

## Publications 1999

The scientific programme applicable to each paper is indicated by a code number in square brackets at the end of each reference. The codes are:

- [1] Ice, Climate and Global Change
- [2] Pelagic Ecosystem Studies
- [3] Higher Predator Studies
- [4] Ecological and Physiological Adaptations
- [5] Antarctic Palaeoenvironmental Change Studies
- [6] Continental Break-up
- [7] Active Plate Margins
- [8] Solar wind - Magnetosphere - Ionosphere Transfer of Energy
- [9] Wave Generation and Propagation
- [10] Thermosphere-Ionosphere-Mesosphere Aeronomy
- [11] Survival Strategies
- [12] Ecosystems and Environmental Change
- [13] Human Biology and Medicine
- [14] Multidisciplinary Science and Miscellaneous
- [15] Logistics and Operational Activities
- [16] MAGIC (Mapping and Geographic Information Centre)

## Refereed research papers

**Adcock G.J., Carvalho G.R., Rodhouse P.G. & Shaw P.W.** 1999. Highly polymorphic microsatellite loci of the heavily fished squid genus *Illex* (Ommastrephidae). *Molecular Ecology*, **8**, 157-168. [2]

**Adcock G.J., Shaw P.W., Rodhouse P.G. & Carvalho G.R.** 1999. Microsatellite analysis of genetic diversity in the squid *Illex argentinus* during a period of intensive fishing. *Marine Ecology Progress Series*, **187**, 171-178. [2]

**André R., Pinnock M. & Rodger A.S.** 1999. On the SuperDARN autocorrelation function observed in the ionospheric cusp. *Geophysical Research Letters*, **26**, No. 22, 3353-3356. [8]

**Atkinson A., Ward P., Hill A., Brierley A.S. & Cripps G.C.** 1999. Krill-copepod interactions at South Georgia, Antarctica, II. *Euphausia superba* as a major control on copepod abundance. *Marine Ecology Progress Series*, **176**, 63-79. [2]

**Bale J.S., Worland M.R. & Block W.** 1999. Comparative thermal tolerance of herbivorous and predatory beetles on South Georgia, Sub-Antarctic. *Cryo-Letters*, **20**, No. 2, 83-88. [11]

**Balmforth H.F., Moffett R.J. & Rodger A.S.** 1999. Localized structure in the cusp and high-latitude ionosphere: a modelling study. *Annales Geophysicae*, **17**, No. 4, 455-462. [8]

**Bargagli R., Smith R.I.L., Martella L., Monaci F., Sanchez-Hernandez J.C. & Ugolini F.C.** 1999. Solution geochemistry and behaviour of major and trace elements during summer in a moss community at Edmonson Point, Victoria Land, Antarctica. *Antarctic Science*, **11**, No. 1, 3-12. [12]

- Barker P.F.** 1999. Evidence for a volcanic rifted margin and oceanic crustal structure for the Falkland Plateau Basin. *Journal of the Geological Society*, **156**, Pt. 5, 889-900. [6]
- Barker P.F., Barrett P.J., Cooper A.K. & Huybrechts P.** 1999. Antarctic glacial history from numerical models and continental margin sediments. *Palaeogeography, Palaeoclimatology, Palaeoecology*, **150**, 247-267. [5]
- Barker P.F. & Camerlenghi A.** 1999. An approach to Antarctic glacial history: the aims of Leg 178. (In Barker, P.F., Camerlenghi, A., Acton, G.D. and others, eds. Antarctic glacial history and sea-level change. *Proceedings of the Ocean Drilling Program. Initial Reports*, **178**, (40pp.))
- Barker P.F., Camerlenghi A., Acton G.D. and others including C.J. Pudsey.** 1999. Antarctic glacial history and sea-level change. *Proceedings of the Ocean Drilling Program. Initial Reports*, **178**, 174pp. (on CD-ROM).
- Barnes D.K.A.** 1999. Do life patterns differ between two Scotia Arc localities? A preliminary investigation of three erect Antarctic bryozoan species. *Antarctic Science*, **11**, No. 3, 275-282. [4]
- Barnes D.K.A. & Arnold R.J.** 1999. Possible latitudinal clines in Antarctic intertidal and subtidal zone communities encrusting ephemeral hard substrata. *Journal of Biogeography*, **26**, No. 2, 207-213. [4]
- Bell E.M. & Laybourn-Parry J.** 1999. Annual plankton dynamics in an Antarctic saline lake. *Freshwater Biology*, **41**, 507-519. [12]
- Bergström S., Haemig P.D. & Olsen B.** 1999. Distribution and abundance of the tick *Ixodes uriae* in a diverse subantarctic seabird community. *Journal of Parasitology*, **85**, No. 1, 25-27. [3]
- Bergström S., Haemig P.D. & Olsen B.** 1999. Increased mortality of black-browed albatross chicks at a colony heavily-infested with the tick *Ixodes uriae*. *International Journal for Parasitology*, **29**, 1359-1361. [3]
- Berrow S.D. & Croxall J.P.** 1999. The diet of white-chinned petrels *Procellaria aequinoctialis*, Linnaeus 1758, in years of contrasting prey availability at South Georgia. *Antarctic Science*, **11**, No. 3, 283-292. [3]
- Berrow S.D., Huin N., Humpidge R., Murray A.W.A. & Prince P.A.** 1999. Wing and primary growth of the wandering albatross. *Condor*, **101**, No. 2, 360-368. [3]
- Berrow S.D., Taylor R.I. & Murray A.W.A.** 1999. Influence of sampling protocol on diet determination of gentoo penguins *Pygoscelis papua* and Antarctic fur seals *Arctocephalus gazella*. *Polar Biology*, **22**, No. 3, 156-163. [3]
- Bitner M.A. & Thomson M.R.A.** 1999. Rhynchonellid brachiopods from the Oligocene of King George Island, West Antarctica. *Polish Polar Research*, **20**, No. 2, 83-88. [5]

