GLOSSARY

Note: relevant places in the text where glossary terms are mentioned are marked in bold.

Aerosols Aggregations of minute particles (solid or liquid) suspended in the atmosphere. The term is often used to describe smoke, dust, condensation nuclei, freezing nuclei, fog, or pollutants such as droplets containing sulfur dioxide or nitrogen dioxide.

Aggradation The building upward or outward of the land surface by the deposition of sediment.

Albedo A measure for the reflectivity of a body or surface, defined as the total radiation reflected by the body divided by the total radiation falling on it. Values are expressed on a scale of either 0–1 or 1–100%.

Allochthonous Formed at a distance from its present position (see Autochthonous).

Aquifer An underground water-bearing layer of porous rock through which water can flow.

Autochthonous Formed in its present position, rather than by transport processes.

Biodegradation The breakdown or rendering harmless of a substance by natural processes.

Biodiversity The variety of species, both floral and faunal, contained within an ecosystem.

Biomass The total mass of biological material contained in a given area of the Earth's surface (expressed as dry weight or per unit area).

Biosphere The interlinked communities of animals, plants and microorganisms that live on Earth.

Boreal Of northern regions. A term applied both to a climatic zone characterized by cold, snowy winters and short summers, and to the coniferous forests of the high mid-latitudes in the Northern Hemisphere, also known as taiga.

Channelization The modification of river channels for the purpose of flood control, land drainage, navigation and the reduction or prevention of erosion.

Chaparral A type of stunted (scrub) woodland found in temperate regions with dry summers (Mediterranean regions). It is dominated by drought-resistant evergreen shrubs.

Chlorofluorocarbons A range of synthetically manufactured, chemically inert compounds (CFC) containing atoms of carbon, fluorine and chloride. They have been developed and widely used as solvents, refrigerant and aerosol propellants and in the manufacture of foam plastics.

Climax The final stage of plant succession, when the plant community is relatively stable and in equilibrium with the existing environmental conditions. It is normally determined by climate (climatic climax) or by soil (edaphic climax).

Coral bleaching Corals are bleached when the colorful symbiotic algae they house are lost. When the algae are absent for any length of time, the coral dies. This absence can be caused by excessively warm water temperatures.

Critical loads A concept in pollution studies which involves the idea that there is a certain pollution load level (e.g., of acid rain) above which harmful effects on biological systems will occur.

Deflation The removal of dry, unconsolidated material, e.g., dust or sand, from a surface by wind.

Deforestation The permanent removal of trees from an area of forest or woodland.

Desertification The spread of desert-like conditions in arid or semi-arid areas, due to human interference or climatic change, or both.

DNA (deoxyribonucleic acid). The substance that is the carrier of genetic information, found in the chromosomes of the nucleus of a cell.

Domestication The taming and breeding of previously wild animals and plants for human use.

Dust storm A storm, particularly in dry areas, which carries dense clouds of dust, sometimes to a great height, often obscuring visibility to below 1000 m.

Ecological footprint The area that is impacted by pollution, resource extraction, development and transport from a particular location (e.g., a city).

Ecology The science which studies the relations between living organisms and their environment.

ENSO (El Niño–Southern Oscillation). Periodical disturbances of Pacific Ocean and atmosphere, with El Niño conditions being abnormally warm off the coast of South America and La Niña conditions being abnormally cool.

Eutrophication The process by which an aquatic ecosystem increases in productivity as a result of increased nutrient input. Often this is due to human-induced additions of elements such as nitrogen and phosphorus (cultural eutrophication). However, the process may also be a natural phenomenon.

Forest decline The decline of forest vitality characterized by decreased and abnormal growth, leading eventually to death. The causes include poor management practices; climatic change; fungal, viral and pest attack; nutrient deficiency; and atmospheric pollution.

Genetic engineering The technology involved in manipulating the genes (molecular building blocks) of organisms. Organisms treated in this way are called genetically modified organisms (GMOs).

Gleying Soil characteristics (including mottling) developed as a result of poor drainage and intermittent waterlogging reducing oxidation or causing the deoxidation of ferric compounds.

Global change Largely synonymous with 'global environmental change', it refers to changes in the global environment (including climate change) that may alter the capacity of the Earth to sustain life.

Green Revolution An agricultural revolution, especially in the less developed countries of Asia in the 1960s and 1970s, which gave rise to increased food production through the introduction of new high-yielding varieties of crops and the adoption of techniques (e.g., synthetic fertilizers) necessary to grow them.

Groyne A construction, usually at right angles to the coast and jutting into the sea, to combat long shore drifting of sediment and beach erosion.

Habitat The place in which an organism lives, characterized by its physical features or the dominant plant types.

Heinrich event Deposition of iceberg rafted debris in ocean core sediments because of rapid ice sheet decay during the Pleistocene. They are periods of rapid climate change.

Hominid Primates of a family (Hominidae) which includes humans and their fossil ancestors.

Hybridization The process that results from a cross between parents of differing genotypes. A good example is the mule, produced by crossbreeding an ass and a horse. Hybrids may be fertile or sterile depending on differences in the genomes of the two parents.

Infiltration capacity The capacity of the soil surface to absorb water. If the capacity is exceeded, ponding will occur and surface runoff may result.

Isostasy A process that causes Earth's crust to rise or sink according to whether a weight is removed or added to it. Such a weight could be, for example, an ice cap (glacio-isostasy).

Karstic Relating to a limestone region (or another type of soluble rock) with underground drainage and many cavities and passages caused by the solution of the rock.

Keystone species A species whose removal from the ecosystem of which it forms a part leads to a series of adverse effects (including extinctions) in that system.

Land cover The physical state of the land, embracing, for example, the quantity and type of surface vegetation, water and earth materials. The state may change as a result of land use changes.

Laterite A residual deposit formed by the chemical weathering of rock, composed primarily of hydrated iron and aluminum oxides. It is extensively developed in the humid and subtropical regions.

Levee A natural or man-made embankment along a river.

Little Ice Age A period of glacial advance and cold weather (neoglaciation) that took place between *c.* AD 1550 and AD 1850.

Maquis Scrub vegetation of evergreen shrubs, characteristic of the western Mediterranean; broadly equivalent to chaparral.

Mass balance of glaciers The sum of all processes which add mass to a glacier (e.g., snowfall, glaciers, avalanches) and remove mass from it (e.g., melting, ice berg calving).

Mass movement The downward movement of material under the influence of gravity on a slope (e.g., landslips, mudflows, etc.).

Permafrost The thermal conditions in soil and rock where temperatures are below 0° for at least two consecutive years.

Photochemical Relating to a chemical reaction which is speeded up by particular wavelengths of electromagnetic radiation (e.g., sunlight).

Piezometric Relating to a subterranean surface marking the level to which water will rise within an aquifer.

Podzolized Relating to a soil that has been characterized by the acidification of the A horizon, the downward leaching of cations, metals and humic substances and their deposition in the B horizon, often precipitating to form a pan.

Radiative forcing A change in average net radiation at the top of the troposphere resulting from a change in either solar or infrared radiation due to a change in atmospheric greenhouse gas concentrations.

Savanna A grassland, often with scattered trees, of the tropics and subtropics.

Secondary forest Woodland which has regenerated and colonized an area after the original (primary) forest has been removed.

Steric effect In the context of sea level change, the change in sea level caused by changes in the volume of water in the oceans in response to temperature changes.

Succession The sequence of changes in a plant community as it develops over time and eventually leading to climax.

Sunspot A dark area on the visible surface of the sun. Their number usually reaches a maximum every 11 years.

Synanthrope An organism that benefits from association with humans.

Thermokarst Topographical depressions resulting from the thawing of ground ice (permafrost).

Trophic Relating to the positions that organisms occupy in a food chain.

Tropospheric Relating to the lowest level of the atmosphere, in which most of our weather occurs. The troposphere lies beneath the stratosphere and its thickness ranges from about 7 km at the poles to about 28 km at the equator.

Tundra The zone between the latitudinal limits of tree growth and polar ice, characterized by severe winters and a short growing season.

Turbidity A measure of the lack of clearness in a liquid caused by the presence of suspended material.

Wallace's Line A line, developed initially by A. R. Wallace, that separates the distinct flora and fauna of south east Asia from that of Australasia.

Wetland An ecosystem whose formation has been dominated by water (e.g., a marsh or swamp), and whose processes and characteristics are largely controlled by water.

REFERENCES

Abul-Atta, A. A., 1978, *Egypt and the Nile after the construction of the High Aswan Dam*. Cairo: Ministry of Irrigation and Land Reclamation.

Achard, F., Eva, H. D., Stibig, H.-J., Mayaux, P., Gallego, J., Richards, T. and Malingreau, J.-P., 2002, Determination of deforestation rates of the world's humid tropical forests. *Science*, 297, 999–1002.

Adger, W. N. and Brown, K., 1994, *Land use and the causes of global warming*. Chichester: Wiley.

Ågren, C. and Elvingson, P., 1996, *Still with us: the acidification of the environment is still going on*. Göteborg: Swedish NGO Secretariat on Acid Rain.

Ahlgren, I. F., 1974, The effect of fire on soil organisms. In I. I. Kozlowski and C. C. Ahlgren (eds), *Fire and ecosystems*. New York: Academic Press, 47–72.

Alabaster, J. S., 1972, Suspended solids and fisheries. *Proceedings of the Royal Society*, 180B, 395–406.

Al-Ibrahim, A. A., 1991, Excessive use of ground-water resources in Saudi Arabia: impacts and policy options. *Ambio*, 20, 34–7.

Allchin, B., Goudie, A. S. and Hegde, K. T. M., 1977, *The prehistory and palaeogeography of the Great Indian Desert*. London: Academic Press.

Allen, J. C. and Barnes, D. F., 1985, The causes of deforestation in developing countries. *Annals of the Association of American Geographers*, 75, 163–84.

Almer, B., Dickson, W., Ekstrom, C., Hornstrom, E. and Miller, U., 1974, Effects of acidification on Finnish lakes. *Ambio*, 3, 30–6.

Anderson, D. M., 1994, Red tides. *Scientific American*, 271 (2), 52–8.

Anderson, J. M. and Spencer, T., 1991, Carbon, nutrient and water balances of tropical rainforest ecosystems subject to disturbance. *Man and biosphere digest*, 7.

Anisimov, O. A., 1989, Changing climate and permafrost distribution in the Soviet Arctic. *Physical geography*, 10, 282–93.

Anisimov, O. A. and Fitzharris, B., 2001, Polar regions (Arctic and Antarctic). In J. J. McCarthy (ed.), *Climate change 2001: impacts, adaptation, and vulnerability*. Cambridge: Cambridge University Press, 801–41.

Arber, M. A., 1946, Dust-storms in the Fenland around Ely. *Geography*, 31, 23–6.

Arbogast, A. F., 1996, Stratigraphic evidence for late-Holocene aeolian sand mobilization and soil formation in south-central Kansas, USA. *Journal of arid environments*, 34, 403–14.

Archer, S. and 8 others, 1999, Arid and semi-arid land community dynamics in a management context. In T. W. Hoekstra and M. Schachak (eds), *Arid lands management*. Urbana and Chicago: University of Illinois Press, 48–74.

Arendt, A. A., Echelmeyer, K. A., Harrison, W. D., Lingle, C. S. and Valentine, V. B., 2002, Rapid wastage of Alaska glaciers and their contribution to rising sea level. *Science*, 297, 382–5.

Arnell, N. W., 1996, *Global warming, river flows and water resources*. Chichester: Wiley.

——, 1999a, The impacts of climate change on water resources. In Meteorological Office, *Climate change and its impacts*. Bracknell: Hadley Centre, 14–18.

——, 1999b, The effect of climate change on hydrological regimes in Europe: a continental prospective. *Global environmental change*, 9, 5–23.

——, 2002, *Hydrology and global environmental change*. Harlow: Prentice Hall.

Arnell, N. W. and Reynard, N. S., 2000, Climate change and UK hydrology. In M. C. Acreman (ed.), *The hydrology of the UK: a study of change*. London: Routledge, 3–29.

Aron, W. I. and Smith, S. H., 1971, Ship canals and aquatic ecosystems. *Science*, 174, 13–20.

Arpe, K., Bengtsson, L., Golitsyn, G. S., Mokhov, I. I. and Ettahir, E. A. B., 2000, Connection between Caspian Sea level variability and ENSO. *Geophysical research letters*, 27, 2693–6.

Ashby, E., 1978, *Reconciling man with the environment*. London: Oxford University Press.

Ashmore, P. and Church, M., 2001, The impact of climate change on rivers and river processes in Canada. *Geological Survey of Canada bulletin*, 555.

Atkinson, B. W., 1968, A preliminary examination of the possible effect of London's urban area on the distribution of thunder rainfall, 1951–60. *Transactions of the Institute of British Geographers*, 44, 97–118.

——, 1975, The mechanical effect of an urban area on convective precipitation. Occasional paper 3, Department of Geography, Queen Mary College, University of London.

Atlas, P., 1977, The paradox of hail suppression. *Science*, 195, 139–45.

Aubertin, G. M. and Patric, J. H., 1974, Water quality after clearcutting a small watershed in West Virginia. *Journal of environmental quality*, 3, 243–9.

Aubréville, A., 1949, *Climats, forêts et desertification de L'Afrique tropicale*. Paris: Societé d'Edition Géographiques Maritimes et Coloniales.

Ayres, M. C. and Lombardero, M. J., 2000, Assessing the consequences of global change for forest disturbance from herbivores and pathogens. *The science of the total environment*, 262, 263–86.

Bach, A. J., Brazel, A. J. and Lancaster, N., 1996, Temporal and spatial aspects of blowing dust in the Mojave and Colorado Deserts of southern California, 1973–1994. *Physical geography*, 17, 329–53.

Bakan, S. and 15 others, 1991, Climate response to smoke from the burning oil wells in Kuwait. *Nature*, 351, 367–71.

Ball, D. F., 1975, discussion in J. G. Evans, S. Limbrey and H. Cleere (eds), The effect of man on the landscape: the Highland zone. *Council for British Archaeology research report*, 11, 26.

Ballantyne, C. K., 1991, Late Holocene erosion in upland Britain: climatic deterioration or human influence? *The Holocene*, 1, 81–5.

Balling, R. C. and Wells, S. G., 1990, Historical rainfall patterns and arroyo activity within the Zuni river drainage basin, New Mexico. *Annals of the Association of American Geographers*, 80, 603–17.

Barends, F. B. J., Brouwer, F. J. J. and Schröder, F. H., 1995, *Land subsidence*. Wallingford: International Association of Hydrological Sciences, Publication 234.

Bari, M. A. and Scholfield, N. J., 1992, Lowering of a shallow, saline water table by extensive eucalypt reforestation. *Journal of hydrology*, 133, 273–91.

Barnard, P. L., Owen, L. A., Sharma, M. C. and Finkel, R. C., 2001, Natural and human-induced landsliding in the Garhwal Himalaya of northern India. *Geomorphology*, 40, 21–35.

Barnston, A. G. and Schickendanz, P. T., 1984, The effect of irrigation on warm season precipitation in the southern Great Plains. *Journal of climate and applied meteorology*, 23, 865–88.

Barrass, R., 1974, *Biology, food and people*. London: Hodder & Stoughton.

Barry, R. G., 1985, The cryosphere and climate change. In M. C. MacCracken and F. M. Luther (eds), *Detecting the climatic effects of increasing carbon dioxide*. Washington, DC: US Department of Energy, 111–48.

Bartlett, H. H., 1956, Fire, primitive agriculture, and grazing in the tropics. In W. L. Thomas (ed.), *Man's role in changing the face of the earth*. Chicago: University of Chicago Press, 692–720.

Barton, B. A., 1977, Short-term effect of highway construction on the limnology of a small stream in southern Ontario. *Freshwater biology*, 7, 99–108.

Bates, M., 1956, Man as an agent in the spread of organisms. In W. L. Thomas (ed.), *Man's role in changing the face of the earth*. Chicago: University of Chicago Press, 788–804.

Battarbee, R. W., 1977, Observations in the recent history of Lough Neagh and its drainage basin. *Philosophical transactions of the Royal Society of London*, 281B, 303–45.

Battarbee, R. W., Flower, R. J., Stevenson, A. C. and Rippey, B., 1985a, Lake acidification in Galloway: a palaeoecological test of competing hypotheses. *Nature*, 314, 350–2.

Battarbee, R. W., Appleby, P. G., Odel, K. and Flower, R. J., 1985b, ^{210}Pb dating of Scottish Lake sediments, afforestation and accelerated soil erosion. *Earth surface processes and landforms*, 10, 137–42.

Battistini, R. and Verin, P., 1972, Man and the environment in Madagascar. *Monographiae biologicae*, 21, 331–7.

Baver, L. D., Gardner, W. H. and Gardner, W. R., 1972, *Soil physics* (4th edn). New York: Wiley.

Baxter, R. M., 1977, Environmental effects of dams and impoundments. *Annual review of ecology and systematics*, 8, 255–83.

Bayfield, N. G., 1979, Recovery of four heath communities on Cairngorm, Scotland, from disturbance by trampling. *Biological conservation*, 15, 165–79.

Beamish, R. J., Lockhart, W. L., Van Loon, J. C. and Harvey, H. H., 1975, Long-term acidification of a lake and resulting effects on fishes. *Ambio*, 4, 98–102.

Beaumont, P., 1978, Man's impact on river systems: a worldwide view. *Area*, 10, 38–41.

Beckinsale, R. P., 1969, Human responses to river regimes. In R. J. Chorley (ed.), *Water, earth and man.* London: Methuen, 487–509.

——, 1972, The effect upon river channels of sudden changes in sediment load. *Acta geographica debrecina*, 10, 181–6.

Behre, K.-E. (ed.), 1986, *Anthropogenic indicators in pollen diagrams.* Rotterdam: Balkema.

Bell, M. L., 1982, The effect of land-use and climate on valley sedimentation. In A. F. Harding (ed.), *Climatic change in later prehistory.* Edinburgh: Edinburgh University Press, 127–42.

Bell, M. L. and Walker, M. J. C., 1992, *Late Quaternary environmental change.* Harlow: Longman Scientific and Technical.

Bell, M. L. and Nur, A., 1978, Strength changes due to reservoir-induced pore pressure and stresses and application to Lake Oroville. *Journal of geophysical research*, 83, 4469–83.

Bell, P. R., 1982, Methane hydrate and the carbon dioxide question. In W. G. Clark (ed.), *Carbon dioxide review 1982.* Oxford: Oxford University Press, 401–5.

Bellwood, D. R., Hughes, T. P., Folke, C. and Nyström, M., 2004, Confronting the coral reef crisis. *Nature*, 429, 827–33.

Bendell, J. F., 1974, Effects of fire on birds and mammals. In T. T. Kozlowski and C. C. Ahlgren (eds), *Fire and ecosystems.* New York: Academic Press, 73–138.

Bendix, J., Bendix, A. and Richter, M., 2000, El Niño 1997/1998 in Nordperu: Anzeichen eines Ökosystem – Wandels? *Petermanns geographische mitteilungen*, 144, 20–31.

Benn, D. I. and Evans, D. J. A., 1998, *Glaciers and glaciation*. London: Arnold.

Bennett, C. F., 1968, Human influences in the zoogeography of Panama. *Ibero-Americana*, 51.

Bennett, H. H., 1938, *Soil conservation.* New York: McGraw-Hill.

Bennett, M. R., 2003, Ice streams as the arteries of an ice sheet: their mechanics, stability and significance. *Earth-science reviews*, 61, 309–39.

Bentley, C. R., 1997, Rapid sea-level rise soon from West Antarctic ice sheet collapse? *Science*, 275, 1077–8.

——, 1998, Rapid sea-level rise from a West Antarctic ice-sheet collapse: a short-term perspective. *Journal of glaciology*, 44, 157–63.

Berbet, M. L. C. and Costa, M. H., 2003, Climate change after tropical deforestation: seasonal variability of surface albedo and its effects on precipitation change. *Journal of climate*, 16, 2099–104.

Beringer, J. E., 2000, Releasing genetically modified organisms: will any harm outweigh any advantage? *Journal of applied ecology*, 37, 207–14.

Bernabo, J. C. and Webb, T., III, 1977, Changing patterns in the Holocene pollen record of northeastern North America: mapped summary. *Quaternary research*, 8, 64–96.

Betts, R. A., 2000, Offset of the potential carbon sink from boreal forestation by decreases in surface albedo. *Nature*, 408, 187–90.

Betts, R. A., 2001, Biogeophysical impacts of land use on present-day climate: near surface temperature change and radiative forcing. *Atmospheric science letters* 1, doi:10.1006/asle.2001.0023.

Bidwell, O. W. and Hole, F. D., 1965, Man as a factor of soil formation. *Soil science*, 99, 65–72.

Biglane, K. E. and Lafleur, R. A., 1967, Notes on estuarine pollution with emphasis on the Louisiana Gulf Coast. *Publication 83, American Association for the Advancement of Science*, 690–2.

Binford, M. W., Brenner, M., Whitmore, T. J., Higuera-Grundy, A., Deevey, E. S. and Leyden, B., 1987, Ecosystems, palaeoecology, and human disturbance in subtropical and tropical America. *Quaternary science review*, 6, 115–28.

Bird, E. C. F., 1979, Coastal processes. In K. J. Gregory and D. E. Walling (eds), *Man and environmental processes.* Folkestone: Dawson, 82–101.

——, 1993, *Submerging coasts*. Chichester: Wiley.

——, 1996, *Beach management*. Chichester: Wiley.

Birkeland, P. W. and Larson, E. E., 1978, *Putnam's geology*. New York: Oxford University Press.

Birkett, C. M., 2000, Synergist remote sensing of Lake Chad: variability of basin inundation. *Remote sensing of environment*, 72, 218–36.

Birks, H. J. B., 1986, Late-Quaternary biotic changes in terrestrial and lacustrine environments, with particular reference to north-west Europe. In B. E. Berglund (ed.), *Handbook of Holocene palaeoecology and palaeohydrology*. Chichester: Wiley, 3–65.

——, 1988, Long-term ecological change in the British uplands. *British Ecological Society special publication*, 7, 37–56.

Bjorgo, E., Johannessen, O. M. and Miles, M. W., 1997, Analysis of merged SMMR–SSMI time series of Arctic and Antarctic sea ice parameters 1978–1995, *Geophysical research letters*, 24, 413–16.

Blackburn, W. H. and Tueller, P. T., 1970, Pinjon and juniper invasion in Black sagebrush communities in east-central Nevada. *Ecology*, 51, 841–8.

Blackburn, W. H., Knight, R. W. and Schuster, J. L., 1983, Saltcedar influence on sedimentation in the Brazos River. *Journal of soil and water conservation*, 37, 298–301.

Blainey, G., 1975, *Triumph of the nomads. A history of ancient Australia.* Melbourne: Macmillan.

Blank, I. W., 1985, A new type of forest decline in Germany. *Nature*, 314, 311–14.

