

Professor David Fowler – Full Publication List

PAPERS PUBLISHED IN REFEREED JOURNALS

1970-1980

1. Garland, J.A, Clough, W.S. & Fowler, D. 1973. Deposition of sulphur dioxide on grass. *Nature, Lond.*, 242, 256-257.
2. Fowler, D. & Unsworth, M.H. 1974. Dry deposition of sulphur dioxide on wheat. *Nature, Lond.*, 249, 389-390.
3. Fowler, D. 1978. Dry deposition of SO₂ on agricultural crops. *Atmos. Environ.* 12, 369-373.
4. Fowler, D. & Unsworth, M.H. 1979. Turbulent transfer of sulphur dioxide to a wheat crop. *Q. Jl. R. Met. Soc.* 105, 767-783.

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5. Cape, J.N. & Fowler, D. 1981. Changes in epicuticular wax of *Pinus sylvestris* exposed to polluted air. *Silva fenn.* 15, 457-458.
6. Fowler, D., Cape, J.N., Leith, I.D., Paterson, I.S., Kinnaird, J.W. & Nicholson, I.A. 1982. Rainfall acidity in northern Britain. *Nature, Lond.* 297, 383-386.
7. Cape, J.N., Fowler, D., Kinnaird, J.W., Paterson, I.S., Leith, I.D. & Nicholson, I.A. 1984. Chemical composition of rainfall and wet deposition over northern Britain. *Atmos. Environ.* 18, 1921-1932.
8. Fowler, D. & Cape, J.N. 1984. The contamination of rain samples by dry deposition on rain collectors. *Atmos. Environ.* 18, 183-189.
9. Fowler, D. & Cape, J.N. 1984. On the episodic nature of wet deposited sulphate and acidity. *Atmos. Environ.* 18, 1859-1866.
10. Fowler, D. 1984. Transfer to terrestrial surfaces. *Phil. Trans. R. Soc.B* 305, 281-297. [Also published in: *The ecological effects of deposited sulphur and nitrogen compounds*, eds J.W.L. Beament and others, 23-39. London: Royal Society.]
11. Last, F.T., Fowler, D. & Freer-Smith, P.H. 1984. Die Postulate von Koch und ie Luftverschmutzung. *Forstwiss. Cbl.* 103, 28-48.

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12. Fowler, D., Cape, J.B. & Leith, I.D. 1985. Acid inputs from the atmosphere in the United Kingdom. *Soil Use & Manage.* 1, 3-5.
13. Fowler, D., Leith, I.D. 1985. Biophysical mechanisms in the uptake of air-pollutants. *Staub Reinhaltung der Luft* 45, 253-256.
14. Unsworth, M.H. & Fowler, D. 1985. Deposition of sulphur in the UK. *J. Sci. Fd. Agric* 36, 266-267.
15. Crossley, A. & Fowler, D. 1986. The weathering of Scots pine epicuticular wax in polluted and clean air. *New Phytol.* 103, 207-218.
16. Cape, J.N. & Fowler, D. 1986. Rainfall acidity in northern Britain - exploring the data. *Water Air Soil Pollut.* 30, 239-244.

