otjes R.P., San José R., Moreno J., Schjørring J.K., Husted S., Meixner F.X., Ammann C., Neftel A. and Gut A. (1996) Exchange of atmospheric ammonia with European ecosystems (EXAMINE). Final report to the European Commission. Volume 3. Partner contributions. (EV5V-CT94-0426) 220 pp. Institute of Terrestrial Ecology, Edinburgh.
- R.17. **Sutton M.A.**, Nemitz E., Milford C., Fowler D., Moreno J., San José R., Wyers G.P., Otjes R., Husted S., Schjørring J.K. (1996) Micrometeorological measurements of ammonia fluxes over oilseed rape using continuous and batch sampling methods. In: *Exchange of atmospheric ammonia with European ecosystems (EXAMINE)*. (Eds. Sutton *et al.*). Final report to the European Commission. Volume 1. (EV5V-CT94-0426) 10 pp. Institute of Terrestrial Ecology, Edinburgh.

1995

- R.15. (Singles R.J.), **Sutton M.A.** and Weston K.J. (1995) Application of a multi-layer model to describe the atmospheric transport and deposition of ammonia in Great Britain. Draft Report. April 1995. Institute of Terrestrial Ecology, Edinburgh. 38 pp.
- R.14. (Singles R.J.), **Sutton M.A.** and Weston K.J. (1995) Application of a multi-layer model to describe the atmospheric transport and deposition of ammonia in Great Britain. July 1995. University of Edinburgh. 24 pp.
- R.13. **Sutton M.A.**, Fowler D., ApSimon H.M., Jarvis S.C., Pain B.F., Harrison R., Lee D.S., Hornung M., Bull K. & Reynolds B. (1995) Ammonia Distribution and Effects Project (ADEPT): Distribution, deposition and environmental impacts of ammonia emitted by agriculture. First year interim report for the Farm Wastes Review, MAFF, September 1995. Institute of Terrestrial Ecology, Edinburgh. App. 5 pp.
- R.12. **Sutton M.A.**, Fowler D., Burkhardt J.K., Milford C., Smith R.I. and Storeton-West R.L. (1995) Sources and sinks of ammonia in the United Kingdom. Final report to the Department of Environment. (September 1995). Institute of Terrestrial Ecology, Edinburgh. App 100 pp.
- R.11. **Sutton M.A.**, Fowler D., Flechard C.J., Milford C., Nemitz E., Singles R.J., Smith R.I. and Storeton-West R.L. (1995) Exchange of atmospheric ammonia with ecosystems in the United Kingdom. Interim report to the Department of Environment. Contract EPG 1/3/28 (September 1995). Institute of Terrestrial Ecology, Edinburgh. App. 30 pp.
- R.10. **Sutton M.A.**, Fowler D., Wyers G.P., San José R., Schjørring J.K., Meixner F.X. and Neftel A. (1995) Exchange of atmospheric ammonia with European ecosystems (EXAMINE). Interim progress report 1995 for the European Commission. (EV5V-CT94-0426). Institute of Terrestrial Ecology, Edinburgh. App 180 pp.
- R.9. **Sutton M.A.** and Nemitz E.G. (1995) *A canopy compensation point model to describe the surface/atmosphere exchange of NH₃: a simple implementation in EXCEL 5.0*. Draft Report, December 1995. Institute of Terrestrial Ecology (Edinburgh Research Station), Penicuik, Midlothian, UK. App. 20 pp.

1994

- R.8. **Sutton M.A.**, Place C.J., Fowler D. and Smith R.I. (1994) Assessment of the magnitude of ammonia emissions in the United Kingdom. Institute of Terrestrial Ecology (Edinburgh Research Station). 40 pp.

1993

- R.7. Fowler D. and **Sutton M.A.** (1993) Sources and sinks for atmospheric ammonia in the UK. Interim Report to the Department of the Environment. Contract: PECD 7/12/82. 9 pp.
- R.6. Bayfield N.G., Picozzi N., **Sutton M.A.**, Dobson S., Howe P. and Cummins C.P. (1993) A review of some agri-environment issues in Scotland. Institute of Terrestrial Ecology. Contract report to Scottish Natural Heritage. ITE, Banchory, Kincardineshire 52 pp.
- R.5. Fowler D. **Sutton M.A.**, Hargreaves K.J. Storeton-West R.L., Duyzer J.H., Westrate J.H., Verhagen H.L.M., Meixner F.X., Ludwig J., Muller H., Nestlen M., Dollard G.J. and Davies T.D. (1993) Surface - atmosphere exchange of reactive nitrogen compounds in Europe. Final report to the Commission for the European Communities. CEC contract EV4V00299. 21 pp (summary) (+ Annex 480 pp) (Editing of annex).

1992

- R.4. Fowler D., Hargreaves K.J. and **Sutton M.A.** (1992) Dry deposition of nitrogen oxides. Annual Report to the Department of the Environment. App 20 pp.
- R.3. Fowler D., **Sutton M.A.** and Hargreaves K.J. (1992) Surface-atmosphere exchange of ammonia. Annual Report to the Department of the Environment. 24 pp.
- R.2. **Sutton M.A.** and Fowler D. (1992) Estimating corrections to the passive diffusion tube NH₃ concentration field in the UK. Report to the Review Group on Acid Rain, ITE Edinburgh.

1991

- R.1. Hargreaves K.J., **Sutton M.A.**, Fowler D. and Storeton-West R.L. (1991) Measurements of NO, NO₂, O₃ and NH₃ exchange with vegetated surfaces. In: Inputs of nitrogen compounds and photochemical oxidants as components of the pollution climate of Europe. Progress report to the Commission of the European Communities. ITE, Edinburgh. 15 pp.

7. United Nations and other policy documents

- U.40. UK House of Commons. Environment, Food and Rural Affairs Committee, Air Quality. Fourth Report of Session 2015-16. (HC 479). (Including oral and written evidence from Prof. Mark Sutton). Full report at:
 Oral evidence from Mark Sutton at:
<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environment-food-and-rural-affairs-committee/air-quality/written/24884.pdf>
 Written evidence from Mark Sutton at:
<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/environment-food-and-rural-affairs-committee/air-quality/oral/25958.pdf>
- U.39. **Sutton M.A.**, Dragosits U., Geels C., Gyldenkerne S., Misselbrook T.H. and Bussink W. (2015) Review on the scientific underpinning of calculation of ammonia emission and deposition in the Netherlands. http://www.tweedekamer.nl/kamerstukken/brieven_regering/detail?id=2015Z16003&did=2015D32493 (and reply by Netherlands Minister for Economic Affairs.)
- U.38. Dalgaard, T., Olesen J.E., Misselbrook T., Gourley C., Mathias E., Helsdstab J., Baklanov A., Cordovil, C.M.d.S. and **Sutton M.A.** (2015) Methane and Ammonia Air Pollution. Policy Brief prepared by the UNECE Task Force on Reactive Nitrogen. May 2015. <http://www.clrtap-tfrn.org/>
- U.37. Stakeholder comments and replies from the Task Force on Reactive Nitrogen concerning the "Draft Revision of the UNECE Framework Code for Good Agricultural Practice for Reducing Ammonia Emissions" (Informal document n° 3) Executive Body of the CLRTAP (EB-33), Geneva (8-12 Dec 2014).
- U.36. ECLAIRE (2014) Effects of Climate Change on Air Pollution Impacts and Response Strategies for European Ecosystems (ECLAIRE) project report containing key messages for policy makers (Informal document n° 4). Executive Body of the CLRTAP (EB-33), Geneva (8-12 Dec 2014). http://www.unece.org/fileadmin/DAM/env/documents/2014/AIR/EB/Informal_Document_4_ECLAIRE_Policy_makers_report.pdf
- U.35. UNECE (2014) Draft revised United Nations Economic Commission for Europe Framework Code for Good Agricultural Practice for Reducing Ammonia Emissions Prepared by the co-Chairs of the TFRN.