- Boyd I.L., Lockyer C. & Marsh H.D.** 1999. Reproduction in marine mammals. (In Reynolds, J.E. & Rommel, S.A., eds. *Biology of marine mammals*. Washington, D.C., Smithsonian Institution Press, 218-286.) [3]
- Boyce S.J.** 1999. Nitrogenous excretion in the Antarctic plunderfish. *Journal of Fish Biology*, **54**, 72-81. [4]
- Boyd I.L.** 1999. Foraging and provisioning in Antarctic fur seals: interannual variability in time-energy budgets. *Behavioral Ecology*, **10**, No. 2, 198-208. [3]
- Boyd I.L., Bevan R.M., Woakes A.J. & Butler P.J.** 1999. Heart rate and behavior of fur seals: implications for the measurement of field energetics. *American Journal of Physiology*, **276**, H844-H857. [3]
- Brandjes G.J., Block W. & Ernsting G.** 1999. Spatial dynamics of two introduced species of carabid beetles on the sub-Antarctic island of South Georgia. *Polar Biology*, **21**, No. 5, 326-334. [11]
- Brandon M.A., Murphy E.J., Whitehouse M.J., Trathan P.N., Murray A.W.A., Bone D.G. & Priddle J.** 1999. The shelf break front to the east of the sub-Antarctic island of South Georgia. *Continental Shelf Research*, **19**, No. 6, 799-819. [2]
- Brandt A., Crame J.A., Polz H. & Thomson M.R.A.** 1999. Late Jurassic Tethyan ancestry of Recent southern high-latitude marine isopods (Crustacea, Malacostraca). *Palaeontology*, **42**, Pt. 4, 663-675. [5]
- Brierley A.S.** 1999. A comparison of Antarctic euphausiids sampled by net and from geothermally heated waters: insights into sampling bias. *Polar Biology*, **22**, No. 2, 109-114. [2]
- Brierley A.S. & Brandon M.A.** 1999. Potential for long-distance dispersal of *Euphausia crystallorophias* in fast current jets. *Marine Biology*, **135**, No. 1, 77-82. [2]
- Brierley A.S., Demer D.A., Watkins J.L. & Hewitt R.P.** 1999. Concordance of interannual fluctuations in acoustically estimated densities of Antarctic krill around South Georgia and Elephant Islands: biological evidence of same-year teleconnections across the Scotia Sea. *Marine Biology*, **134**, 675-681. [2]
- Brierley A.S., Watkins J.L., Goss C., Wilkinson M.T. & Everson I.** 1999. Acoustic estimates of krill density at South Georgia, 1981 to 1998. *CCAMLR Science*, **6**, 47-57. [2]
- Brommer A., Millar I.L. & Zeh A.** 1999. Geochronology, structural geology and petrology of the northwestern La Grange Nunataks, Shackleton Range, Antarctica. *Terra Antarctica*, **6**, No. 3, 269-278. [6]
- Brown D.J., Boyd I.L., Cripps G.C. & Butler P.J.** 1999. Fatty acid signature analysis from the milk of Antarctic fur seals and southern elephant seals from South Georgia: implications for diet determination. *Marine Ecology Progress Series*, **187**, 251-263. [3]

- Burg T.M.** 1999. Isolation and characterization of microsattellites in albatrosses. *Molecular Ecology*, **8**, 335-346. [3]
- Butler H.G.** 1999. Temporal plankton dynamics in a maritime Antarctic lake. *Archiv für Hydrobiologie*, **146**, No. 3, 311-339. [12]
- Butler H.G.** 1999. Seasonal dynamics of the planktonic microbial community in a maritime Antarctic lake undergoing eutrophication. *Journal of Plankton Research*, **21**, No. 12, 2393-2419. [12]
- Cattermole T.J.** 1999. The epidemiology of cold injury in Antarctica. *Aviation, Space, and Environmental Medicine*, **70**, No. 2, 135-140. [13]
- Cattermole T.J.** 1999. The epidemiology of skiing injuries in Antarctica. *Injury*, **30**, 491-495. [13]
- Chapelle G. & Peck L.S.** 1999. Polar gigantism dictated by oxygen availability. *Nature*, **399**, No. 6732, 114-115. [4]
- Charles K. & Jones G.O.L.** 1999. Mesospheric mean winds and tides observed by the Imaging Doppler Interferometer (IDI) at Halley, Antarctica. *Journal of Atmospheric and Solar-Terrestrial Physics*, **61**, 351-362. [10]
- Clarke A. & Johnston N.M.** 1999. Scaling of metabolic rate with body mass and temperature in teleost fish. *Journal of Animal Ecology*, **68**, 893-905. [4]
- Clilverd M.A., Rodger C.J. & Thomson N.R.** 1999. Investigating seismoionospheric effects on a long subionospheric path. *Journal of Geophysical Research*, **104**, No. A12, 28,171-28,179. [9]
- Clilverd M.A., Thomson N.R. & Rodger C.J.** 1999. Sunrise effects on VLF signals propagating over a long north-south path. *Radio Science*, **34**, No. 4, 939-948. [9]
- Clilverd M.A., Watkins N.W., Smith A.J. & Yearby K.H.** 1999. Diurnal and annual variations in 10-kHz radio noise. *Radio Science*, **34**, No. 4, 933-938. [9]
- Clilverd M.A., Yeo R.F., Nunn D. & Smith A.J.** 1999. Latitudinally dependent Trimpi effects: modeling and observations. *Journal of Geophysical Research*, **104**, No. A9, 19,881-19,887. [9]
- Cobley N.D.** 1996. [Although dated 1996, actually published 1999]. An observation of live prey capture by a black-browed albatross *Diomedea melanophrys*. *Marine Ornithology*, **24**, 45-46. [3]
- Cobley N.D. & Shears J.R.** 1999. Breeding performance of gentoo penguins (*Pygoscelis papua*) at a rookery exposed to high levels of human disturbance. *Polar Biology*, **21**, No. 6, 355-360. [3, 12]
- Colwell S.R. & Turner J.** 1999. Antarctic meteorological observations on the GTS during the FROST project. *Weather and Forecasting*, **14**, No. 6, 811-816. [1]