Blecker, S. W., Yonker, C. M., Olson, C. G. and Kelly, E. F., 1997, Paleopedologic and geomorphic evidence for

Holocene climate variations, shortgrass steppe, Colorado. *Geoderma*, 76, 113–30.
Blumer, M., 1972, Submarine seeps: are they a major source of open ocean oil pollution? *Science*, 176, 1257–8.
Boardman, J., 1998, An average soil erosion rate for Europe: myth or reality. *Journal of soil and water conservation*, 53, 46–50.
Böckh, A., 1973, Consequences of uncontrolled human activities in the Valencia lake basin. In M. T. Farvar and J. P. Milton (eds), *The careless technology*. London: Tom Stacey, 301–17.
Bockman, O. C., Kaarstad, O., Lie, O. H. and Richards, I., 1990, *Agriculture and fertilizers*. Oslo: Norsk Hydro.
Bogucki, P., 1999, *The origins of human society*. Oxford: Blackwell.
Bomford, M. and Hart, Q., 2002, Non-indigenous vertebrates in Australia. In D. Pimentel (ed.), *Biological invasions*. Boca Raton: CRC Press, 25–44.
Bonan, G. B., 1997, Effects of land use on the climate of the United States. *Climatic change*, 37, 449–86.
Bonnicksen, T. M., Bonnicksen, M., Anderson, K., Lewis, H. T., Kay, C. E. and Knudson, R., 1999, Native American influences on the development of forest ecosystems. In R. C. Szaro, N. C. Johnson, W. T. Sexton and A. J. Malle (eds), *Ecological stewardship*, Vol. 2. Amsterdam: Elsevier Science, 439–70.
Boorman, L. A., 1977, Sand-dunes. In R. S. K. Barnes (ed.), *The coastline*. London: Wiley, 161–97.
Booysen, P. de V. and Tainton, N. M. (eds), 1984, *Ecological effects of fire in South African ecosystems*. Berlin: Springer-Verlag.
Bormann, F. H., Likens, G. E., Fisher, D. W. and Pierce, R. S., 1968, Nutrient loss accelerated by clear cutting of a forest ecosystem. *Science*, 159, 882–4.
Bourne, W. R. P., 1970, Oil pollution and bird conservation. *Biological conservation*, 2, 300–2.
Boussingault, J. B., 1845, *Rural economy* (2nd edn). London: Baillière.
Boutron, C. F., Görlach, U., Candelone, J.-P., Bolshov, M. A. and Delmas, R. J., 1991, Decrease in anthropogenic lead, cadmium and zinc in Greenland snows since the late 1960s. *Nature*, 353, 153–6.
Bove, M. C., Elsner, J. B., Landsea, C. W., Niu, X. and O'Brien, J. J., 1998, El Niño on US land falling hurricanes, revisited. *Bulletin of the American Meteorological Society*, 79, 2477–82.
Bowler, J. and 6 others, 2003, New ages for human occupation and climatic change at Lake Mungo, Australia. *Nature*, 421, 837–40.
Boyd, M., 2002, Identification of anthropogenic burning in the paleoecological record of the Northern Prairies: a new approach. *Annals of the Association of American Geographers*, 92, 471–87.
Bradley, R., 1985, *Quaternary palaeoclimatology*. London: Chapman & Hall.
Brady, R. G., 1989, Geology of the Quaternary Dune Sands in eastern Major and southern Alfalfa counties, Oklahoma. PhD Dissertation, Oklahoma State University.
Bragg, O. M. and Tallis, J. H., 2001, The sensitivity of peat-covered upland landscapes. *Catena*, 42, 345–60.
Braithwaite, R. J. and Zhang, Y., 1999, Modelling changes in glacier mass balance that may occur as a result of climate changes. *Geografiska annaler*, A, 81, 489–96.
Brandt, S. A., 2000, Classification of geomorphological effects downstream of dams. *Catena*, 40, 375–401.
Brassington, F. C. and Rushton, K. R., 1987, A rising water table in central Liverpool. *Quarterly journal of engineering geology*, 20, 151–8.
Braun, L. N., Weber, M. and Schulz, M., 2000, Consequences of climate change for runoff from alpine regions. *Annals of glaciology*, 31, 19–25.
Bravard, J-P. and Petts, G. E., 1996, Human impacts on fluvial hydrosystems. In G. E. Petts and C. Amoros (eds), *Fluvial hydrosystems*. London: Chapman & Hall, 242–62.
Bray, H. J., Carter, D. J. and Hooke, J. M., 1992, *Sea level rise and global warming: scenarios, physical impacts and policies*. Report to Standing Conference on Problems Associated with the Coast (SCOPAC), University of Portsmouth.
Brazel, A. J. and Idso, S. B., 1979, Thermal effects of dust on climate. *Annals of the Association of American Geographers*, 69, 432–7.
Breuer, G., 1980, *Weather modification: prospects and problems*. Cambridge: Cambridge University Press.
Bridges, E. M., 1978, Interaction of soil and mankind in Britain. *Journal of soil science*, 29, 125–39.
Brimblecombe, P., 1977, London air pollution 1500–1900. *Atmospheric environment*, 11, 1157–62.
Brimblecombe, P. and Camuffo, D., 2003, Long term damage to the built environment. In P. Brimblecombe (ed.), *The effects of air pollution on the built environment*. London: Imperial College Press, 1–30.
Broadus, J. G., 1990, Greenhouse effects, sea level rise and land use. *Land use policy*, 7, 138–53.
Broadus, J., Milliman, J., Edwards, S., Aubrey, D. and Gable, F., 1986, Rising sea level and damming of rivers: possible effects in Egypt and Bangladesh. In J. G. Titus (ed.), *Effects of changes in stratospheric ozone and global climate*. Washington, DC: United Nations Environment Program/U.S. Environmental Protection Agency, 165–89.
Brook, B. W. and Bowman, D. M. J. S., 2002, Explaining the Pleistocene megafaunal extinction: models, chronologies, and assumptions. *Proceedings of the National Academy of Sciences*, 99, 14624–7.
Brookes, A., 1985, River channelization: traditional engineering methods, physical consequences, and alternative practices. *Progress in physical geography*, 9, 44–73.
——, 1987, The distribution and management of channelized streams in Denmark. *Regulated rivers*, 1, 3–16.
Brooks, A. P. and Brierly, G. J., 1997, Geomorphic responses of lower Bega River to catchment disturbance, 1851–1926. *Geomorphology*, 18, 291–304.
Brown, A. A. and Davis, K. P., 1973, *Forest fire control and its use* (2nd edn). New York: McGraw-Hill.
——, 1997, Coral bleaching: causes and consequences. *Coral reefs*, 16, S129–38.

Brown, B. E., Dunne, R. P., Goodson, H. S. and Douglas, A. G., 2000, Bleaching patterns in coral reefs. *Nature*, 404, 142–3.

Brown, J. H., 1989, Patterns, modes and extents of invasions by vertebrates. In J. A. Drake (ed.), *Biological invasions: a global perspective.* Chichester: Wiley, 85–109.

Brown, S. and Lugo, A. E., 1990, Tropical secondary forests. *Journal of tropical ecology*, 6, 1–32.

Browning, K. A. and 11 others, 1991, Environmental effects from burning oil wells in Kuwait. *Nature*, 351, 363–7.

Bruijnzeel, L. A., 1990, *Hydrology of moist tropical forests and effects of conversion: a state of knowledge review.* Amsterdam: Free University, for UNESCO International Hydrological Programme.

Brunhes, J., 1920, *Human geography.* London: Harrap.

Brunsden, D., 2001, A critical assessment of the sensitivity concept in geomorphology. *Catena*, 42, 83–98.

Bruun, P., 1962, Sea level rise as a cause of shore erosion. *American Society of Civil Engineers proceedings: Journal of Waterways and Harbors Division*, 88, 117–30.

Bryan, G. W., 1979, Bioaccumulation of marine pollutants. *Philosophical transactions of the Royal Society*, 286B, 483–505.

Bryan, K., 1928, Historic evidence of changes in the channel of Rio Puerco, a tributary of the Rio Grande in New Mexico. *Journal of geology*, 36, 265–82.

Bryson, R. A. and Barreis, D. A., 1967, Possibility of major climatic modifications and their implications: northwest India, a case for study. *Bulletin of the American Meteorological Society*, 48, 136–42.

Bryson, R. A. and Kutzbach, J. E., 1968, *Air pollution.* Commission on college geography resource paper 2. Washington, DC: Association of American Geographers.

Buddemeier, R. W. and Smith, S. V., 1988, Coral reef growth in an era of rapidly rising sea level: predictions and suggestions for long-term research. *Coral reefs*, 7, 51–6.

Bull, W. B., 1997, Discontinuous ephemeral streams. *Geomorphology*, 19, 227–76.

Bullard, J. E., Thomas, D. S. G., Livingstone, I. and Wiggs, G., 1996, Wind energy variations in the south-western Kalahari Desert and their implications for linear dunefield activity. *Earth surface processes and landforms*, 21, 263–78.

Bullock, P. and Le Houérou, H., 1996, Land degradation and desertification. In R. T. Watson, M. C. Zinyowera and R. H. Moss (eds), *Climate change 1995*. Cambridge: Cambridge University Press, 171–89.

Bulmer, S., 1982, Human ecology and cultural variation in prehistoric New Guinea. *Monographiae biologicae*, 42, 169–206.

Burcham, L. T., 1970, Ecological significance of alien plants in California grasslands. *Proceedings of the Association of American Geographers*, 2, 36–9.

Burke, R., 1972, Stormwater runoff. In R. T. Oglesby, C. A. Carlson and J. A. McCann (eds), *River ecology and man.* New York: Academic Press, 727–33.

Burney, A. D., 1993, Recent animal extinctions: recipes for disaster. *American scientist*, 81, 530–41.

Burrin, P. J., 1985, Holocene alluviation in southeast England and some implications for palaeohydrological studies. *Earth surface processes and landforms*, 10, 257–71.

Burt, T. P., Donohoe, M. A. and Vann, A. R., 1983, The effect of forestry drainage operations on upland sediment yields: the results of a stormbased study. *Earth surface processes and landforms*, 8, 339–46.

Burt, T. P. and Haycock, N. E., 1992, Catchment planning and the nitrate issue: a UK perspective. *Progress in physical geography*, 16, 379–404.

Bush, M. B., 1988, Early Mesolithic disturbance: a force on the landscape. *Journal of archaeological science*, 15, 453–62.

Bussing, C., 1972, The impact of feedlots. In D. D. MacPhail (ed.), *The High Plains: problem of semiarid environments.* Fort William: Colorado State University, 78–86.

Butzer, K. W., 1972, *Environment and archaeology – an ecological approach to prehistory.* London: Methuen.

——, 1974, Accelerated soil erosion: a problem of man-land relationships. In I. R. Manners and M. W. Mikesell (eds), *Perspectives on environments.* Washington, DC: Association of American Geographers.

——, 1976, *Early hydraulic civilization in Egypt.* Chicago: University of Chicago Press.

Buyanovsky, G. A. and Wagner, G. H., 1998, Carbon cycling in cultivated land and its global significance. *Global change biology*, 4, 131–41.

Cabanes, C., Cazanave, A. and Le Provost, C., 2001, Sea level rise during past 40 years determined from satellite and in situ observations. *Science*, 294, 840–2.

Cabrera, J. G. and Plowman, C., 1988, The mechanism and rate of attack of sodium sulphate on cement and cement/pfa pastes. *Advances in cement research*, 1, 171–9.

Cairns, J. and Dickson, D. K., 1977, Recovery of streams from spills of hazardous materials. In J. Cairns, K. L. Dickson and E. E. Herricks (eds), *Recovery and restoration of damaged ecosystems.* Charlottesville: University Press of Virginia, 24–42.

Caldararo, N., 2002, Human ecological intervention and the role of forest fires in human ecology. *The science of the total environment*, 292, 141–65.

Callaway, R. M. and Aschehoug, E. T., 2000, Invasive plants versus their new and old neighbors: a mechanism for exotic invasion. *Science*, 290, 521–3.

Cannon, S. H., Bigio, E. R. and Mine, E., 2001a, A process for fire-related debris flow initiation, Cerro Grande fire, New Mexico. *Hydrological processes*, 15, 3011–23.

Cannon, S. H., Kirkham, R. M. and Parise, M., 2001b, Wildfire-related debris-flow initiation processes, Storm King Mountains, Colorado. *Geomorphology*, 39, 171–88.

Carlson, C. W., 1978, Research in ARS related to soil structure. In W. W. Emerson, R. D. Bond and A. R. Dexter (eds), *Modification of soil structure.* Chichester: Wiley, 279–84.

Carpenter, T. G. (ed.), 2001, *Sustainable civil engineering* (2nd edn). Chichester: Wiley.

Carrara, P. E. and Carroll, T. R., 1979, The determination of erosion rates from exposed tree roots in the Piceance Basin, Colorado. *Earth surface processes*, 4, 407–17.

Carter, D. L., 1975, Problems of salinity in agriculture. *Ecological studies*, 15, 26–35.
Carter, L. J., 1977, Soil erosion: the problem persists despite the billions spent on it. *Science*, 196, 409–11.
Carter, L. D., 1987, Arctic lowlands: introduction. In W. L. Graf (ed.), *Geomorphic systems of North America*. Boulder: Geological Society of America, centennial special volume, 2, 583–615.
Cathcart, R. B., 1983, Mediterranean Basin – Sahara reclamation. *Speculations in science and technology*, 6, 150–2.
Ceballos, G. and Ehrlich, P. R., 2002, Mammal population losses and the extinction crisis. *Science*, 296, 904–7.
Cerda, A., 1998, Post-fire dynamics of erosional processes under Mediterranean climatic conditions. *Zeitschrift für geomorphologie*, 42, 373–98.
Chai, J-C., Shen, S-L., Zhu, H. H. and Zhang, X. L., 2004, Land subsidence due to groundwater drawdown in Shanghai. *Géotechnique*, 54, 143–7.
Challinor, D., 1968, Alteration of surface soil characteristics by four tree species. *Ecology*, 49, 286–90.
Chambers, F. M., Dresser, P. Q. and Smith, A. G., 1979, Radiocarbon dating evidence on the impact of atmospheric pollution on upland peats. *Nature*, 282, 829–31.
Champion, T., Gramble, C., Shennan, S. and Whittle, A., 1984, *Prehistoric Europe.* London: Academic Press.
Chancellor, W. J., 1977, Compaction of soil by agricultural equipment. *Division of Agricultural Sciences, University of California bulletin*, 1881.
Chandler, T. J., 1976, The climate of towns. In T. J. Chandler and S. Gregory (eds), *The climate of the British Isles.* London: Longman, 307–29.
Changnon, S. A., 1973, Atmospheric alterations from man-made biospheric changes. In W. R. D. Sewell (ed.), *Modifying the weather: a social assessment.* Adelaide: University of Victoria, 135–84.
——, 1978, Urban effects on severe local storms at St Louis. *Journal of applied meteorology*, 17, 578–86.
Changnon, S. A., Kunkel, K. E. and Winstanley, D., 2003, Climate factors that caused the unique tall grass prairie in the Central United States. *Physical geography*, 23, 259–80.
Chapin, F. S. and Danell, K., 2001, Boreal forest. In F. S. Chapin, O. E. Sala and E. Huber-Sannwald (eds), *Global biodiversity in a changing environment*. New York: Springer-Verlag 101–20.
Chapin, F. S., Sala, O. E. and Huber-Sannwald, E. (eds), 2001, *Global biodiversity in a changing environment*. Berlin: Springer-Verlag.
Chapman, W. L. and Walsh, J. E., 1993, Recent variations of sea ice and air-temperature in high latitudes, *Bulletin of the American Meteorological Society*, 74, 33–47.
Chappell, J., Cowell, P. J., Woodroffe, C. D. and Eliot, I. G., 1996, Coastal impacts of enhanced greenhouse climate change in Australia: implications for coal use. In W. J. Bouma, G. I. Pearman and M. R. Manning (eds), *Greenhouse*. Melbourne: Commonwealth Scientific and Industrial Research organisation (CSIRO), 220–34.
Charlson, R. J., Lovelock, J. E., Andreae, M. O. and Warren, S. G., 1987, Oceanic phytoplankton, atmospheric sulphur, cloud albedo and climate. *Nature*, 326, 655–61.
Charlson, R. J. and 6 others, 1992, Climate forcing by anthropogenic aerosols. *Science*, 255, 423–30.
Charney, J., Stone, P. H. and Quirk, W. J., 1975, Drought in the Sahara: a bio-geophysical feedback mechanism. *Science*, 187, 434–5.
Chase, T. N., Pielke, R. A., Kittle, T. G. F., Nemani, R. R. and Running, S. W., 2000, Simulated impacts of historical land cover changes on global climate in northern winter. *Climate dynamics*, 16, 93–105.
Chen, X. and Zong, Y., 1999, Major impacts of sea-level rise on agriculture in the Yangtze Delta area around Shanghai. *Applied geography*, 19, 69–84.
Chester, D. K. and James, P. A., 1991, Holocene alluviation in the Algarve, southern Portugal: the case for an anthropogenic cause. *Journal of archaeological science*, 18, 73–87.
Chesters, G. and Konrad, J. F., 1971, Effects of pesticide usage on water quality. *Bioscience*, 21, 565–9.
Chi, S. C. and Reilinger, R. E., 1984, Geodetic evidence for subsidence due to groundwater withdrawal in many parts of the United States of America. *Journal of hydrology*, 67, 155–82.
Chiew, F. H. S., Wang, Q. J., McMahon, T. A., Bates, B. C. and Whetton, P. H., 1996, Potential hydrological responses to climate change in Australia. In J. A. A. Jones, E. Liu, M.-K. Woo and H.-T. Kung (eds), *Regional hydrological response to climate change*. Dordrecht: Kluwer, 337–50.
Child, B. A., 1985, Bush encroachment and rangeland deterioration. Paper presented at a symposium on 'The deterioration of natural resources in Africa', School of Geography, University of Oxford, 1 July, 1985.
Childe, V. G., 1936, *Man makes himself.* London: Watts.
Chorley, R. J. and More, R. J., 1967, The interaction of precipitation and man. In R. J. Chorley (ed.), *Water, earth and man.* London: Methuen, 157–66.
Church, J. A., 2001, How fast are sea levels rising? *Science*, 294, 802–3.
Church, J. A. and 35 others, 2001, Changes in sea level. In J. T. Houghton (ed.), *Climate change 2001: the scientific basis*. Cambridge: Cambridge University Press, 639–93.
Clark, G., 1962, *World prehistory.* Cambridge: Cambridge University Press.
——, 1977, *World prehistory in new perspective.* Cambridge: Cambridge University Press.
Clark, J. R., 1977, *Coastal ecosystem management.* New York: Wiley.
Clark, J. S., Cachier, H., Goldammer, J. G. and Stocks, B. (eds), 1997, *Sediment records of biomass burning and global change.* Berlin: Springer-Verlag.
Clark, M. J. (ed.), 1988, *Advances in periglacial geomorphology*. Chichester: Wiley.
Clark, R. B., 1997, *Marine pollution* (4th edn). Oxford: Clarendon Press.
Clarke, R. T. and McCulloch, J. S. G., 1979, The effect of land use on the hydrology of small upland catchments.

In G. E. Hollis (ed.), *Man's impact on the hydrological cycle in the United Kingdom*. Norwich: Geo Abstracts, 71–8.
Coates, D. R. (ed.), 1976, *Geomorphology and engineering*. Stroudsburg: Dowden, Hutchinson and Ross.
——, 1977, Landslide perspective. *Reviews in engineering geology*, 3, 3–28.
——, 1983, Large-scale land subsidence. In R. Gardner and H. Scoging (eds), *Mega-geomorphology*. Oxford: Oxford University Press, 212–34.
Cochrane, R., 1977, The impact of man on the natural biota. In A. G. Anderson (ed.), *New Zealand in maps*. Section 14. London: Hodder & Stoughton.
Coe, M., 1981, Body size and the extinction of the Pleistocene megafauna. *Palaeoecology of Africa*, 13, 139–45.
——, 1982, The bigger they are . . . *Oryx*, 16, 225–8.
Coffey, M., 1978, The dust storms. *Natural history* (New York), 87, 72–83.
Cohen, J. E., 2003, Human population: the next half century. *Science*, 302, 1172–5.
Cole, M. M., 1963, Vegetation and geomorphology in northern Rhodesia: an aspect of the distribution of the Savanna of Central Africa. *Geographical journal*, 129, 290–310.
Cole, M. M. and Smith, R. F., 1984, Vegetation as an indicator of environmental pollution. *Transactions of the Institute of British Geographers*, 9, 477–93.
Cole, S., 1970, *The Neolithic revolution* (5th edn). London: British Museum (Natural History).
Collison, A., Wade, S., Griffiths, J. and Dehn, M., 2000, Modelling the impact of predicted climate change on landslide frequency and magnitude in S. E. England. *Engineering geology*, 55, 205–18.
Committee on the Atmosphere and the Biosphere, 1981, *Atmosphere–biosphere interactions: towards a better understanding of the ecological consequences of fossil fuel combustion*. Washington, DC: National Academy Press.
Conacher, A. J., 1979, Water quality and forests in Southwestern Australia: review and evaluation. *Australian geographer*, 14, 150–9.
Conacher, A. J. and Conacher, J., 1995, *Rural land degradation in Australia*. Melbourne: Oxford University Press.
Conacher, A. J. and Sala, M. (eds), 1998, *Land degradation in Mediterranean environments of the world*. Chichester: Wiley.
Conway, D., Kroi, M., Alcamo, J. and Hulme, M., 1996, Future availability of water in Egypt: the interaction of global, regional and basin scale driving forces in the Nile Basin. *Ambio*, 25, 336–42.
Conway, G. R. and Pretty, J. N., 1991, *Unwelcome harvest: agriculture and pollution*. London: Earthscan.
Conway, V. M., 1954, Stratigraphy and pollen analysis of southern Pennine blanket peats. *Journal of geology*, 42, 117–47.
Cooke, G. W., 1977, Waste of fertilizers. *Philosophical transactions of the Royal Society of London*, 281B, 231–41.
Cooke, R. U. and Doornkamp, J. C. 1974, *Geomorphology in environmental management*. Oxford: Clarendon Press.
Cooke, R. U. and Doornkamp, J. C., 1990, *Geomorphology in environmental management* (2nd edn). Oxford: Clarendon Press.
Cooke, R. U. and Reeves, R. W., 1976, *Arroyos and environmental change in the American south-west*. Oxford: Clarendon Press.
Cooke, R. U. and Smalley, I. J., 1968, Salt weathering in deserts. *Nature*, 220, 1226–7.
Cooke, R. U., Brunsden, D., Doornkamp, J. C. and Jones, D. K. C., 1982, *Urban geomorphology in drylands*. Oxford: Oxford University Press.
Coones, P. and Patten, J. H. C., 1986, *The landscape of England and Wales*. Harmondsworth: Penguin Books.
Cooper, C. F., 1961, The ecology of fire. *Scientific American*, 204, 4, 150–60.
Cooper, D. M. and Jenkins, A., 2003, Response of acid lakes in the UK to reductions in atmospheric deposition of sulphur. *The science of the total environment*, 313, 91–100.
Corlett, R. T., 1995, Tropical secondary forests. *Progress in physical geography*, 19, 159–72.
Costa, J. E., 1975, Effects of agriculture on erosion and sedimentation in the Piedmont province, Maryland. *Bulletin of the Geological Society of America*, 86, 1281–6.
Cotton, W. R. and Piehlke, R. A., 1995, *Human impacts on weather and climate*. Cambridge: Cambridge University Press.
Council on Environmental Quality, 1986, *17th Annual Report*. Washington, DC: Council on Environmental Quality.
Council on Environmental Quality, 1992, *22nd Annual Report*. Washington, DC: Council on Environmental Quality.
Coupland, R. T. (ed.), 1979, *Grassland ecosystems of the world: analysis of grasslands and their uses*. Cambridge: Cambridge University Press.
Cowell, E. B., 1976, Oil pollution of the sea. In R. Johnson (ed.), *Marine pollution*. London: Academic Press, 353–401.
Crisp, D. T., 1977, Some physical and chemical effects of the Cow Green (Upper Teesdale) impoundment. *Freshwater biology*, 7, 109–20.
Critchley, W. R. S., Reij, C. and Willcocks, T. J., 1994, Indigenous soil and water conservation: a review of the state of knowledge and prospects for building on traditions. *Land degradation and rehabilitation*, 5, 293–314.
Cronin, L. E., 1967, The role of man in estuarine processes. *Publication 83, American Association for the Advancement of Science*, 667–89.
Cronk, Q. C. B. and Fuller, J. L., 1995, *Plant invaders*. London: Chapman & Hall.
Crowe, P. R., 1971, *Concepts in climatology*. London: Longman.
Crozier, M. J., Marx, S. L. and Grant, I. J., 1978, Impact of off-road recreational vehicles on soil and vegetation. *Proceedings of the 9th New Zealand geography conference*, Dunedin, 76–9.
Crutzen, P. J. and Goldammer, J. G., 1993, *Fire in the environment*. Chichester: Wiley.
Crutzen, P. J., Aselmann, I. and Sepler, W., 1986, Methane production by domestic animals, wild ruminants, other herbivores, fauna and humans. *Tellus*, 38B, 271–84.

Cumberland, K. B., 1961, Man in nature in New Zealand. *New Zealand geographer*, 17, 137–54.

Cunningham, D. A., Collins, J. F. and Cummins, T., 2001, Anthropogenically-triggered iron pan formation in some Irish soils over various time spans. *Catena*, 43, 167–76.

Curran, M. A. J., van Ommen, T. D., Morgan, V. I., Phillips, K. L. and Palmer, A. S., 2003, Ice core evidence for Antarctic sea ice decline since the 1950s. *Science*, 302, 1203–6.

Custodio, E., Iribar, V., Manzano, B. A. and Galofre, A., 1986, Evolution of sea water chemistry in the Llobyegat Delta, Barcelona, Spain. In *Proceedings of the 9th salt water chemistry meeting*, Delft.

Cypser, D. A. and Davis, S. D., 1998, Induced seismicity and the potential for liability under U.S. law. *Tectonophysics*, 289, 239–55.

Daniel, T. C., McGuire, P. E., Stoffel, D. and Millfe, B., 1979, Sediment and nutrient yield from residential construction sites. *Journal of environmental quality*, 8, 304–8.

Darby, H. C., 1956, The clearing of the woodland in Europe. In W. L. Thomas (ed.), *Man's role in changing the face of the Earth.* Chicago: University of Chicago Press, 183–216.

Darling, F. F., 1956, Man's ecological dominance through domesticated animals on wild lands. In W. L. Thomas (ed.), *Man's role in changing the face of the Earth.* Chicago: University of Chicago Press, 778–87.

Darungo, F. P., Allee, P. H. and Weickmann, H. K., 1978, Snowfall induced by a power plant plume. *Geophysical research letters*, 5, 515–17.

Daubenmire, R., 1968, Ecology of fire in grassland. *Advances in ecological research*, 5, 209–66.

Davis, B. N. K., 1976, Wildlife, urbanisation and industry. *Biological conservation*, 10, 249–91.

Davis, M. C. R., Hamza, O. and Harris, C., 2001, The effect of rise in mean annual temperature on the stability of rock slopes containing ice-filled discontinuities. *Permafrost and periglacial processes*, 12, 137–44.

Davitaya, F. F., 1969, Atmospheric dust content as a factor affecting glaciation and climatic change. *Annals of the Association of American Geographers*, 59, 552–60.

Deadman, A., 1984, Recent history of *Spartina* in northwest England and in North Wales and its possible future development. In P. Doody (ed.), *Spartina anglica in Great Britain.* Shrewsbury: Nature Conservancy Council, 22–4.