- http://www.unece.org/fileadmin/DAM/env/documents/2014/AIR/EB/ECE_EB_AIR_2014_8_E.pdf
[ECE/EB.AIR/2014/8.](http://www.unece.org/fileadmin/DAM/env/documents/2014/AIR/EB/ECE_EB_AIR_2014_8_E.pdf)
- U.35. UNECE (2014) Guidance document on preventing and abating ammonia emissions from agricultural sources. Executive Body for the Convention on Long-range Transboundary Air Pollution. (ECE/EB/AIR/120).
http://www.unece.org/fileadmin/DAM/env/documents/2012/EB/ECE_EB_AIR_120_ENG.pdf
- U.34. Westhoek H., Lesschen J.P., Rood T., Wagner S., Leip A., De Marco Alessandra, Murphy-Bockern D., **Sutton M.A.** and Oenema O. (2014). European Nitrogen Assessment Special Report on Nitrogen and Food. *Nitrogen on the Table. The influence of food choices on nitrogen emissions and the European environment.* Executive Summary. Task Force on Reactive Nitrogen <http://www.clrtap-tfrn.org/> and http://www.clrtap-tfrn.org/webfm_send/555
- U.33. Kampala Statement-for-Action on Nitrogen in Africa and Globally. Final Statement from the international nitrogen conference N2013, Kampala 22 November 2013. 6pp.
- U.32. Bleeker A., **Sutton M.**, Winiwarter W. and Leip A. (2013) Economy-wide nitrogen balances and indicators: Concept and methodology. Organisation for Economic Cooperation and Development (OECD) (Working Party on Environmental Information), ENV/EPOC/WPEI(2012)4/REV1. Paris.
- U.31. European Commission (2013) Annex III to the: Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the reduction of national emissions of certain atmospheric pollutants and amending Directive 2003/35/EC. (COM/2013/0920 final - 2013/0443 (COD)) (December 2013). [Draws on text prepared by TFRN as options for Annex IX revision of the Gothenburg Protocol see References: U.19, U.22] http://www.google.co.uk/url?q=http://www.ipex.eu/IPEXL-WEB/dossier/files/download/082dbcc5429d1f4a01430ef7f26f44bb.do&sa=U&ei=M5I5U9jCE-Kb0AWR_oCADg&ved=0CCMQFjAB&usg=AFQjCNFtbWaVxCLJiCC8tsAILVU8oPhmuw
- U.30. UNECE (2013) Executive Body for the Convention on Long-Range Transboundary Air Pollution. Working Group on Strategies and Review. 51st Session. (30April – 1 May 2013). Report of the Task Force on Reactive Nitrogen. ECE/EB.AIR/WG.5/2013/3 (in English, French and Russian) 9 pp (prepared by the co-chairs) <http://www.unece.org/index.php?id=31868>
- U.29. **Sutton M.A.** (2013) Review on scientific underpinning of ammonia emissions factors and ammonia deposition models. Summary report for Dutch Parliament, based on leading the international review. 6 pp. Centre for Ecology and Hydrology, Edinburgh. [see M.546 for media interest in *The Farmer*, NL].
- U.28. Note by the Co-chairs of the TFRN to the European Commission (2012). Options for a new ammonia limit value as part of the air quality directive. (December 2012) 4 pp.
- U.27. Note by the Co-chairs of the TFRN to the European Commission (2012) Options for a Revised National Emission Ceilings Directive Ammonia Annex. (December 2012) 10 pp.
- U.26. UNECE (2012) Executive Body for the Convention on Long-Range Transboundary Air Pollution. Working Group on Strategies and Review 50th Session, Geneva 10-14 September 2012). Reactive Nitrogen. Report by the Co-Chairs of the Task Force on Reactive Nitrogen. ECE/EB.AIR/WG.5/2012/3.
- U.25. UNECE (2012) Executive Body for the Convention on Long-Range Transboundary Air Pollution. Working Group on Strategies and Review. Reactive Nitrogen. Report by the Co-Chairs of the Task Force on Reactive Nitrogen. Presented to the Executive Body, 30th Session. (April 2012). Informal document No. 15. 12 pp <http://www.unece.org/index.php?id=28153>
- U.24. Task Force on Reactive Nitrogen (2012) Draft guidance document for preventing and abating ammonia emissions from agricultural sources. UNECE Convention on Long-range Transboundary Air Pollution, Presented to the Executive Body 30th session. Informal document No. 20: Submitted by the Co-chairs of the Task Force on Reactive Nitrogen 112 pp. <http://www.unece.org/index.php?id=28153>
- U.23. Task Force on Reactive Nitrogen (2012) Draft guidance document on nitrogen budgets. UNECE Convention on Long-range Transboundary Air Pollution, Presented to the Executive Body 30th session. Informal document No. 8: Submitted by the Co-chairs of the Task Force on Reactive Nitrogen 10 pp. <http://www.unece.org/index.php?id=28153>
- U.22. UNECE (2011) Options for revising the annexes to the Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone: annex IX. Reactive Nitrogen. Report by the co-chairs of the Task Force on Reactive Nitrogen. Presented to the Working Group on Strategies and Review 49th session. (Including a updated description of options for Annex IX of the Protocol) ECE/EB.AIR/WG.5/2011/16 (in English, French and Russian) 19 pp <http://www.unece.org/env/lrtap/workinggroups/wgs/docs49thsession.html>
- U.21. Task Force on Reactive Nitrogen (2011) Draft guidance document for preventing and abating ammonia emissions from agricultural sources. UNECE Convention on Long-range Transboundary Air Pollution, Working

- Group on Strategies and Review, 49th session. Informal document No. 21: Submitted by the Co-chairs of the Task Force on Reactive Nitrogen 109 pp.
<http://www.unece.org/env/lrtap/workinggroups/wgs/docs49thsession.html>
- U.20. Task Force on Reactive Nitrogen (2011) Draft guidance document on nitrogen budgets. UNECE Convention on Long-range Transboundary Air Pollution, Working Group on Strategies and Review, 49th session. Informal document No. 20: Submitted by the Co-chairs of the Task Force on Reactive Nitrogen 9 pp.
<http://www.unece.org/env/lrtap/workinggroups/wgs/docs49thsession.html>
- U.19. UNECE (2011) Options for revising annex IX of the Gothenburg Protocol. Reactive Nitrogen. Report by the co-chairs of the Task Force on Reactive Nitrogen. Presented to the Working Group on Strategies and Review 48th session. (Including a updated description of options for Annex IX of the Protocol) ECE/EB.AIR/WG.5/2011/13 (in English, French and Russian) 8 pp
<http://www.unece.org/env/lrtap/workinggroups/wgs/docs48thsession.html>
- U.18. UNECE (2011) Options for revising annex IX to the Gothenburg Protocol. Draft revised annex IX on measures for the control of emissions of ammonia from agricultural sources. Note by the co-Chairs of the Task Force on Reactive Nitrogen. Presented to the Working Group on Strategies and Review 48th session. ECE/EB.AIR/WG.5/2011/3 (bracketed options for revision of the protocol, in English, French and Russian) 19 pp.
<http://www.unece.org/env/lrtap/workinggroups/wgs/docs48thsession.html>
- U.17. Task Force on Reactive Nitrogen (2010) Draft guidance document for preventing and abating ammonia emissions from agricultural sources. UNECE Convention on Long-range Transboundary Air Pollution, Working Group on Strategies and Review, 47th session. Informal document No. 7: Submitted by the Co-chairs of the Task Force on Reactive Nitrogen 76 pp.
<http://www.unece.org/env/lrtap/workinggroups/wgs/docs48thsession.html>
- U.16. Edinburgh Declaration on Reactive Nitrogen. Final Statement from the international conference “Nitrogen and Global Change” (Edinburgh 15 April 2011) 3pp.
- U.15. Delhi Declaration on Reactive Nitrogen Management for Sustainable Development (2010). Submitted to the Executive Body of the UNECE Convention on Long-Range Transboundary Air Pollution and to the UNEP Governing Council (December 2010), 3 pp.
- U.14. Task Force on Reactive Nitrogen (2010) Nitrogen management interactions with climate change: a policy brief to inform the Gothenburg Protocol revision. UNECE Convention on Long-range Transboundary Air Pollution, Working Group on Strategies and Review, 47th session. Informal document No. 17: Submitted by the Co-chairs of the Task Force on Reactive Nitrogen 11 pp.
<http://www.unece.org/env/lrtap/WorkingGroups/wgs/docs47th%20session.htm>
- U.13. Task Force on Reactive Nitrogen (2010) Proposed aims, structure and limitation of work of the TFRN Expert Panel on Nitrogen and Food (EPNF). UNECE Convention on Long-range Transboundary Air Pollution, Working Group on Strategies and Review, 47th session. Informal document No. 18: Submitted by the Co-chairs of the Task Force on Reactive Nitrogen 3 pp.
<http://www.unece.org/env/lrtap/WorkingGroups/wgs/docs47th%20session.htm>
- U.12. Task Force on Reactive Nitrogen (2010) Costs and benefits of nitrogen in the European environment. UNECE Convention on Long-range Transboundary Air Pollution, Working Group on Strategies and Review, 47th session. Informal document No. 7: Submitted by the Co-chairs of the Task Force on Reactive Nitrogen. 5 pp.
<http://www.unece.org/env/lrtap/WorkingGroups/wgs/docs47th%20session.htm>
- U.11. Task Force on Reactive Nitrogen (2010) Draft guidance document for preventing and abating ammonia emissions from agricultural sources. UNECE Convention on Long-range Transboundary Air Pollution, Working Group on Strategies and Review, 47th session. Informal document No. 4: Submitted by the Co-chairs of the Task Force on Reactive Nitrogen 74 pp.
<http://www.unece.org/env/lrtap/WorkingGroups/wgs/docs47th%20session.htm>
- U.10. Task Force on Reactive Nitrogen Informal Document to the Working Group on Strategies and Review 47th Session. Draft Annex IX options for revision of the Gothenburg Protocol - clean and fully annotated versions. Informal document No. 2 22 pp.
<http://www.unece.org/env/lrtap/WorkingGroups/wgs/docs47th%20session.htm>
- U.9. UNECE (2010) Options for revising the 1999 Gothenburg Protocol to abate acidification, eutrophication and ground-level ozone. Draft Revised Technical Annex IX. Note by the Co-Chairs of the Task Force on Reactive Nitrogen. Presented to the Working Group on Strategies and Review 47th session. ECE/EB.AIR/WG.5 /2010/13

- (bracketed options for revision of the protocol) (in English, French and Russian) 10 pp.
<http://www.unece.org/env/lrtap/WorkingGroups/wgs/docs47th%20session.htm>
- U.8. UNECE (2010) Options for revising the 1999 Gothenburg Protocol to abate acidification, eutrophication and ground-level ozone. Reactive Nitrogen. Report by the co-chairs of the Task Force on Reactive Nitrogen. Presented to the Working Group on Strategies and Review 47th session. (Including a updated description of options for Annex IX of the Protocol) ECE/EB.AIR/WG.5/2010/13 (in English, French and Russian) 15 pp
<http://www.unece.org/env/lrtap/WorkingGroups/wgs/docs47th%20session.htm>
- U.7. Task Force on Reactive Nitrogen (2010) No. 11: Overview of Interacting factors affecting net costs and benefits of ammonia abatement. Informal document to the 46th Session of the Working Group on Strategies and Review www.unece.org/env/lrtap/WorkingGroups/wgs/docs46th%20session.htm
- U.6. UNECE (2010) Options for revising the Gothenburg Protocol. Draft Revised Technical Annex IX. Presented to the Working Group on Strategies and Review 46th Session. ECE/EB.AIR/WG.5/2010/5 (bracketed options for revision of the protocol) (in English, French and Russian) 9 pp.
<http://www.unece.org/env/lrtap/WorkingGroups/wgs/docs46th%20session.htm>
- U.5. UNECE (2010) Options for revising the Gothenburg Protocol. Reactive Nitrogen. Report by the co-chairs of the Task Force on Reactive Nitrogen. Presented to the 46th session of the Working Group on Strategies and Review. (Including a description of options for Annex IX of the Protocol and two annexes on farm size thresholds) ECE/EB.AIR/WG.5/2010/4 (in English, French and Russian) 27 pp
<http://www.unece.org/env/lrtap/WorkingGroups/wgs/docs46th%20session.htm>
- U.4. UNECE (2009) Options for revising the Gothenburg Protocol. Reactive Nitrogen. Report by the co-chairs of the Task Force on Reactive Nitrogen. Presented to the 45th session of the Working Group on Strategies and Review. Including an Annex: Report on work in progress on annex IX of the Gothenburg Protocol ECE/EB.AIR/WG.5/2009/12 (in English, French and Russian)
<http://www.unece.org/env/lrtap/WorkingGroups/wgs/docs45th%20session.htm>
- U.3. UNECE (2008) Preparatory work for the negotiation of a revised Gothenburg Protocol. Reactive Nitrogen. Report by the co-chairs of the Task Force on Reactive Nitrogen. Presented to the Working Group on Strategies and Review (42nd Session, Geneva , 1-5 September 2008). ECE/EB.AIR/WG.5/2008/10 (in English, French & Russian) <http://www.unece.org/env/lrtap/WorkingGroups/wgs/docs42nd%20session.htm>
- U.2. UNECE (2007b) Manual on Methodologies for Mapping Critical Levels and Loads. Annex 4: Revision of the critical levels for ammonia. Text to be agreed at the UNECE International Cooperative Programme on Mapping and Modelling, Dessau, Germany
- U.1. UNECE (2007a) Review of the 1999 Gothenburg Protocol: Report on the Workshop on Atmospheric Ammonia: Detecting Emission Changes and Environmental Impacts. 12 pp. Executive Body for the Convention on Long-Range Transboundary Air Pollution, Working Group on Strategies and Review (39th Session, Geneva, 18-20 April 2007). ECE/EB.AIR/WG.5/2007/3 (in English, French and Russian).
<http://www.unece.org/env/wgs/docs39th%20session.htm>