17. Last, F.T., Cape, J.N. and Fowler, D. 1986. Acid Rain or Pollution Climate. *Span*, 29, 2-4.
18. Leith, I.D. & Fowler, D. 1988. Urban distribution of *Rhytisma acerinum* (Pers.) Fries (tar spot) on sycamore. *New Phytol.* 108, 175-181.
19. Fowler, D., Cape, J.N., Leith, I.D., Choularton, T.W., Gay, M.J. & Jones, A. 1988. The influence of altitude on rainfall composition at Great Dun Fell. *Atmos. Environ.* 22, 1355-1362.
20. Choularton, T.W., Gay, M.J., Jones, A., Fowler, D., Cape, J.N. & Leith, I.D. 1988. The influence of altitude on wet deposition. Comparison between field measurements at Great Dun Fell and the predictions of a seeder-feeder model. *Atmos. Environ.* 22, 1363-1371.
21. Gallagher, M.W., Choularton, T.W., Morse, A.P. & Fowler, D. 1988. Measurements of the size dependence of cloud droplet deposition at a hill site. *Q. J. R. Meteorol. Soc.* 114, 1291-1303.
22. Cape, J.N., Sheppard, L.J., Leith, I.D., Murray, M.B., Deans, J.D. & Fowler, D. 1988. The effect of acid mist on the frost hardiness of red spruce seedlings. *Aspects of applied biol.* 17, 141-149.
23. Fowler, D., Cape, J.N., Leith, I.D., Paterson, I.S., Kinnaird, J.W. & Nicholson, I.A. 1988. Effects of air filtration at small SO₂ and NO₂ concentrations on the yield of barley. *Environ. Pollut.* 53, 135-149.
24. Smith, R.I., Fowler, D. & Cape, J.N. 1989. The statistics of phytotoxic air pollutants. *Jl. R.statist. Soc. A.*, 152, 183-198.
25. Weston, K.J., Kay, P.J.A., Fowler, D., Martin, A. & Bower, J.S. 1989. Mass budget studies of photochemical ozone production over the UK. *Atmos. Environ.* 23, 1349-1360.
26. Fowler, D., Cape, J.N. & Unsworth, M.H. 1989. Deposition of atmospheric pollutants on forests. *Phil. Trans. R. Soc. B.*, 324, 247-265.
27. Eamus, D., Leith, I.D. & Fowler, D. 1989. Water relations of red spruce seedlings treated with acid mist. *Tree Physiol.* 5, 387-397.
28. Eamus, D., Leith, I.D., Fowler, D. 1989. The influence of acid mist upon transpiration, shoot water potential and pressure volume curves of red spruce seedlings. *Annales des Sciences Forestieres* 46, 577-580.
29. Fowler, D., Cape, J.N., Deans, J.D., Leith, I.D., Murray, M.B., Smith, R.I., Sheppard, L.J. & Unsworth, M.H. 1989. Effects of acid mist on the frost hardiness of red spruce seedlings. *New Phytol.* 113, 321-335.
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31. Leith, I.D., Murray, M.B., Sheppard, L.J., Cape, J.N., Deans, J.D., Smith, R.I. & Fowler, D. 1989. Visible foliar injury of red spruce seedlings subjected to simulated acid mist. *New Phytol.* 113, 313-320.

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32. Deans, J.D., Leith, I.D., Sheppard, L.J., Cape, J.N., Fowler, D., Murray, M.B. & Mason, P.A. 1990. The influence of acid mists on growth, dry matter partitioning, nutrient concentrations and mycorrhizal fruiting bodies in red spruce seedlings. *New Phytol.* 115, 459-464.
33. Dore, A.J., Choularton, T.W., Fowler, D. & Storeton-West, R. 1990. Field measurements of wet deposition in an extended region of complex topography. *Q.J. Roy. Met. Soc.* 116, 1193-1212.
34. Eamus, D. & Fowler, D. 1990. Photosynthetic and stomatal conductance responses to acid mist of red spruce seedlings. *Plant Cell and Environment* 13, 349-357.
35. Fowler, D., Morse, A.P., Gallagher, M.W. & Choularton, T.W. 1990. Measurements of cloud water deposition on vegetation using a lysimeter and a flux gradient technique. *Tellus* 42(b), 285-293.

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36. Beswick, K.M., Hargreaves, K., Gallagher, M.W., Choularton, T.W. & Fowler, D. 1991. Size resolved measurements of cloud droplet deposition velocity to a forest using an eddy correlation technique. *Q. J. Roy. Met. Soc.* 117, 623-645.
37. Cape, J.N., Leith, I.D., Fowler, D., Murray, M.B., Sheppard, L.J., Eamus, D. & Wilson, R.H.F. 1991. Sulphate and ammonium in mist impair the frost hardening of red spruce seedlings. *New Phytologist*, 118, 119-126.
38. Fowler, D., Duyzer, J.H. & Baldocchi, D.D. 1991. Inputs of trace gases, particles and cloud droplets to terrestrial surfaces. *Proceedings of the Royal Society of Edinburgh*, 97B, 35-39.
39. Kramm, G., Muller, H., Fowler, D., Hofken, K.D., Meixner, F.X. & Schaller, E. 1991. A modified profile method for determining the vertical fluxes of NO, NO₂, ozone and HNO₃ in the atmospheric surface layer. *Journal of Atmospheric Chemistry*, 13, 265-288.
40. Thornley, J.H.M., Fowler, D. & Cannell, M.G.R. 1991. Terrestrial carbon storage resulting from CO₂ and nitrogen fertilization in temperate grasslands. *Plant Cell and Environment*, 14, 1007-1011.
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42. Cape, J.N., Hargreaves, K.J., Storeton-West, R., Fowler, D., Colville, R.N., Choularton, T.W. & Gallagher, M.W. 1992. Nitrite in orographic cloud as an indicator of nitrous acid in rural air. *Atmospheric Environment*, 26A, 2301-2307.
43. Cape, J.N., Sheppard, L.J., Fowler, D., Harrison, A.F., Parkinson, J.A., Dao, P. & Paterson, I.S. 1992. Contribution of canopy leaching to sulphate deposition in a Scots pine forest. *Environmental Pollution*, 75, 229-236.
44. Cape, J.N. and Fowler, D. 1992. Special Issue: Physical and Chemical Processes in Acidic Deposition 2. Networks, Models and Mechanisms. *Environmental Pollution*, 75, 109-110.