De Angelis, H. and Skvarca, P., 2003, Glacier surge after Ice Shelf collapse. *Science*, 299, 1560–2.

Dean, W. E., Ahlbrandt, T. S., Anderson, R. Y. and Bradbury, J. P., 1996, Regional aridity in North America during the middle Holocene. *Holocene*, 6, 145–55.

DeBano, L. F., 2000, The role of fire and soil heating on water repellency in wildland environments: a review. *Journal of hydrology*, 231/2, 195–206.

Dehn, M. and Buma, J., 1999, Modelling future landslide activity based on general circulation models. *Geomorphology*, 30, 175–87.

Dehn, M., Gurger, G., Buma, J. and Gasparetto, P., 2000, Impact of climate change on slope stability using expanded downscaling. *Engineering geology*, 55, 193–204.

Denevan, M. W., 1992, The pristine myth: the landscapes of the Americas in 1492. *Annals of the Association of American Geographers*, 82, 369–85.

Denevan W. M., 2001, *Cultivated landscapes of native Amazonia and the Andes.* Oxford: Oxford University Press.

Denisova, T. B., 1977, The environmental impact of mineral industries. *Soviet geography*, 18, 646–59.

Denson, E. P., 1970, The trumpeter swan, *Olor buccinator*; a conservation success and its lessons. *Biological conservation*, 2, 251–6.

Dent, D. L. and Pons, L. J., 1995, A world perspective on acid sulphate soils. *Geoderma*, 67, 263–76.

Department of Environment, 1984, *Digest of environmental pollution and water statistics for 1983*. London: Her Majesty's Stationery Office.

Derbyshire, E. (ed.), 1973, *Climatic geomorphology*. London: Macmillan.

De Sylva, D., 1986, Increased storms and estuarine salinity and other ecological impacts of the greenhouse effect. In J. G. Titus (ed.), *Effects of changes in stratospheric ozone and global climate*, Vol. 4, *Sea level rise.* Washington, DC: United Nations Environment Program/U.S. Environmental Protection Agency, 153–64.

Detwyler, T. R. (ed.), 1971, *Man's impact on environment.* New York: McGraw-Hill.

Detwyler, T. R. and Marcus, M. G., 1972, *Urbanisation and environment: the physical geography of the city.* Belmont: Duxbury Press.

Diamond, J., 2002, Evolution, consequences and future of plant and animal domestication. *Nature*, 418, 700–7.

Di Castri, F., 1989, History of biological invasions with special emphasis on the old world. In J. A. Drake (ed.), *Biological invasions: a global perspective.* Chichester: Wiley, 1–30.

Dickinson, W. R., 1999, Holocene sea-level record on Fumafuti and potential impact of global warming on Central Pacific atolls. *Quaternary research*, 51, 124–32.

Dicks, B., 1977, Changes in the vegetation of an oiled Southampton Water salt marsh. In J. Cairns, K. L. Dickson and E. E. Herricks (eds), *Recovery and restoration of damaged ecosystems.* Charlottesville: University of Virginia, 72–101.

Diem, J., 2003, Potential impact of ozone on coniferous forests of the interior southwestern United States. *Annals of the Association of American Geographers*, 93, 265–80.

Dillehay, T. D., 2003, Tracking the first Americans. *Nature*, 425, 23–4.

Dimbleby, G. W., 1974, The legacy of prehistoric man. In A. Warren and F. B. Goldsmith (eds), *Conservation in practice.* London: Wiley, 179–89.

Dirzo, R. and Raven, P. H., 2003, Global state of biodiversity and loss. *Annual review of environment and resources*, 28, 137–67.

Doak, T. and Marvier, M., 2003, Predicting the effects of species loss on community stability. In P. Kareiva and S. A. Levin (ed.), *The importance of species*. Princeton: Princeton University Press, 140–60.

Dobson, M. C., 1991, De-icing salt damage to trees and shrubs. *Forestry Commission bulletin*, 101.

Dodd, A. P., 1959, The biological control of the prickly pear in Australia. In A. Keast, R. L. Crocker and C. S. Christian (eds), *Biogeography and ecology in Australia.* The Hague: Junk, 565–77.

D'Odorico, P., Yoo, J. C. and Over, T. M., 2001, An assessment of ENSO-induced patterns of rainfall erosivity in the southwestern United States. *Journal of climate*, 14, 4230–42.

Doerr, A. and Guernsely, L., 1956, Man as a geomorphological agent: the example of coal mining. *Annals of the Association of American Geographers*, 46, 197–210.

Dolan, R., Godfrey, P. J. and Odum, W. E., 1973, Man's impact on the barrier islands of North Carolina. *American scientist*, 61, 152–62.

Donkin, R. A., 1979, Agricultural terracing in the Aboriginal New World. *Viking Fund publications in anthropology*, 561.

Doody, P. (ed.), 1984, *Spartina anglica in Great Britain.* Shrewsbury: Nature Conservancy Council.

Doolittle, W., 2000, *Cultivated landscapes of native North America*. Oxford: Oxford University Press.

Doughty, R. W., 1974, The human predator: a survey. In I. R. Manners and M. V. Mikesell (eds), *Perspectives on environment.* Washington, DC: Association of American Geographers, 152–80.

——, 1978, The English sparrow in the American landscape: a paradox in nineteenth century wildlife conservation. Research paper 19, School of Geography, University of Oxford.

Douglas, I., 1969, The efficiency of humid tropical denudation systems. *Transactions of the Institute of British Geographers*, 46, 1–6.

——, 1983, *The urban environment.* London: Arnold.

Douglas, I. and 6 others, 1999, The role of extreme events in the impacts of selective tropical forestry on erosion during harvesting and recovery phases at Danum Valley, Sabah. *Philosophical transactions of the Royal Society of London*, B, 354, 1749–61.

Down, C. G. and Stocks, J., 1977, *Environmental impact of mining*. London: Applied Science Publishers.

Downs, P. W. and Gregory, K. J., 2004, *River channel management.* Arnold: London.

Doyle, T. W. and Girod, G. F., 1997, The frequency and structure of Atlantic hurricanes and their influence on the structure of the South Florida mangrove communities. In H. F. Diaz and R. S. Pulwarty (eds), *Hurricanes*. Berlin: Springer-Verlag, 109–20.

Dragovich, D. and Morris, R., 2002, Fire intensity, slopewash and bio-transfer of sediment in euclaypt forest, Australia. *Earth surface processes and landforms*, 27, 1309–19.

Dregne, H. E., 1986, Desertification of arid lands. In F. El-Baz and M. H. A. Hassan (eds), *Physics of desertification.* Dordrecht: Nijhoff, 4–34.

Dregne, H. E. and Tucker, C. J., 1988, Desert encroachment. *Desertification control bulletin*, 16, 16–19.

Drennan, D. S. H., 1979, Agricultural consequences of groundwater development in England. In G. E. Hollis (ed.), *Man's impact on the hydrological cycle in the United Kingdom.* Norwich: Geo Abstracts, 31–8.

Drewry, D. J., 1991, The response of the Antarctic ice sheet to climate change. In C. M. Harris and B. Stonehouse (eds), *Antarctica and global climatic change*. London: Belhaven Press, 90–106.

Driscoll, R., 1983, The influence of vegetation on the swelling and shrinkage of clay soils in Britain. *Géotechnique*, 33, 293–326.

Duncan, R. P., Blackburn, T. M. and Sol, D., 2003, The ecology of bird introductions. *Annual review of environment and resources*, 28, 359–99.

Dunne, T. and Leopold, L. B., 1978, *Water in environmental planning.* San Francisco: Freeman.

D'Yakanov, K. N. and Reteyum, A. Y., 1965, The local climate of the Rybinsk reservoir. *Soviet geography*, 6, 40–53.

Dyer, K. R., 1995, Responses of estuaries to climate change. In D. Eisma (ed.), *Climate change on coastal habitation*. Boca Raton: Lewis, 85–110.

Eden, M. J., 1974, Palaeoclimatic influences and the development of savanna in southern Venezuela. *Journal of biogeography*, 1, 95–109.

Edington, J. M. and Edington, M. A., 1977, *Ecology and environmental planning.* London: Chapman & Hall.

Edlin, H. L., 1976, The Culbin sands. In J. Leniham and W. W. Fletcher (eds), *Reclamation.* Glasgow: Blackie, 1–31.

Edmonson, W. T., 1975, Fresh water pollution. In W. W. Murdoch (ed.), *Environment.* Sunderland: Sinauer Associates, 251–71.

Edwards, A. J., Clark, S., Zahir, H., Rajasuriya, A., Naseer, A. and Rubens, J., 2001, Coral bleaching and mortality on artificial and natural reefs in Maldives in 1998, sea surface temperature anomalies and initial recovery. *Marine pollution bulletin*, 42, 7–15.

Edwards, A. M. C., 1975, Long term changes in the water quality for agricultural catchments. In R. D. Hey and T. D. Daniels (eds), *Science technology and environmental management.* Farnborough: Saxon House, 111–22.

Edwards, K. J., 1985, The anthropogenic factor in vegetational history. In K. J. Edwards and W. P. Warren (eds), *The Quaternary history of Ireland.* London: Academic Press, 187–200.

Ehrenfeld, D. W., 1972, *Conserving life on earth.* New York: Oxford University Press.

Ehrlich, P. R. and Ehrlich, A. H., 1970, *Population, resources, environment: issues in human ecology.* San Francisco: Freeman.

——, 1982, *Extinction.* London: Gollancz.

Ehrlich, P. R., Ehrlich, A. H. and Holdren, J. P., 1977, *Ecoscience: population, resources, environment.* San Francisco: Freeman.

Eitner, V., 1996, Geomorphological response to the East Frisan barrier islands to sea level rise: an investigation of past and future evolution. *Geomorphology*, 15, 57–65.

Ellenberg, H., 1979, Man's influence on tropical mountain ecosystems in South America. *Journal of ecology*, 67, 401–16.

Elliott, J. G., Gillis, A. C. and Aby, S. B., 1999, Evolution of arroyos: incised channels of the southwestern United States. In S. E. Darby and A. Simon (eds), *Incised river channels*. Chichester: Wiley, 153–85.

Ellis, J. B., 1975, Urban stormwater pollution. *Middlesex Polytechnic research report*, 1.

Ellison, A. M. and Farnsworth, E. J., 1997, Simulated sea level change alters anatomy, physiology, growth and reproduction of red mangrove (*Rhizophora mangle* L.). *Oecologia*, 112, 435–46.

Ellison, J. C. and Stoddart, D. R., 1990, Mangrove ecosystem collapse during predicted sea level rise: Holocene analogues and implications. *Journal of coastal research*, 7, 151–65.

El-Raey, M., 1997, Vulnerability assessment of the coastal zone of the Nile delta of Egypt to the impact of sea level rise. *Ocean and coastal management*, 37, 29–40.

Elsner, J. B. and Kara, A. B., 1999, *Hurricanes of the North Atlantic*. New York: Oxford University Press.

Elsom, D., 1992, *Atmospheric pollution* (2nd edn). Oxford: Blackwell.

Elton, C. S., 1958, *The ecology of invasions by plants and animals.* London: Methuen.

Emanuel, K. A., 1987, The dependence of hurricane intensity on climate. *Nature*, 326, 483–5.

Emmanuel, W. R., Shugart, H. H. and Stevenson, M. P., 1985, Climatic change and the broad-scale distribution of terrestrial ecosystem complexes. *Climatic change*, 7, 29–43.

Engelhardt, F. R. (ed.), 1985, *Petroleum effects in the Arctic environment.* London: Elsevier Applied Science.

EPICA community members, 2004, Eight glacial cycles from an Antarctic ice core. *Nature*, 429, 623–8.

Erhart, H., 1956, *La genèse des sols en tant que phénomène gélogique*. Paris: Masson.

European Environment Agency, 2001, *Eutrophication in Europe's coastal waters*. Copenhagen: European Environment Agency.

Evans, C. D. and Jenkins, A., 2000, Surface water acidification in the South Pennines II. Temporal trends. *Environmental pollution*, 109, 21–34.

Evans, C. D. and 9 others, 2001, Recovery from acidification in European surface waters. *Hydrology and earth system sciences*, 5, 283–97.

Evans, D. M., 1966, Man-made earthquakes in Denver. *Geotimes*, 10, 11–18.

Evans, J. G., Limbrey, S. and Cleere, H. (eds), 1975, *The effect of man on the landscape: the Highland zone.* Council for British Archaeology research report 11.

Evans, I. S., 1970, Salt crystallisation and rock weathering: a review. *Revue de gémorphologie dynamique*, 19, 153–77.

Evans, R. and Northcliffe, S., 1978, Soil erosion in North Norfolk. *Journal of agricultural science*, 90, 185–92.

Eve, M. D., Sperow, M., Paustian, K. and Follett, R. F., 2002, National-scale estimation of changes in soil carbon stocks on agricultural lands. *Environmental pollution*, 116, 431–8.

Evenari, M., Shanan, L. and Tadmor, N. H., 1971, Runoff agriculture in the Negev Desert of Israel. In W. G. McGinnies, R. J. Goldman and P. Paylore (eds), *Food, fiber and the arid lands.* Tucson: University of Arizona Press, 312–22.

Fahrig, L., 2003, Effects of habitat fragmentation on biodiversity. *Annual review of ecology, evolution and systematics*, 34, 487–515.

Fairbridge, R. W., 1983, Isostasy and eustasy. In D. E. Smith and A. G. Dawson (eds), *Shorelines and isostasy*. London: Academic Press, 3–25.

Fairhead, J. and Leach, M., 1996, *Misreading the African landscape: society and ecology in a forest-savanna mosaic.* Cambridge: Cambridge University Press.

FAO, 2001, *The state of the world's forests.* Rome: Food and Agriculture Organisation.

Favis-Mortlock, D. and Boardman, J., 1995, Non linear responses of soil erosion to climate change: modelling study on the UK South Downs. *Catena*, 25, 365–87.

Favis-Mortlock, D. T. and Guerra, A. J. T., 1999, The implications of general circulation model estimates of rainfall for future erosion: a case study from Brazil. *Catena*, 37, 329–54.

Fearnside, P. M. and Laurance, W. F., 2003, Comment on 'Determination rates of the world's humid tropical forests'. *Science*, 299, 1015.

Feare, C. J., 1978, The decline of booby (Sulidae) population in the Western Indian Ocean. *Biological conservation*, 14, 295–305.

Federal Research Centre for Forestry and Forest Products, 2000, *Forest condition in Europe.* Geneva and Brussels: UN/ECE and EC.

Fenger, J., 1999, Urban air quality. *Atmospheric environment*, 33, 4877–900.

Ferrians, O. J., Kachadoorian, R. and Green, G. W., 1969, Permafrost and related engineering problems in Alaska. *United States Geological Survey professional paper*, 678.

Fillenham, L. F., 1963, Holme Fen Post. *Geographical journal*, 129, 502–3.

Fisher, J., Simon, N. and Vincent, J., 1969, *The red book – wildlife in danger.* London: Collins.

Fitt, W. K., Brown, B. E., Warner, M. E. and Dunne, R. P., 2001, Coral bleaching: interpretation of thermal tolerance limits and thermal thresholds in tropical corals. *Coral reefs*, 20, 51–65.

Fitzharris, B., 1996, The cryosphere: changes and their impacts. In Watson, R. T., Zinyowera, M. C., Moss R. H. and Dokken, D. J. (eds), *Climate change 1995. Impacts, adaptation and mitigation of climate change: scientific and technical analyses.* Cambridge: Cambridge University Press, 241–65.

Fitzpatrick, J., 1994, *A continent transformed: human impact on the natural vegetation of Australia.* Melbourne: Oxford University Press.

Flannigan, M. D., Stocks, B. J. and Wotton, B. M., 2000, Climate change and forest fires. *The science of the total environment*, 262, 221–30.

Flenley, J. R., 1979, *The equatorial rain forest: a geological history.* London: Butterworth.

Flenley, J. R., King, A. S. M., Jackson, J., Chew, C., Teller, J. and Prentice, M. E., 1991, The late Quaternary vegetational and climatic history of Easter Island. *Journal of Quaternary science*, 6, 85–115.

Fölster, J. and Wilander, A., 2002, Recovery from acidification in Swedish forest streams. *Environmental pollution*, 117, 389–89.

Forland, E. J., Alexandersson, H., Drebs, A., Hamssen-Bauer, I., Vedin, H. and Tveito, O. E., 1998, Trends in maximum 1-day precipitation in the Nordic region. *DNMI report 14/98, Klima*. Oslo: Norwegian Meteorological Institute, 1–55.

Forman, S. L., Oglesby, R., Markgraf, V. and Stafford, T., 1995. Paleoclimatic significance of late Quaternary eolian deposition on the Piedmont and High Plains, central United States. *Global and planetary change*, 11, 35–55.

Forman, S. L., Oglesby, R. and Webb, R. S., 2001, Temporal and spatial patterns of Holocene dune activity on the Great Plains of North America: megadroughts and climate links. *Global and planetary change*, 29, 1–29.

Forman, R. T. T. and 13 others, 2003, *Road ecology. Science and solutions*. Washington, DC: Island Press.

Foster, I. D. L., Dearing, J. A. and Appleby, R. G., 1986, Historical trends in catchment sediment yields: a case study in reconstruction from lake-sediment records in Warwickshire, UK. *Hydrological science journal*, 31, 427–43.

Fox, H. L., 1976. The urbanizing river: a case study in the Maryland piedmont. In D. R. Coates (ed.), *Geomorphology and engineering*. Stroudsburg: Dowden, Hutchinson and Ross, 245–71.

Francis, D. and Hengeveld, H., 1998, *Extreme weather and climate change*. Downsview, Ontario: Environment Canada.

Frankel, O. H., 1984, Genetic diversity, ecosystem conservation and evolutionary responsibility. In F. D. Castri, F. W. G. Baker and M. Hadley (eds), *Ecology in practice*, Vol. I. Dublin: Tycooly, 4315–27.

Freedman, B., 1995, *Environmental ecology* (2nd edn). San Diego: Academic Press.

Freeland, W. J., 1990, Large herbivorous mammals: exotic species in northern Australia. *Journal of biogeography*, 17, 445–9.

French, H. M., 1976, *The periglacial environment*. London: Longman.

——, 1996, *The periglacial environment* (2nd edn). Harlow: Longman.

French, J. R., Spencer, T. and Reed, D. J. (eds), 1994, Geomorphic responses to sea level rise: existing evidence and future impacts. *Earth surface processes and landforms*, 20, 1–6.

French, P. W., 1997, *Coastal and estuarine management*. London: Routledge.

——, 2001, *Coastal defences. Processes, problems and solutions*. London: Routledge.

Frenkel, R. E., 1970, Ruderal vegetation along some California roadsides. *University of California publications in geography*, 20.

Fu, C., 2003, Potential impacts of human-induced land cover change on East Asia monsoon. *Global and planetary change*, 37, 219–29.

Fullen, M. A., 2003, Soil erosion and conservation in northern Europe. *Progress in physical geography*, 27, 331–58.

Fuller, D. O. and Ottka, C., 2002, Land cover, rainfall and land-surface albedo in West Africa. *Climate change*, 54, 181–204.

Fuller, R., Hill, D. and Tucker, G., 1991, Feeding the birds down on the farm: perspectives from Britain. *Ambio*, 20(6), 232–7.

Gabunia, L. and Vekua, A., 1995, A Plio-Pleistocene hominid from Dmanisi, East Georgia, Caucasus. *Nature*, 373, 509–12.

Gade, D. W., 1976, Naturalization of plant aliens: the volunteer orange in Paraguay. *Journal of biogeography*, 3, 269–79.

Galay, V. J., 1983, Causes of river bed degradation. *Water resources research*, 19(5), 1057–90.

Gameson, A. L. H. and Wheeler, A., 1977, Restoration and recovery of the Thames Estuary. In J. Cairns, K. L. Dickson and E. E. Herricks (eds), *Recovery and restoration of damaged ecosystems*. Charlottesville: University Press of Virginia, 92–101.

Gardner, A. R. and Willis, K. J., 1999, Prehistoric farming and the postglacial expansion of beech and hornbeam: a comment on Küster. *The Holocene*, 9, 119–22.

Gates, D. M., 1993, *Climate change and its biological consequences*. Sunderland, MA: Sinauer.

Gattuso, J.-P., Frankignoulle, M., Bourge, I., Romaine, S. and Buddemeier, R. W., 1998, Effect of calcium carbonate saturation of seawater on coral calcification. *Global and planetary change*, 18, 37–46.

Gaylord, D. R., 1990, Holocene palaeoclimatic fluctuations revealed from dune and interdune strata in Wyoming. *Journal of arid environments*, 18, 123–38.

Geertz, C., 1963, *Agricultural involution: the process of ecological change in Indonesia*. Berkeley: University of California Press.

GESAMP (IMO/FAO/UNESCO/WMO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Pollution), 1990, *The state of the marine environment*. United Nations Environment Program Regional Seas Reports and Studies, 115, Nairobi.

Ghassemi, F., Jakeman, A. J. and Nix, H. A., 1995, *Salinisation of land and water resources*. Wallingford: CAB International, 536.

Gifford, G. F. and Hawkins, R. H., 1978, Hydrological impact of grazing on infiltration: a critical review. *Water resources research*, 14, 305–13.

Gilbert, G. K., 1917, Hydraulic mining debris in the Sierra Nevada. *United States Geological Survey professional paper*, 105.

Gilbert, O. L., 1970, Further studies on the effect of sulphur dioxide on lichens and bryophytes. *New phytologist*, 69, 605–27.

——, 1975, Effects of air pollution on landscape and land-use around Norwegian aluminium smelters. *Environmental pollution*, 8, 113–21.

Gill, T. E., 1996, Eolian sediments generated by anthropogenic disturbance of playas: human impacts on the geomorphic system and geomorphic impacts on the human system. *Geomorphology*, 17, 207–28.

Gillespie, R. and 6 others, 1978, Lancefield Swamp and the extinction of the Australian megafauna. *Science*, 200, 1044–8.

Gillon, D., 1983, The fire problem in tropical savannas. In F. Bourlière (ed.), *Tropical savannas*. Oxford: Elsevier Scientific, 617–41.

Gimingham, C. H., 1981, Conservation: European heathlands. In R. L. Spect (ed.), *Heathlands and related shrublands*. Amsterdam: Elsevier Scientific, 249–59.

Gimingham, C. H. and de Smidt, I. T., 1983, Heaths and natural and semi-natural vegetation. In W. Holzner, M. J. A. Werger and I. Ikusima (eds), *Man's impact on vegetation*. Hague: Junk, 185–99.

Glacken, C., 1963, The growing second world within the world of nature. In F. R. Fosberg (ed.), *Man's place in the island ecosystem*. Honolulu: Bishop Museum Press, 75–100.

——, 1967, *Traces on the Rhodian shore: nature and culture in western thought from ancient times to the end of the eighteenth century*. Berkeley: University of California Press.

Glade, T., 2003, Landslide occurrence as a response to land use change: a review of evidence from New Zealand. *Catena*, 51, 297–314.

Glieck, P. J. (ed.), 1993, *Water in crisis: a guide to the world's freshwater resources*. New York: Oxford University Press.

——, 2002, Dams. In A. S. Goudie (ed.), *Encyclopedia of global change*. New York: Oxford University Press, 229–34.

Godbole, N. N., 1972, Theories on the origin of salt lakes in Rajasthan, India. *Proceedings of the 24th International Geological Congress*, Section 10, 354–7.

Goldberg, E. D. and 7 others, 1978, A pollution history of Chesapeake Bay. *Geochimica et cosmochimica acta*, 42, 1413–25.

Goldewijk, K. K., 2001, Estimating global land use change over the past 300 years: the HYDE database, *Global biogeochemical cycles*, 15, 417–33.

Goldsmith, F. B., 1983, Evaluating nature. In A. Warren and F. B. Goldsmith (eds), *Conservation in perspective*. Chichester: Wiley, 233–46.

Goldsmith, V., 1978, Coastal dunes. In R. A. Davis (ed.), *Coastal sedimentary environments*. New York: Springer-Verlag.

Gomez, B. and Smith, C. G., 1984, Atmospheric pollution and fog frequency in Oxford, 1926–1980. *Weather*, 39, 379–84.

Gong, Z.-T., 1983, Pedogenesis of paddy soil and its significance in soil classification. *Soil science*, 135, 5–10.

Gonzalez, M. A., 2001, Recent formation of arroyos in the Little Missouri Badlands of southwestern Dakota. *Geomorphology*, 38, 63–84.

Goodman, D., 1975, The theory of diversity–stability relationships in ecology. *Quarterly review of biology*, 50, 237–66.

Goreau, T. J. and Hayes, R. L., 1994, Coral bleaching and ocean 'hot spots'. *Ambio*, 23, 176–80.

Gorman, M., 1979, *Island ecology*. London: Chapman & Hall.

Gornitz, V., Rosenzweig, C. and Hillel, D., 1997, Effects of anthropogenic intervention in the land hydrologic cycle on global sea level rise. *Global and planetary change*, 14, 147–61.

Gornitz, V., Couch, S. and Hartig, E. K., 2002, Impacts of sea level rise in the New York City metropolitan area. *Global and planetary change*, 32, 61–88.

Gosden, C., 2003, *Prehistory: a very short introduction*. Oxford: Oxford University Press.

Gottschalk, L. C., 1945, Effects of soil erosion on navigation in Upper Chesapeake Bay. *Geographical review*, 35, 219–38.