8. Web materials and software

- OM.21. Howard C.M. and **Sutton M.A.**, produced in collaboration with Freakworks Ltd (2011) *A message from the European Nitrogen Assessment*. (Video animation prepared for the ENA Launch Event, ‘Nitrogen and Global Change’, 11 April 2011) <http://www.youtube.com/watch?v=uuwN6qxM7BU>
- OM.20. Bealey W.J., Braban C., Theobald M.R., Bealey W.J. and **Sutton M.A.** (2010) SCAIL: Simple Calculation of Atmospheric Impact Limits. (Website relaunched including both SCAIL Agriculture and SCAIL Combustion) <http://www.scail.ceh.ac.uk/>
- OM.20. **Sutton M.A.**, Bealey W.J. and Bleeker A. (2009) The Barsac Declaration: Environmental Sustainability and the Demitarian Diet. <http://www.nine-esf.org/barsac-declaration>
- O.M.19. Reis S., **Sutton M.A.** and others (2007, and updated since) NitroEurope portal. <http://www.nitroeuropa.eu/>
- OM.18. Bleeker A., Reis S., **Sutton M.A.** and others (2007, and updated since) COST 729 Assessing and managing nitrogen fluxes in the atmosphere biosphere system in Europe. <http://cost729.ceh.ac.uk/>

- OM.17. Reis S., Britton C., **Sutton M.A.** and others (2008-2014) European Centre of the International Nitrogen Initiative <http://www.ini-europe.org/>
- OM.16. **Sutton M.A.**, Bealey W.J. and Leaver D. (2008) Managing the NitroNet – poll. http://www.nine-esf.org/?q=nitronet_poll
- OM.15. Britton C., Reis S. and **Sutton M.A.** (2008) Convention on Long Range Transport of Air Pollution: Task Force on Reactive Nitrogen. <http://www.clrtap-tfrn.org/>
- OM.14. Bleeker A., Reis S., **Sutton M.A.** and others (2007, and updated since) Nitrogen in Europe: Current problems and future solutions. <http://www.nine-esf.org/>
- OM.13. Bealey W.J., **Sutton M.A.** and others (2007, and updated since) UK air pollutant deposition portal. <http://www.uk-pollutantdeposition.ceh.ac.uk/>
- OM.12. Theobald, M.R., Bealey W.J. and **Sutton M.A.** (2006, and updated since) SCAIL: Simple Calculation of Ammonia Impact Limits. <http://www.scail.ceh.ac.uk/>
- OM.11. Bealey W.J., **Sutton M.A.** and others. (2004, and updated since) Air Pollution Information System (APIS) <http://www.apis.ac.uk/>
- OM.10. Theobald M.R. and **Sutton M.A.** (2002) SCAIL (Simple Calculation of Ammonia Impact Limits) Computer Model written in C++ as a screening tool for the impacts of large pig/poultry units on semi-natural habitats. CEH Edinburgh, for the Environment Agency.
- OM.9. Bealey W., Dragosits U., Harding K.I.M. and **Sutton M.A.** (2002) UK Air Pollution Information System (APIS), implemented on the web. (For staff of the UK pollution and countryside agencies). <http://www.apis.ceh.ac.uk>
- OM.8. Bantock T. and **Sutton M.A.** (2002) UK Nitric Acid Monitoring Network. Web site. http://http://www.nbu.ac.uk/cara/UKNAMN/uknamn_nit.htm
- OM.7. **Sutton M.**, Dore T., Dragosits U., Theobald M. and Nemitz E. (2001) SCAIL - Simple Calculation of Ammonia Impact Limits (version 1.0) model concept implemented in Excel. CEH Edinburgh (July 2001).
- OM.6. **Sutton M.A.**, Dragosits U., Harding K.I.M., Fowler D., Dragosits U., (Langan S., Douglas R. and Rippey B.) (2001) The SNIFFER Air Pollution Information System: Access database supplied as run time version on CD, CEH Edinburgh.
- OM.5. Coyle M. and **Sutton M.A.** (2000) Co-ordinated Ammonia Research Activities at CEH Edinburgh. Web site. <http://www.nbu.ac.uk/cara>
- OM.4. Coyle M. and **Sutton M.A.** (2000) UK National Ammonia Monitoring Network. Web site. <http://www.nbu.ac.uk/cara/UKNAMN/uknamn.htm>
- OM.3. **Sutton M.A.** and Dragosits U. (1999) Initial survey of data sources relevant to the Global Nitrogen Enrichment (GANE) thematic programme. Report March 1999. Institute of Terrestrial Ecology, Edinburgh. Also published at: http://www.nerc.ac.uk/science/gane/data_survey.htm
- OM.2. Coyle M. and **Sutton M.A.** (1998) Web site of the Terrestrial Ecosystem Research Initiative Concerted Action (TERICA). <http://www.nbu.ac.uk/terica> . Institute of Terrestrial Ecology, Nov 1998.
- OM.1. **Sutton M.A.** and Nemitz E.G. (1995) *A canopy compensation point model to describe the surface/atmosphere exchange of NH₃: a simple implementation in EXCEL 5.0*. Draft Report, December 1995. Institute of Terrestrial Ecology (Edinburgh Research Station), Pentlands, Midlothian, UK. App. 20 pp.

9. Theses (inc. supervised)

- T.18. Theobald M.R. (2012) Modelling and verification of nitrogen fluxes at the landscape scale. PhD Thesis. University Polytechnica Madrid.
- T.17. Lewis J. (2012) Bio-monitoring for atmospheric nitrogen pollution using epiphytic lichens and bryophytes. PhD Thesis. University of Nottingham.
- T.16. Riddick S. (2012) Global ammonia emissions from seabird colonies. Kings College, PhD Thesis, University of London.
- T.15. Vogt E. (2011) Nitrogen fluxes at the landscape scale. A case study in Scotland. PhD Thesis, University of Edinburgh.
- T.14. Twigg M. (2008) Application of tunable diode laser absorption spectroscopy for the measurement of ammonia fluxes. PhD. thesis, University of Edinburgh.

- T13. Hellsten S. (2005) Modelling the spatial distribution of ammonia emissions from agriculture in the UK. PhD thesis, University of Edinburgh.
- T.12. Vieno, M. (2005) The use of an Atmospheric Chemistry-Transport Model (FRAME) over the UK and the development of its numerical and physical schemes. PhD thesis, University of Edinburgh
- T.11. Angus A. (2005) An economic analysis of the trade offs in mitigating nitrogen emissions from intensive farming activities. PhD Thesis, University of Cambridge.
- T.10. Blackall T. (2004) Ammonia emissions from seabird colonies. Ph.D. thesis. University of Leeds.
- T.9. Milford C. (2004) Dynamics of atmospheric ammonia exchange with intensively-managed grassland. Ph.D. thesis. University of Edinburgh, 219 pp.
- T.8. Fournier N. (2002) Development of an atmospheric transport model simulating concentration and deposition of reduced nitrogen over the British Isles. Ph.D. thesis. University of Edinburgh, 220 pp.
- T.7. Angus A. (2000) The setting of standards for agricultural nitrogen emissions: A test for the Delphi technique. M.Phil. thesis. St. Catharine's College, University of Cambridge. 164 pp.
- T.6. Dragosits U. (1999) A spatially distributed ammonia emissions inventory for the UK. Ph.D. thesis. University of Edinburgh, 304 pp.
- T.5. Hill P.W. (1999) Physiological aspects of the exchange of gaseous ammonia between *Luzula sylvatica* (Huds.) Gaud. and the atmosphere. Ph.D. thesis. University of Dundee, 216 pp.
- T.4. Nemitz E. (1998) Investigations into the surface-atmosphere exchange of ammonia and chemically interacting species. Ph.D. thesis. University of Manchester Institute of Science and Technology, Manchester 300 pp.
- T.3. Singles R.J. (1996) Fine resolution modelling of ammonia dry deposition over Great Britain. Ph.D. thesis, Department of Meteorology, University of Edinburgh. pp 278.
- T.2. Eager M. (1992) The development of an ammonia emissions inventory for Great Britain using GIS techniques. MSc Thesis, University of Edinburgh.
- T.1. **Sutton M.A.** (1990) *The surface/atmosphere exchange of ammonia*. Ph.D. thesis. Institute of Ecology and Resource Management, University of Edinburgh, UK. 195 pp.
-