- Convey P., Greenslade P., Arnold R.J. & Block W.** 1999. Collembola of sub-Antarctic South Georgia. *Polar Biology*, **22**, No. 1, 1-6. [12]
- Convey P., Morton A. & Poncet J.** 1999. Survey of marine birds and mammals of the South Sandwich Islands. *Polar Record*, **35**, No. 193, 107-124. [3, 12]
- Crame J.A.** 1999. An evolutionary perspective on marine faunal connections between southernmost South America and Antarctica. *Scientia Marina*, **63**, Suppl. 1, 1-14. [5]
- Crame J.A., McArthur J.M., Pirrie D. & Riding J.B.** 1999. Strontium isotope correlation of the basal Maastrichtian Stage in Antarctica to the European and US biostratigraphic schemes. *Journal of the Geological Society*, **156**, Pt. 5, 957-964. [5]
- Cripps G.C., Watkins J.L., Hill H.J. & Atkinson A.** 1999. Fatty acid content of Antarctic krill, *Euphausia superba*, at South Georgia related to regional populations and variations in diet. *Marine Ecology Progress Series*, **181**, 177-188. [2]
- Croxall J.P., Black A.D. & Wood A.G.** 1999. Age, sex and status of wandering albatrosses *Diomedea exulans* L. in Falkland Islands waters. *Antarctic Science*, **11**, No. 2, 150-156. [3]
- Croxall J.P., Reid K. & Prince P.A.** 1999. Diet, provisioning and productivity responses of marine predators to differences in availability of Antarctic krill. *Marine Ecology Progress Series*, **177**, 115-131. [3]
- Curtis M.L. & Lomas S.A.** 1999. Late Cambrian stratigraphy of the Heritage Range, Ellsworth Mountains: implications for basin evolution. *Antarctic Science*, **11**, No. 1, 63-77. [6]
- Curtis M.L., Leat P.T., Riley T.R., Storey B.C., Millar I.L. & Randall D.E.** 1999. Middle Cambrian rift-related volcanism in the Ellsworth Mountains, Antarctica: tectonic implications for the palaeo-Pacific margin of Gondwana. *Tectonophysics*, **304**, 275-299. [6]
- Davey M.C.** 1999. The elemental and biochemical composition of bryophytes from the maritime Antarctic. *Antarctic Science*, **11**, No. 2, 157-159. [11]
- Dingle R.V.** 1999. Walvis Ridge barrier: its influence on palaeoenvironments and source rock generation deduced from ostracod distributions in the early South Atlantic Ocean. (*In* Cameron, N.R., Bate, R.H. & Clure, V.S., eds. The oil and gas habitats of the South Atlantic. *Geological Society of London special publication*, 153. London, Geological Society, 293-302.) [5]
- Donlon C.J., Nightingale T.J., Sheasby T., Turner J., Robinson I.S. & Emery W.J.** 1999. Implications of the oceanic thermal skin temperature deviation at high wind speed. *Geophysical Research Letters*, **26**, No. 16, 2505-2508. [1]
- Edwards H.G.M., Farwell D.W., Grady M.M., Wynn-Williams D.D. & Wright I.P.** 1999. Comparative Raman microscopy of a Martian meteorite and Antarctic lithic analogues. *Planetary and Space Science*, **47**, 353-362. [11]

- Ernsting G., Brandjes G.J., Block W. & Isaaks J.A.** 1999. Life-history consequences of predation for a subantarctic beetle: evaluating the contribution of direct and indirect effects. *Journal of Animal Ecology*, **68**, 741-752. [11]
- Everson I. & Murray A.W.A.** 1999. Size at sexual maturity of Patagonian toothfish (*Dissostichus eleginoides*). *CCAMLR Science*, **6**, 37-46. [2]
- Everson I., Bendall B. & Murray A.W.A.** 1999. Otolith and body size relationships in the mackerel icefish (*Champscephalus gunnari*). *CCAMLR Science*, **6**, 117-123. [2]
- Everson I., Parkes G., Kock K.-H. & Boyd I.L.** 1999. Variation in standing stock of the mackerel icefish (*Champscephalus gunnari*) at South Georgia. *Journal of Applied Ecology*, **36**, 591-603. [2]
- Eynaud F., Giraudeau J., Pichon J.-J. & Pudsey C.J.** 1999. Sea-surface distribution of coccolithophores, diatoms, silicoflagellates and dinoflagellates in the South Atlantic Ocean during the late austral summer 1995. *Deep-Sea Research Part I*, **46**, No. 3, 451-482. [5]
- Fox N.J., Cowley S.W.H., Davda V.N. and 11 others (including M. Pinnock).** 1999. A multipoint study of a substorm occurring on 7 December, 1992, and its theoretical implications. *Annales Geophysicae*, **17**, No. 11, 1369-1384. [8]
- Freeman M.P. & Farrugia C.J.** 1999. Solar wind input between substorm onsets during and after the October 18-20, 1995, magnetic cloud. *Journal of Geophysical Research*, **104**, No. A10, 22,729-22,744. [8]
- Fuhrer K., Wolff E.W. & Johnsen S.J.** 1999. Timescales for dust variability in the Greenland Ice Core Project (GRIP) ice core in the last 100,000 years. *Journal of Geophysical Research*, **104**, No. D24, 31,043-31,052.
- Gardiner K.J., Boyd I.L., Follett B.K., Racey P.A. & Reijnders P.J.H.** 1999. Changes in pituitary, ovarian and testicular activity in harbour seals (*Phoca vitulina*) in relation to season and sexual maturity. *Canadian Journal of Zoology*, **77**, 211-221. [3]
- Gerland S., Oerter H., Kipfstuhl J., Wilhelms F., Miller H. & Miners W.D.** 1999. Density log of a 181 m long ice core from Berkner Island, Antarctica. *Annals of Glaciology*, **29**, 215-219. [1]
- Grøngaard A., Pugh P.J.A. & McInnes S.J.** 1999. Tardigrades and other cryoconite biota on the Greenland Ice Sheet. *Zoologischer Anzeiger*, **238**, 211-214. [12]
- Hardewig I., Peck L.S. & Pörtner H.O.** 1999. Thermal sensitivity of mitochondrial function in the Antarctic notothenioid *Lepidonotothen nudifrons*. *Journal of Comparative Physiology B*, **169**, No. 8, 597-604. [4]
- Harland R. & Pudsey C.J.** 1999. Dinoflagellate cysts from sediment traps deployed in the Bellingshausen, Weddell and Scotia seas, Antarctica. *Marine Micropalaeontology*, **37**, 77-99. [5]