Goudie, A. S., 1972a, The concept of post-glacial progressive desiccation. Research paper 4, School of Geography, University of Oxford.

——, 1972b, Vaughan Cornish: geographer. *Transactions of the Institute of British Geographers*, 55, 1–16.

——, 1973, *Duricrusts of tropical and subtropical landscapes*. Oxford: Clarendon Press.

——, 1977, Sodium sulphate weathering and the disintegration of Mohenjo-Daro, Pakistan. *Earth surface processes*, 2, 75–86.

——, 1983, Dust storms in space and time. *Progress in physical geography*, 7, 502–30.

——, (ed.), 1990, *Techniques for desert reclamation*. Chichester: Wiley.

——, 1992, *Environmental change* (3rd edn). Oxford: Clarendon Press.

——, 1994, Deserts in a warmer world. In A. C. Millington and K. Pye (eds), *Environmental change in drylands: biogeographical and geomorphological perspectives*. Chichester: Wiley, 1–24.

——, 2002, *Great warm deserts of the world: landscape and evolution*. Oxford: Oxford University Press.

Goudie, A. S. and Middleton, N. S., 1992, The changing frequency of dust storms through time. *Climatic change*, 20, 197–225.

Goudie, A. S. and Viles, H. A., 1997, *Salt weathering hazards*. Chichester: Wiley.

Goudie, A. S. and Wilkinson, J. C., 1977, *The warm desert environment*. Cambridge: Cambridge University Press.

Goudie, A. S., Viles, H. A. and Pentecost, A., 1993, The late-Holocene tufa decline in Europe. *The Holocene*, 3, 181–6.

Goudie, A. S., Parker, A. G. and Al-Farrai, A., 2000, Coastal change in Ras Al Khaimah (United Arab Emirates): a cartographic analysis. *Geographical journal*, 166, 14–25.

Goulson, D. 2003, Effects of introduced bees on native ecosystems. *Annual review of ecology, evolution and systematics*, 34, 1–26.

Gourou, P., 1961, *The tropical world* (3rd edn). London: Longman.

Gow, T. J. (ed.), 2002. *The speciation of modern Homo sapiens*. Oxford: Oxford University Press.

Gowlett, J. A. J., Harris, J. W. K., Walton, D. and Wood, B. A., 1981, Early archaeological sites, hominid remains and traces of fire from Chesowanja, Kenya. *Nature*, 284, 125–9.

Graedel, T. E. and Crutzen, P. J., 1993, *Atmospheric change: an earth system perspective.* San Francisco: Freeman.
——, 1995, *Atmosphere, climate and change.* New York: Scientific American Library.
Graetz, D., 1994, Grasslands. In W. B. Meyer and B. L. Turner II (eds), *Changes in land use and land cover: a global perspective.* Cambridge: Cambridge University Press, 125–47.
Graf, W. K., 1977, Network characteristics in suburbanizing streams. *Water resources research*, 13, 459–63.
Graf, W. L., 1988, *Fluvial processes in dryland rivers.* Berlin: Springer-Verlag.
——, 1999, Dam nation: a geographic census of American dams and their large-scale hydrologic impacts. *Water resources research*, 35, 1305–11.
——, 2001, Damage control: restoring the physical integrity of America's rivers. *Annals of the Association of American Geographers*, 91, 1–27.
Graf, J. B., Webb, R. H. and Hereford, R., 1991, Relation of sediment load and flood-plain formation to climatic variability, Paria River drainage basin, Utah and Arizona. *Bulletin of the Geological Society of America*, 103, 1405–15.
Grainger, A., 1990, *The threatening desert: controlling desertification.* London: Earthscan.
——, 1992, *Controlling tropical deforestation.* London: Earthscan.
Gray, R., 1993, Regional meteorology and hurricanes. In G. A. Maul (ed.), *Climatic change in the Intra-Americas Sea.* London: Edward Arnold, 87–99.
Grayson, D. K., 1977, Pleistocene avifaunas and the overkill hypothesis. *Science*, 195, 691–3.
——, 1988, Perspectives on the archaeology of the first Americans. In R. C. Carlisle (ed.), *Americans before Columbus: Ice Age origins.* Pittsburgh: University of Pittsburgh, 107–23.
Green, F. H. W., 1978, Field drainage in Europe. *Geographical journal*, 144, 171–4.
Green, R. C., 1975, Adaptation and change in Maori culture. *Monographiae biologicae* (New Guinea), 27, 591–661.
Greenland, D. J. and Lal, R., 1977, *Soil conservation and management in the humid tropics.* Chichester: Wiley.
Gregory, J. M. and Oelemans, J., 1998, Simulated future sea-level rise due to glacier melt based on regionally and seasonally resolved temperature changes. *Nature*, 391, 474–6.
Gregory, J. M. and 12 others, 2001, Comparisons of results from several AOGCMs for global and regional sea level change 1900–2100. *Climate dynamics*, 18, 225–40.
Gregory, J. M., Huybrechts P. and Raper, S. C. B. 2004, Threatened loss of the Greenland ice-sheet. *Nature*, 428, 616.
Gregory, K. J., 1976, Drainage networks and climate. In E. Derbyshire (ed.), *Geomorphology and climate*. Chichester: Wiley, 289–315.
——, 1985, The impact of river channelization. *Geographical journal*, 151, 53–74.
Gregory, K. J. and Walling, D., 1973, *Drainage basin form and process: a geomorphological approach.* London: Arnold.
——, 1979, *Man and environmental processes.* Folkestone: Dawson.
Grieve, I. C., 2001, Human impacts on soil properties and their implications for the sensitivity of soil systems in Scotland. *Catena*, 42, 361–74.
Griffiths, J. F., 1976, *Applied climatology, an introduction* (2nd edn). Oxford: Oxford University Press.
Grigg, D., 1970, *The harsh lands.* London: Macmillan.
Grimm, N. B. and 6 others, 1997, Sensitivity of aquatic ecosystems to climatic and anthropogenic changes: the Basin and Range, American south-west and Mexico. In C. E. Cushing (ed.), *Freshwater ecosystems and climate change in North America: a regional assessment*. Chichester: Wiley, 205–23.
Grosjean, M., Núñez, L., Castajena, I. and Messerli, B., 1997, Mid-Holocene climate and culture change in the Atacama Desert, northern Chile. *Quaternary research*, 48, 239–46.
Gross, M. G., 1972, Geological aspects of waste solids and marine waste deposits, New York Metropolitan region. *Bulletin of the Geological Society of America*, 83, 3163–76.
Grove, A. T. and Rackham, O., 2001, *The nature of Mediterranean Europe: an ecological history*. New Haven and London: Yale University Press.
Grove, J. M., 1988, *The Little Ice Age*. London: Routledge.
Grove, R. H., 1983, *The future for forestry*. Cambridge: British Association of Nature Conservationists.
——, 1997, *Ecology, climate and empire: colonialism and global environmental history, 1400–1940.* Cambridge: White Horse Press.
Grover, H. D. and Musick, H. B., 1990, Shrubland encroachment in southern New Mexico, USA: an analysis of desertification processes in the American southwest. *Climatic change*, 17, 305–30.
Guha, S. K. (ed.), 2000, *Induced earthquakes*. Dordrecht: Kluwer.
Guicherit, R. and Roemer, M., 2000, Tropospheric ozone trends. *Chemosphere – global change science*, 2, 167–83.
Guidon, N. and Delibrias, G., 1986, Carbon 14 dates point to man in the Americas 32,000 years ago. *Nature*, 321, 769–71.
Guilday, J. E., 1967, Differential extinction during Late Pleistocene and recent time. In P. S. Martin and H. E. Wright (eds), *Pleistocene extinctions.* New Haven: Yale University Press, 121–40.
Guo, S., Wang, J., Xiang, L., Ying, A. and Li, D., 2002, A macro-scale and semi-distributed monthly water balance model to predict climate change impacts in China. *Journal of hydrology*, 268, 1–15.
Gupta, H. K., 2002, A review of recent studies of triggered earthquakes by artificial water reservoirs with special emphasis on earthquakes in Koyna, India. *Earth-science reviews*, 58, 279–310.
Guthrie, R. D., 2003, Rapid body size decline in Alaskan Pleistocene horses before extinction. *Nature*, 426, 169–71.
Gutierrez-Elorza, M., 2001, *Geomorfología climática*. Barcelona: Omega.
Haeberli, W. and Burn, C. R., 2002, Natural hazards in forests: glacier and permafrost effects as related to climate change. In R. C. Sidle (ed.), *Environmental change and geomorphic effects in forests*. Wallingford: CABI, 167–202.
Haggett, P., 1979, *Geography: a modern synthesis* (3rd edn). London: Prentice Hall.

Haigh, M. J., 1978, Evolution of slopes on artificial landforms – Blaenavon, UK. Research paper 183, Department of Geography, University of Chicago.

Hails, J. R. (ed.), 1977, *Applied geomorphology*. Amsterdam: Elsevier.

Hails, R. J., 2002, Assessing the risks associated with new agricultural practices. *Nature*, 418, 685–8.

Hall, S. R. and Mills, E. L., 2000, Exotic species in large lakes of the world. *Aquatic ecosystem health and management*, 3, 105–35.

Hanes, T. L., 1971, Succession after fire in the chaparral of Southern California. *Ecological monographs*, 41, 27–52.

Hannah, L., Lohse, D., Hutchinson, C., Carr, L. and Lankerani, A., 1994, A preliminary inventory of human disturbance of world ecosystems. *Ambio*, 23, 246–50.

Hansen, J. and 6 others, 1981, Climatic impact of increasing atmospheric carbon dioxide. *Science*, 213, 957–66.

Hanson, P. J. and Weltzin, J. F. 2000, Drought disturbance from climate change: response of United States forests. *Science of the total environment*, 262, 205–20.

Happ, S. C., 1944, Effect of sedimentation on floods in the Kickapoo Valley, Wisconsin. *Journal of geology*, 52, 53–68.

Harlan, J. R., 1975a, Our vanishing genetic resources. *Science*, 188, 617–22.

——, 1975b, *Crops and man*. Madison: American Society of Agronomy.

——, 1976, The plants and animals that nourish man. *Scientific American*, 235, 3, 88–97.

Harris, C., Davies, M. C. R. and Etzelmüller, B., 2001, The assessment of prudential geotechnical hazards associated with mountain permafrost in a warming global climate. *Permafrost and periglacial processes*, 12, 145–56.

Harris, D. R., 1966, Recent plant invasions in the arid and semi-arid southwest of the United States. *Annals of the Association of American Geographers*, 56, 408–22.

—— (ed.), 1980, *Human ecology in savanna environments*. London: Academic Press.

—— (ed.), 1996, *The origins and spread of agriculture and pastoralism in Eurasia*. London: UCL Press.

Harris, J. M., Oltmans, S. J., Bodeker, G. E., Stolarski, R., Evans, R. D. and Quincy, D. M., 2003, Long-term restrictions in total ozone derived from Dobson and satellite data. *Atmospheric environment*, 37, 3167–75.

Harris, S. A., 2002, Causes and consequences of rapid thermokarst development in permafrost or glacial terrain. *Permafrost and periglacial processes*, 13, 237–42.

Harrison, G. P. and Whittington, H. W., 2002, Susceptibility of the Batoka Gorge hydroelectric scheme to climate change. *Journal of hydrology*, 264, 230–41.

Harvey, A. M., 1989, The occurrence and role of arid zone alluvial fans. In D. S. G. Thomas (ed.), *Arid zone geomorphology*. London: Belhaven Press, 136–58.

Harvey, A. M. and Renwick, W. H., 1987, Holocene alluvial fan and terrace formation in the Bowland Fells, Northwest England. *Earth surface processes and landforms*, 12, 249–57.

Harvey, A. M., Oldfield, F., Baron, A. F. and Pearson, G. W., 1981, Dating of post-glacial landforms in the central Howgills. *Earth surface processes and landforms*, 6, 401–12.

Harvey, L. D. D., 2000, *Global warming. The hard science*. Harlow: Prentice Hall.

Hawass, Z., 1993, The Egyptian monuments: problems and solutions. In M. J. Thiel (ed.), *Conservation of stone and other material*. London: Spon, 19–25.

Hawksworth, D. L., 1990, The long-term effects of air pollutants on lichen communities in Europe and North America. In G. M. Woodwell (ed.), *The earth in transition: patterns and processes of biotic impoverishment*. Cambridge: Cambridge University Press, 45–64.

Hay, J., 1973, Salt cedar and salinity on the Upper Rio Grande. In M. T. Farvar and J. P. Milton (eds), *The careless technology*. London: Tom Stacey, 288–300.

Haynes, C. V., 1991, Geoarchaeological and palaeohydrological evidence for a Clovis-age drought in North America and its bearing on extinction. *Quaternary research*, 35, 438–50.

Healy, T., 1991, Coastal erosion and sea level rise. *Zeitschrift für geomorphologie, supplementband*, 81, 15–29.

——, 1996, Sea level rise and impacts on nearshore sedimentation. *Geologische rundschau*, 85, 546–53.

Heathwaite, A. L., Johnes, P. J. and Peters, N. E., 1996, Trends in nutrients. *Hydrological processes*, 10, 263–93.

Heinselman, M. L. and Wright, H. E., 1973, The ecological role of fire in natural conifer forests of western and northern America. *Quaternary research*, 3, 317–482.

Helldén, U., 1985, Land degradation and land productivity monitoring – needs for an integrated approach. In A. Hjört (ed.), *Land management and survival*. Uppsala: Scandinavian Institute of African Studies, 77–87.

Helliwell, D. R., 1974, The value of vegetation for conservation. II: M1 motorway area. *Journal of environmental management*, 2, 75–8.

Henderson-Sellers, A. and Blong, R., 1989, *The greenhouse effect: living in a warmer Australia*. Kensington, NSW: New South Wales University Press.

Henderson-Sellers, A. and Gornitz, V., 1984, Possible climatic impacts of land cover transformation with particular emphasis on tropical deforestation. *Climatic change*, 6, 231–57.

Henderson-Sellers, A. and Robinson, P. J., 1986, *Contemporary climatology*. London: Longman.

Hennessy, K. J., Gregory, J. M. and Mitchell, J. F. B., 1997, Changes in daily precipitation under enhanced greenhouse conditions. *Climate dynamics*, 13, 667–80.

Hereford, R., 1984, Climate and ephemeral-stream processes: twentieth-century geomorphology and alluvial stratigraphy of the Little Colorado River, Arizona. *Bulletin of the Geological Society of America*, 95, 654–68.

Hereford, R., Jacoby, G. C. and McCord, V. A. S., 1995, Geomorphic history of the Virgin River in the Zion National Park area, southwest Utah. *US Geological Survey circular*, 95–515.

Hess, W. N. (ed.), 1974, *Weather and climate modification*. New York: Wiley.

Hewlett, J. D., Post, H. E. and Doss, R., 1984, Effect of clear-cut silviculture on dissolved ion export and water yield in the Piedmont. *Water resources research*, 20(7), 1030–8.

Heywood, V. H., 1989, Patterns, extents and modes of invasions by terrestrial plants. In J. A. Drake (ed.), *Biological invasions: a global perspective*. Chichester: Wiley, 31–55.

Heywood, V. H. and Watson, R. T. (eds), 1995, *Global biodiversity assessment*. Cambridge: Cambridge University Press.

Hickey, J. J. and Anderson, O. W., 1968, Chlorinated hydrocarbons and eggshell changes in raptorial and fish-eating birds. *Science*, 162, 271–2.

Hilborn, R., Branch, T. A., Ernst, B., Magnusson, A., Minte-Vera, C. V. and Mark, D. S., 2003, State of the world's fisheries. *Annual review of environment and resources*, 28, 359–99.

Hill, A. R., 1975, Ecosystems stability in relation to stresses caused by human activities. *Canadian geographer*, 19, 206–20.

Hillel, D., 1971, Artificial inducement of runoff as a potential source of water in arid lands. In W. G. McGinnies, B. J. H. Goldman and P. Paylore (eds), *Food, fiber and the arid lands*. Tucson: University of Arizona Press, 324–30.

Hills, T. L., 1965, Savannas: a review of a major research problem in tropical geography. *Canadian geographer*, 9, 216–28.

Hobbs, P. V. and Radke, L. F., 1992, Airborne studies of the smoke from the Kuwait oil fires. *Science*, 256, 987–91.

Hoegh-Guldberg, O., 1999, Climate change, coral bleaching and the future of the world's coral reefs. *Marine and freshwater research*, 50, 839–66.

——, 2001, Sizing the impact: coral reef ecosystems as early casualties of climate change. In G. R. Walther, C. A. Burga and P. J. Edwards (eds), *Fingerprints of climate change*. New York: Kluwer/Plenum, 203–28.

Hoelzle, M. and Trindler, M., 1998, Data management and application. In W. Haeberli et al. (eds), *Into the second century of worldwide glacier monitoring: prospects and strategies*. Paris: UNESCO, 53–64.

Hoelzmann, P., Keding, B., Berke, H., Kröpelin, S. and Kruse, H.-J., 2001, Environmental change and archaeology: lake evolution and human occupation in the eastern Sahara during the Holocene. *Palaeogeography, palaeoclimatology, palaeoecology*, 169, 193–217.

Hoffman, J. S., Keyes, D. and Titus, J. G., 1983, *Projecting future sea level rise: methodology, estimates to the year 2100, and research needs*. U.S. Environmental Protection Agency Report 230-09-007. Washington, DC: Government Printing Office.

Hoffman, J. S., Wells, J. B. and Titus, J. G., 1986, Future global warming and sea level rise. In G. Sigbjarnason (ed.), *Iceland coastal and river symposium*, Reykavik, Natural Energy Authority, 245–66.

Holden, J., Chapman, P. J. and Labadz, J. C., 2004, Artifical drainage of peatlands: hydrological and hydrochemical process and wetland restoration. *Progress in physical geography*, 28, 95–123.

Holdgate, M. W., 1979, *A perspective on environmental pollution*. Cambridge: Cambridge University Press.

Holdgate, M. W. and Wace, N. M., 1961, The influence of man on the floras and faunas of southern islands. *Polar record*, 10, 473–93.

Holdgate, M. W., Kassas, M. and White, G. F., 1982, *The world environment 1972–1982*. Dublin: Tycooly.

Holland, G. J., McBridge, J. L. and Nicholls, N., 1988, Australian region tropical cyclones and the greenhouse effect. In G. I. Pearman (ed.), *Greenhouse, planning for climate change*. Leiden: Brill, 438–55.

Holliday, V. T., 1995, Stratigraphy and paleoenvironments of Late Quaternary Valley Fills on the Southern High Plains. *Geological Society of America, memoir*, 186.

——, 1997, Origin and evolution of lunettes on the High Plains of Texas and New Mexico. *Quaternary research*, 47, 54–69.

——, 2004, *Soils in archaeological research*. New York: Oxford University Press.

Hollis, G. E., 1975, The effects of urbanization on floods of different recurrence interval. *Water resources research*, 11, 431–5.

——, 1988, Rain, roads, roofs and runoff: hydrology in cities. *Geography*, 73, 9–18.

——, 1978, The falling levels of the Caspian and Aral Seas. *Geographical journal*, 144, 62–80.

Hollis, G. E. and Luckett, J. K., 1976, The response of natural river channels to urbanization: two case studies from Southeast England. *Journal of hydrology*, 30, 351–63.

Holloway, G. and Sou, T., 2002, Has Arctic sea ice rapidly thinned? *Journal of climate*, 15, 1691–701.

Holm, K., Bovis, M. and Jacob, M., 2004, The landslide response of alpine basins to post-Little Ice Age glacial thinning and retreat in southwestern British Columbia. *Geomorphology*, 57, 201–16.

Holtz, W. G., 1983, The influence of vegetation on the swelling and shrinking of clays in the United States of America. *Géotechnique*, 33, 159–63.

Holzer, T. L., 1979, Faulting caused by groundwater extraction in South-central Arizona. *Journal of geophysical research*, 84, 603–12.

Hooke, J. (ed.), 1998, *Coastal defence and earth science conservation*. Bath: Geological Society of London.

Hooke, R. L., 1994, On the efficacy of humans as geomorphic agents. *USA today*, 4, 217, 224–5.

Hope, G., 1999, Vegetation and fire response to late Holocene human occupation in island and mainland north west Tasmania. *Quaternary international*, 59, 47–60.

Hopkins, B., 1965, Observations on savanna burning in the Olikemeji forest reserve, Nigeria. *Journal of applied ecology*, 2, 367–81.

Horn, R., van der Akker, J. J. H. and Arvidsson, J. (eds), 2000, *Subsoil compaction: distribution, processes and consequences*. Reiskirchen: Catena Verlag.

Houghton, J. T., Jenkins, G. J. and Ephraums, J. J., 1990, *Climate change: the IPCC scientific assessment*. Cambridge: Cambridge University Press.

Houghton, J. T., Callander, B. A. and Varney, S. K. (eds), 1992, *Climate change 1992: the supplementary report of the IPCC scientific assessment*. Cambridge: Cambridge University Press.

Houghton, J. T. and 7 others (eds), 2001, *Climate change 2001: the scientific basis*. Cambridge: Cambridge University Press.

Houghton, R. H. and Skole, D. L., 1990, Carbon. In B. L. Turner II (ed.), *The earth transformed by human action*. Cambridge: Cambridge University Press, 393–408.

Howard, K. W. F. and Beck, P. J., 1993, Hydrochemical implications of groundwater contamination by road de-icing chemicals. *Journal of contaminant hydrology*, 12, 245–68.

Howe, G. M., Slaymaker, H. O. and Harding, D. M., 1966, Flood hazard in mid-Wales. *Nature*, 212, 584–5.

Huang, W., Clochon, R., Gu, Y., Larick, R., Fang, Q., Schwartz, H., Yonge, C., de Vos, J. and Rink, W., 1995, Early *Homo* and associated artefacts from Asia. *Nature*, 378, 275–8.

Hudson, B. J., 1979, Coastal land reclamation with special reference to Hong Kong. *Reclamation review*, 2, 3–16.

Hudson, N., 1987, Soil and water conservation in semi-arid areas. *FAO soils bulletin*, 55.

Hughes, M. K., Lepp, N. W. and Phipps, D. A., 1980, Aerial heavy metal pollution and terrestrial ecosystems. *Advances in ecological research*, 11, 217–327.

Hughes, R. J., Sullivan, M. E. and Yok, D., 1991, Human-induced erosion in a highlands catchment in Papua New Guinea: the prehistoric and contemporary records. *Zeitschrift für geomorphologie, supplementband*, 83, 227–39.

Hughes, T. P., 1994, Catastrophes, phase shifts, and large-scale degradation of a Caribbean coral reef. *Science*, 265, 1547–51.

Hull, S. K. and Gibbs, J. N., 1991, Ash dieback: a survey of nonwoodland trees. *Forestry Commission bulletin*, 93, 32.

Huntington, E., 1914, *The climatic factor as illustrated in arid America*. Carnegie Institution of Washington publication, 192.

Hurd, L. E., Mellinger, M. W., Wold, L. L. and McNaughton, S. J., 1971, Stability and diversity at three trophic levels in terrestrial successional ecosystems. *Science*, 173, 1134–6.

Hutchinson, G. E., 1973, Eutrophication. *American scientist*, 61, 269–79.

Idso, S. B., 1983, Carbon dioxide and global temperature: what the data show. *Journal of environmental quality*, 12, 159–63.

Idso, S. B. and Brazel, A. J., 1978, Climatological effects of atmospheric particulate pollution. *Nature*, 274, 781–2.

——, 1984, Rising atmospheric carbon dioxide concentrations may increase streamflow. *Nature*, 312, 51–3.

Ikawa-Smith, F., 1982, Current issues in Japanese archaeology. *American scientist*, 68, 134–45.

Illies, J., 1974, *Introduction to zoogeography*. London: Macmillan.

Imeson, A. C., 1971, Heather burning and soil erosion on the North Yorkshire Moors. *Journal of applied ecology*, 8, 537–41.

Imeson, A. and Emmer, I. M., 1992, Implications of climate change on land degradation in the Mediterranean. In L. Jeftic, J. D. Milliman and G. Sestini (eds), *Climate change and the Mediterranean*. London: Arnold, 95–128.

Imhoff, M. L., Bounoua, L., Ricketts, T., Loucks, C., Harriss, R. and Lawrence, W. T., 2004, Global patterns in human consumption of net primary productivity. *Nature*, 429, 870–3.

Innes, J. L., 1983, Lichenometric dating of debris-flow deposits in the Scottish Highlands. *Earth surface processes and landforms*, 8, 579–88.

——, 1987, *Air pollution and forestry*. Forestry Commission bulletin, 70.

——, 1992, Forest decline. *Progress in physical geography*, 16, 1–64.

Innes, J. L. and Boswell, R. C., 1990, Monitoring of forest condition in Great Britain 1989. *Forestry Commission bulletin*, 94, 57.

Institute of Hydrology, 1991, *Institute of Hydrology report 1990–91*. Wallingford: Institute of Hydrology.

IPCC (Intergovernmental Panel on Climate Change), 1996, *Climate change 1995*. Cambridge: Cambridge University Press.

IPCC (Intergovernmental Panel on Climate Change), 1999, *Aviation and the global atmosphere*. Special report of Working Groups I and II.

IPCC (Intergovernmental Panel on Climate Change), 2001, *Climate change 2001: the scientific basis*. Cambridge: Cambridge University Press.