10. Media (press, radio, TV and other)

- M.664. Robin McKie “Cancer, sea life, mental health: the UK research that will be hit by Brexit”, *The Observer* (Sunday 17 July 2016). [Article attributing comments on nitrogen and phosphorus research under Brexit].
- M.663. Agren, C. “Cutting meat and dairy intake is beneficial for health, the environment and climate”. *Acid News* (March 2016). [Article summarizing findings of our completed report, Nitrogen on the Table].
- M.662. John Vidal, “Sahara dust only 'partly responsible' for UK's worst pollution event in 10 years” *The Guardian* (4 April 2016). http://www.theguardian.com/environment/2016/apr/04/sahara-dust-only-partly-responsible-for-uks-worst-pollution-event-in-10-years?CMP=share_btn_fb [Article on our paper Vieno et al. Environmental Research Letters].
- M.661. Barnaby Smith, “Why scientists should blog. A tale of ‘Saharan Dust’ – scientific paper to Today Programme via social media.” <https://storify.com/CEHNews/why-scientists-should-blog>
- M.660. BBC Radio Berkshire, *Anne Diamond Show* (1240 live, 4 April 2015). Interview on Saharan dust and anthropogenic air pollution (Interviewer: Anne Diamond). <http://www.bbc.co.uk/programmes/p002m92c/episodes/player>
- M.659. BBC Radio 4, *Today* programme (0654 live, 4 April 2015). Interview on Saharan dust and anthropogenic air pollution. (Interviewer: Sarah Montague). <http://www.bbc.co.uk/programmes/b075pb4p>
- M.658 Jonathan Leake, “Pollution alert as heatwave hits UK” *The Sunday Times* (3 April 2016) front page and page 2. [Article on our paper Vieno et al., Environmental Research Letters].
- M.656. Zaraska, M. (2016) *Meathooked: The History and Science of Our 2.5-Million-Year Obsession with Meat*. Basic Civitas Books [referring to our paper Westhoek et al. (2014) Food choices, health and environment, in *Global Environmental Change* 26, 196-205]
- M.655. Friedland, J. (2015) *Eatymology: The Dictionary of Modern Gastronomy*. Sourcebooks. [Article on ‘demitarian’ referring to nitrogen and the Barsac Declaration].
- M.654. Christer Agren, ‘Cut agricultural ammonia emissions.’ *Acid News* (December 2015). [Article summarizing the paper by Brunekreef, Sutton et al. *Lancet Respiratory Medicine*, 8 October 2015].

- M.653. Peter Teffer, Don't mention the meat: EU wary of food taboo. *euObserver* (13 January 2016). <https://euobserver.com/environment/131813> [From launch of 'Nitrogen on the Table' report at the European Parliament]
- M.652. Cutting Europe's meat and dairy intake beneficial for health, environment and climate. CEH News & Media (13 January 2016) <http://www.ceh.ac.uk/news-and-media/news/cutting-europe-meat-and-dairy-intake-beneficial-health-environment-and-climate> [From launch of 'Nitrogen on the Table' report at the European Parliament]
- M.652 Cutting Europe's meat and dairy intake is beneficial for human health, the environment and climate. PBL News (12 January 2016) <http://www.pbl.nl/en/news/newsitems/2016/cutting-europe%E2%80%99s-meat-and-dairy-intake-is-beneficial-for-human-health-the-environment-and-climate> [From launch of 'Nitrogen on the Table' report at the European Parliament]
- M.651. Oral evidence to UK Parliament, Environment Food and Rural Affairs Select Committee, Inquiry on Defra's role on air quality. (9 December 2015) Parliament TV. <http://www.parliamentlive.tv/Event/Index/4b6174ee-8c07-4ee2-8f33-50c4e1658ccd>
- M.650. Air pollution and climate change – a vicious circle. Cordis, RTD Success Stories. [Highly outcomes of the ECLAIRE project]. (15 December 2015) <http://ec.europa.eu/programmes/horizon2020/en/news/air-pollution-and-climate-change-%E2%80%93-vicious-circle>
- M.649. Allan Downie, The Nitrogen Crisis: What are the solutions? (9 November 2015) <http://www.foodsecurity.ac.uk/blog/2015/11/the-nitrogen-crisis-what-are-the-solutions/> [Key messages from the Workshop "Tackling the global nitrogen crisis: what are the solutions?" highlighting ENA findings. September 2015, Oxford].
- M.648. **Sutton M.**, Brownlie W., Howard C. and Navé B. (2015) Fluch und Segen zugleich. *dlz agrarmagazin* (November 2015) pp 116-119. (German Farmers Magazine) ["Blessing and a curse together", Article on work of ENA and UNECE Task Force on Reactive Nitrogen and cooperation with BASF].
- M.647. *Lancet Respiratory Medicine*, Editorial: Short-lived climate pollutants: a focus for hot air. (31 October 2015) **386**, 1707. [Following up our article Brunekreef et al. <http://dx.doi.org/10.1016/> on National Emissions Ceilings, agriculture and human health].
- M.646. Oliver Morton, 'Wizard ideas for cleaning up nitrogen pollution', *The Economist* (Nov/Dec 2015), p 34. [Article on the theme of Harry Potter and the Nitrogen Cycle. Reflections on ENA etc.]
- M.645. *Planet Earth*, Tackle farm emissions to fight air pollution, say UN experts. Autumn 2015, p 3. <http://www.ceh.ac.uk/press/target-farm-emissions-combat-air-pollution-and-crop-loss-say-un-experts>
- M.644. BBC Radio 4 *Farming Today* programme (0645, 1 October 2015). Interview on ammonia emission reduction ahead of the vote by MEPs on the proposed National Emissions Ceilings. Interview together with Pekka Pesonen, Secretary General, COPA-COGECA (Interviewer: Charlotte Smith). <http://www.bbc.co.uk/programmes/b06d935c>
- M.643. "Discussie over ammoniak in de kiem gesmoord" (Discussion on Ammonia Nipped in the Bud) *Boeren Business*, 9 September 2015. (Response to Netherlands International Ammonia Review) <http://www.boerenbusiness.nl/mestmarkt/artikel/10865655/discussie-over-ammoniak-in-de-kiem-gesmoord>
- M.642. "Ammoniakgat toont beperkingen van emissiemodellen" (Ammonia gap shows limitations of emission models) *Groen Kennisnet*, 25 September 2015. (Response to Netherlands International Ammonia Review) <https://www.groenkennisnet.nl/nl/groenkennisnet/show/Ammoniakgat-toont-beperkingen-van-emissiemodellen.htm>
- M.641. Albert Sikkema, "Ammoniak-gat vraagt om nieuwe investeringen" (Ammonia-hole requires new investments) *Resource*, 24 September 2015. (Response to Netherlands International Ammonia Review) <http://resource.wageningenur.nl/nl/wetenschap/show/Ammoniakgat-vraagt-om-nieuwe-investeringen.htm>
- M.640. Albert Sikkema, "Wageningen UR stelt onderzoekdata ammoniak wel beschikbaar" (Wageningen UR research data ammonia still available), *Resource*, 21 September 2015. (Response to Netherlands International Ammonia Review) <http://resource.wageningenur.nl/nl/organisatie/show/Wageningen-UR-stelt-onderzoekdata-ammoniak-wel-beschikbaar-.htm>
- M.639. AERIUS, "Internationale review zeer positief over AERIUS". 9 September 2015. <https://www.aerius.nl/nl/nieuws/internationale-review-zeer-positief-over-aerius>
- M.638. RIVM, *Reactie op Internationale Review Ammoniak*, 2015. 11 September 2015. (Response to the Netherlands International Ammonia Review, 2015) www.rivm.nl/Documenten_en_publicaties/Algemeen_Actueel/Nieuwsberichten/2015/Reactie_op_Intern

- [ationale Review Ammoniak 2015](http://www.rivm.nl/dsresource?objectid=rivmp:288221&type=org&disposition=inline&ns_nc=1). Full article as pdf at:
www.rivm.nl/dsresource?objectid=rivmp:288221&type=org&disposition=inline&ns_nc=1
- M.637. Sharon A.M. Dijkma, *Staatssecretaris van Economische Zaken* (Netherlands Minister for Economic Affairs), *Kamerbrief over internationale review ammoniak* (Parliamentary letter on the International Review on Ammonia) *Omgevingsweb* 8 September 2015, <http://omgevingsweb.nl/nieuws/kamerbrief-over-internationale-review-ammoniak> (See: www.rijksoverheid.nl/documenten/kamerstukken/2015/09/08/kamerbrief-over-internationale-review-ammoniak for full letter and review report, U.39).
- M.636. Ana Santiago. Cláudia Cordovil (ISA): “Poluição por azoto tem que ser encarada de forma multidisciplinar” (C/ VÍDEO). Projecto internacional Towards INMS, que vai estudar formas eficientes de gestão deste elemento, tem participação portuguesa. (Nitrogen pollution has to be considered in a multidisciplinary way (with video): Towards INMS, an international project, which will study efficient ways of managing this element – with Portuguese participation) *Ambiente online*. 17 July 2015. <http://www.ambienteonline.pt/canal/detalhe/claudia-cordovil-isa>
- M.635. Claudia Silva “Cada um de nós deixa a sua marca no ambiente, no que diz respeito ao azoto” (We each leave our mark in the environment with regard to nitrogen) *Quercus Ambiente* (July/August 2015), pp 4-5). [Interview with Cláudia Cordovil concerning TFRN and INMS]. (in Portuguese)
- M.634. Geesje Rotjers, “Meetuitslagen achtergehouden: ammoniakbeleid discutabel” (Measuring results withheld: ammonia policy debatable). *V-focus* (25 June 2015) (In Dutch) <http://www.v-focus.nl/2015/06/meetuitslagen-achtergehouden-ammoniakbeleid-discutabel/>
- M.633. Dick Veerman, “Ammoniakonderzoekers maken lange neus naar ministerie” (Ammonia researchers make long noses at ministry) *Foodlog*. 26 June 2015. <http://www.foodlog.nl/artikel/ammoniakonderzoekers-maken-lange-neus-naar-ministerie/allcomments/> [Dutch Ammonia Review, Uxxx]
- M.632. Mariska Vermaas, “Specialisten beoordelen Nederlands ammoniakbeleid” (Specialists assess Dutch ammonia policy) *Boerderij* 26 June 2015. <http://www.boerderij.nl/Home/Nieuws/2015/6/Specialisten-beoordelen-Nederlands-ammoniakbeleid-1783154W/> [Dutch Ammonia Review, Uxxx]
- M.631. United Nations Economic Commission for Europe, “UNECE joins international effort to reduce nitrogen pollution”. [Article on INMS plenary meeting, May 2015, Lisbon] http://www.unece.org/info/media/unece-weekly/news-detail.html?extern=1&inter_lang=en&news=652&profil=default
- M.630. European Commission, Agricultural ammonia emissions could be reduced without affecting crop yield. *Science for Environmental Policy. News Alert*. Issue 414. 21 May 2015. [Article based on Sanz-Cobena et al., P.219, *Env. Res. Lett.* 2014] <http://ec.europa.eu/environment/integration/research/newsalert/newsalert.htm>
- M.629. Maria Amélia Martins-Loução, “Encarar o azoto como problema ambiental”. *Publico* (Portugal national newspaper) 14 May 2015. (Addressing the problem of nitrogen in environment). [Article on the first plenary meeting of ‘Towards INMS’] <http://www.publico.pt/ecosfera/noticia/encarar-o-azoto-como-problema-ambiental-1695451>
- M.628. European Commission, Joint Research Centre. Nitrogen – too much of a good thing. 4 May 2015 [Article on the launch of the WWF nitrogen report] <https://ec.europa.eu/jrc/en/news/nitrogen-%E2%80%93-too-much-good-thing?search>
- M.627. Marie-Paule Nougaret, Le commerce par voie de mer pollue plus que les camions. Blog de Paul Jorion. 20 April 2015. <http://www.pauljorion.com/blog/2015/04/20/le-commerce-par-voie-de-mer-pollue-plus-que-les-camions-par-marie-paul-nougaret/>
- M.626. Kajsa Lindqvist. Editorial: Ammonia emissions are cheap to reduce. *Acid News* 2014, no. 4. [drawing on TFRN ammonia abatement costings for CLRTAP] <http://www.airclim.org/acidnews/editorial-ammonia-emissions-are-cheap-reduce>
- M.625. Maria Amélia Martins-Loução, “Nitrociudadania”. *Publico* (Portugal national newspaper) 23 December 2014. (“Nitrocitizenship”). [Article introduces the concept of Nitrocitizenship building on the European Nitrogen Assessment findings] <http://www.publico.pt/ecosfera/noticia/nitro-cidadania-1680203>
- M.624. Uzbekistan Report, Information Agency. A new "Ammonia Framework Code" adopted in Geneva. (16 December 2014) http://news.uzreport.uz/news_1_e_127355.html [Report on adoption of the UNECE Ammonia Framework Code, Bittman, Sutton et al., B.33]. Also reported at:
- United Nations Information Service, “New Air Pollution Code.” (12 December 2014) [http://www.unog.ch/80256EDD006B9C2E/\(httpNewsByYear_en\)/120890FCA45EB3AAC1257DAC003B264D?OpenDocument](http://www.unog.ch/80256EDD006B9C2E/(httpNewsByYear_en)/120890FCA45EB3AAC1257DAC003B264D?OpenDocument)
 - HT Syndication: <http://www.htsyndication.com/htsportal/article/A-new--Ammonia-Framework-Code--adopted-in-Geneva/6268906>