- Harland R., Fitzpatrick M.E.J. & Pudsey C.J.** 1999. Late Quaternary dinoflagellate cyst climatostratigraphy for three cores from the Falkland Trough, Scotia and Weddell seas, Southern Ocean. *Review of Palaeobotany and Palynology*, **107**, 265-281. [5]
- Harold J.M., Bigg G.R. & Turner J.** 1999. Mesocyclone activities over the north-east Atlantic. Part 1: Vortex distribution and variability. *International Journal of Climatology*, **19**, No. 11, 1187-1204. [1]
- Harold J.M., Bigg G.R. & Turner J.** 1999. Mesocyclone activities over the north-east Atlantic. Part 2: An investigation of causal mechanisms. *International Journal of Climatology*, **19**, No. 12, 1283-1299. [1]
- Hatfield E.M.C. & Murray A.W.A.** 1999. Objective assessment of maturity in the Patagonian squid *Loligo gahi* (Cephalopoda: Loliginidae) from Falkland Islands waters. *ICES Journal of Marine Science*, **56**, 746-756. [2]
- Hathway B., Duane A.M., Cantrill D.J. & Kelley S.P.** 1999.  $^{40}\text{Ar}/^{39}\text{Ar}$  geochronology and palynology of the Cerro Negro Formation, South Shetland Islands, Antarctica: a new radiometric tie for Cretaceous terrestrial biostratigraphy in the Southern Hemisphere. *Australian Journal of Earth Sciences*, **46**, No. 4, 593-606. [5]
- Helander P., Chapman S.C., Dendy R.O., Rowlands G. & Watkins N.W.** 1999. Exactly solvable sandpile with fractal avalanching. *Physical Review, Series E*, **59**, No. 6, 6356-6360. [8]
- Hindmarsh R.C.A.** 1999. Coupled ice-till dynamics and the seeding of drumlins and bedrock forms. *Annals of Glaciology*, **28**, 221-230. [1]
- Hindmarsh R.C.A.** 1999. On the numerical computation of temperature in an ice sheet. *Journal of Glaciology*, **45**, No. 151, 568-574. [1]
- Hindmarsh R.C.A.** 1999. Pore-water signal of marine ice-sheets. *Global and Planetary Change*, **23**, 197-211. [1]
- Hodkinson I.D., Webb N.R., Bale J.S. & Block W.** 1999. Hydrology, water availability and tundra ecosystem function in a changing climate: the need for a closer integration of ideas? *Global Change Biology*, **5**, No. 3, 359-369. [11]
- Holland D.M. & Jenkins A.** 1999. Modeling thermodynamic ice-ocean interactions at the base of an ice shelf. *Journal of Physical Oceanography*, **29**, No. 8, Pt. 1, 1787-1800. [1]
- Howe J.A. & Pudsey C.J.** 1999. Antarctic Circumpolar Deep Water: a Quaternary paleoflow record from the northern Scotia Sea, South Atlantic Ocean. *Journal of Sedimentary Research*, **69**, No. 4, 847-861. [5]
- Huin N. & Croxall J.P.** 1996. [Although dated 1996, actually published 1999]. Fishing gear, oil and marine debris associated with seabirds at Bird Island, South Georgia, during 1993/1994. *Marine Ornithology*, **24**, 19-22. [3]
- Hutchinson H.A., Dixon T.S., Adams N. and 7 others, including J. TURNER.** 1999. On the reanalysis of Southern Hemisphere charts for the FROST Project. *Weather and Forecasting*, **14**, No. 6, Pt. 1, 909-919. [1]

- Huybrechts P. & Le Meur E.** 1999. Predicted present-day evolution patterns of ice thickness and bedrock elevation over Greenland and Antarctica. *Polar Research*, **18**, No. 2, 299-306. [1]
- Jarvis M.J., Jones G.O.L. & Jenkins B.** 1999. New initiatives in observing the Antarctic mesosphere. *Advances in Space Research*, **24**, No. 5, 611-619. [10]
- Jenkins A.** 1999. The impact of melting ice on ocean waters. *Journal of Physical Oceanography*, **29**, No. 9, 2370-2381. [1]
- Jenkins B. & Jarvis M.J.** 1999. Mesospheric winds derived from SuperDARN HF radar meteor echoes at Halley, Antarctica. *Earth, Planets and Space*, **51**, No. 7-8, 685-689. [10]
- Johnson A.C.** 1999. Interpretation of new aeromagnetic anomaly data from the central Antarctic Peninsula. *Journal of Geophysical Research*, **104**, No. B3, 5031-5046. [7]
- Johnson A.C., Cheeseman S. & Ferris J.K.** 1999. Improved compilation of Antarctic Peninsula magnetic data by new interactive grid suturing and blending methods. *Annali di Geofisica*, **42**, No. 2, 249-259. [7]
- Jones A.E., Weller R., Minikin A., Wolff E.W., Sturges W.T., McIntyre H.P., Leonard S.R., Schrems O. & Bauguitte S.** 1999. Oxidized nitrogen chemistry and speciation in the Antarctic troposphere. *Journal of Geophysical Research*, **104**, No. D17, 21,355-21,366. [1]
- Jones P.C. & Ferris J.K.** 1999. A new estimate of the adopted gravity value at Rothera Station, Antarctic Peninsula. *Antarctic Science*, **11**, No. 4, 461-462. [7]
- Jonkers H.A.** 1999. Aligned growth positions in Pliocene *Laternula elliptica* (King & Broderip) (Bivalvia: Anomalodesmata: Laternulidae). *Antarctic Science*, **11**, No. 4, 463-464. [5]
- Key M.M. & Barnes D.K.A.** 1999. Bryozoan colonization of the marine isopod *Glyptonotus antarcticus* at Signy Island, Antarctica. *Polar Biology*, **21**, No. 1, 48-55. [4]
- King J.C. & Anderson P.S.** 1999. A humidity climatology for Halley, Antarctica, based on frost-point hygrometer measurements. *Antarctic Science*, **11**, No. 1, 100-104. [1]
- Kooyman G.L., Hull C., Olsson O., Robertson G., Croxall J.P. & Davis L.S.** 1999. Foraging patterns of polar penguins. (In Adams, N.J. & Slotow, R.H., eds. *Proceedings of 22nd Ornithological Congress, Durban, August 1998*. Johannesburg, BirdLife South Africa, 2021-2039.) [3]
- Larter R.D., Cunningham A.P., Barker P.F., Gohl K. & Nitsche F.O.** 1999. Structure and tectonic evolution of the West Antarctic continental margin and Bellingshausen Sea. *Korean Journal of Polar Research*, **10**, No. 2, 125-133. [7]
- Legrand M., Wolff E.W. & Wagenbach D.** 1999. Antarctic aerosol and snowfall chemistry: implications for deep Antarctic ice-core chemistry. *Annals of Glaciology*, **29**, 66-72. [1]