Irving, W. M., 1985, Context and chronology of early man in the Americas. *Annual review of anthropology*, 14, 529–55.

Isaac, E., 1970, *Geography of domestication*. Englewood Cliffs: Prentice Hall.

Ives, J. D. and Messerli, B., 1989, *The Himalayan dilemma: reconciling development and conservation*. London: Routledge.

Iwashima, T. and Yamamoto, R., 1993, A statistical analysis of the extreme events: long-term trend of heavy daily precipitation. *Journal of the Meteorological Society of Japan*, 71, 637–40.

Jacks, G. V. and Whyte, R. O., 1939, *The rape of the earth: a world survey of soil erosion*. London: Faber & Faber.

Jacobs, J., 1969, *The economy of cities*. New York: Random House.

——, 1975, Diversity, stability and maturity in ecosystems influenced by human activities. In W. H. Van Dobben and R. H. Lowe-McConnell (eds), *Unifying concepts in ecology*. The Hague: Junk, 187–207.

Jacobsen, T. and Adams, R. M., 1958, Salt and silt in ancient Mesopotamian agriculture. *Science*, 128, 1251–8.

Jarvis, P. H., 1979, The ecology of plant and animal introductions. *Progress in physical geography*, 3, 187–214.

Jeffries, M., 1997, *Biodiversity and conservation*. London: Routledge.

Jenkins, M., 2003, Prospects for biodiversity. *Science*, 302, 1175–7.

Jenkins, M. E., Davies, T. J. and Stedman, J. R., 2002, The origin and day-of-week dependence of photochemical ozone episodes in the UK. *Atmospheric environment*, 36, 999–1012.

Jennings, J. N., 1952, *The origin of the Broads*. Royal Geographical Society research series, 2.

Jenny, H., 1941, *Factors of soil formation*. New York: McGraw-Hill.

Jensen, F. P. and Fenger, J. 1994, The air quality in Danish urban areas. *Environmental health perspectives*, 102 (Supplement 4), 55–60.

Jickells, T. D., Carpenter, R. and Liss, P. S., 1991, Marine environment. In B. L. Turner, W. C. Clark, R. W. Kates, J. F. Richards, J. T. Matthews and W. B. Meyer (eds), *The earth as transformed by human action*. Cambridge: Cambridge University Press, 313–34.

Jin, H., Li, S., Cheng, G., Shaoling, W. and Li, X., 2000, Permafrost and climatic change in China. *Global and planetary change*, 26, 387–404.

Joern, A. and Keeler, K. H. (eds), 1995, *The changing prairie*. New York: Oxford University Press.

Johannessen, C. L., 1963, Savannas of interior Honduras. *Ibero-Americana*, 46, 160 pp.

Johnson, C. and Wroe, S., 2003, Causes of extinction of vertebrates during the Holocene of mainland Australia: arrival of the dingo, or human impact? *The Holocene*, 13, 941–8.

Johnson, A. I. (ed.), 1991, *Land subsidence*. Wallingford: International Association of Hydrological Sciences, Publication 200.

Johnson, D. L. and Lewis, L. A., 1995, *Land degradation: creation and destruction*. Oxford: Blackwell.

Johnson, N. M., 1979, Acid rain: neutralization within the Hubbard Brook ecosystem and regional implications. *Science*, 204, 497–9.

Johnston, D. W., 1974, Decline of DDT residues in migratory songbirds. *Science*, 186, 841–2.

Johnston, D. W., Turner, J. and Kelly, J. M., 1982, The effects of acid rain on forest nutrient status. *Water resources research*, 18, 448–61.

Jones, J. A. A., Liu, C., Woo, M.-K. and Kung, H.-T. (eds), 1996, *Regional hydrological response to climate change*. Dordrecht: Kluwer.

Jones, P. D. and Reid, P. A., 2001, Assessing future changes in extreme precipitation over Britain using regional climate model integrations. *International journal of climatology*, 21, 1337–56.

Jones, R., Benson-Evans, K. and Chambers, F. M., 1985, Human influence upon sedimentation in Llangorse Lake, Wales. *Earth surface processes and landforms*, 10, 227–35.

Joughlin, I. and Tulaczyk, S., 2002, Positive ice balance of the Ross Ice Streams, West Antarctica. *Science*, 295, 476–80.

Joyce, L., Aber, J., McNulty, S., Dale, V., Hansen, A., Irland, L., Neilson, R. and Skog, K., 2001, Potential consequences of climate variability and change for the forests of the United States. In National Assessment Synthesis Team, *Climate change impacts on the United States: the potential consequences of climate variability and change*. Cambridge: Cambridge University Press, 489–521.

Judd, W. R., 1974, Seismic effects of reservoir impounding. *Engineering geology*, 8, 1–212.

Judson, S., 1968, Erosion rates near Rome, Italy. *Science*, 160, 1444–5.

Julian, M. and Anthony, E., 1996, Aspects of landslide activity in the Mercantour Massif and the French Riviera, southeastern France. *Geomorphology*, 15, 275–89.

Kadomura, H., 1994, Climatic change, droughts, desertification and land degradation in the Sudano–Sahelian region: a historico-geographical perspective. In H. Kadomura (ed.), *Savannization processes in tropical Africa II*. Tokyo: Department of Geography, Tokyo Metropolitan University, 203–28.

Kareiva, P. and Levin, S. A. (eds), 2003, *The importance of species*. Princeton: Princeton University Press.

Karl, T. R. and Knight, R. W., 1998, Secular trends of precipitation amount, frequency and intensity in the United States. *Bulletin of the American Meteorological Society*, 79, 1413–49.

Karnes, L. B., 1971, Reclamation of wet and overflow lands. In G.-H. Smith (ed.), *Conservation of natural resources*. New York: Wiley, 241–55.

Karnosky, D. F., 2003, Impacts of elevated atmospheric CO_2 on forest trees and forest ecosystems: knowledge gaps. *Environment international*, 29, 161–9.

Karnosky, D. F., Ceulemans, R., Scarascia-Mugnozza, G. E. and Innes, J. L., 2001, *The impact of carbon dioxide and other greenhouse gases on forest ecosystems*. Wallingford: CABI Publishing.

Kaser, G., 1999, A review of the modern fluctuations of tropical glaciers. *Global and planetary change*, 22, 93–103.

Kaser, G. and Osmaston, H., 2002, *Tropical glaciers*. Cambridge: Cambridge University Press.

Kasperson, V. X., Kasperson, R. E. and Turner, B. L. II, 1995, *Regions at risk: comparisons of threatened environments*. Tokyo: United Nations University Press.

Kates, R. W., Turner, B. L. I. and Clark, W. C., 1990, The great transformation. In B. L. Turner, W. C. Clark, R. W. Kates, J. F. Richards, J. T. Matthews and W. B. Meyer (eds), *The earth as transformed by human action*. Cambridge: Cambridge University Press, 1–17.

Kauppi, P. and Posch, M., 1988, A case study of the effects of CO_2-induced climatic warming on forest growth and the forest sector. In M. L. Parry, T. R. Carter and N. T. Konijn (eds), *The impact of climatic variations in agriculture*, Vol. 1. Dordrecht: Kluwer, 183–95.

Keefer, D. K., de France, S. D., Mosely, M. E., Richardson, J. B., Satterlee, D. R. and Day-Lewis, A., 1998, Early maritime economy and El Niño events at Quebrada Tachuay, Peru. *Science*, 281, 1833–935.

Keen, K. L. and Shane, L. C. K., 1990, A continuous record of Holocene eolian activity and vegetation change at Lake Ann, east-central Minnesota. *Geological Society of America bulletin*, 102, 1646–57.

Keller, E. A., 1976, Channelization: environmental, geomorphic and engineering aspects. In D. R. Coates (ed.), *Geomorphology and engineering*. Stroudsburg: Dowden, Hutchinson and Ross, 115–40.

Kellman, M., 1975, Evidence for late glacial age fire in a tropical montane savanna. *Journal of biogeography*, 2, 57–63.

Kellogg, W. W., 1978, Global influence of mankind on the climate. In J. Gribbin (ed.), *Climatic change*. London: Cambridge University Press, 205–27.

Kemp, K., Palmgren, F. and Mancher, O. H., 1998, *The Danish air quality monitoring programme. Annual report for 1997*. NERI Technical report No 245, Roskilde: National Environmental Research Institute.

Kennish, M. J., 2001, Coastal salt marsh systems in the U.S.: a review of anthropogenic impacts. *Journal of coastal research*, 17, 731–48.

Kent, M., 1982, Plant growth problems in colliery spoil reclamation. *Applied geography*, 2, 83–107.

Khalil, M. A. K. and Rasmussen, R. A., 1987, Atmospheric methane: trends over the last 10,000 years. *Atmospheric environment*, 21, 2445–52.

Kiersch, G. A., 1965, The Vaiont reservoir disaster. *Mineral information service*, 18, 129–38.

King, C. A. M., 1974, Coasts. In R. U. Cooke and J. C. Doornkamp (eds), *Geomorphology in environmental management*. Oxford: Clarendon Press, 188–222.

——, 1975, *Introduction to physical and biological oceanography*. London: Edward Arnold.

Kinsey, D. W. and Hopley, D., 1991, The significance of coral reefs as global carbon sinks – response to greenhouse. *Palaeogeography, palaeoclimatology, palaeoecology*, 89, 363–77.

Kirby, C., 1995, Urban air pollution. *Geography*, 80, 375–92.

Kirch, P. V., 1982, Advances in Polynesian prehistory: three decades in review. *Advances in world archaeology*, 2, 52–102.

Kirkbride, M. P. and Warren, C. R., 1999, Tasman Glacier, New Zealand: 20th century thinning and predicted calving retreat. *Global and planetary change*, 22, 11–28.

Kirkpatrick, J., 1994, *A continent transformed: human impact on the natural vegetation of Australia*. Melbourne: Oxford University Press.

Kittredge, J. H., 1948, *Forest influences*. New York: McGraw-Hill.

Klein, R. G., 1983, The stone age prehistory of southern Africa. *Annual review of anthropology*, 12, 25–48.

Kleypas, J. A., Buddemeier, R. W., Archer, D., Gattuso, J.-P., Langdon, C. and Opdyke, B. N., 1999, Geochemical consequences of increased atmospheric carbon dioxide on coral reefs. *Science*, 284, 118–20.

Knight, M., Thomas, D. S. G. and Wiggs, G. F. S., 2004, Challenges of calculating dunefield mobility over the 21st century. *Geomorphology*, 59, 197–213.

Knight, P. G., 1999, *Glaciers*. Cheltenham: Stanley Thornes.

Knox, J. C., 1972, Valley alleviation in southwestern Wisconsin. *Annals of the Association of American Geographers*, 62, 401–10.

Knox, J. C., 1977, Human impacts on Wisconsin stream channels. *Annals of the Association of American Geographers*, 67, 323–42.

——, 1987, Historical valley floor sedimentation in the Upper Mississippi Valley. *Annals of the Association of American Geographers*, 77, 224–44.

——, 1993, Large increase in flood magnitude in response to modest changes in climate. *Nature*, 361, 430–2.

——, 2001, Agricultural influence on landscape sensitivity in the upper Mississippi river valley. *Catena*, 42, 193–224.

——, 2002, Agriculture, erosion and sediment yields. In A. R. Orme (ed.), *The physical geography of North America*, Oxford: Oxford University Press, 482–500.

Knutson, T. R. and Tuleya, R. E., 1999, Increased hurricane intensities with CO_2-induced warming as simulated using the GFDL hurricane prediction system. *Climate dynamics*, 15, 503–19.

Knutson, T. R., Tuleya, R. E. and Kurihara, Y., 1998, Simulated increase of hurricane intensities in a CO_2-warmed climate. *Science*, 279, 1018–20.

Kohen, J., 1995, *Aboriginal environmental impacts*. Sydney: University of New South Wales Press.

Kadomura, H., 1983, Some aspects of large-scale land transformation due to urbanization and agricultural development in recent Japan. *Advances in space research*, 2 (8), 169–78.

Koide, M. and Goldberg, E. D., 1971, Atmospheric and fossil fuel combustion. *Journal of geophysical research*, 76, 6589–96.

Komar, P. D., 1976, *Beach processes and sedimentation*. Englewood Cliffs: Prentice Hall.

Komar, P. D., McManus, J. and Styllas, M. 2004, Sediment accumulation in Tillamook Bay, Oregon: natural processes versus human impacts. *Journal of geology*, 112, 455–69.

Kotb, T. H. S., Watanabe, T., Ogino, Y. and Tanji, K. K., 2000, Soil salinization in the Nile Delta and related policy issues in Egypt. *Agricultural water management*, 43, 239–61.

Kotlyakov, V. M., 1991, The Aral Sea basin: a critical environmental zone. *Moscow environment*, 33 (1), 4–9, 36–8.

Kowicki, V. and Isdale, P. 1991, Hydrology of Lake Eyre, Australia: El Nino link. *Palaeogeography, palaeoclimatology, palaeoecology*, 84, 87–98.

Krabill, W. and 8 others, 1999, Rapid thinning of parts of the southern Greenland Ice Sheet. *Science*, 283, 1522–4.

Krantz, G. S., 1970, Human activities and megafaunal extinctions. *American scientist*, 58, 164–70.

Krug, E. C. and Frink, C. R., 1983, Acid rain on acid soil: a new perspective. *Science*, 221, 520–5.

Kuhlmann, D. H., 1988, The sensitivity of coral reefs to environmental pollution. *Ambio*, 17, 13–21.

Kullman, L., 2001, 20th century climate warming and tree-limit rise in the southern Scandes of Sweden. *Ambio*, 30, 72–80.

Kuo, C., 1986, Flooding in Taipeh, Taiwan and coastal drainage. In J. G. Titus (ed.), *Effects of changes in stratospheric ozone and global climate*. Washington, DC: United Nations Environment Program/U.S. Environmental Protection Agency, 37–46.

Kwong, Y. T. J. and Gan, T. Y., 1994, Northward migration of permafrost along the Mackenzie Highway and climatic warming. *Climatic change*, 26, 399–419.

Labadz, J. C., Burt, T. P. and Potter, A. W. L., 1991, Sediment yield and delivery in the blanket peat moorlands of the

southern Pennines. *Earth surface processes and landforms*, 16, 255–71.

Lal, R., 2002, Soil carbon dynamics in cropland and range land. *Environmental pollution*, 116, 353–62.

Lal, R., Kimble, J., Levine, E. and Stewart, B. A. (eds), 1995, *Soil management and greenhouse effect*, Boca Raton: CRC Lewis.

La Marche, V. C., Graybill, D. A., Fritts, H. C. and Rose, M. R., 1984, Increasing atmospheric carbon dioxide: tree ring evidence for growth enhancement in natural vegetation. *Science*, 225, 1019–21.

Lamb, H. H., 1977, *Climate: present, past and future. 2: Climatic history and the future.* London: Methuen.

Lambeck, K., 1988, *Geological geodesy*. Oxford: Clarendon Press.

Lambert, J. H., Jennings, J. N., Smith, C. T., Green, C. and Hutchinson, J. N., 1970, *The making of the Broads: a reconsideration of their origin in the light of new evidence.* Royal Geographical Society research series, 3.

Lamprey, H., 1975, The integrated project on arid lands. *Nature and resources*, 14, 2–11.

Lancaster, N., 1995, *Geomorphology of desert dunes*. London: Routledge.

Landes, K. K., 1973, Mother nature as an oil polluter. *Bulletin of the American Association of Petroleum Geologists*, S7, 637–41.

Landsberg, H. E., 1981, *The urban climate.* New York: Academic Press.

Landsea, C. W., 2000, El Niño/Southern Oscillation and the seasonal predictability of tropical cyclones. In H. F. Diaz and V. Markgraf (eds), *El Niño and the Southern Oscillation*. Cambridge: Cambridge University Press, 148–81.

Langbein, W. B. and Schumm, S. A., 1958, Yield of sediment in relation to mean annual precipitation. *Transactions of the American Geophysical Union*, 39, 1076–118.

Langford, T. E. L., 1990, *Ecological effects of thermal discharges.* London: Elsevier Applied Science.

Lanly, J. P., Singh, K. D. and Janz, K., 1991, FAO's 1990 reassessment of tropical forest cover. *Nature and resources*, 27, 21–6.

Larick, R. and Ciochon, R. L., 1996, The African emergence and early Asian dispersals of the genus *Homo*. *American scientist*, 84, 538–51.

La Roe, E. T., 1977, Dredging – ecological impacts. In J. R. Clarke (ed.), *Coastal ecosystem management.* New York: Wiley, 610–14.

Larson, F., 1940, The role of bison in maintaining the short grass plains. *Ecology*, 21, 113–21.

Lawson, D. E., 1986, Response of permafrost terrain to disturbance: a synthesis of observations from northern Alaska, USA. *Arctic and alpine research*, 18, 1–17.

Lean, J. and Warrilow, D. A., 1989, Simulation of the regional climatic impact of Amazon deforestation. *Nature*, 342, 126–33.

Leatherman, S. P., 2001, Social and economic costs of sea level rise. In B. C. Douglas, M. S. Kearney and S. P. Leatherman (eds), *Sea level rise: history and consequences*. San Diego: Academic Press, 181–223.

Leclercq, N., Gattuso, J.-P. and Jaubert, J., 2000, CO_2 partial pressure controls the calcification rate of a coral community. *Global change biology*, 6, 329–34.

Leduc, C., Favreau, G. and Schoreter, P., 2001, Long term rise in a Sahelian water-table: the Continental Terminal in South-West Niger. *Journal of hydrology*, 243, 43–54.

Lee, D. O., 1992, Urban warming – an analysis of recent trends in London's heat island. *Weather*, 47, 50–6.

Lee, R. B. and DeVore, I., 1968, *Man the hunter*. Chicago: Aldine.

Le Houérou, H. N., 1977, Biological recovery versus desertization. *Economic geography*, 63, 413–20.

Le Maitre, D. C., Versfield, D. B. and Chapman, R. A., 2000, The impact of invading alien plants on surface water resources in South Africa: a preliminary assessment. *Water SA*, 26, 397–408.

Lently, A. D., 1994, Agriculture and wildlife: ecological implications of subsurface irrigation drainage. *Journal of arid environments*, 28, 85–94.

Lents, J. M. and Kelly, W. J., 1993, Clearing the air in Los Angeles. *Scientific American*, October, 18–25.

Leopold, L. B., 1951, Rainfall frequency: an aspect of climatic variation. *Transactions of the American Geophysics Union*, 32, 347–57.

Leopold, L. B., Wolman, M. G. and Miller, J. P., 1964, *Fluvial processes in geomorphology*. San Francisco: Freeman.

Lerner, D., 1990, *Groundwater recharge in urban areas*, Wallingford: International Association of Hydrological Sciences, Publication no. 198, 59–65.

Letey, J., 2001, Cases and consequences of fire-induced soil water repellency. *Hydrological processes*, 15, 2867–75.

Letourneau, D. K. and Burrows, B. E. (eds), 2001, *Genetically engineered organisms: assessing environmental and human health effects*. Washington, DC: CRC Press.

Levine, J. M., Vila, M., D'Antonio, C. M., Dukes, J. S., Grigulis, K. and Lavorel, S., 2003, Mechanisms underlying the impacts of exotic plant invasions. *Proceedings of the Royal Society of London*, B, 270, 775–81.

Lev-Yadun, S., Gopher, A. and Abbo, S., 2000, Enhanced: the cradle of agriculture. *Science*, 288, 1602–3.

Lewin, J., Bradley, S. B. and Macklin, M. G., 1983, Historical valley alluviation in mid-Wales. *Geological journal*, 18, 331–50.

Leys, J., 1999, Wind erosion on agricultural land. In A. S. Goudie, I. Livingstone and S. Stokes (eds), *Aeolian environments, sediments and landforms*. Chichester: Wiley, 143–66.

L'Homer, A., 1992, Sea level changes and impact on the Rhône Delta coastal lowlands. In M. J. Tooley and S. Jelgersma (eds), *Impacts of sea level rise on European coastal lowlands*. Oxford: Blackwell, 136–52.

Liddle, M., 1997, *Recreation ecology.* London: Chapman & Hall.

Liébault, F. and Piégay, H., 2002, Causes of 20th century channel narrowing in mountain and piedmont rivers of southeastern France. *Earth surface processes and landforms*, 27, 425–44.

Lienert, J., 2004, Habitat fragmentation effects on fitness of plant populations – a review. *Journal for nature conservation*, 12, 53–72.

Likens, G. E. and Bormann, F. H., 1974, Acid rain: a serious regional environmental problem. *Science*, 184, 1176–9.

Likens, G. E., Wright, R. F., Galloway, J. N. and Butler, T. J., 1979, Acid rain. *Scientific American*, 241, 4, 39–47.

Ling, F. and Zhang, T., 2003, Impact of the timing and duration of seasonal snow cover on the active layer and permafrost in the Alaskan Arctic. *Permafrost and periglacial processes*, 14, 141–50.

List, J. H., Sallenger, A. H., Hansen, M. E. and Jaffe, B. E., 1997, Accelerated sea level rise and rapid coastal erosion: testing a causal relationship for the Louisiana barrier islands. *Marine geology*, 140, 437–65.

Liu, C. and Fu, G., 1996, The impact of climatic warming on hydrological regimes in China: an overview. In J. A. A. Jones, C. Liu, M.-K. Woo and H.-T. Kung (eds), *Regional hydrological response to climate change*. Dordrecht: Kluwer, 133–51.

Lloyd, J. W., 1986, A review of aridity and groundwater. *Hydrological processes*, 1, 63–78.

Lomborg, B., 2001, *The skeptical environmentalist*. Cambridge: Cambridge University Press.

Loope, D. B., Swinehart, J. B. and Mason, J. P., 1995, Dune-dammed palaeovalleys of the Nebraska Sand Hills: intrinsic versus climatic controls on the accumulation of lake and marsh sediments. *Bulletin of the Geological Society of America*, 107, 396–406.

Loreau, M., Naeem, S. and Inchausti, P. (eds), 2002, *Biodiversity and ecosystem functioning. Synthesis and perspectives*. Oxford: Oxford University Press.

Loreau, M. and 11 others, 2001, Biodiversity and ecosystem functioning: current knowledge and future challenges. *Science*, 294, 804–8.

Lowe, P. D., 1983, Values and institutions in the history of British nature conservation. In A. Warren and F. B. Goldsmith (eds), *Conservation in perspective*. Chichester: Wiley, 329–52.

Lowe-McConnell, R. H., 1975, Freshwater life on the move. *Geographical magazine*, 47, 768–75.

Lowenthal, D., 2000, *George Perkins Marsh, prophet of conservation*. Seattle: University of Washington Press.

Loya, Y., Sakai, K., Yamazato, K., Sambali, H. and Van Woesik, R., 2001, Coral bleaching: the winners and the losers. *Ecology letters*, 4, 122–32.

Lugo, A. E., Cintron, G. and Goenaga, C., 1981, Mangrove ecosystems under stress. In G. W. Barrett and R. Rosenberg (eds), *Stress effects on natural ecosystems*. Chichester: John Wiley, 129–53.

Lugo, A. E., 2000, Effects and outcomes of Caribbean hurricanes in a climate change scenario. *The science of the total environment*, 262, 243–51.

Luke, R. H., 1962, *Bush fire control in Australia*. Melbourne: Hodder & Stoughton.

Lund, J. W. G., 1972, Eutrophication. *Proceedings of the Royal Society of London*, 180B, 371–82.

Lyell, C., 1835, *Principles of geology* (4th edn), Vol. III. London: Murray (12th edn 1875).

Lynch, J. A., Rishel, G. B. and Corbett, E. S., 1984, Thermal alteration of streams draining clearcut watersheds: quantification and biological implications. *Hydrobiologia*, 111, 161–9.

Maat, P. B. and Johnson, W. C., 1996, Thermoluminescence and new C-14 age estimates for late Quaternary loesses in southwestern Nebraska. *Geomorphology*, 17, 115–28.

Mabbutt, J. A., 1977, *Desert landforms*. Cambridge, MA: MIT Press.

Mabbutt, J. A., 1985, Desertification of the world's rangelands. *Desertification control bulletin*, 12, 1–11.

McCann, K. S., 2000, The diversity-stability debate. *Nature*, 405, 228–33.

McClanahan, T. R., 2000, Bleaching damage and recovery potential of Maldivian coral reefs. *Marine pollution bulletin*, 40, 587–97.

MacCracken, M., Barron, E., Easterling, D., et al., 2001, Scenarios for climate variability and change. In National Assessment Synthesis Team, *Climate change impacts on the United States: the potential consequences of climate variability and change*. Cambridge: Cambridge University Press, 13–71.

McCulloch, M., Fallon, S. Wyndham, T., Hendy, E., Lynch, J. and Barnes, D., 2003, Coral record of increased sediment flux to the inner Great Barrier Reef since European settlement. *Nature*, 421, 727–30.

Macfarlane, M. J., 1976, *Laterite and landscape*. London: Academic Press.

McGlone, M. S. and Wilmshurst, J. M., 1999, Dating initial Maori environmental impact in New Zealand. *Quaternary international*, 59, 5–16.

McGuffie, K., Henderson-Sellers, A., Holbrook, N., Kothavola, Z., Balachova, O. and Hoeksstra, J., 1999, Assessing simulations of daily temperature and precipitation variability with global climate models for present and enhanced greenhouse climates. *International journal of climatology*, 19, 1–26.