- Ecological Movement of Uzbekistan: <http://www.eco.uz/en/bulletin/1434-a-new-ammonia-framework-code-adopted-in-geneva>
 - Climate Change Daily Feed. "UNECE Region Adopts Framework to Reduce Air Pollution from Agriculture" (16 December 2014) <http://climate-l.iisd.org/daily-feed/2014-12-16/>
- M.623. UNEP (2014) Excess nitrogen in the environment. Chapter 1 in: UNEP Yearbook 2014 emerging issues. pp 6-11. United Nations Environment Programme (<http://www.unep.org/yearbook/2014/PDF/chapt1.pdf>)
- M.622. CEH News Release, "Experts meet in Edinburgh to agree international action on reducing agriculture's contribution to air pollution" (13 November 2014) <http://www.ceh.ac.uk/news/press/ammonia-framework-code-edinburgh-workshop-press-release.asp>
- M.621. Dick Veerman, "Mestbeleid: de werkelijke daders gaan al jaren vrijuit" (Manure policy: the real perpetrators go unpunished for years) *Foodlog*. 13 October 2014. <http://www.foodlog.nl/artikel/rammelend-mestbeleid-kan-tot-schadeclaims-leiden/allcomments/> [Dutch Ammonia Review, U.29]
- M.620. *Observer Radio*, Antiga and Barbuda (21 September 2014, live). Half-hour interview on how agriculture and the food system of the Caribbean can respond to the challenges of climate change.
- M.619. Geesje Rotgers, "Emissies ammoniak veel te hoog ingeschat". *V-focus* August 2014. http://www.v-focus.nl/wp-content/uploads/2015/01/Emissies_ammoniak_veel_te_hoog_ingeschat.pdf (Ammonia emissions are overestimated) [Dutch Ammonia Review].
- M.618. Ilona Amos, *The Scotsman* (3 August 2014) Book shows how sustainable food could boost health. [Interview on proposed sustainable food atlas for Scotland] <http://www.scotsman.com/news/environment/book-shows-how-sustainable-food-could-boost-health-1-3497489>
- M.617. BBC York (31 July 2014, pre-recording). Interview with Paul Hudson for the Paul Hudson Weather Show. <http://www.bbc.co.uk/programmes/p01994lw/broadcasts/upcoming>
- M.616. BBC World News TV (1640 on 22 July 2014, live) Interview jointly with Fuchsia Dunlop (writer / journalist on Chinese cuisine) on on beef, food choice and the environment, in response to the PNAS paper of Eshel et al. reflecting on ENA outcomes (Interviewer: Ros Atkins).
- M.615. BBC Radio Scotland *Newsdrive* programme (1620 on 22 July 2014, live). Interview on beef, food choice and the environment, in response to the PNAS paper of Gidon Eshel et al. reflecting on ENA outcomes (Interviewer: Bill Whiteford). <http://www.bbc.co.uk/programmes/b049fgdc>
- M.614. Damian Carrington, *The Guardian* (21 July 2014). Giving up beef will reduce carbon footprint more than cars, says expert. [Comment comparing ENA outcomes with PNAS paper Gidon Eshel et al. on relative environmental impact of beef and other livestock] <http://www.theguardian.com/environment/2014/jul/21/giving-up-beef-reduce-carbon-footprint-more-than-cars>
- M.613. Matt McGrath, *BBC News*. (21 July 2014) Beef environment cost 10 times that of other livestock. [Comment comparing ENA outcomes with PNAS paper Gidon Eshel et al. on relative environmental impact of beef and other livestock] www.bbc.com/news/science-environment-28409704
- M.612. Johan Oppewal, "Nederland ligt twintig jaar voor op de rest" (Netherlands is twenty years ahead of the rest"). *Boerderij* 99 (42), pp 12-14. (15 July 2014). [Interview regarding Dutch Ammonia Review, U.29]
- M.611. Katie Valentine, *Climate Progress*. (27 June 2014) Not eating meat can cut your food-related carbon emissions almost in half, study finds. [Report of paper in *Climatic Change*, referring to *Our Nutrient World*] <http://thinkprogress.org/climate/2014/06/27/3454129/eating-meat-carbon-emissions/>
- M.610. Kajsa Lindqvist, *Acid News*. (2014, no. 2) Diet shifts could reduce nitrogen pollution. <http://www.airclim.org/acidnews/diet-shifts-could-reduce-nitrogen-pollution> [Response to P.214, Westhoek et al., 2014].
- M.609. SCOPE Newsletter, 104, 3-4 (European Sustainable Phosphorus Platform) Diet, health and Environment: Nitrogen Cycle impacts of dairy and meat intake". (June 2014) [Feedback on ENA Special Report on Nitrogen and Food, U.28, P.214] <http://www.phosphorusplatform.org/images/download/ScopeNewsletter104.pdf>
- M.608. Andrew Marshall, *Farmonline*. Up in smoke: ag's billion-dollar vanishing act. 2 June 2014. <http://www.farmonline.com.au/news/agriculture/cropping/general-news/up-in-smoke-ags-billion-dollar-vanishing-act/2699945.aspx?storypage=0> [Interview with Mark Sutton and Esin Mete (President of the International Fertilizer Manufacturers Association) at the IFA 82nd Annual Conference, Sydney, Australia]
- M.607. European Commission, *Horizon 2020 News*. Researchers study the effects of air pollution on European ecosystems. (May 2014). <https://ec.europa.eu/programmes/horizon2020/en/news/researchers-study-effects-air-pollution-european-ecosystems> [Interview on EU ECLAIRE project].

- M.606. *Agriculture and Rural Convention*, Part 3: what did you think? Reader's replies on livestock reduction. 9 May 2014. <http://www.arc2020.eu/front/2014/05/part-3-what-did-you-think-readers-replies-on-livestock-reduction/> [Feedback on ENA Special Report on Nitrogen and Food, U.28, P.214]
- M.605. *Agriculture and Rural Convention*, Part 2: Westhoek & Sutton on Less Livestock in Europe. 6 May 2014. <http://www.arc2020.eu/front/2014/05/50-less-livestock-part-2/> [Interview: Oliver Moore of Arc2020 and Henk Westhoek and Mark Sutton, regarding the ENA Special Report on Nitrogen and Food, U.28, P.214]
- M.604. *Agriculture and Rural Convention*, Part 1: how to cut EU agri-food Greenhouse Gas Emissions by 40%. 5 May 2014. <http://www.arc2020.eu/front/2014/05/heres-how-to-cut-the-eus-agri-food-greenhouse-gas-emissions-by-40/> [Feedback on ENA Special Report on Nitrogen and Food, U.28, P.214]
- M.603. Alex Kirby, *Climate News Network*, Be a demitarian and cool the climate. 27 April 2014. <http://www.climate news network.net/2014/04/be-a-demitarian-and-cool-the-climate/> [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214]
- M.602. *Food Climate Research Network*, The influence of food choices on nitrogen emissions and the European environment - ENA special report, 25 April 2014. <http://www.fc rn.org.uk/research-library/climate-change/greenhouse-gases/influence-food-choices-nitrogen-emissions-and-europ> [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214]
- M.601. Bob Edlin, *AgScience. The NZIAHS Blog*. Nitrogen pollution, climate and land use: why what we eat matters. 26 April 2014. <http://agscienceblog.wordpress.com/> [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214]
- M.600. BBC Radio Scotland. *News Drive*. Live interview with Mhairi Stuart (anchor), Mark Sutton and Nigel Miller (President of National Farmers Union for Scotland) 1715, 25 April 2014. [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214]
- M.599. Scientific Blogging, *Science 2.0*. The War On Food: New Government Report Wants Meat And Dairy In Europe Halved, 25 April 2014. [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214] http://www.science20.com/news_articles/the_war_on_food_new_government_report_wants_meat_and_dairy_in_europe_halved-134978
- M.597-98. Tamara Jones, *Planet Earth Online*, Halving your meat intake would be good for the environment. 25 April 2014. <http://planetearth.nerc.ac.uk/news/story.aspx?id=1661> [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214] Same article appearing in:
Global Food Security, <http://www.foodsecurity.ac.uk/news-events/news/2014/140425-halving-your-meat-intake.html>
- M.587-96. Press Association, *MSN News*, Calls to halve meat consumption. 25 April 2014. <http://news.uk.msn.com/uk/calls-to-halve-meat-consumption> [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214] Same article also appearing in:
The Star, <http://www.thestar.co.uk/news/national/calls-to-halve-meat-consumption-1-6579647>
Crosby Herald, <http://www.crosbyherald.co.uk/news/uk-world-news/2014/04/25/calls-to-halve-meat-consumption-68459-34522147/>
Belfast Telegraph, <http://www.belfasttelegraph.co.uk/news/local-national/uk/calls-to-halve-meat-consumption-30216847.html>
Western Morning News, EU citizens should halve meat and dairy intake. <http://www.westernmorningnews.co.uk/EU-citizens-halve-meat-dairy-intake/story-21012837-detail/story.html#ixzz2zuP5FNQh>
Crosby Herald, Calls to halve meat consumption. <http://www.crosbyherald.co.uk/news/uk-world-news/2014/04/25/calls-to-halve-meat-consumption-68459-34522147/>
Yorkshire Evening Post, <http://www.yorkshireeveningpost.co.uk/news/national/calls-to-halve-meat-consumption-1-6579647>
Hartlepool Mail, <http://m.hartlepoolmail.co.uk/news/uk/calls-to-halve-meat-consumption-1-6579647>
Local UK news, <http://localuknews.co.uk/article/calls-to-halve-meat-consumption>
- M.587. BBC Radio 4: *Farming Today* programme, 25 April 2014. Nitrogen Pollution, Meat Consumption, Hedgehogs. <http://www.bbc.co.uk/programmes/b0418wy3> (Interviewer Charlotte Smith). [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214]
- M.586. Ben Webster, *The Times*, Raise taxes on meat to turn us into demitarians, says UN, 25 April 2014, p 17. (also web edition: "Put tax on meat to cut pollution and improve diet, says UN report"):