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47. Dore, A.J., Choularton, T.W., Fowler, D. & Crossley, A. 1992. Orographic enhancement of snowfall. *Environmental Pollution*, 75, 175-180.
48. Fowler, D., Cape, J.N. 1992. Physical and chemical processes in acidic deposition – 1 Trace Gases and Clouds. *Environ. Pollut.* 75, 1-2.
49. Gallagher, M.W., Beswick, K., Choularton, T.W., Coe, H., Fowler, D. & Hargreaves, K.J. 1992. Measurements and modelling of cloudwater deposition to moorland and forests. *Environmental Pollution*, 75, 97-107.
50. Hargreaves, K.J., Fowler, D., Storeton-West, R.L. & Duyzer, J.H. 1992. The exchange of nitric oxide, nitrogen dioxide and ozone between pasture and the atmosphere. *Environmental Pollution*, 75, 53-59.
51. Livens, F.R., Fowler, D. & Horrill, A.D. 1992. Wet and dry deposition of ¹³¹I, ¹³⁴Cs and ¹³⁷Cs at an upland site in northern England. *Journal of Environmental Radioactivity*, 16, 243-254.
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53. Skiba, U., Hargreaves, K.J., Fowler, D. & Smith, K.A. 1992. Fluxes of nitric and nitrous oxides from agricultural soils in a cool temperate climate. *Atmospheric Environment*, 26A, 2477-2488.

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56. Sutton, M.A., Fowler, D., Moncrieff, J.B. & Storeton-West, R.L. 1993. The exchange of atmospheric ammonia with vegetated surfaces. II: Fertilized vegetation. *Quarterly Journal of the Royal Meteorological Society*, 119, 1047-1070.
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58. Skiba, U.M., Smith, K.A. & Fowler, D. 1993. The effect of fertilizer on NO and N₂O emission from a sandy loam soil. [abstract]. *Soil Use and Management*, 9, 124-125.

59. Arah, J.R.M., Hargreaves, K.J., Skiba, U.M., Clayton, H., Fowler, D. & Smith, K.A. 1993. Micrometeorological measurement of N₂O flux. [abstract]. *Soil Use and Management*, 9, 124.

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65. Hargreaves, K.J., Skiba, U., Fowler, D., Arah, J.R.M., Wienhold, F.G., Klemetsson, L. & Galle, B. 1994. Measurements of nitrous oxide emission from fertilised grassland using micrometeorological techniques. *Journal of Geophysical Research*, 99, 16569-16574.

66. Murray, M.B., Smith, R.I., Leith, I.D., Fowler, D., Lee, H.S.J., Friend, A.D., Jarvis, P.G. 1994. Effects of elevated CO₂, nutrition and climatic warming on bud phenology in Sitka spruce (*Picea sitchensis*) and their impact on the risk of frost damage. *Tree Physiol.* 14, 691-706.

67. Skiba, U., Fowler, D. & Smith, K. 1994. Emissions of NO and N₂O from soils. *Environmental Monitoring and Assessment*, 31, 153-158. Also published in: *Non-CO₂ greenhouses: why and how to control?* edited by J.van Ham, L.J.H.M. Janssen & R.L. Swart. Dordrecht: Kluwer.

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74. Nisbet, T.R., Fowler, D. & Smith, R.I. 1995. An investigation of the impact of afforestation on stream-water chemistry in the Loch Dee catchment, SW Scotland. *Environmental Pollution*, 90, 111-120.
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89. MacDonald, J.A., Skiba, U., Sheppard, L.J., Hargreaves, K.J., (Smith, K.A.) & Fowler, D. 1996. Soil environmental variables affecting the flux of methane from a range of forest, moorland and agricultural soils. *Biogeochemistry*, 34, 113-132.

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