MacInnis, C. and Whiting, J. D., 1979, The frost resistance of concrete subjected to a deicing agent. *Cement and concrete research*, 9, 325–36.

Macklin, M. G. and Lewin, J., 1986, Terraced fills of Pleistocene and Holocene age in the Rheidol Valley, Wales. *Journal of Quaternary science*, 1, 21–34.

Macklin, M. G., Passmore, D. G., Stevenson, A. C., Colwey, A. C., Edwards, D. N. and O'Brien, C. F., 1991, Holocene alluviation and land-use change on Callaly Moor, Northumberland, England. *Journal of Quaternary science*, 6, 225–32.

McKnight, T. L., 1959, The feral horse in Anglo-America. *Geographical review*, 49, 506–25.

——, 1971, Australia's buffalo dilemma. *Annals of the Association of American Geographers*, 61, 759–73.

McLennan, S. M., 1993, Weathering and global denudation. *Journal of geology*, 101, 295–303.

McNeill, J. R., 2000, *Something new under the sun. An environmental history of the twentieth century*. London: Allen Lane.

——, 2003, Resource exploitation and over-exploitation: a look at the 20th century. In T. S. Benzing and B. Herrmann (eds), *Exploitation and overexploitation in societies past and present*. Münster: LIT Verlag, 51–60.

Mader, H. J., 1984, Animal habitat isolation by roads and agricultural fields. *Biological conservation*, 29, 81–96.

Madole, R. F., 1995, Spatial and temporal patterns of Late Quaternary eolian deposition, eastern Colorado, USA. *Quaternary science reviews*, 14, 155–78.

Magilligan, F. J., 1985, Historical floodplain sedimentation in the Galena River basin, Wisconsin and Illinois. *Annals of Association of American Geographers*, 75, 583–94.

Magilligan, F. J. and Goldstein, P. S., 2001, El Niño floods and culture change: a late Holocene flood history for the Rio Moquegua, Southern Peru. *Geology*, 29, 431–4.

Maignien, R., 1966, *A review of research on laterite.* UNESCO, Natural resources research, 4.

Mainguet, M., 1995, *L'homme et la sécheresse.* Paris: Masson.

Malamud, B. D., Morein, G. and Turcotte, D. L., 1998, Forest fires: an example of self-organized critical behavior. *Science*, 281, 1840–2.

Malm, W. C., Schichtel, B. A., Ames, R. B. and Gebhart, K. A., 2002, A 10-year spatial and temporal trend of sulfate across the United States. *Journal of geophysical research*, 107 (D22), article no. 4627.

Maltby, E., 1986, *Waterlogged wealth. Why waste the world's wet places?* London: Earthscan.

Manabe, S. and Stouffer, R. J., 1980, Sensitivity of a global climate model to an increase of CO_2 concentration in the atmosphere. *Journal of atmospheric science*, 37, 99–118.

Manabe, S. and Wetherald, R. T., 1986, Reduction in summer soil wetness by an increase in atmospheric carbon dioxide. *Science*, 232, 626–8.

Manners, I. R., 1978, Agricultural activities and environmental stress. In K. A. Hammond (ed.), *Sourcebook of the environment.* Chicago: University of Chicago Press, 263–94.

Manners, I. R. and Mikesell, M. W. (eds), 1974, *Perspectives on environment.* Washington, DC: Association of American Geographers.

Mannion, A. M., 1992, Acidification and eutrophication. In A. M. Mannion and S. R. Bowlby (eds), *Environmental issues in the 1990s.* Chichester: Wiley, 177–95.

——, 1995, *Agriculture and environmental change.* Chichester: Wiley.

——, 1997, *Global environmental change* (2nd edn). Harlow: Longman.

——, 2002, *Dynamic world. Land-cover and land-use change*. London: Arnold.

Manshard, W., 1974, *Tropical agriculture.* London: Longman.

Mark, A. F. and McSweeney, G. D., 1990, Patterns of impoverishment in natural communities: case studies in forest ecosystems – New Zealand. In G. M. Woodwell (ed.), *The earth in transition: patterns and processes of biotic impoverishment.* Cambridge: Cambridge University Press, 151–76.

Marker, M. E., 1967, The Dee estuary: its progressive silting and salt marsh development. *Transactions of the Institute of British Geographers*, 41, 65–71.

Marks, P. L. and Bormann, F. H., 1972, Revegetation following forest cutting: mechanisms for return to steady-state nutrient cycling. *Science*, 176, 914–15.

Marquiss, M., Newton, I. and Ratcliffe, D. A., 1978, The decline of the raven, *Corvus corax*, in relation to afforestation in southern Scotland and northern England. *Journal of applied ecology*, 15, 129–44.

Marsh, G. P., 1864, *Man and nature.* New York: Scribner.

——, 1965, *Man and nature*, edited by D. Lowenthal. Cambridge, Mass.: Belknap Press.

Marshall, L. G., 1984, Who killed Cock Robin? An investigation of the extinction controversy. In P. S. Martin and R. G. Klein (eds), *Quaternary extinctions.* Tucson: University of Arizona Press.

Martens, L. A., 1968, Flood inundation and effects of urbanization in Metropolitan Charlotte, North Carolina. *United States Geological Survey water supply paper*, 1591-C.

Martin, P. S., 1967, Prehistoric overkill. In P. S. Martin and H. E. Wright (eds), *Pleistocene extinctions.* New Haven: Yale University Press, 75–120.

——, 1974, Palaeolithic players on the American stage: man's impact on the Late Pleistocene megafauna. In J. D. Ives and R. G. Barry (eds), *Arctic and alpine environments.* London: Methuen.

——, 1982, The pattern and meaning of Holarctic mammoth extinction. In D. M. Hopkins, J. V. Matthews, C. S. Schweger and S. B. Young (eds), *Paleoecology of Beringia.* New York: Academic Press, 399–408.

Martin, P. S. and Klein, R. G., 1984, *Pleistocene extinctions.* Tucson: University of Arizona Press.

Martin, P. S. and Wright, H. E. (eds), 1967, *Pleistocene extinctions.* New Haven: Yale University Press, 75–120.

Martinez, J. D., 1971, Environmental significance of salt. *Bulletin of the American Association of Petroleum Geologists*, 55, 810–25.

Marx, J. L., 1975, Air pollution: effects on plants. *Science*, 187, 731–3.

Mason, I. M., Guzkowska, M. A. J., Rapley, C. G. and Street-Perrott, F. A., 1994, The response of lake levels and areas to climatic change. *Climatic change*, 27, 161–97.

Mason, J. P., Swinehart, J. B. and Loope, D. B., 1997, Holocene history of lacustrine and marsh sediments in a dune-blocked drainage, southwestern Nebraska Sand Hills, USA. *Journal of paleolimnology*, 17, 67–83.

Mason, S. J., Waylen, P. R., Mimmack, G. M., Rajaratnam, B. and Harrison, J. M., 1999, Changes in extreme rainfall events in South Africa. *Climatic change*, 41, 249–57.

Mather, A. S., 1983, Land deterioration in upland Britain. *Progress in physical geography*, 7 (2), 210–28.

Maugh, T. H., 1979, The Dead Sea is alive and well . . . *Science*, 205, 178.

May, R. M., 1979, Fluctuations in abundance of tropical insects. *Nature*, 278, 505–7.

May, T., 1991, Südspanische matorrales als Kulturofolge-vegetation. *Geoökodynamik* 12, 87–107.

Meade, R. H., 1991, Reservoirs and earthquakes. *Engineering geology*, 30, 245–62.

——, 1996, River-sediment input to major deltas. In J. D. Milliman and B. V. Haq (eds), *Sea-level rise and coastal subsidence.* Dordrecht: Kluwer, 63–85.

Meade, R. H. and Parker, R. S., 1985, Sediment in rivers in the United States. *United States Geological Survey water supply paper*, 2276, 49–60.

Meade, R. H. and Trimble, S. W., 1974, Changes in sediment loads in rivers of the Atlantic drainage of the United States since 1900. *Publication of the International Association of Hydrological Science*, 113, 99–104.

Meadows, M. E. and Linder, H. P., 1993, A palaeoecological perspective on the origin of Afromontane grasslands. *Journal of biogeography*, 20, 345–55.

Mee, L. D., 1992, The Black Sea in crisis: a need for concerted international action. *Ambio*, 21, 278–86.

Melillo, J., Janetos, A., Schimel, D. and Kittel, T., 2001, Vegetation and biogeochemical scenarios. In National Assessment Synthesis Team, *Climate change impacts on the United States: the potential consequences of climate variability and change*. Cambridge: Cambridge University Press, 74–91.

Mellanby, K., 1967, *Pesticides and pollution.* London: Fontana.

Menzel, L. and Burger, G., 2002, Climate change scenarios and runoff response in the Mulde catchment (Southern Elbe, Germany). *Journal of hydrology*, 267, 53–64.

Mercer, D. E. and Hamilton, L. S., 1984, Mangrove ecosystems: some economic and natural benefits. *Nature and resources*, 20, 14–19.

Mercer, J. H., 1978, West Antarctic ice sheet and CO_2 greenhouse effect: a threat of disaster. *Nature*, 271, 321–5.

Merryfield, D. L. and Moore, P. D., 1971, Prehistoric human activity and blanket peat initiation on Exmoor. *Nature*, 250, 439–41.

Meybeck, M., 1979, Concentration des eaux fluviales en éléments majeurs et apports en solution aux océans. *Revue de géographie physique et géologie dynamique*, 21a, 215–46.

——, 2001a, Global alteration of riverine geochemistry under human pressure. In E. Ehlers (ed.), *Understanding the earth system: compartments, processes and interactions*. Heidelberg: Springer-Verlag, 97–113.

——, 2001b, River basins under anthropocene conditions. In B. von Bodungen and R. K. Turner (eds), *Science and integrated coastal management*. Dahlem: Dahlem University Press, 275–94.

Meyer, G. A. and Pierce, J. L., 2003, Climatic controls on fire-induced sediment pulses in Yellowstone National Park and central Idaho: a long-term perspective. *Forest ecology and management*, 178, 89–104.

Meyer, G. A., Pierce, J. L., Wood, S. H. and Jull, A. J. T., 2001, Fire, storms and erosional events in the Idaho batholith. *Hydrological processes*, 15, 3025–38.

Meyer, W. B., 1996, *Human impact on the earth.* Cambridge: Cambridge University Press.

Meyer, W. B. and Turner, B. L. II (eds), 1994, *Changes in land use and land cover: a global perspective.* Cambridge: Cambridge University Press.

Micklin, P. P., 1972, Dimensions of the Caspian Sea problem. *Soviet geography*, 13, 589–603.

Middleton, N. J., 1985, Effect of drought on dust production in the Sahel. *Nature*, 316, 431–4.

——, 1995, *The global casino*. London: Edward Arnold.

Middleton, N. J. and Thomas, D. S. G., 1997, *World atlas of desertification* (2nd edn). London: Edward Arnold.

Midgley., G. F., Hannah, L., Millar, D., Thuiller, W. and Booth, A., 2003, Developing regional and species-level assessments of climate change impacts on biodiversity in the Cape Floristic Region. *Biological conservation*, 112, 87.

Mieck, I., 1990, Reflections on a typology of historical pollution: complementary conceptions. In P. Brimblecombe and C. Pfister (eds), *The silent countdown.* Berlin: Springer-Verlag, 73–80.

Mikesell, M. W., 1969, The deforestation of Mount Lebanon. *Geographical review*, 59, 1–28.

Miller L. and Douglas, B. C., 2004, Mass and volume contribution to twentieth-century global sea level rise. *Nature*, 428, 406–9.

Miller, R. L. and Tegen, I., 1998, Climate response to soil dust aerosols. *Journal of climate*, 11, 3247–67.

Miller, R. S. and Botkin, D. B., 1974, Endangered species: models and predictions. *American scientist*, 62, 172–81.

Miller, J. R. and Russell, G. L., 2002, Projected impact of climate change on the energy budget of the Arctic Ocean Global Climate Model. *Journal of climate*, 15, 3028–42.

Milliman, J. D., 1990, Fluvial sediment in coastal seas: flux and fate. *Nature and resources*, 26, 12–22.

Milliman, J. D. and Haq, B. U. (eds), 1996, *Sea level rise and coastal subsidence*. Dordrecht: Kluwer.

Milliman, J. D., Broadus, J. M. and Gable, F., 1989, Environmental and economic impacts of rising sea level and subsiding deltas: the Nile and Bengal examples. *Ambio*, 18, 340–5.

Milliman, J. D., Qin, Y. S., Ren, M. E. and Yoshiki Saita, 1987, Man's influence on erosion and transport of sediment by Asian rivers: the Yellow River (Huanghe) example. *Journal of geology*, 95, 751–62.

Milly, P. C. D., Wetherald, R. T., Dunne, K. A. and Delworth, T. L., 2002, Increasing risk of great floods in a changing climate. *Nature*, 415, 514–17.

Milne, W. G., 1976, Induced seismicity. *Engineering geology*, 10, 83–388.

Mintzer, I. M. and Miller, A. S., 1992, Stratospheric ozone depletion: can we save the sky? In *Green Globe Yearbook 1992.* Oxford: Oxford University Press, 83–91.

Mirza, M. M. Q., 2002, Global warming and changes in the probability of occurrence of floods in Bangladesh and implications. *Global environmental change*, 12, 127–38.

Mistry, J., 2000, *World savannas: ecology and human use*. Harlow: Prentice Hall.

Mölg, T., Georges, C. and Kaser, G., 2003, The contribution of increased incoming shortwave radiation to the retreat of the Rwenzori Glaciers, East Africa, during the 20th century. *International journal of climatology*, 23, 291–303.

Montgomery, D. R., 1997, What's best on the banks? *Nature*, 388, 328–9.

Moody, J. A. and Martin, D. A., 2001, Initial hydrologic and geomorphic response following a wildfire in the Colorado Front Range. *Earth surface processes and landforms*, 26, 1049–70.

Mooney, H. A. and Parsons, D. J., 1973, Structure and function of the California Chaparral – an example from San Dimas. *Ecological studies*, 7, 83–112.

Moore, D. M., 1983, Human impact on island vegetation. In W. Holzner, M. J. A.Werger and I. Ikusima (eds), *Man's impact on vegetation.* The Hague: Junk, 237–48.

Moore, J., 2000, Forest fire and human interaction in the early Holocene woodlands of Britain. *Palaeogeography, palaeoclimatology, palaeoecology*, 164, 125–37.

Moore, N. and Rojstaczer, S., 2001, Irrigation-induced rainfall and the Great Plains. *Journal of applied meteorology*, 40, 1297–309.

Moore, N. W., Hooper, M. D. and Davis, B. N. K., 1967, Hedges, I. Introduction and reconnaissance studies. *Journal of applied ecology*, 4, 201–20.

Moore, P. D., 1973, Origin of blanket mires. *Nature*, 256, 267–9.

——, 1986, Unravelling human effects. *Nature*, 321, 204.

——, 2002, The future of cool temperate bogs. *Environmental Conservation*, 29, 3–20.

Moore, T. R., 1979, Land use and erosion in the Machakos Hills. *Annals of the Association of American Geographers*, 69, 419–31.

Morgan, G. S. and Woods, C. A., 1986, Extinction and the zoogeography of West Indian land mammals. *Biological journal of the Linnean Society*, 28, 167–203.

Morgan, R. P. C., 1977, *Soil erosion in the United Kingdom: field studies in the Silsoe area, 1973–75.* National College of Agricultural Engineering, occasional paper, 4.

——, 1979, *Soil erosion.* London: Longman.

——, 1995, *Soil erosion and conservation* (2nd edn). Harlow: Longman.

Morgan, W. B. and Moss, R. P., 1965, Savanna and forest in Western Nigeria. *Africa*, 35, 286–93.

Motyka, R. J., O'Neal, S., Connor, C. L. and Echelmeyer, K. A., 2002, Twentieth century thinning of Mendenhall Glacier, Alaska, and its relationship to climate, lake calving and glacier run-off. *Global and planetary change*, 35, 93–112.

Moulin, C., Lambert, C. E., Dulac, F. and Dayan, U., 1997, Control of atmospheric export of dust from North Africa by the North Atlantic Oscillation. *Nature*, 398, 691–4.

Moyle, P. B., 1976, Fish introductions in California: history and impact on native fishes. *Biological conservation*, 9, 101–18.

Mrowka, J. P., 1974, Man's impact on stream regimen and quality. In I. R. Manners and M. W. Mikesell (eds), *Perspectives on environment*. Washington, DC: Association of American Geographers.

Mudge, G. P., 1983, The incidence and significance of ingested lead pellet poisoning in British wildfowl. *Biological conservation*, 27, 333–72.

Muhly, J. D., 1997, Artifacts of the Neolithic, Bronze and Iron Ages. In E. M. Myers (ed.), *The Oxford encyclopaedia of archaeology in the Near East.* New York: Oxford University Press, Vol. 4, 5–15.

Muhs, D. R. and Holliday, V. T., 1995, Evidence of active dune sand in the Great Plains in the 19th century from accounts of early explorers. *Quaternary research*, 43, 198–208.

Muhs, D. R. and Maat, P. B., 1993, The potential response of eolian sands to greenhouse warming and precipitation reduction on the Great Plains of the United States. *Journal of arid environments*, 25, 351–61.

Muhs, D. R. and 9 others, 1996, Origin of late Quaternary dune fields of northeastern Colorado. *Geomorphology*, 17, 129–49.

Muhs, D. R. and 7 others, 1997a, Late Holocene eolian activity in the mineralogically mature Nebraska Sand Hills. *Quaternary research*, 48, 162–76.

Muhs, D. R. and 6 others, 1997b, Holocene eolian activity in the Minot dune field, North Dakota. *Canadian journal of earth sciences*, 34, 1442–59.

Mulrennan, M. E. and Woodroffe, C. D., 1998, Saltwater intrusion into the coastal plains of the lower Mary River, Northern Territory, Australia. *Journal of environmental management*, 54, 169–88.

Munn, R. E., 1996, Global change: both a scientific and a political issue. In R. E. Munn, J. W. M. La Riviere and N. van Lookeren Campagne (eds), *Policy making in an era of global environmental change.* Dordrecht: Kluwer, 1–15.

Murdoch, W. W., 1975, Diversity, complexity, stability and pest control. *Journal of applied ecology*, 12, 795–807.

Murozumi, M., Chow, T. J. and Paterson, C., 1969, Chemical concentrations of pollutant lead aerosols, terrestrial dusts and sea salt in Greenland and Antarctic snow strata. *Geochimica et cosmoschimica acta*, 33, 1247–94.

Murton, R. K., 1971, *Man and birds.* London: Collins.

Musk, L. F., 1991, The fog hazard. In A. H. Perry and L. J. Symons (eds), *Highway meteorology*. London: Spon, 91–130.

Myers, N., 1979, *The sinking ark: a new look at the problem of disappearing species.* Oxford: Pergamon Press.

——, 1983, Conversion rates in tropical moist forests. In F. B. Golley (ed.), *Tropical rain forest ecosytems.* Amsterdam: Elsevier Scientific, 289–300.

——, 1984, *The primary source: tropical forests and our future.* New York: Norton.

——, 1988, *Natural resource systems and human exploitation systems: physiobiotic and ecological linkages.* World Bank policy planning and research staff, environment department working paper, 12.

——, 1990, The biodiversity challenge: expanded hot-spots analysis. *The environmentalist*, 10 (4), 243–56.

——, 1992, Future operational monitoring of tropical forests: an alert strategy. In J. P. Mallingreau, R. da Cunha and C. Justice (eds), *Proceedings World Forest Watch Conference.* Sao Jose dos Campos, Brazil, 9–14.

Myers, N. and Kent, J., 2003, New consumers: the influence of affluence on the environment. *Proceedings of the National Academy of Sciences*, 100, 4963–8.

Myers, N., Mittermeier, R. A., Mittermeier, C. G., da Fonseca, G. A. B. and Kent, J., 2000, Biodiversity hotspots for conservation priorities. *Nature*, 403, 853–8.

Mylne, M. F. and Rowntree, P. R., 1992, Modelling the effects of albedo change associated with tropical deforestation. *Climatic change*, 21, 317–43.

Naeem, S., 2002, Biodiversity equals instability? *Nature*, 416, 23–4.

Najjar, R. G., 1999, The water balance of the Susquehanna River Basin and its response to climate change. *Journal of hydrology*, 219, 7–19.

Nakagawa, K., 1996, Recent trends of urban climatological studies in Japan, with special emphasis on the thermal environments of urban areas. *Geographical review of Japan*, B, 69, 206–24.

Nakano, T. and Matsuda, I., 1976, A note on land subsidence in Japan. *Geographical reports of Tokyo Metropolitan University*, 11, 147–62.

Nanson, G. C. and Tooth, S., 1999, Arid-zone rivers as indicators of climate change. In A. K. Singhvi and E. Derbyshire (eds), *Paleoenvironmental reconstruction in arid lands*. New Delhi and Calcutta: Oxford and IBH, 75–216.

Nash, L. L. and Gleick, P. H., 1991, Sensitivity of streamflow in the Colorado Basin to climatic changes. *Journal of hydrology*, 125, 221–41.

National Academy of Sciences, 1972, *The Earth and human affairs*. San Francisco: Camfield Press.

Nature Conservancy Council, 1977, *Nature conservation and agriculture.* London: Her Majesty's Stationery Office.

——, 1984, *Nature conservation in Great Britain.* Shrewsbury: Nature Conservancy Council.

Nearing, M. A., 2001, Potential changes in rainfall erosivity in the US with climate change during the 21st century. *Journal of soil and water conservation*, 56, 229–32.

Nelson, F. E. and Anisimov, O. A., 1993, Permafrost zonation in Russia under anthropogenic climate change. *Permafrost and periglacial processes*, 4, 137–48.

Nelson, F. E., Anisimov, O. A. and Shiklomanov, N. I., 2001, Subsidence risk from thawing permafrost. *Nature*, 410, 889–90.

——, 2002, Climate change and hazard zonation in the Circum-Arctic Permafrost regions. *Natural hazards*, 26, 203–25.

Nesje, A., Lie, O. and Dahl, S. O., 2000, Is the North Atlantic Oscillation reflected in glacier mass balance records? *Journal of Quaternary science*, 15, 587–601.

New, M., Todd, M., Hulme, M. and Jones, P., 2001, Precipitation measurements and trends in the twentieth century. *International journal of climatology*, 21, 1899–922.

Newman, J. R., 1979, Effects of industrial pollution on wildlife. *Biological conservation*, 15, 181–90.

Newman, W. S. and Fairbridge, R. W., 1986, The management of sealevel rise. *Nature*, 320, 319–21.

Newson, M., 1992, *Land, water and development*. London: Routledge.

Newton, J. G., 1976, Induced and natural sinkholes in Alabama: continuing problem along highway corridors. In F. R. Zwanig (ed.), *Subsidence over mines and caverns.* Washington, DC: National Academy of Sciences, 9–16.

Nichol, S. L., Augustinus, P. L., Gregory, M. R., Creese, R. and Horrocks, M., 2000, Geomorphic and sedimentary evidence of human impact on the New Zealand landscape. *Physical geography*, 21, 109–32.

Nicholls, R. J., Hoozemans, F. M. J. and Marchand, M., 1999, Increasing flood risk and wetland losses due to global sea level rise: regional and global analyses. *Global environmental change*, 9, S69–87.

Nicholson, S. E., 1978, Climatic variations in the Sahel and other African regions during the past five centuries. *Journal of arid environments*, 1, 3–24.

——, 1988, Land surface atmosphere interaction: physical processes and surface changes and their impact. *Progress in physical geography*, 12, 36–65.

——, 1996, Environmental change within the historical period. In W. M. Adams, A. S. Goudie and A. R. Orme (eds), *The physical geography of Africa*. Oxford: Oxford University Press, 60–87.

Nicod, J., 1986, Facteurs physico-chimiques de l'accumulation des formations travertineuses. *Mediterranée*, 10, 161–4.

Nihlgård, B. J., 1997, Forest decline and environmental stress. In D. Brune, D. V. Chapman, M. D. Gwynne and J. M. Pacyna (eds), *The global environment.* Weinheim: VCH.

Nikonov, A. A., 1977, Contemporary technogenic movements of the Earth's crust. *International geology review*, 19, 1245–58.

Noble, I. R. and Gitay, H., 1996, Deserts in a changing climate: impacts. In R. T. Watson, M. C. Zinyowera and R. H. Moss (eds), *Climate change 1995*. Cambridge: Cambridge University Press, 1509–69.

Nobre, C. A. and 6 others, 2004, The Amazonian climate. In P. Kabat and 8 others, (eds), *Vegetation, water, humans and the climate*. Berlin: Springer-Verlag, 79–92.

Nordstrom, K. F., 1994, Beaches and dunes of human-altered coasts. *Progress in physical geography*, 18, 497–516.

Norris, S., 2001, Thanks for all the fish. *New scientist*, 29th September, 36–9.

Nossin, J. J., 1972, Landsliding in the Crati basin, Calabria, Italy. *Geologie en mijnbouw*, 51, 591–607.

Nowlis, J. S., Roberts, C. M., Smith, A. H. and Siirila, 1997, Human-enhanced impacts of a tropical storm on nearshore coral reefs. *Ambio*, 26, 515–21.