- <http://www.thetimes.co.uk/tto/environment/article4072005.ece> [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214]
- M.575-585. Nina Chertsey, *Reuters*, EU should halve meat, dairy consumption to cut nitrogen - report. 25 April 2014. <http://www.reuters.com/article/2014/04/25/food-environment-idUSL6N0NH1X120140425> [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214] also at:
- Wn.Com*: http://article.wn.com/view/2014/04/25/EU_should_halve_meat_dairy_consumption_to_cut_nitrogen_report_4/
- News.nom.co*: <http://www.news.nom.co/eu-should-halve-meat-dairy-9156669-news/>
- Topix Global Warming*: <http://www.topix.com/forum/news/global-warming/T3IJ31KSSDSJA9OHM>
- SPI News*:
<http://www.sectorpublishingintelligence.co.uk/news/924257/eu+should+halve+meat+dairy+consumption+to+cut+nitrogenreport>
- Morningstar*: <http://www.morningstar.com/topics/t/90815570/eu-should-halve-meat-dairy-consumption-to-cut-nitrogen-report.htm>
- Popbuzz*: <http://www.popbuzz.me/uk/p/3434948/>
- Envinews.EU*:
http://www.envinews.eu/article/773181/?utm_source=rss&utm_medium=rss&utm_campaign=rss_clanky
- Climatiq*: <http://www.climatiq.ch/en/news/> and around **400** other news websites.
- M.574. Centre for Ecology and Hydrology, Nitrogen on the Table, Pollution, Climate and Land use, 25 April 2014. http://www.ceh.ac.uk/news/news_archive/nitrogen-pollution-why-what-we-eat-matters_2014_20.html and press release at: <http://www.ceh.ac.uk/news/press/whywhatweeatmatters.asp>
- M.573. Olivia Midgley, *Farmers Guardian*, Eating less meat will slash nitrogen pollution, scientists claim. 25 April 2014 <http://www.farmersguardian.com/home/livestock/eating-less-meat-will-slash-nitrogen-pollution-scientists-claim/63943.article> [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214]
- M.572. Adam Vaughan, *The Guardian*, Halving meat and dairy consumption could slash farming emissions. Adopting a 'demitarian' diet would lead to a 25-40% reduction in nitrogen emissions from agriculture in Europe, report shows. 25 April 2014. <http://www.theguardian.com/environment/2014/apr/25/halve-meat-dairy-consumption-slash-emissions-farming> [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214] (also at: <http://www.rawstory.com/rs/2014/04/25/a-demitarian-diet-halving-meat-and-dairy-consumption-could-slash-farming-emissions/> A 'demitarian' diet: Halving meat and dairy consumption could slash farming emissions)
- M.571. Emily Beament, Halve meat consumption to 'slash nitrogen pollution'. 25 April 2014. <http://www.irishexaminer.com/archives/2014/0425/world/halve-meat-consumption-to-aposlash-nitrogen-pollutionapos-266476.html> [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214]
- M.570. Science Media Centre, Nitrogen pollution, climate and land use: why what we eat matters. <http://www.sciencemediacentre.org/nitrogen-pollution-climate-and-land-use-why-what-we-eat-matters/> 25 April 2014. [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214]
- M.560. *Physics.Org*, Nitrogen pollution, climate and land use. <http://phys.org/news/2014-04-nitrogen-pollution-climate.html> [Press launch of ENA Special Report on Nitrogen and Food, U.28, P.214]
- M.559. BBC Radio 4: *Farming Today* programme, 11 April 2014. Interview on effects of nitrogen on nature and the options for ammonia mitigation in European policy development. (Interviewer, Kaz Graham).
- M.559. Daniela Chiaretti, *Jornal Valor Econômico* [Brazil]. Oceanos estão virando lixões invisíveis; Cor do mar jamaicano reflete o uso excessivo de fertilizantes agrícolas. [in Portuguese; Oceans are becoming invisible dumps; Color of the Jamaican sea reflects the excessive use of agricultural fertilizers.] 20/1/2014. [Follow up of presentation to the 2nd Global Conference on Land Ocean Connections, Jamaica]
- M.558. European Commission (2014) The value of acknowledging societal costs of N₂O emissions. *Science for Environmental Policy* (23 January 2014, Issue 358). [Follow up on Sutton et al. "Green Economy thinking and the control of nitrous oxide emissions." *Environmental Development*, **9**, 2014; P.213]. <http://ec.europa.eu/environment/integration/research/newsalert/pdf/358na1.pdf>
- M.557. BBC Radio 4: *Frontiers* programme: 'Nitrogen Fixing'. 4 Dec 2013, 21:00. Half-hour documentary. 100 years since the first synthetic fertilizers, Prof Andrea Sella looks at efforts to reduce our dependence on the legendary Haber-Bosch process. Interviews with Mark Sutton and others. http://downloads.bbc.co.uk/podcasts/radio4/frontiers/frontiers_20131204-2145a.mp3

- M.556. European Commission, Science for Environmental Policy In-depth Report. Nitrogen pollution and the European Environment (Sept 2013) <http://ec.europa.eu/environment/integration/research/newsalert/pdf/IR6.pdf> [Commissioned report summarizing the relation between nitrogen and pollution to support EC air quality proposals, response to inputs from TFRN].
- M.555. HortiBiz. Nitrogen can improve production Africa. Interview with Mark Sutton and Ugandan Commissioner for Crop Protection, Komayombi Bulegeya. <http://www.hortibiz.com/hortibiz/nieuws/nitrogen-can-improve-crop-production-africa/> [Outcomes from N2013, Kampala].
- M.554. BBC World. (2013) Live TV interview hosted by Jon Sopel with Mark Sutton and Robin McKie (Science Editor, the Guardian). Haber Nitrogen – from war to environmental challenges. 15:40 on 11/11/2013.
- M.553. McGrath, Matt (2013) UN highlights role of farming in closing emissions gap. BBC News on-line [Article on UNEP N₂O report] <http://www.bbc.co.uk/news/science-environment-24817837> 5/11/2013.
- M.552. McKie, Robin (2013) From fertiliser to Zyklon B: 100 years of the scientific discovery that brought life and death. *The Observer*, 3 November 2013. p 15. <http://www.theguardian.com/science/2013/nov/03/fritz-haber-fertiliser-ammonia-centenary> [Haber centenary and N impacts on environment].
- M.551. European Commission: (2013) Science for Environmental Policy. *Nitrogen Pollution and the European Environment: Implications for Air Quality Policy*. September 2013. 28 pp. <http://ec.europa.eu/environment/integration/research/newsalert/pdf/IR6.pdf> [EC public write-up of outcomes from NitroEurope and the European Nitrogen Assessment etc].
- M.550. *Observer Radio*, Antigua. Live interview with Sam Roberts (host) and Dr Jakob Tamilander (Head of Coral Reefs, UNEP) on the nutrient threat to Caribbean Islands (7 October 2013). [Press follow up to the Global Conference on Land-Ocean Connections (GLOC-2, Jamaica).]
- M.549. Kerry McCarthy MP, UK Parliament (*Daily Hansard – Westminster Hall*) 26 June 2013: Column 116WH. [Quoting “Our Nutrient World”, plus first introduction of the term ‘demitarian’ to UK parliament, as part of the debate on the report on “the carbon footprint of the cattle and sheep sector by the all-party parliamentary group on beef and lamb.] <http://www.publications.parliament.uk/pa/cm201314/cmhansrd/cm130626/halltext/130626h0001.htm>
- M.548. Braakman J. (2013) Nederland verliest onderzoekskwaliteit *Boerderij* (The Farmer) 7 June 2013, p 14. (‘Netherlands loses research quality’) [Report on the International Review on Dutch ammonia emissions abatement, presented to Dutch parliament and led by M. Sutton]
- M.547. IIASA (2013) The nitrogen quandary. (17 June 2013). <http://www.iiasa.ac.at/web/home/resources/mediacenter/FeatureArticles/The-Nitrogen-Quandary.en.html> [Report on nitrogen cycle based on Phil Trans. Roy. Soc. special issue and ‘Our Nutrient World’].
- M.546. CEH news (2013) Leaking ammonia leading to biodiversity loss and health risks, new themed volume of papers reveals (28 May 2013). http://www.ceh.ac.uk/news/news_archive/leaking-ammonia-fertilisers-biodiversity-loss-health_2013_36.html [Report on new issue of Phil. Trans. Royal Society on the global nitrogen cycle.].
- M.545. Jyotika Sood (2013) Nutrient paradox. Fertiliser upsetting natural nitrogen, phosphorus flow. *Down to Earth* (India) April 1-15, 2013, p 42. [Article on Our Nutrient World, and key messages in India]
- M.544. **Sutton, M.** (2013) The other global crunch: nitrogen, environment and the economic opportunities. *G8 Magazine*. The UK Summit: Loch Erne. p 164 [Article on the work of the International Nitrogen Initiative aimed at the global business community, to accompany articles by Cameron, Hollande, Barroso etc]. (June 2013).
- M.543. Lindqvist, K. (2013) Call for international nitrogen framework. *Acid News*, June 2013, pp 6-7. [Article on the policy messages of Our Nutrient World] <http://airclim.org/acidnews/call-international-nitrogen-framework>
- M.542. European Environmental Bureau (2013) Ammonia control options for better air quality. Recommendations to the EU for its 2013 ‘Year of Air’. [Comments on EU Air Quality proposals drawing on European Nitrogen Assessment and work of the Task Force on Reactive Nitrogen]. <http://www.eeb.org/?LinkServID=E1B5ACC1-5056-B741-DB92489757EB9AC0&showMeta=0&aa>
- M.541. **Sutton, M.** (2013) Should we all stop eating meat? United Nations Economic Commission for Europe: Expert Opinion. <http://www.unece.org/index.php?id=32617> (Article invited by the UNECE Environment Division)
- M.540. Mingle, J. (2013) A dangerous fixation. [article on excess nitrogen building on *Nature Geoscience* paper (Erisman, Sutton et al.) and on ‘Our Nutrient World’.] http://www.slate.com/articles/health_and_science/the_efficient_planet/2013/03/nitrogen_fixation_anniversary_modern_agriculture_needs_to_use_fertilizer.html