- Leonard S.R., Turner J. & Van Der Wal A.** 1999. An assessment of three automatic depression tracking schemes. *Meteorological Applications*, **6**, 173-183. [1]
- Lomas S.A.** 1999. A Lower Cretaceous clastic slope succession, Livingston Island, Antarctica: sand-body characteristics, depositional processes and implications for slope apron depositional models. *Sedimentology*, **46**, 477-504. [5]
- Lomas S.A. & Dingle R.V.** 1999. Possible evidence for Late Cretaceous off-axis volcanism in the outer James Ross Basin. *Antarctic Science*, **11**, No. 3, 332-337. [5]
- Lübken F.-J., Jarvis M.J. & Jones G.O.L.** 1999. First in situ temperature measurements at the Antarctic summer mesopause. *Geophysical Research Letters*, **26**, No. 24, 3581-3584. [10]
- McCafferty D.J.** 1999. Premature pupping in Antarctic fur seals (*Arctocephalus gazella*). *Marine Mammal Science*, **15**, No. 3, 882-885. [3]
- McCafferty D.J., Boyd I.L., Walker T.R. & Taylor R.I.** 1999. Can marine mammals be used to monitor oceanographic conditions? *Marine Biology*, **134**, 387-395. [3]
- Macdonald D.I.M., Leat P.T., Doubleday P.A. & Kelly S.R.A.** 1999. On the origin of fore-arc basins: new evidence of formation by rifting from the Jurassic of Alexander Island, Antarctica. *Terra Nova*, **11**, 186-193. [7]
- McInnes S.J. & Pugh P.J.A.** 1999. Zonation in Antarctic lake-dwelling benthic meiofauna, with emphasis on the Tardigrada. *Zoologischer Anzeiger*, **238**, 283-288. [12]
- Makinson K. & Nicholls K.W.** 1999. Modelling tidal currents beneath Filchner-Ronne Ice Shelf and on the adjacent continental shelf: their effect on mixing and transport. *Journal of Geophysical Research*, **104**, No. C6, 13,449-13,465. [1]
- Marshall D.J. & Convey P.** 1999. Compact aggregation and life-history strategy in a continental Antarctic mite. (In Bruin, J., van der Geest, L.P.S. & Sabelis, M.W., eds. *Ecology and evolution of the Acari*. Dordrecht, Kluwer, 557-567.) [12]
- Marshall D.J., Gremmen N.J.M., Coetzee L., Oconnor B.M., Pugh P.J.A., Theron P.D. & Ueckermann E.A.** 1999. New records of Acari from the sub-Antarctic Prince Edward Islands. *Polar Biology*, **21**, No. 2, 84-89. [12]
- Marshall G.J. & Turner J.** 1999. Synoptic-scale weather systems observed during the FROST project via scatterometer winds. *Weather and Forecasting*, **14**, No. 6, 867-877. [1]
- Martin G.R.** 1999. Eye structure and foraging in king penguins *Aptenodytes patagonicus*. *Ibis*, **141**, No. 3, 444-450. [3]
- Mastrantonio G., Naithani J., Anderson P.S., Argentini S. & Petenko I.** 1999. Quantitative analysis and interpretation of dot echoes observed with a Doppler sodar. *Journal of Atmospheric and Oceanic Technology*, **16**, No. 12, 1928-1940. [1]

- Menk F.W., Orr D., Clilverd M.A., Smith A.J., Waters C.L., Milling D.K. & Fraser B.J.** 1999. Monitoring spatial and temporal variations in the dayside plasmasphere using geomagnetic field line resonances. *Journal of Geophysical Research*, **104**, No. A9, 19,955-19,969. [9]
- Meredith N.P., Johnstone A.D., Szita S., Horne R.B. & Anderson R.R.** 1999. 'Pancake' electron distributions in the outer radiation belts. *Journal of Geophysical Research*, **104**, No. A6, 12,431-12,444. [9]
- Millar I.L.** 1999. Neoproterozoic extensional basic magmatism associated with the West Highland granite gneiss in the Moine Supergroup of NW Scotland. *Journal of the Geological Society*, **156**, Pt. 6, 1153-1162. [14]
- Millward G.H., Moffett R.J., Balmforth H.F. & Rodger A.S.** 1999. Modeling the ionospheric effects of ion and electron precipitation in the cusp. *Journal of Geophysical Research*, **104**, No. A11, 24,603-24,612. [8]
- Moen J., Ingvarsson P.K. & Walton D.W.H.** 1999. Estimates of structural complexity in clonal plant morphology: comparisons of grazed and ungrazed *Acaena magellanica* rhizomes. *Canadian Journal of Botany*, **77**, No. 6, 869-876. [12]
- Montiel P.O., Smith A.E. & Keiller D.R.** 1999. Photosynthetic responses of selected Antarctic plants to solar radiation in the southern maritime Antarctic. *Polar Research*, **18**, No. 2, 229-235. [11]
- Moore M.J., Berrow S.D., Jensen B.A., Carr P., Sears R., Rowntree V.J., Payne R. & Hamilton P.K.** 1999. Relative abundance of large whales around South Georgia (1979-1998). *Marine Mammal Science*, **15**, No. 4, 1287-1302. [3]
- Morris E.M.** 1999. Surface ablation rates on Moraine Corrie Glacier, Antarctica. *Global and Planetary Change*, **22**, 221-231. [1]
- Nishitani N., Ogawa T., Pinnock M., Freeman M.P., Dudeney J.R. and 5 others.** 1999. A very large scale flow burst observed by the SuperDARN radars. *Journal of Geophysical Research*, **104**, No. A10, 22,469-22,486. [8]
- Noone D., Turner J. & Mulvaney R.** 1999. Atmospheric signals and characteristics of accumulation in Dronning Maud Land, Antarctica. *Journal of Geophysical Research*, **104**, No. D16, 19,191-19,211. [1]
- Nunn D. & Rodger C.J.** 1999. Modeling the relaxation of red sprite plasma. *Geophysical Research Letters*, **26**, No. 21, 3293-3296. [9]
- Ochyra R. & Smith R.I.L.** 1999. *Meesia uliginosa* Hedw. (Musci, Meesiaceae) in Antarctica. *Cryptogamie, Bryologie*, **20**, No. 1, 5-10. [12]
- Pankhurst R.J., Weaver S.D., Hervé F. & Larrondo P.** 1999. Mesozoic-Cenozoic evolution of the North Patagonian batholith in Aysén, southern Chile. *Journal of the Geological Society*, **156**, Pt. 4, 673-694. [7]