Noy-Meir, I., 1974, Stability in arid ecosystems and effects of men on it. *Proceedings of the 12th International Congress of Ecology*, Wageningen, 220–5.

Nriagu, J. O., 1979, Global inventory of natural and anthropogenic emissions of trace metals in the atmosphere. *Nature*, 279, 409–11.

Nriagu, J. O. and Pacyna, J. M., 1988, Quantitative assessment of worldwide contamination of air, water and soils by trace metals. *Nature*, 337, 134–9.

Nunn, P. D., 1991, *Human and natural impacts on Pacific island environments.* Honolulu: Occasional paper 13, East West Environment and Policy Institute.

Nutalaya, P. and Ran, J. L., 1981, Bangkok: the sinking metropolis. *Episodes*, 4, 3–8.

Nutalaya, P., Yong, R. N., Chumnankit, T. and Buapeng, S., 1996, Land subsidence in Bangkok during 1978–1988. In J. D. Milliman and B. U. Haq (eds), *Sea level rise and coastal subsidence*. Dordrecht: Kluwer, 105–30.

Nye, P. H. and Greenland, D. J., 1964, Changes in the soil after clearing tropical forest. *Plant and soil*, 21, 101–12.

Oba, G., Post, E. and Stenseth, N. C., 2001, Sub-Saharan desertification and productivity are linked to hemispheric climate variability. *Global change biology*, 7, 241–6.

Oberle, M., 1969, Forest fires: suppression policy has its ecological drawbacks. *Science*, 165, 568–71.

Oechel, J. W. C., Hastings, S. J., Vourlitis, G. L., Jenkins, M. A. and Hinkson, C. L., 1995, Direct effects of elevated CO_2 in Chaparral and Mediterranean-type ecosystems. In J. M. Moreno and W. C. Oechel (eds), *Global change and Mediterranean-type ecosystems*. New York: Springer-Verlag 58–75.

Oerlemans, J., 1993, Possible changes in the mass balance of the Greenland and Antarctic ice sheets and their effects on sea level. In R. A. Warwick, E. M. Barrows and T. M. L. Wigley (eds), *Climatic and sea level change: observations, projections and implications*. Cambridge: Cambridge University Press, 144–61.

——, 1994, Quantifying global warming from the retreat of glaciers. *Science*, 264, 243–5.

Oerlemans, J. and 10 others, 1998, Modelling the response of glaciers to climate warming. *Climate dynamics*, 14, 267–74.

Oke, T. R., 1978, *Boundary layer climates.* London: Methuen.

Olley, J. M. and Wasson, R. J., 2003, Changes in the flux of sediment in the Upper Murrumbidgee catchment, southeastern Australia, since European settlement. *Hydrological processes*, 17, 3307–20.

Olson, C. G., Nettleton, W. D., Porter, D. A. and Brasher, B. R., 1997, Middle Holocene aeolian activity on the High Plains of west-central Kansas. *Holocene*, 7, 255–61.

Oppenheimer, M., 1998, Global warming and the stability of the West Antarctic ice sheet. *Nature*, 393, 325–32.

Oppenheimer, S., 2003, *Out of Eden. The peopling of the world*. London: Constable.

Osborn, T. J., Hulme, M., Jones, P. D. and Basnett, T. A., 2000, Observed trends in the daily intensity of United Kingdom precipitation. *International journal of climatology*, 20, 347–64.

Osterkamp, T. E. and Romanovsky, V. E., 1999, Evidence for warming and thawing of discontinuous permafrost in Alaska. *Permafrost and periglacial processes*, 10, 17–37.

O'Sullivan, P. E., Coard, M. A. and Pickering, D. A., 1982, The use of laminated lake sediments in the estimation and calibration of erosion rates. *Publication of the International Association of Hydrological Science*, 137, 385–96.

Otterman, J., 1974, Baring high albedo soils by overgrazing: a hypothesised desertification mechanism. *Science*, 186, 531–3.

Overpeck, J. T., Rind, D. and Goldberg, R., 1990, Climate-induced changes in forest disturbance and vegetation. *Nature*, 343, 51–3.

Oxley, D. J., Fenton, M. B. and Carmody, G. R., 1974, The effects of roads on populations of small mammals. *Journal of applied ecology*, 11, 51–9.

Ozenda, P. and Borel, J. L., 1990, The possible responses of vegetation to a global climatic change. In M. M. Boer and R. S. de Groot (eds), *Landscape – ecological impact of climatic change.* Amsterdam: IOS Press, 221–49.

Page, H., 1982, Some notes on the geomorphological and vegetational history of the saltings at Brean. *Somerset archaeology and natural history*, 120–5.

Page, M. J. and Trustrum, N. A., 1997, A late Holocene lake sediment record of the erosion response to land use change in a steepland catchment, New Zealand. *Zeitschrift für geomorphologie*, 41, 36992.

Pakeman, R. J., Marrs, R. H., Howard, D. C., Barr, C. J. and Fuller, R. M., 1996, The bracken problem in Great Britain: its present extent and future changes. *Applied geography*, 16, 65–86.

Pakiser, L. C., Eaton, J. P., Healy, J. H. and Raleigh, C. B., 1969, Earthquake prediction and control. *Science*, 166, 1467–74.

Palmer, T. N. and Räisänen, J., 2002, Quantifying the risk of extreme seasonal precipitation events in a changing climate. *Nature*, 415, 512–14.

Panel on Weather and Climate Modification, 1966, *Weather and climate modification problems and prospects*, publication 1350. Washington, DC: National Academy of Sciences.

Parizek, B. R. and Alley, R. B., 2004, Implications of increased Greenland surface melt under global-warming scenarios: ice-sheet simulations. *Quaternary science reviews*, 23, 1013–27.

Park, C. C., 1977, Man-induced changes in stream channel capacity. In K. J. Gregory (ed.), *River channel change.* Chichester: Wiley, 121–44.

——, 1987, *Acid rain: rhetoric and reality.* London: Methuen.

Park, R. A., Armentano, T. V. and Cloonan, C. L., 1986, Predicting the effects of sea level rise on coastal wetlands. In J. G. Titus (ed.), *Effects of changes in stratospheric ozone and global climate*, Vol. 4, *Sea level rise.* Washington, DC: United Nations Environment Program/U.S. Environmental Protection Agency, 129–52.

Parker, A. G., Goudie, A. S., Anderson, D. E., Robinson, M. A. and Bonsall, C., 2002, A review of the mid-Holocene elm decline in the British Isles. *Progress in physical geography*, 26, 1–45.

Parkinson, C. L., Cavalier, D. J., Gloersen, P., Zwally, H. J. and Comiso, J. C., 1999, Arctic sea ice extents, areas, and trends, 1978–1996. *Journal of geophysical research*, 104 (C9), 20837–56.

Parshall, T. and Foster, D. R., 2002, Fire on the New England landscape: regional and temporal variation, cultural and environmental controls. *Journal of biogeography*, 29, 1305–17.

Parson, E. A., Carter, L., Anderson, P., Wang, B. and Weller, G., 2001, Potential consequences of climate variability and change for Alaska. In National Assessment Synthesis Team, *Climate change impacts on the United States: the potential consequences of climate variability and change*. Cambridge: Cambridge University Press, 283–312.

Parsons, J. J., 1960, Fog drip from coastal stratus. *Weather*, 15, 58.

Passmore, J., 1974, *Man's responsibility for nature.* London: Duckworth.

Paul, K. I., Poglase, P. J., Nyakuengama, J. G. and Khanna, P. K., 2002, Change in soil carbon following afforestation. *Forest ecology and management*, 168, 241–57.

Pawson, E., 1978, *The early industrial revolution: Britain in the eighteenth century.* London: Batsford.

Pearson, R. G. and Dawson, T. P., 2003, Predicting the impacts of climate change on the distribution of species: are bioclimate envelope models useful? *Global ecology and biogeograpy*, 12, 361–71.

Peck, A. J., 1983, Response of groundwater to clearing in western Australia. In *Papers, international conference on groundwater and man*. Canberra: Australian Government Publishing Services, 327–35.

Peck, A. J. and Halton, T., 2003, Salinity and the discharge of salts from catchments in Australia. *Journal of hydrology*, 272, 191–202.

Peet, R. K., Glenn-Lewin, D. C. and Wolf, J. W., 1983, Prediction of man's impact on plant species diversity. In W. Holzner, M. J. A. Werger and I. Ikusima (eds), *Man's impact on vegetation.* The Hague: Junk, 41–54.

Peglar, S. M. and Birks, H. J. B., 1993, The mid-Holocene *Ulmus* fall at Diss Mere, Norfolk, south-east England – disease and human impact? *Vegetation history and archaeology*, 2, 61–8.

Peierls, B. L., Caraco, N. F., Pace, M. L. and Cole, J. J., 1991, Human influence on river nitrogen. *Nature*, 350, 386.

Pennington, W., 1974, *The history of British vegetation* (2nd edn). London: English University Press.

——, 1981, Records of a lake's life in time: the sediments. *Hydrobiologia*, 79, 197–219.

Pereira, H. C., 1973, *Land use and water resources in temperate and tropical climates.* Cambridge: Cambridge University Press.

Perla, R., 1978, Artificial release of avalanches in North America. *Arctic and alpine research*, 10, 235–40.

Pernetta, J., 1995, What is global change? *Global change newsletter*, 21, 1–3.

Peters, J. H. (ed.), 1998, *Artificial recharge of groundwater*. Amsterdam: Swetzs and Zeitlinger.

Peters, R. L., 1988, The effect of global climatic change on natural communities. In E. O. Wilson (ed.), *Biodiversity.* Washington, DC: National Academy Press, 450–61.

Petersen, K. K., 1981, *Oil shale, the environmental challenges.* Golden, Colorado: Colorado School of Mines.

Peterson, C. J., 2000, Catastrophic wind damage to North American forests and the potential impact of climate change. *The science of the total environment*, 262, 287–311.

Peterson, B. J. and 7 others, 2002, Increasing river discharge to the Arctic Ocean. *Science*, 298, 2171–3.

Pethick, J., 1993, Shoreline adjustments and coastal management: physical and biological processes under accelerated sea level rise. *Geographical journal*, 159, 162–8.

——, 2001, Coastal management and sea level rise. *Catena*, 42, 307–22.

Petit-Maire, N., Burollet, P. F., Ballais, J.-L., Fontugne, M., Rosso, J.-C. and Lazaar, A., 1999, Paléoclimats Holocènes du Sahara septentionale. Dépôts lacustres et terrasses alluviales en bordure du Grand Erg Oriental à l'extrême – Sud de la Tunisie. *Comptes Rendus Académie des Sciences, Series 2*, 312, 1661–6.

Petts, G. E., 1979, Complex response of river channel morphology subsequent to reservoir construction. *Progress in physical geography*, 35329–62.

——, 1985, *Impounded rivers: perspectives for ecological management.* Chichester: Wiley.

Petts, G. E. and Lewin, J., 1979, Physical effects of reservoirs on river systems. In G. E. Hollis (ed.), *Man's impact on the hydrological cycle in the United Kingdom.* Norwich: Geobooks, 79–91.

Pfisterer, A. B. and Schmid, B., 2002, Diversity-dependent production can decrease the stability of ecosystem functioning. *Nature*, 416, 84–6.

Pierson, F. B., Carlson, D. H. and Spaeth, K. E., 2002, Impacts of wildfire on soil hydrological properties of steep sagebrush-steppe rangeland. *International journal of wildland fire*, 11, 145–51.

Pimentel, D., 1976, Land degradation: effects on food and energy resources. *Science*, 194, 149–55.

——, 2003 (ed.), *Biological invasions.* Washington, DC: CRC Press.

Pimentel, D. and 10 others, 1995, Environmental and economic costs of soil erosion and conservation benefits. *Science*, 267, 1117–22.

Pirazzoli, P. A., 1996, *Sea level changes: the last 20,000 years*. Chichester: Wiley.

Pitt, D., 1979, Throwing light on a black secret. *New scientist*, 81, 1022–5.

Pittock, A. B. and Wratt, D., 2001, Australia and New Zealand. In J. J. McCarthy, O. F. Canziani, N. A. Leary, D. J. Dokken and K. S. White (eds), *Climate change 2001: impacts, adaptation and vulnerability*. Cambridge: Cambridge University Press, 591–639.

Pluhowski, E. J., 1970, Urbanization and its effects on the temperature of the streams on Long Island, New York. *United States Geological Survey professional paper*, 627-D.

Pollard, E. and Miller, A., 1968, Wind erosion in the East Anglian Fens. *Weather*, 23, 414–17.

Ponting, C., 1991, *A green history of the world.* London: Penguin.

Poore, M. E. D., 1976, The values of tropical moist forest ecosystems. *Unasylva*, 28, 127–43.

Pope, J. C., 1970, Plaggen soils in the Netherlands. *Geoderma*, 4, 229–55.

Post, W. M. and Kwon, K. C., 2000, Soil carbon sequestration and land-use change: processes and potential. *Global change biology*, 6, 317–27.

Potter, G. L., Ellsaesser, H. W., MacCracken, M. C. and Luther, F. M., 1975, Possible climatic impact of tropical deforestation. *Nature*, 258, 697–8.

Potter, G. L., Ellsaesser, H. W., MacCracken, M. C. and Ellis, J. C., 1981, Albedo change by man: test of climatic effects. *Nature*, 291, 47–9.

Powell, M., 1985, Salt, seed and yields in Sumerian agriculture: a critique of progressive salinization. *Zeitschrift für Assyrologie and Vorderasiatische archaologie*, 75, 7–38.

Preston, A., 1973, Heavy metals in British waters. *Nature*, 242, 95–7.

Price, M. F., 1989, Global change: defining the ill-defined. *Environment*, 31 (8), 18–20, 42–4.

Price, M. and Reed, D. W., 1989, The influence of mains leakage and urban drainage on groundwater levels beneath conurbations in the United Kingdom. *Proceedings of the Institution of Civil Engineers*, 86 (I), 31–9.

Prince, H. C., 1959, Parkland in the Chilterns. *Geographical review*, 49, 18–31.

——, 1962, Pits and ponds in Norfolk. *Erdkunde*, 16, 10–31.

——, 1964, The origin of pits and depressions in Norfolk. *Geography*, 49, 15–32.

——, 1979, Marl pits or dolines of the Dorset Chalklands? *Transactions of the Institute of British Geographers*, new series, 4, 116–17.

Proffitt, M. H., Margitan, J. J., Kelly, K. K., Loewenstein, M., Podolske, J. R. and Chan, K. R., 1990, Ozone loss in the Arctic polar vortex inferred from high-altitude aircraft measurements. *Nature*, 347, 31–3.

Prokopovich, N. P., 1972, Land subsidence and population growth. *24th International Geological Congress proceedings*, 13, 44–54.

Prospero, J. M. and Nees, R. T., 1977, Dust concentration in the atmosphere of the equatorial North Atlantic; possible relationship to Sahelian drought. *Science*, 196, 1196–8.

Prowse, T. D. and Beltaos, S., 2002, Climatic control of river-ice hydrology: a review. *Hydrological processes*, 16, 805–22.

Pyne, S. J., 1982, *Fire in America – a cultural history of wildland and rural fire.* Princeton: Princeton University Press.

Qadir, M., Ghafoor, A. and Murtaza, G., 2000, Amelioration strategies for saline soils: a review. *Land degradation and development*, 11, 501–21.

Rackham, O., 1980, *Ancient woodland.* London: Arnold.

Radley, J., 1962, Peat erosion on the high moors of Derbyshire and west Yorkshire. *East Midlands geographer*, 3 (1), 40–50.

Radley, J. and Sims, C., 1967, Wind erosion in East Yorkshire. *Nature*, 216, 20–2.

Raison, R. J., 1979, Modification of the soil environment by vegetation fires with particular reference to nitrogen transformation: a review. *Plant and soil*, 51, 73–108.

Raleigh, C. B., Healy, J. H. and Bredehoeft, J. D., 1976, An experiment in earthquake control at Rangeley, Colorado. *Science*, 191, 1230–7.

Ramanathan, V., 1988, The greenhouse theory of climate change: a test by an inadvertent global experiment. *Science*, 240, 293–9.

Ramankutty, N. and Foley, A., 1999, Estimating historical changes in global land cover: croplands from 1700 to 1992. *Global biogeochemical cycles*, 13, 997–1027.

Ramirez, E. and 8 others, 2001, Small glaciers disappearing in the tropical Andes: a case study of Bolivia: Glacier Chacaltya (16°S). *Journal of glaciology*, 47, 187–94.

Ranwell, D. S., 1964, *Spartina* salt marshes in southern England, II: rate and seasonal pattern of sediment accretion. *Journal of ecology*, 52, 79–94.

Ranwell, D. S. and Boar, R., 1986, *Coast dune management guide.* Monks Wood: Institute of Terrestrial Ecology.

Raper, S. C. B., 1993, Observational data on the relationships between climatic change and the frequency and magnitude of severe tropical storms. In R. A. Warrick, E. M. Barrow and T. M. L. Wigley (eds), *Climate and sea level change: observations, projections and implications*. Cambridge: Cambridge University Press, 192–212.

Rapp, A., 1974, *A review of desertization in Africa – water, vegetation and man.* Stockholm: Secretariat for International Ecology, report no. 1.

Rapp, A., Murray-Rust, D. H., Christansson, C. and Berry, L., 1972, Soil erosion and sedimentation in four catchments near Dodoma, Tanzania. *Geografiska annaler*, 54A, 255–318.

Rapp, A., Le Houérou, H. N. and Lundholm, B., 1976, Can desert encroachment be stopped? *Ecological bulletin*, 24.

Rasid, H., 1979, The effects of regime regulation by the Gardiner Dam on downstream geomorphic processes in the South Saskatchewan River. *Canadian geographer*, 23, 140–58.

Ratcliffe, D. A., 1974, Ecological effects of mineral exploitation in the United Kingdom and their significance to nature conservation. *Proceedings of the Royal Society of London*, 339A, 355–72.

Ray, C., Hayden, B. P., Bulger, A. J. and McCormick-Ray, G., 1992, Effects of global warming on the biodiversity of coastal-marine zones. In R. L. Peters and T. E. Lovejoy (eds), *Global warming and biological diversity.* New Haven: Yale University Press, 91–102.

Reale, O. and Dirmeyer, P., 2000, Modelling the effects of vegetation on Mediterranean climate during the Roman Classical Period: Part I: climate history and model sensitivity. *Global and planetary change*, 25, 163–84.

Reclus, E., 1871, *The earth* (2 vols). London: Chapman & Hall.

——, 1873, *The ocean, atmosphere and life.* New York: Harper and Brothers.

Reed, C. A., 1970, Extinction of mammalian megafauna in the old world late Quaternary. *Bioscience*, 20, 284–8.

Reed, D. J., 1990, The impact of sea level rise on coastal salt marshes. *Progress in physical geography*, 14, 465–81.

——, 1995, The response of coastal marshes to sea level rise: survival or submergence? *Earth surface processes and landforms*, 20, 39–48.

——, 2002, Sea-level rise and coastal marsh sustainability: geological and ecological factors in the Mississippi delta plain. *Geomorphology*, 48, 233–43.

Reed, L. A., 1980, Suspended-sediment discharge, in five streams near Harrisburg, Pennsylvania, before, during and after highway construction. *United States Geological Survey water supply paper*, 2072.

Reheis, M. C., 1997, Dust deposition downwind of Owens (dry) Lake, 1991–1994: preliminary findings. *Journal of geophysical research*, 102, 25998–6008.

Reichert, B. K., Bengston, L. and Oerlemans, J., 2001, Midlatitude forcing mechanism for glacier mass balance investigated using general circulation models. *Journal of climate*, 14, 3767–84.

Reij, C., Scoones, I. and Toulmin, C. (eds), 1996, *Sustaining the soil: indigenous soil and water conservation in Africa*. London: Earthscan.

Renard, K. G. and Freid, J. R., 1994, Using monthly precipitation data to estimate the R factor in the revised USLE. *Journal of hydrology*, 157, 287–306.

Renberg, I. and Hellberg, T., 1982, The pH history of lakes in SW Sweden, as calculated from the subfossil diatom flora of the sediments. *Ambio*, 11, 30–3.

Revelle, R. R. and Waggoner, P. E., 1983, Effect of a carbon dioxide-induced climatic change on water supplies in the western United States. In Carbon Dioxide Assessment Committee, *Changing climate*. Washington, DC: National Academy Press, 419–32.

Rhoades, J. D., 1990, Soil salinity – causes and controls. In A. S. Goudie (ed.), *Techniques for desert reclamation*. Chichester: Wiley, 109–34.

Richards, J. F., 1991, Land transformation. In B. L. Turner, W. C. Clark, R. W. Kates, J. F. Richards, J. T. Matthews and W. B. Meyer (eds), *The earth as transformed by human action*. Cambridge: Cambridge University Press, 163–78.

Richards, P. W., 1952, *The tropical rainforest*. Cambridge: Cambridge University Press.

Richardson, J. A., 1976, Pit heap into pasture. In J. Lenihan and W. W. Fletcher (eds), *Reclamation*. Glasgow: Blackie, 60–93.

Richardson, S. J. and Smith, J., 1977, Peat wastage in the East Anglian Fens. *Journal of soil science*, 28, 485–9.

Richter, D. O. and Babbar, L. I., 1991, Soil diversity in the tropics. *Advances in ecological research*, 21, 315–89.

Ridgwell, A. J., 2002, Dust in the Earth system: the biogeochemical linking of land, sea and air. *Philosophical transactions of the Royal Society*, A, 360, 2905–24.

Rignot, E. and Thomas, R. H., 2002, Mass balance of polar ice sheets. *Science*, 297, 1502–6.

Rinderer, T. E., Oldroyd, R. P. and Sheppard, W. S., 1993, Africanized bees in the US. *Scientific American*, 269 (6), 52–8.

Ripley, E. A., 1976, Drought in the Sahara: insufficient geophysical feedback? *Science*, 191, 100.

Ritchie, J. C., 1972, Sediment, fish and fish habitat. *Journal of soil and water conservation*, 27, 124–5.

Robb, G. A. and Robinson, J. D. F., 1995, Acid drainage from mines. *Geographical journal*, 161, 47–54.

Roberts, M. B., Gamble, C. S. and Bridgland, D. R., 1995, The earliest occupation of Europe: the British Isles. *Analecta praehistorica Leidensia*, 27, 165–91.

Roberts, N., 1989, *The Holocene*. Oxford: Blackwell.

Roberts, N., 1998, *The Holocene: an environmental history* (2nd edn). Oxford: Basil Blackwell.

Roberts, R. G. and 10 others, 2001, New ages for the least Australian megafauna: continent-wide extinction about 46,000 years ago. *Science*, 1888–92.

Roberts, N. and Barker, P., 1993, Landscape stability and biogeomorphic response to past and future climatic shifts in intertropical Africa. In D. S. G. Thomas and R. J. Allison (eds), *Landscape sensitivity*. Wiley: Chichester, 65–82.

Robin, G. de Q., 1986, Changing the sea level. In B. Bolin et al. (eds), *The greenhouse effect, climatic change and ecosystems*. Chichester: Wiley, 322–59.

Robinson, M., 1979, The effects of pre-afforestation ditching upon the water and sediment yields of a small upland catchment. Working paper 252, School of Geography, University of Leeds.

——, 1990, *Impact of improved land drainage on river flows*. Wallingford: Institute of Hydrology, Report 113.

Robinson, M. A. and Lambrick, G. H., 1984, Holocene alluviation and hydrology in the Upper Thames Basin. *Nature*, 308, 809–14.

Rodda, J. C., Downing, R. A. and Law, F. M., 1976, *Systematic hydrology*. London: Newnes-Butterworth.

Roman, J. and Palumbi, S. R., 2003, Whales before whaling in the North Atlantic. *Science*, 301, 508–10.

Romme, W. H. and Despain, D. G., 1989, The Yellowstone fires. *Scientific American*, 261, 21–9.

Roots, C., 1976, *Animal invaders*. Newton Abbot: David & Charles.

Roques, K. G., O'Connor, T. G. and Watkinson, A. R., 2001, Dynamics of shrub encroachment in an African savanna: relative influences of fire, herbivory, rainfall and density dependence. *Journal of applied ecology*, 38, 268–80.

Ropeleswski, C. F., 1985, Satellite-derived snow and ice cover in climate diagnostic studies. *Advances in space research*, 5, 275–8.

Rose, R. 1970, Lichens as pollution indicators. *Your environment*, 5.

Rosenzweig, C. and Hillel, D., 1993, The dust bowl of the 1930s: analog of greenhouse effect in the Great Plains? *Journal of environmental quality*, 22, 9–22.

Rosepiler, M. J. and Reilinger, R., 1977, Land subsidence due to water withdrawal in the vicinity of Pecos, Texas. *Engineering geology*, 11, 295–304.

Rouse, W. R. and 10 others, 1997, Effects of climate change on the freshwaters of Arctic and Subarctic North America. *Hydrological processes*, 11, 873–902.

Routson, R. C., Wildung, R. E. and Bean, R. M., 1979, A review of the environmental impact of ground disposal of oil shale wastes. *Journal of environmental quality*, 8, 14–19.

Royal Society Study Group, 1983, *The nitrogen cycle of the United Kingdom*. London: The Royal Society.

Ruddiman, W. F., 2003, The anthropogenic greenhouse era began thousands of years ago. *Climatic change*, 61, 261–93.