- M.539. Qui, J. (2013) Nitrogen pollution soars in China. *Nature News*. <http://www.nature.com/news/nitrogen-pollution-soars-in-china-1.12470>
- M538. Noualhat, L. (2013) La viande doit redevenir un aliment special. Interview Mark Sutton, auteur d'un rapport pour le Programme des Nations unies pour l'environnement, prône une diminution drastique de notre consommation. *Liberation* (22 February 2013) + 218 comments. [Specific interview following Our Nutrient World] http://www.liberation.fr/terre/2013/02/22/la-viande-doit-revenir-un-aliment-special_883874
- M.237-M.537. Smith, B.P., Burns, P. & Reading, S. (2013) Communicating 'Our Nutrient World' – a report for UNEP (Published 18 February 2013). March 2013. Centre for Ecology & Hydrology 12 pp. http://www.ceh.ac.uk/news/news_archive/CommunicatingOurNutrientWorld.html (this summary document lists about **300 news items** on the story, including live interviews on Radio 4 (Today Programme and Farming Today), LBC Radio, BBC Wales, New South Wales Radio (ABC), and newspapers including, Independent, Guardian, Times of India etc. A selection of additional reports includes:
- Schuetz C.F. (2013) Would you halve your meat consumption to save the planet. *International Herald Tribune*. <http://rendezvous.blogs.nytimes.com/2013/02/22/would-you-halve-your-meat-consumption-to-save-the-environment/>
 - Harvey F. (2013) Halve meat consumption, scientists urge rich world. *The Guardian* (18 February 2013) + 240 comments + 14300 facebook shares. <http://www.guardian.co.uk/environment/2013/feb/18/halve-meat-consumption-scientists>
 - <http://www.organicauthority.com/blog/organic/eat-half-as-much-meat-new-un-report-says-to-worlds-richest-nations/>
 - <http://www.news.com.au/lifestyle/food/your-meat-habits-are-killing-the-planet/story-fneuz8zj-1226581078312>
 - <http://blueandgreentomorrow.com/2013/02/20/horsemeat-saga-cheap-meat/>
 - <http://news.softpedia.com/news/Meat-Consumption-in-Rich-Countries-Is-Destroying-the-Planet-330740.shtml>
 - <http://www.independent.ie/world-news/europe/cut-back-meat-consumption-experts-29076991.html>
 - <http://www.igbp.net/news/pressreleases/pressreleases/smarteruseofnutrientswillhelpcleanuptheplanetsayscientists.5.6b007aff13cb59eff645f.html>
 - <http://vegetarianvictoria.org.au/news/halve-meat-consumption-scientists-urge-rich-world.html>
 - <http://www.mnn.com/your-home/organic-farming-gardening/stories/nitrogen-key-in-feeding-world-but-pollution-is-costly>
 - <http://www.dailypress.com/news/science/dp-nws-vims-nutrient-report-20130304.0,3111387.story>
 - <http://www.reuters.com/article/2013/02/18/unep-nutrients-report-idUSL5N0BEAHC20130218>
 - <http://www.fcni.org.uk/research-library/climate-change/science-background/unep-report-our-nutrient-world>
 - <http://www.wm.edu/news/stories/2013/diaz-co-authors-un-report-on-nutrient-threats-and-benefits123.php>
 - <http://www.sustainablebusiness.com/index.cfm/go/news.display/id/24587>
 - <http://www.cornucopia.org/2013/02/smarter-use-of-nutrients-will-help-clean-up-the-planet-say-scientists/>
 - <http://www.thehindu.com/sci-tech/energy-and-environment/preserving-the-future/article4469492.ece>
 - <http://www.foodsecurity.ac.uk/news-events/news/2013/130219-n-smarter-use-of-nutrients.html>
 - <https://www.commondreams.org/headline/2013/02/18-2>
 - [http://www.ifdc.org/Media Center/IFDC in the News/February 2013 \(1\)/Smarter use of nutrients will help clean up the pl](http://www.ifdc.org/Media Center/IFDC in the News/February 2013 (1)/Smarter use of nutrients will help clean up the pl)
 - <http://www.thepeople.co.ke/story.php?com=5&item=2329>
 - http://www.balticmanure.eu/en/news/press_clips/un_says_fertiliser_crisis_is_damaging_the_planet.htm
 - <http://www.farming.co.uk/news/article/7977>
 - <http://www.agprofessional.com/news/New-UN-report-claims-a-fertilizer-crisis-is-looming-191723291.html>
 - <http://www.thestar.co.uk/news/national/cut-back-meat-consumption-experts-1-5419445>
 - <http://www.arc2020.eu/front/2013/02/demi-tarians/>
 - <http://www.churchtimes.co.uk/articles/2013/22-february/comment/columnists/try-going-demitarian-for-lent>
 - <http://language.chinadaily.com.cn/portal.php?mod=view&aid=15590>
 - <http://health.sify.com/love-for-meat-proving-fatal-for-planet/>
- M.236. Jarlett H. (2013) Eating less meat would benefit the nutrient cycle. *Planet Earth*. <http://planetearth.nerc.ac.uk/news/story.aspx?id=1368> (and reissued on other websites eg. phys.org/news/2013-02-meat-benefit-nutrient.html).
- M.235. Danny Fortson (2013) Putting a price on the world. *Sunday Times, Colour Supplement*. 13 January 2013. (Comments on the European Nitrogen Assessment economic valuation of nitrogen damage).
- M.234. Michael Gross. (2012) We need to talk about nitrogen. *Current Biology*, 22 (1), R1-R4.

- M.233. Matt Walker, BBC Nature. The Secret Life of Seabirds. [Article in response to Riddick et al. 2012: The global distribution of ammonia emissions from seabird colonies. Atmospheric Environment, 2012] <http://www.bbc.co.uk/nature/19331027> .
- M.232. **Sutton M.** and Howard C. (2011) Distilling nitrogen science. Feature. *Planet Earth* (NERC Magazine) Winter 2011, pp 18-19. (<http://www.nerc.ac.uk/publications/planetearth/2011/winter/win11-nitrogen.pdf>)
- M.231. Rodella, M. (2011) “La lotta all’inquinamento atmosferico inizia da quell che mettiamo nel piatto. L’esperto: Mark Sutton coordinatore del progetto “ECLARE” con la Cattolica.” (“The fight of the air pollution begins on the plate. The expert: Mark Sutton coordinator of the project ECLARE meeting at the Catholic University”) *Corriere della Sera*, 25 October 2011. [Article linked to the First conference of ÉCLAIRE in Brescia, Italy].
- M.230. Scaliter, J. (2011) Ahogados en Nitrógeno? [“Drowning in Nitrogen”] *Quo* (spanish popular magazine). May 2011, pp 64-68. [article responding to ENA]
- M.229. *Acid News*. (2011) Call for new approach to nitrogen management. (June 2011, no.2), p 23. Commentary on European Nitrogen Assessment.
- M.228. *Options* (2011) IIASA looks to the future in European Nitrogen Assessment. Summer 2011, p 21.
- M.227. *Die Welt*, (2011) Das stinkt zum Himmel. (That stinks to Heaven) Trentmann, N. 12 July 2011, p 10.
- M.226. BBC TV News (11 April 2011) Roger Harrabin. Nitrogen pollution ‘costs EU up to £280bn a year’ [Feature on the European Nitrogen Assessment] <http://www.bbc.co.uk/news/science-environment-13025304>
- M.225. BBC Radio 4: *Today Programme* (11 April 2011): Interview with Luc Maene, Director General of the International Fertiliser Manufacturers Association [Reaction on the ENA.]
- M.224. BBC Radio Scotland (*Good Morning Scotland*) Interview with Mark Sutton (ENA lead editor) and Nigel Miller (President of the National Farmers Union for Scotland).
- M.223. BBC TV: *The One Show* (15 April 2011) Discussion on the ENA (starts 16 minutes in) http://www.bbc.co.uk/iplayer/episode/b010gkjq/The_One_Show_15_04_2011/
- M.222. *Deutschland Funk* (German Radio) (14 April 2011) Zuviel des Guten. [Feature on ENA]
- M.221. BBC News (14 April 2011) Roger Harrabin. Air pollution ‘damaging Europe’s wildlife havens’. <http://www.bbc.co.uk/news/science-environment-13094597> [response to ENA and book “Nitrogen deposition and Natura 2000” Hicks, Sutton et al. (eds) 2011]
- M.220. *The Economist* (May 2011) The Anthropocene. [including reflection on ENA] http://www.economist.com/node/18741749?story_id=18741749&fsrc=rss
- M.219. *The Telegraph* (11 April 2011) Louise Gray. Cut out meat to stop nitrogen pollution say scientists.
- M.218. *The Sun* (11 April 2011) p 20, Nitrogen taint alert. [response to ENA]
- M.217. *Metro* (11 April 2011) £650-a-year nitrogen pollution ‘could be reduced by eating less meat’. [response to ENA]
- M.216. *Scotsman* (12 April 2011) Union defends use of nitrogen in high-octane climate change debate.
- M.215. *Reuters* (11 April 2011) Nigel Hunt, Nitrogen key in feeding world but pollution costly: study.
- M.38.-M.214. *Press Association* (11 April 2011) Emily Beament, Nitrogen pollution costs outlined. [This article and variants were printed by *The Independent*, *Daily Express*, *Daily Mirror*, *Daily Mail*, *The Star*, *Guardian*, *Evening Standard* and 170 UK regional papers from *Aylesbury Today* to the *Yorkshire Post*.] [response to ENA]
- M.37. *Discovery News* (10 April 2011) The heavy cost of nitrogen pollution. [response to ENA]
- M.36. *New Scientist* (blog) Andy Coghlan (11 April 2011) Halve your meat intake to stem nitrogen damage.
- M.35. *ENDS Report*: (April 2011) EU nitrogen pollution costs ‘up to £280bn’. (ENDS Report 435) [response to ENA]
- M.34. *Farmers Guardian* (11 April 2011) David Boderke, Study calls for farmers to reduce fertilisers.
- M.33. *Publico* (Spain)(15 April 2011) Poluição por azoto custa 320 mil milhões de euros por ano à Europa. <http://ecosfera.publico.pt/noticia.aspx?id=1490010> [response to ENA]
- M.32. *Le Monde* (France) (14 April 2011, p 10) Laetitia van Eeckhout, Pollution à l’azote: une lourde facture pour l’Europe. [response to ENA]
- M.31. *La Croix* (France) (11 April 2011) Denis Sergent, Les chercheurs évaluent les effets de la pollution à l’azote. [response to ENA]
- M.30. *Tehran Times* (11 April 2011) Study reveals cost of nitrogen pollution. [response to ENA]