- Pasteur E.C. & Mulvaney R.** 1999. Laboratory study of the migration of methane sulphonate in firn. *Journal of Glaciology*, **45**, No. 150, 214-218. [1]
- Peck L.S. & Chapelle G.** 1999. Amphipod gigantism dictated by oxygen availability? Reply. *Ecology Letters*, **2**, No. 6, 401-403. [4]
- Peck L.S., Brockington S., Vanhove S. & Beghyn M.** 1999. Community recovery following catastrophic iceberg impacts in a soft-sediment shallow-water site at Signy Island, Antarctica. *Marine Ecology Progress Series*, **186**, 1-8. [4]
- Pinnock M., Rodger A.S., Baker K.B., Lu G. & Hairston M.** 1999. Conjugate observations of the day-side reconnection electric field: a GEM boundary layer campaign. *Annales Geophysicae*, **17**, No. 4, 443-454. [8]
- Poole I. & Francis J.E.** 1999. The first record of fossil atherospermataceous wood from the upper Cretaceous of Antarctica. *Review of Palaeobotany and Palynology*, **107**, 97-107. [5]
- Pörtner H.O., Hardewig I. & Peck L.S.** 1999. Mitochondrial function and critical temperature in the Antarctic bivalve, *Laternula elliptica*. *Comparative Biochemistry and Physiology*, **124A**, 179-189. [4]
- Pörtner H.O., Peck L.S., Zielinski S. & Conway L.Z.** 1999. Intracellular pH and energy metabolism in the highly stenothermal Antarctic bivalve *Limopsis marionensis* as a function of ambient temperature. *Polar Biology*, **22**, No. 1, 17-30. [4]
- Prince P.A., Weimerskirch H., Wood A.G. & Croxall J.P.** 1999. Areas and scales of interactions between albatrosses and the marine environment: species, populations and sexes. (In Adams, N.J. & Slotow, R.H., eds. *Proceedings of 22nd Ornithological Congress, Durban, August 1998*. Johannesburg, BirdLife South Africa, 2001-2020.) [3]
- Rapley C.** 1999. Global change and the polar regions. *Polar Research*, **18**, No. 2, 117-118. [14]
- Rash J.P.S., Rodger A.S. & Pinnock M.** 1999. HF radar observations of the high-latitude ionospheric convection pattern in the morning sector for northward IMF and motion of the convection reversal boundary. *Journal of Geophysical Research*, **104**, No. A7, 14,847-14,866. [8]
- Reay D.S., Nedwell D.B., Priddle J. & Ellis-Evans J.C.** 1999. Temperature dependence of inorganic nitrogen uptake: reduced affinity for nitrate at suboptimal temperatures in both algae and bacteria. *Applied and Environmental Microbiology*, **65**, No. 6, 2577-2584. [12]
- Reid K., Barlow K.E., Croxall J.P. & Taylor R.I.** 1999. Predicting changes in the Antarctic krill, *Euphausia superba*, population at South Georgia. *Marine Biology*, **135**, 647-652. [2, 3]
- Reid K., Liddle G.M., Prince P.A. & Croxall J.P.** 1999. Measurement of chick provisioning in Antarctic prions *Pachyptila desolata* using an automated weighing system. *Journal of Avian Biology*, **30**, No. 2, 127-134. [3]

- Reid K., Watkins J.L., Croxall J.P. & Murphy E.J.** 1999. Krill population dynamics at South Georgia 1991 - 1997, based on data from predators and nets. *Marine Ecology Progress Series*, **177**, 103-114. [2, 3]
- Riggin D.M., Fritts D.C., Jarvis M.J. & Jones G.O.L.** 1999. Spatial structure of the 12-hour wave in the Antarctic as observed by radar. *Earth, Planets and Space*, **51**, No. 7-8, 621-628. [10]
- Riley T.R. & Leat P.T.** 1999. Large volume silicic volcanism along the proto-Pacific margin of Gondwana: lithological and stratigraphical investigations from the Antarctic Peninsula. *Geological Magazine*, **136**, No. 1, 1-16. [6]
- Rist M.A., Simmonds P.R., Murrell S.A.F., Meredith P.G., Doake C.S.M., Oerter H. & Matsuki K.** 1999. Experimental and theoretical fracture mechanics applied to Antarctic ice fracture and surface crevassing. *Journal of Geophysical Research*, **104**, No. B2, 2973-2987. [1]
- Robinson C., Archer S.D. & Williams P.J.L.** 1999. Microbial dynamics in coastal waters of East Antarctica: plankton production and respiration. *Marine Ecology Progress Series*, **180**, 23-36. [2]
- Rodger A.S. & Rosenberg T.J.** 1999. Riometer and HF radar signatures of polar patches. *Radio Science*, **34**, No. 2, 501-508. [8]
- Rodger C.J.** 1999. Red sprites, vertical lightning, and VLF perturbations. *Reviews of Geophysics*, **37**, No. 3, 317-336. [9]
- Rodger C.J. & Nunn D.** 1999. VLF scattering from red sprites: application of numerical modelling. *Radio Science*, **34**, No. 4, 923-932. [9]
- Rodger C.J., Clilverd M.A. & Thomson N.R.** 1999. Modeling of subionospheric VLF signal perturbations associated with earthquakes. *Radio Science*, **34**, No. 5, 1177-1185. [9]
- Rodger C.J., Clilverd M.A., Yearby K.H. & Smith A.J.** 1999. Magnetospheric line radiation observations at Halley, Antarctica. *Journal of Geophysical Research*, **104**, No. A8, 17,441-17,447. [9]
- Rodger C.J., Thomson N.R. & Wait J.R.** 1999. VLF scattering from red sprites: vertical columns of ionization in the Earth-ionosphere waveguide. *Radio Science*, **34**, No. 4, 913-921. [9]
- Roscoe H.K., Johnston P.V., Van Roozendaal M., Richter A., Sarkissian A., Roscoe J., Preston K.E. and 37 others.** 1999. Slant column measurements of O<sub>3</sub> and NO<sub>2</sub> during the NDSC intercomparison of zenith-sky UV-visible spectrometers in June 1996. *Journal of Atmospheric Chemistry*, **32**, No. 2, 281-314. [1]
- Roscoe H.K., Lachlan-Cope T.A. & Roscoe J.** 1999. Feasibility of an airborne TV camera as a size spectrometer for cloud droplets in daylight. *Applied Optics*, **38**, No. 3, 441-450. [1]