- M.29. *China Post* (11 April 2011) Health impacts of nitrogen very costly: study. [response to ENA]
- M.28. *VOK (Netherlands)* (11 April 2011) René Didde, Vervuiling met stikstof kost miljarden. [response to ENA]
- M.28. Galloway J., Palm C., Sachdev M., Abrol Y. and Sutton M. (2011) Outcome of the fifth International Nitrogen Conference (N2010). *Fertilizers and Agriculture* (February 2011), p 7-8. (20%, inc chairing negotiation of the Delhi Declaration).
- M.27. Sutton M., Reis S., Erisman J.-W., Butterbach-Bahl, K., Cellier P., de Vries W., Beier C., Howard, C. and Zechmeister S. (2010) Nitrogen: the new global challenge. *European Parliament Magazine* Issue **309**, 4-5 (31 May 2010). <http://www.theparliament.com/digimag/issue309> (70%)
- M.26. *Environmental Research Web* (2010) 'Counting sheep' approach may overestimate greenhouse gas emissions. 9 April 2010. [Article in response to P.160. Wolf B., et al. (2010) *Nature* **464**, 881-884.]
- M.25. Gray L. (2010) *Daily Telegraph*, 8 April 2010. Cows absolved of causing global warming with nitrous oxide. [Article in response to P.160. Wolf B., et al. (2010) *Nature* **464**, 881-884.]
- M.24. Lemonick M.D. (2010) Grazing cattle reduce some greenhouse gases. *Time Magazine* 7 April 2010. (<http://www.time.com/time/health/article/0,8599,1978464,00.html#ixzz0ley9lVGy>) [Article in response to P.160. Wolf B., et al. (2010) *Nature* **464**, 881-884.]
- M.23. *Nature* (2010), 464, p 811. Grazing cuts N₂O emission (editors summary). [Announcing P.160. Wolf B., et al. (2010) *Nature* **464**, 881-884.]
- M.22. Del Grosso S.J. (2010) Grazing and nitrous oxide. *Nature* 464, 843-844. [Commentary in response to P.160. Wolf B., et al. (2010) *Nature* **464**, 881-884.]
- M.21. Nuttall, P. (2009) Cause and Effect. (An open letter to politicians on the relevance of nitrogen for climate policies). p 43, *European Parliament Magazine: Research Review*. Issue **11**, p 43 (November 2009).
- M.20. NERC (2009) Communicating nitrogen: the hidden global challenge. In: *Science into policy. Taking part in the process*. Second Edition. p 17. Natural Environment Research Council.
- M.19. Sutton M., Bleeker A., Stevens C., and ~220 other signatories (2009-2010) *The Barsac Declaration: Environmental Sustainability and the Demitarian Diet*. Initiated as a joint activity by members of the NinE and BEGIN ESF programmes, COST 729, NitroEurope IP and the Task Force on Reactive Nitrogen. <http://www.nine-esf.org/sites/nine-esf.org/files/Barsac%20Declaration%20V3.pdf>
- M.18. Sutton M. (2008) Eat less meat. *Acid News* no.4, December 2008, pp., Air Pollution and Climate Secretariat, Goteborg, Sweden 22-23 ISSN 0281-5087 (also available on the web at: www.airclim.org/acidnews/2008/AN4-08.php#Sutton) [Shortened re-issue of M.17, invited and re-edited by *Acid News*]
- M.17. Sutton M. (2008) Snared in a homemade 'NitroNet'. *The Green Room, BBC News*, 8 July 2008. <http://news.bbc.co.uk/1/hi/sci/tech/7496036.stm> + associated public discussion with 80 written contributions. [Invited piece in response to P.124 Galloway et al. *Science*, **320**, 889-892]
- M.16. ScienceDaily (Sep. 23, 2008) Seabird Ammonia Emissions Contribute to Atmospheric Acidity <http://www.sciencedaily.com/releases/2008/09/080923084535.htm> [Report on the paper P.126: Blackall T.D., Wilson L.J., Bull J., Theobald M.R., Bacon P.J., Hamer K.C., Wanless S. and Sutton M.A. (2008) Temporal variation in atmospheric ammonia concentrations above seabird colonies. *Atmospheric Environment* **42**, 6942-6950.]
- M.15. ENDS Report 403 (September 2008, Simon Evans) Humanity's heavy load on the nitrogen cycle. pp 2-4. [Report on a) P.124. Galloway et al. (2008) Transformation of the Nitrogen Cycle: Recent Trends, Questions and Potential Solutions. *Science*, **320**, 889-892, b) developments in the UNECE Task Force on Reactive Nitrogen and c) the European Nitrogen Assessment.]
- M.14. HERO: Higher Education & Research Opportunities in the UK (4 November 2008) Chemical Century. www.hero.ac.uk/uk/research/chemical_century.cfm [Report on: P.129. Erisman J.W., Sutton M.A., Galloway J.N., Klimont Z. and Winiwarter W. (2008) How a century of ammonia synthesis changed the world. *Nature Geoscience* **1**, 636-639, DOI: 10.1038/ngeo325.]
- M.13. DG Environment News Alert Service "SCIENCE FOR ENVIRONMENT POLICY" (2007) Predicting the Effects of Legislation on SO₂ Emissions from International Shipping 19 April, 2007, Issue 61. [Report on: P.110. Dore et al. (2007). Modelling the atmospheric transport and deposition of sulphur and nitrogen over the United Kingdom and assessment of the influence of SO₂ emissions from international shipping. *Atmos. Environ.* **41**, 2355-2367.]

- M.12. *Nature* (2007) Research Highlights: Nitrogen Cycle. Seabirds add ammonia. *Nature*, **447**, 511 (31 May 2007). [Report on the paper: P.112 Blackall et al. (2007) Ammonia emissions from seabird colonies. *Geophys. Res. Lett.* **34**, L10801.]
- M.11. DG Environment News Alert Service "SCIENCE FOR ENVIRONMENT POLICY" (2006) How to reduce the Impact of Ammonia Pollution? 14 December, 2006, Issue 47.
[Report on the paper: P.106. Dragosits U. et al. *J. Environ. Sci. & Policy* **9**, 626-638.]
- M.10. Air Quality Bulletin (2006) Ammonia Control "not easy". p 3, November 2006.
[Report on my lecture of 10/06 to the UK Dispersion Modellers User Group]
- M.9. **Sutton M.A.** (2005) Foot & Mouth Disease and the "Ammonia Gap". Defra Agriculture and Environment R&D Newsletter. Volume 14 pp 4-5. (August 2005).
- M.8. *Trouw*. (national Dutch newspaper). "Vogels zijn flinke vervuilers". February 2000. (GANE seabirds project) [Report following press release on the UK GANE research programme on seabird ammonia emissions].
- M.7. *BBC News Homepage*, "The 'innocent' polluters". 8 March 2000. (http://news.bbc.co.uk/hi/english/uk/scotland/newsid_670000/670108.stm). Mark Coyle. (GANE seabirds project).
[Report following press release on the UK GANE research programme].
- M.6. *New Scientist*. 18 March 2000. p 19. "Filthy birds". (GANE seabirds project).
[Report following press release on the UK GANE research programme].
- M.5. *Rubrieken: Natuur & m.* (Dutch newspaper) "Zeevogels vervuilen de lucht". March 2000. (GANE seabirds project).
[Report following press release on the UK GANE research programme].
- M.4. "Today" programme, Radio 4, 29 April 2000, 0750. Interview on ammonia emissions from seabirds, **Mark Sutton** and Sarah Wanless. Reporter Huw Williams. (Repeated Radio Scotland, 1 May, 0815).
[Report following press release on the UK GANE research programme].
- M.3. *Braunschweiger Zeitung*. Saturday 27 May 2000. p9. "Wo bleibt der Stickstoff von der Kuh? Internationales Forscherteam untersucht den Fluss des Ammoniaks." (What is the fate of N from the cow? International research team investigate the fluxes of ammonia). Christa Grawert-Wagner.
[Report on the GRAMINAE Experiment]
- M.2. *NERC News* Summer 2000. p 30. "Gassed by Gannets" (GANE seabirds project).
[Report following press release on the UK GANE research programme].
- M.1. *Daily Telegraph*. Monday 22 Mar. 1993. p 14. "Look who we're blaming for acid rain now." Charles Clover.