- Sato M., Fukunishi H., Kataoka R., Shono A., Lanzerotti L.J., Doolittle J.H., Mende S.B. & Pinnock M.** 1999. Dayside auroral dynamics observed by the AGO network in Antarctica. *Advances in Polar Upper Atmosphere Research*, No. 13, 67-78. [8]
- Sinclair B.J., Worland M.R. & Wharton D.A.** 1999. Ice nucleation and freezing tolerance in New Zealand alpine and lowland weta, *Hemideina* spp. (Orthoptera; Stenopelmatidae). *Physiological Entomology*, **24**, 56-63. [11]
- Smellie J.L.** 1999. Lithostratigraphy of Miocene-Recent, alkaline volcanic fields in the Antarctic Peninsula and eastern Ellsworth Land. *Antarctic Science*, **11**, No. 3, 362-378. [5]
- Smellie J.L.** 1999. The upper Cenozoic tephra record in the south polar region: a review. *Global and Planetary Change*, **21**, 51-70. [5]
- Smith A.J., Freeman M.P., Wickett M.G. & Cox B.D.** 1999. On the relationship between the magnetic and VLF signatures of the substorm expansion phase. *Journal of Geophysical Research*, **104**, No. A6, 12,351-12,360. [8]
- Smith R.I.L.** 1999. Biological and environmental characteristics of three cosmopolitan mosses dominant in continental Antarctica. *Journal of Vegetation Science*, **10**, 231-242. [12]
- Stanwell-Smith D., Peck L.S., Clarke A., Murray A.W.A. & Todd C.D.** 1999. The distribution, abundance and seasonality of pelagic marine invertebrate larvae in the maritime Antarctic. *Philosophical Transactions of the Royal Society of London, Series B*, **354**, 471-484. [4]
- Storey B.C., Curtis M.L., Ferris J.K., Hunter M.A. & Livermore R.A.** 1999. Reconstruction and break-out model for the Falkland Islands within Gondwana. *Journal of African Earth Sciences*, **29**, No. 1, 153-163. [6]
- Storey B.C., Leat P.T., Weaver S.D., Pankhurst R.J., Bradshaw J.D. & Kelley S.** 1999. Mantle plumes and Antarctica-New Zealand rifting: evidence from mid-Cretaceous mafic dykes. *Journal of the Geological Society*, **156**, Pt. 4, 659-671. [6]
- Taylor G.K., Randall D.E. & Grocott J.** 1999. On the mechanism of crustal block rotations in the central Andes - Comment. *Tectonophysics*, **313**, No. 4, 463-466. [7]
- Tessensohn F. & Thomson M.R.A.** 1999. The EUROSHACK Project: a brief outline. *Terra Antarctica*, **6**, No. 3, 175-182. [6]
- Tessensohn F., Kleinschmidt G., Talarico F., Buggisch W., Brommer A., Henjes-Kunst F., Kroner U., Millar I.L. & Zeh A.** 1999. Ross-age amalgamation of east and west Gondwana: evidence from the Shackleton Range, Antarctica. *Terra Antarctica*, **6**, No. 3, 317-325. [6]
- Thomson M.R.A. & Weber B.** 1999. Discovery of an Ordovician invertebrate fauna in the Blaiklock Glacier Group, Shackleton Range, Antarctica. *Terra Antarctica*, **6**, No. 3, 241-248.
- Trathan P.N., Kalinowski J. & Everson I.** 1999. Status of the Polish FIBEX acoustic data from the West Atlantic. *CCAMLR Science*, **6**, 125-132. [2]

- Tuck G.N., Polacheck T., Croxall J.P., Weimerskirch H., Prince P.A. & Wotherspoon S.** 1999. The potential of archival tags to provide long-term movement and behaviour data for seabirds: first results from wandering albatross *Diomedea exulans* of South Georgia and the Crozet Islands. *Emu*, **99**, Pt. 1, 60-68. [3]
- Turner J.** 1999. An overview of the Antarctic FROST project. *Australian Meteorological Magazine*, special edition, June 1999, 3-7. [1]
- Turner J., Bromwich D.H. & Carter G.M., eds.** 1999. Special issue on the First Regional Observing Study of the Troposphere (FROST). *Weather and Forecasting*, **14**, No. 6, Pt. 1, 809-929. [1]
- Turner J., Colwell S.R. & Leonard S.** 1999. Data collected during the FROST project. *Australian Meteorological Magazine*, special edition, June 1999, 9-14. [1]
- Turner J., Connolley W.M., Leonard S., Marshall G.J. & Vaughan D.G.** 1999. Spatial and temporal variability of net snow accumulation over the Antarctic from ECMWF re-analysis project data. *International Journal of Climatology*, **19**, No. 7, 697-724. [1]
- Turner J., Leonard S., Marshall G.J., Pook M., Cowled L., Jardine R., Pendlebury S. & Adams N.** 1999. An assessment of operational Antarctic analyses based on data from the FROST project. *Weather and Forecasting*, **14**, No. 6, 817-834. [1]
- Vaughan A.P.M., Millar I.L. & Thistlewood L.** 1999. The Auriga Nunataks shear zone: Mesozoic transfer faulting and arc deformation in northwest Palmer Land, Antarctica. *Tectonics*, **18**, No. 5, 911-928. [6]
- Vaughan D.G., Bamber J.L., Giovinetto M., Russell J. & Cooper A.P.R.** 1999. Reassessment of net surface mass balance in Antarctica. *Journal of Climate*, **12**, No. 4, 933-946. [1]
- Vaughan D.G., Corr H.F.J., Doake C.S.M. & Waddington E.D.** 1999. Distortion of isochronous layers in ice revealed by ground-penetrating radar. *Nature*, **398**, No. 6725, 323-326. [1]
- Vecchione M., Young R.E., Donovan D.T. & Rodhouse P.G.** 1999. Reevaluation of coleoid cephalopod relationships based on modified arms in the Jurassic coleoid *Mastigophora*. *Lethaia*, **32**, No. 2, 113-118. [2]
- Veit R.R., Whitehouse M.J. & Prince P.A.** 1996. [Although dated 1996, actually published 1999]. Sighting of a Leach's storm petrel *Oceanodroma leucorhoa* near the Antarctic Polar Front. *Marine Ornithology*, **24**, 41-42. [3]
- Waluda C.M., Trathan P.N. & Rodhouse P.G.** 1999. Influence of oceanographic variability on recruitment in the *Illex argentinus* (Cephalopoda: Ommastrephidae) fishery in the South Atlantic. *Marine Ecology Progress Series*, **183**, 159-167. [3]
- Wanless S., Finney S.K., Harris M.P. & McCafferty D.J.** 1999. Effect of the diel light cycle on the diving behaviour of two bottom feeding marine birds: the blue-eyed shag

*Phalacrocorax atriceps* and the European shag *P. aristotelis*. *Marine Ecology Progress Series*, **188**, 219-224. [3]

**Ward P. & Shreeve R.S.** 1999. The spring mesozooplankton community at South Georgia: a comparison of shelf and oceanic sites. *Polar Biology*, **22**, No. 5, 289-301. [2]

**Watkins J.L.** 1999. A composite recruitment index to describe interannual changes in the population structure of Antarctic krill at South Georgia. *CCAMLR Science*, **6**, 71-84. [2]

**Watkins J.L., Murray A.W.A. & Daly H.I.** 1999. Variation in the distribution of Antarctic krill *Euphausia superba* around South Georgia. *Marine Ecology Progress Series*, **188**, 149-160. [2]

**Watkins N.W., Chapman S.C., Dendy R.O. & Rowlands G.** 1999. Robustness of collective behaviour in strongly driven avalanche models: magnetospheric implications. *Geophysical Research Letters*, **26**, No. 16, 2617-2620. [8]

**Waugh S.M., Prince P.A. & Weimerskirch H.** 1999. Geographical variation in morphometry of black-browed and grey-headed albatrosses from four sites. *Polar Biology*, **22**, No. 3, 189-194. [3]

**Waugh S.M., Weimerskirch H., Cherel Y., Shankar U., Prince P.A. & Sagar P.M.** 1999. Exploitation of the marine environment by two sympatric albatrosses in the Pacific Southern Ocean. *Marine Ecology Progress Series*, **177**, 243-254. [3]

**Weimerskirch H., Catard A., Prince P.A., Cherel Y. & Croxall J.P.** 1999. Foraging white-chinned petrels *Procellaria aequinoctialis* at risk: from the tropics to Antarctica. *Biological Conservation*, **87**, 273-275. [3]

**Weller R., Minikin A., König-Langlo G., Schrems O., Jones A.E., Wolff E.W. & Anderson P.S.** 1999. Investigating possible causes of the observed diurnal variability in Antarctic NO<sub>y</sub>. *Geophysical Research Letters*, **26**, No. 18, 2853-2856. [1]

**Whitehouse M.J., Priddle J., Brandon M.A. & Swanson C.** 1999. A comparison of chlorophyll/nutrient dynamics at two survey sites near South Georgia, and the potential role of planktonic nitrogen recycled by land-based predators. *Limnology and Oceanography*, **44**, No. 6, 1498-1508. [2]

**Willan R.C.R. & Kelley S.P.** 1999. Mafic dyke swarms in the South Shetland Islands volcanic arc: unravelling multiepisodic magmatism related to subduction and continental rifting. *Journal of Geophysical Research*, **104**, No. B10, 23,051-23,068. [7]

**Woehler E.J. & Croxall J.P.** 1997. [Although dated 1997, actually published 1999]. The status and trends of Antarctic and sub-Antarctic seabirds. *Marine Ornithology*, **25**, 43-66. [3]

**Wolff E.W., Basile I., Petit J.-R. & Schwander J.** 1999. Comparison of Holocene electrical records from Dome C and Vostok, Antarctica. *Annals of Glaciology*, **29**, 89-93. [1]

**Wolff E.W., Suttie E.D. & Peel D.A.** 1999. Antarctic snow record of cadmium, copper, and zinc content during the twentieth century. *Atmospheric Environment*, **33**, 1535-1541. [1]

**Worland M.R. & Block W.** 1999. Ice-nucleating bacteria from the guts of two sub-Antarctic beetles, *Hydromedion sparsutum* and *Perimylops antarcticus* (Perimylopidae). *Cryobiology*, **38**, 60-67. [11]

**Wynn-Williams D.D.** 1999. Antarctica as a model for ancient Mars. (In Hiscox, J.A., ed. *The search for life on Mars*. London, British Interplanetary Society, 49-57.) [11]

**Xavier J.C., Rodhouse P.G., Trathan P.N. & Wood A.G.** 1999. A Geographical Information System (GIS) atlas of cephalopod distribution in the Southern Ocean. *Antarctic Science*, **11**, No. 1, 61-62. [2]

**Yeoman T.K., Lewis R.V., Milan S.E. & Watanabe M.** 1999. An interhemispheric study of the ground magnetic and ionospheric electric fields during the substorm growth phase and expansion phase onset. *Journal of Geophysical Research*, **104**, No. A7, 14,867-14,877. [8]

**Zeh A., Millar I.L., Kroner U. & Görz I.** 1999. The structural and metamorphic evolution of the northern Haskard Highlands, Shackleton Range, Antarctica. *Terra Antartica*, **6**, No. 3, 249-268. [6]