Ruddiman, W. F. and Thomsen, J. S., 2001, The case for human causes of increased atmospheric CH_4 over the last 5000 years. *Quaternary science reviews*, 20, 1769–77.

Russell, E. J., 1961, *The world of the soil*. London: Fontana.

Russell, J. S. and Isbell, R. F. (eds), 1986, *Australian soils: the human impact*. St Lucia: University of Queensland Press.

Rutherford, I., 2000, Some human impacts on Australian stream channel morphology. In S. Brizga and B. Finlayson (eds), *River management: the Australian experience*. Chichester: Wiley, 11–47.

Ryder, M. L., 1966, The exploitation of animals by man. *Advancement of science*, 23, 9–18.

Ryding, S. O. and Rast, R. W., 1989, *The control of eutrophication of lakes and reservoirs*. Paris: UNESCO.

Sabadell, J. E., Risley, E. M., Jorgensen, H. T. and Thornton, B. S., 1982, *Desertification in the United States: status and issues*. Bureau of Land Management, Department of the Interior.

Sabadini, R., 2002, Ice sheet collapse and sea level change. *Science*, 295, 2376–7.

Sahagian, D., 2000, Global physical effects of anthropogenic hydrological alterations: sea level and water redistribution. *Global and planetary change*, 25, 38–48.

Saiko, T. A. and Zonn, I. S., 2000, Irrigation expansion and dynamics of desertification in the Circum-Aral region of Central Asia. *Applied geography*, 20, 349–67.

Sala, O. E. and 18 others, 2000, Global biodiversity scenarios for the years 2100. *Science*, 287, 1770–4.

Sanchez, P. A. and Buol, S. W., 1975, Soils of the tropics and the world food crisis. *Science*, 188, 598–603.

Sanders, W. M., 1972, Nutrients. In R. T. Oglesby, C. A. Carlson and J. A. McCann (eds), *River ecology and man*. New York: Academic Press, 389–415.

Sapp, J., 1999, *What is natural? Coral reef crisis*. New York: Oxford University Press.

Sarmiento, G. and Monasterio, M., 1975, A critical consideration of the environmental conditions associated with the occurrence of savanna ecosystems in tropical America. *Ecological studies*, 11, 233–50.

Sarre, P., 1978, The diffusion of Dutch elm disease. *Area*, 10, 81–5.

Sauer, C. O., 1938, *Destructive exploitation in modern colonial expansion*. International Geographical Congress, Amsterdam, Vol. III, sect. IIIC, 494–9.

——, 1952, *Agricultural origins and dispersals*, Isaiah Bowman lecture series, 2. New York: American Geographical Society.

——, 1969, *Seeds, spades, hearths and herds*. Cambridge, MA: MIT Press.

Savage, M., 1991, Structural dynamics of a southwestern pine forest under chronic human influence. *Annals of the Association of American Geographers*, 81, 271–89.

Savini, J. and Kammerer, J. C., 1961, Urban growth and the water regime. *United States Geological Survey water supply paper*, 1591A.

Schimper, A. F. W., 1903, *Plant-geography upon a physiological basis*. Oxford: Clarendon Press.

Schmid, J. A., 1974, The environmental impact of urbanization. In I. R. Manners and M. W. Mikesell (eds), *Perspectives on environment*. Washington, DC: Association of American Geographers.

——, 1975, Urban vegetation. Research paper, Department of Geography, University of Chicago, 161.

Schmieder, O., 1927a, The Pampa – a natural or culturally induced grassland? *University of California publications in geography*, 2, 255–70.

——, 1927b, Alteration of the Argentine Pampa in the colonial period. *University of California publications in geography*, 2, 303–21.

Schneider, S. H. and Thompson, S. L., 1988, Simulating the effects of nuclear war. *Nature*, 333, 221–7.

Schoner, W., Auer, I. and Bohm, R., 2000, Climate variability and glacier reaction in the Austrian Eastern Alps. *Annals of glaciology*, 23, 31–8.

Schrieber, B. C., 1986, Arid shorelines and evaporates. In H. G. Reading (ed.), *Sedimentary environments and facies*. Oxford: Blackwell Scientific, 189–228.

Schumm, S. A., 1977, *The fluvial system*. New York: Wiley.

Schumm, S. A., Harvey, M. D. and Watson, C. C., 1984, *Incised channels: morphology, dynamics and control*. Littleton, Colorado: Water Resources publications.

Schwartz, M. W., Porter, D. J., Randall, J. M. and Lyons, K. E., 1996, Impact of nonindigenous plants. In *Sierra Nevada ecosystems project: final report for congress*, Vol. II. Davis: University of California, 1203–18.

Schwarz, E. H. L., 1923, *The Kalahari or Thirstland redemption*. Cape Town and Oxford: Oxford University Press.

Schwarz, H. E., Emel, J., Dickens, W. J., Rogers, P. and Thompson, J., 1991, Water quality and flows. In B. L. Turner, W. C. Clark, R. W. Kates, J. F. Richards, J. T. Matthews and W. B. Meyer (eds), *The earth as transformed by human action*. Cambridge: Cambridge University Press, 253–70.

Scott, D. F., 1997, The contrasting effects of wildfire and clear felling on the hydrology of a small catchment. *Hydrological processes*, 11, 543–55.

Scott, G. J., 1977, The role of fire in the creation and maintenance of savanna in the Montana of Peru. *Journal of biogeography*, 4, 143–67.

Scott, W. S. and Wylie, N. P., 1980, The environmental effects of snow dumping: a literature review. *Journal of environmental management*, 10, 219–40.

Sears, P. B., 1957, Man the newcomer: the living landscape and a new tenant. In L. H. Russwurm and E. Sommerville (eds), *Man's natural environment, a system approach*. North Scituate: Duxbury, 43–55.

Segall, P., 1989, Earthquakes triggered by fluid extraction. *Geology*, 17, 942–6.

Seidel, K., Ehrler, C. and Martinec, J., 1998, Effects of climate change on water resources and runoff in an alpine basin. *Hydrological processes*, 12, 1659–69.

Selby, M. J., 1979, Slopes and weathering. In K. J. Gregory and D. E. Walling (eds), *Man and environmental processes*. Folkestone: Dawson, 105–22.

Semaw, S., Renne, P., Harris, J. W. K., Feibel, C. S., Bernov, R. L., Fesseha, N. and Mowbray, K., 1997, 2.5-million-year-old stone tools from Gona, Ethiopia. *Nature*, 385, 333–6.

Semtner, A. J., 1984, The climate response of the Arctic Ocean to Soviet river diversions. *Climatic change*, 6, 109–30.

Seto, S. and 8 others, 2002, Annual and seasonal trends in chemical composition of precipitation in Japan during 1989–1998. *Atmospheric environment*, 31, 3505–17.

Shabalova, M. V., van Deursen, W. P. A. and Buishand, T. A., 2003, Assessing future discharge of the river Rhine using regional climate model integrations and a hydrological model. *Climate research*, 23, 233–46.

Shakesby, R. A., Doerr, S. H. and Walsh, R. P. D., 2000, The erosional impact of soil hydrophobicity: current problems and future research directions. *Journal of hydrology*, 231/2, 178–91.

Shaler, N. S., 1912, *Man and the earth*. New York: Duffield.

Sheail, J., 1971, *Rabbits and their history*. Newton Abbot: David & Charles.

Sheffield, A. T., Healy, T. R. and McGlone, M. S., 1995, Infilling rates of a steepland catchment estuary, Whangamata, New Zealand. *Journal of coastal research*, 11 (4), 1294–308.

Shehata, W. and Lotfi, H., 1993, Preconstruction solution for groundwater rise in Sabkha. *Bulletin of the International Association of Engineering Geology*, 47, 145–50.

Sheppard, C. R. C., 2003, Predicted recurrences of mass coral morality in the Indian Ocean. *Nature*, 425, 294–7.

Sherif, M. M. and Singh, V. P., 1999, Effect of climate change on sea water intrusion in coastal aquifers. *Hydrological processes*, 13, 1277–87.

Sherlock, R. L., 1922, *Man as a geological agent*. London: Witherby.

Sherratt, A., 1981, Plough and pastoralism: aspects of the secondary products revolution. In I. Hodder, G. Isaac and N. Hammond (eds), *Pattern of the past*. Cambridge: Cambridge University Press, 261–305.

——, 1997, Climatic cycles and behaviour revolutions: the emergence of modern humans and the beginning of farming. *Antiquity*, 71, 271–87.

Sherwood, B., Cutler, D. and Burton, J. (eds), 2002, *Wildlife and roads. The ecological impact*. London: Imperial College Press.

Shi, Y. F. and Liu, S. Y., 2000, Estimation on the response of glaciers in China to the global warming in the 21st century. *Chinese science bulletin*, 45, 668–72.

Shiklomanov, I. A., 1985, Large scale water transfers. In J. C. Rodda (ed.), *Facets of hydrology II*. Chichester: Wiley, 345–87.

——, 1999, Climate change, hydrology and water resources: the work of the IPCC, 1988–1994. In van Dam, J. C. (ed.), *Impacts of climate change and climate variability on hydrological regimes*. Cambridge: Cambridge University Press, 8–20.

Shirahata, H., Elias, R. W., Patterson, C. C. and Koide, M., 1980, Chronological variations in concentrations and isotopic composition of anthropogenic atmospheric lead in sediments of a remote subalpine pond. *Geochimica et cosmochimica acta*, 44, 149–62.

Shriner, D. S. and Street, R. B., 1998, North America. In R. T. Watson (ed.), *The regional impacts of climate change*. Cambridge: Cambridge University Press.

Sidle, R. C. and Dhakal, A. S., 2002, Potential effect of environmental change on landslide hazards in forest environments. In R. C. Sidle (ed.), *Environmental change and geomorphic hazards in forests*. Wallingford: CABI, 123–65.

Sidorchuk, A. Y. and Golosov, V. N., 2003, Erosion and sedimentation on the Russian Plain, II: the history of erosion and sedimentation during the period of intensive agriculture. *Hydrological processes*, 17, 3347–58.

Simas, T., Nunes, J. P. and Ferreira, J. G., 2001, Effects of global climate change on coastal salt marshes. *Ecological modelling*, 139, 1–15.

Simberloff, D., 2000, Global climate change and introduced species in United States forests. *The science of the total environment*, 262, 253–61.

Simmonds, N. W., 1976, *Evolution of crop plants*. London: Longman.

Simmons, I. G., 1979, *Biogeography: natural and cultural*. London: Arnold.

——, 1993, *Environmental history: a concise introduction*. Oxford: Blackwell.

——, 1996, *Changing the face of the earth: culture, environment and history* (2nd edn). Oxford: Blackwell.

Simon, J. L., 1981, *The ultimate resource*. Princeton: Princeton University Press.

——, 1996, *The ultimate resource 2*. Princeton: Princeton University Press.

Sinclair, A. R. E. and Fryxell, J. M., 1985, The Sahel of Africa: ecology of a disaster. *Canadian journal of zoology*, 63, 987–94.

Six, D., Reynaud, L. and Letreguilly, A., 2001, Bilans de masse des glaciers alpines et scandinaves, leurs relations avec l'oscillation due climat de l'Atlantique nord. *Comptes Rendus Academie des Sciences, Science de la Terre et des Planètes*, 333, 693–8.

Smith, J. B. and Tirpak, D. A. (eds), 1990, *The potential effects of global climate change on the United States*. New York: Hemisphere.

Smith, J. E. (ed.), 1968, *Torrey Canyon pollution and marine life*. Cambridge: Cambridge University Press.

Smith, K., 1975, *Principles of applied climatology*. London: McGraw-Hill.

Smith, L. B. and Hadley, C. H., 1926, The Japanese beetle. *Department circular, US Department of Agriculture*, 363, 1–66.

Smith, M. W., 1993, Climate change and permafrost. In H. M. French and O. Slaymaker (eds), *Canada's cold environments*. Montreal and Kingston: McGill-Queens University Press, 292–311.

Smith, N., 1976, *Man and water*. London: Davies.
Smith, S. E., 1986, An assessment of structural deterioration on ancient monuments and tombs in Thebes. *Journal of field archaeology*, 13, 1277–87.
Smith, S. J., Pitcher, H. and Wigley, T. M. L., 2001, Global and regional anthropogenic sulfur dioxide emissions. *Global and planetary change*, 29, 99–119.
Smith, T. M., Shugart, H. H., Bonan, G. B. and Smith, J. B., 1992, Modelling the potential response of vegetation to global climate change. *Advances in ecological research*, 22, 93–116.
Smith, W. H., 1974, Air pollution – effects on the structure and function of the temperate forest ecosystem. *Environmental pollution*, 6, 111–29.
Smith, J. B., Richels, R. and Muller, B., 2001, Potential consequences of climate variability and change for the western United States. In National Assessment Synthesis Team, *Climate change impacts on the United States: the potential consequences of climate variability and change*. Cambridge: Cambridge University Press, 219–45.
Snedaker, S. C., 1993, Impact on mangroves. In G. Maul (ed.), *Climatic change in the Intra-Americas Sea*. London: Edward Arnold, 282–305.
——, 1995, Mangroves and climate change in the Florida and Caribbean region: scenarios and hypotheses. *Hydrobiologia*, 295, 43–9.
Snover, A., 1997, Impacts of global climate change on the Pacific Northwest. Preparatory white paper for OSTP/USGCRP regional workshop on the *Impacts of global climate change on the Pacific Northwest*, July 1997.
So, C. L., 1971, Mass movements associated with the rainstorm of 1966 in Hong Kong. *Transactions of the Institute of British Geographers*, 53, 55–65.
Solomon, S., 1999, Stratospheric ozone depletion: a review of concepts and history. *Reviews of geophysics*, 37, 275–316.
Somerville, M., 1858, *Physical geography* (4th edn). London: Murray.
Sopper, W. E., 1975, Effects of timber harvesting and related management practices on water quality in forested watersheds. *Journal of environmental quality*, 4, 24–9.
Sorkin, A. J., 1982, *Economic aspects of natural hazards*. Lexington: Lexington Books.
Souter, D. W. and Linden, O., 2000, The health and future of coral reef systems. *Ocean and coastal management*, 43, 657–88.
Southwick, C. H., 1976, *Ecology and the quality of our environment* (2nd edn). New York: Van Nostrand.
Spanier, E. and Galil, B. S., 1991, Lessepsian migration: a continuous biogeographical process. *Endeavour*, 15, 102–6.
Spate, O. H. K. and Learmonth, A. T. A., 1967, *India and Pakistan*. London: Methuen.
Speight, M. C. D., 1973, Outdoor recreation and its ecological effects. A bibliography and review. Discussion papers in conservation, 4, University College, London.
Spencer, J. E. and Thomas, W. L., 1978, *Introducing cultural geography* (2nd edn). New York: Wiley.
Spencer, T., 1995, Potentialities, uncertainties and complexities in the response of coral reefs to future sea level rise. *Earth surface processes and landforms*, 20, 49–64.
Spencer, T. and Douglas, I., 1985, The significance of environmental change: diversity, disturbance and tropical ecosystems. In I. Douglas and T. Spencer (eds), *Environmental change and tropical geomorphology*. London: Allen & Unwin, 13–33.
Spencer, T., Teleki, K. A., Bradshaw, C. and Spalding, M. D., 2000, Coral bleaching in the Southern Seychelles during the 1997–1998 Indian Ocean Warm event. *Marine pollution bulletin*, 40, 569–86.
Sperling, C. H. B., Goudie, A. S., Stoddart, D. R. and Poole, G. C., 1979, Origin of the Dorset dolines. *Transactions of the Institute of British Geographers*, new series, 4, 121–4.
Speth, W. W., 1977, Carl Ortwin Sauer on destructive exploitation. *Biological conservation*, 11, 145–60.
Squire, G. R. and 14 others, 2003, On the rationale and interpretation of the farm scale evaluations of genetically modified herbicide-tolerant crops. *Philosophical transactions of the Royal Society of London*, B, 358, 1779–99.
Staehelin, J., Harris, N. R. P., Appenzeller, C. and Ebeshard, J., 2001, Ozone trends: a review. *Reviews of geophysics*, 39, 231–90.
Stanley, D. J., 1996, Nile delta: extreme case of sediment entrapment on a delta plain and consequent coastal land loss. *Marine geology*, 129, 189–95.
Stanley, D. J. and Chen, Z., 1993, Yangtze delta, eastern China: I. Geometry and subsidence of Holocene depocenter. *Marine geology*, 112, 1–11.
Steadman, D. W., Stafford, T. W., Donahue, D. J. and Jull, A. J. T., 1991, Chronology of Holocene vertebrate extinction in the Galápagos Islands. *Quaternary research*, 36, 126–33.
Steffen, W. and 10 others, 2004, *Global change and the earth system*. Berlin: Springer-Verlag.
Stendel, M. and Christensen, J. H., 2002, Impact of global warming on permafrost conditions in a coupled GCM. *Geophysical research letters*, 29, 10–1–4.
Stephens, J. C., 1956, Subsidence of organic soils in the Florida Everglades. *Proceedings of the Soil Science Society of America*, 20, 77–80.
Sternberg, H. O'R., 1968, Man and environmental change in South America. *Monographiae biologicae*, 18, 413–45.
Stetler, L. L. and Gaylord, D. R., 1996, Evaluating eolian-climate interactions using a regional climate model from Hanford, Washington (USA). *Geomorphology*, 17, 99–113.
Stevenson, A. C., Jones, V. J. and Battarbee, R. W., 1990, The cause of peat erosion: a palaeolimnological approach. *New phytologist*, 114, 727–35.
Stewart, O. C., 1956, Fire as the first great force employed by man. In W. L. Thomas (ed.), *Man's role in changing the face of the* earth. Chicago: University of Chicago Press, 115–33.
Stiles, D., 1995, An overview of desertification as dryland degradation. In D. Stiles (ed.), *Social aspects of sustainable dryland management*. Chichester: Wiley.

Stocker, T. F., 2001, Physical climate processes and feedbacks. In J. T. Houghton (ed.), *Climate change 2001: the scientific basis*. Cambridge: Cambridge University Press, 417–70.

Stocking, M., 1984, Erosion and soil productivity: a review. *FAO soil conservation programme land and water development division consultants' working paper*, 1.

Stoddart, D. R., 1968, Catastrophic human interference with coral atoll ecosystems. *Geography*, 53, 25–40.

——, 1969, Climatic geomorphology, review and reassessment. *Progress in physical geography*, 1, 159–222.

——, 1971, Coral reefs and islands and catastrophic storms. In J. A. Steers (ed.), *Applied coastal geomorphology*. London: Macmillan, 154–97.

Stoddart, J. L. and 22 others, 1999, Regional trends in aquatic recovery from acidification in North America and Europe. *Nature*, 401, 575–8

Stokes, S. and Gaylord, D. R., 1993, optical dating of Holocene dune sands in the Ferris Dune Field, Wyoming. *Quaternary research*, 39, 274–81.

Stokes, S. and Swinehart, J. B., 1997, Middle- and late-Holocene dune reactivation on the Nebraska Sand Hills, USA. *The Holocene*, 7, 272–81.

Stokes, S., Thomas, D. S. G. and Washington, R., 1997, Multiple episodes of aridity in southern Africa since the last interglacial period. *Nature*, 388, 154–8.

Strahler, A. N. and Strahler, A. H., 1973, *Environmental geoscience: interaction between natural systems and man*. Santa Barbara: Hamilton.

Strandberg, C. H., 1971, Water pollution. In G. H. Smith (ed.), *Conservation of natural resources* (4th edn). New York: Wiley, 189–219.

Street, F. A. and Grove, A. T., 1979, Global maps of lake level fluctuation since 30,000 years ago. *Quaternary research*, 12, 83–118.

Stringer, C., 2000, Human evolution: how an African primate became global. In S. J. Culver and P. F. Rawson (eds), *Biotic response to global warming*. Cambridge: Cambridge University Press.

——, 2003, Out of Africa. *Nature*, 423, 692–9.

Sturrock, F. and Cathie, J., 1980, Farm modernisation and the countryside. Occasional paper 12, Department of Land Economy, University of Cambridge.

Su, Z. and Shi, Y., 2002, Response of monsoonal temperate glaciers to global warming science The Little Ice Age. *Quaternary international*, 97–8, 123–31.

Sun, G. E., McNulty, S. G., Moore, J., Bunch, C. and Ni, J., 2002, Potential impacts of climate change on rainfall erosivity and water availability in China in the next 100 years. *Proceedings of the 12th International Soil Conservation conference*, Beijing.

Suppiah, R. and Hennessy, K. J., 1998, Trends in total rainfall, heavy rain events and number of dry days in Australia. *International journal of climatology*, 18, 1141–64.

Swank, W. T. and Douglass, J. E., 1974, Streamflow greatly reduced by converting deciduous hardwood stands to pine. *Science*, 18, 857–9.

Swanston, D. N. and Swanson, F. J., 1976, Timber harvesting, mass erosion and steepland forest geomorphology in the Pacific north-west. In D. R. Coates (ed.) *Geomorphology and engineering*. Stroudsburg: Dowden, Hutchinson and Ross, 199–221.

Swift, L. W. and Messer, J. B., 1971, Forest cuttings raise temperatures of small streams in the southern Appalachians. *Journal of soil and water conservation*, 26, 111–16.

Swift, M. J. and Sanchez, P. A., 1984, Biological management of tropical soil fertility for sustained productivity. *Nature and resources*, 2052–10.

Swisher, C. C., Curtis, G. H., Jacob, T., Getty, A. G. and Suprijo, A., 1994, Age of the earliest known hominids in Java, Indonesia. *Science*, 263, 1118–21.

Szabolcs, I., 1994, State and perspectives on soil salinity in Europe. *European Society for Soil Conservation newsletter*, 3, 17–24.

Tajikistan Academy of Sciences, 1975, *Induced seismicity of the Nurek reservoir*. Dushanbe: Tajik Academy.

Tallis, J. H., 1965, Studies on southern Pennine peats, IV: evidence of recent erosion. *Journal of ecology*, 53, 509–20.

——, 1985, Erosion of blanket peat in the southern Pennines: new light on an old problem. In R. H. Johnson (ed.), *The geomorphology of north-west England*. Manchester: Manchester University Press, 313–36.

Talwani, P., 1997, On the nature of reservoir-induced seismicity. *Pure and applied geophysics*, 150, 473–92.

Taylor, C., 1975, *Fields in the English landscape*. London: Dent.

Taylor, C. M., Lambin, E. F., Stephenne, N., Harding, R. J. and Essery, L. H., 2002, The influence of land use change on climate in the Sahel. *Journal of climate*, 15, 3615–29.

Taylor, J. A., 1985, Bracken encroachment rates in Britain. *Soil use and management*, 1, 53–6.

Taylor, K. E. and Penner, J. E., 1994, Response of the climatic system to atmospheric aerosols and greenhouse gases. *Nature*, 369, 734–7.

Tegen, I., Lacis, A. A. and Fung, I., 1996, The influence on climate forcing of mineral aerosols from disturbed soils. *Nature*, 380, 419–22.

Terborgh, J., 1992, *Diversity and the tropical rain forest*. New York: Freeman.

Theodoropoulos, D. I., 2003, *Invasion biology. Critique of a pseudoscience*. Blythe, California: Avvar Books.

Thirgood, J. V., 1981, *Man and the Mediterranean forest – a history of resource depletion*. London: Academic Press.

Thomas, A. D., Walsh, R. P. D. and Shakesby, R. A., 2000, Solutes in overland flow following fire in eucalyptus and pine forests, northern Portugal. *Hydrological processes*, 14, 971–85.

Thomas, C. D. and 18 others, 2004, Extinction risk from climate change. *Nature*, 427, 145–8.

Thomas, D. S. G. and Middleton, N. J., 1993, Salinisation: new perspectives on a major desertification issue. *Journal of arid environments*, 24, 95–105.

——, 1994, *Desertification: exploding the myth*. Chichester: Wiley.

Thomas, D. S. G., Stokes, S. and Shaw, P. A., 1997, Holocene aeolian activity in the south-western Kalahari Desert,

southern Africa: significance and relationships to late-Pleistocene dune-building events. *The Holocene*, 7, 273–81.

Thomas, R. H., 1986, Future sea level rise and its early detection by satellite remote sensing. In J. G. Titus (ed.), *Effects of changing stratospheric ozone and global climate*, Vol. 4, *Sea level rise*. Washington, DC: United Nations Environment Program/U.S. Environmental Protection Agency, 19–36.

Thomas, R. H., Sanderson, T. J. O. and Rose, K. E., 1979, Effect of climatic warming on the West Antarctic ice sheet. *Nature*, 277, 355–8.

Thomas, W. L. (ed.), 1956, *Man's role in changing the face of the Earth.* Chicago: University of Chicago Press.

Thomson, D. P., Shaffe, G. P. and McCorquodale, J. A., 2002, A potential interaction between sea level rise and global warming: implications for coastal stability on the Mississippi River Deltaic Plain. *Global and planetary change*, 32, 49–59.

Thompson, L. G., 2000, Ice core evidence for climate change in the Tropics: implications for our future. *Quaternary science reviews*, 19, 19–35.

Thompson, J. R., 1970, Soil erosion in the Detroit metropolitan area. *Journal of soil and water conservation*, 25, 8–10.

Thornthwaite, C. W., 1956, Modification of the rural microclimates. In W. L. Thomas (ed.), *Man's role in changing the face of the Earth.* Chicago: University of Chicago Press, 567–83.

Tiffen, M., Mortimore, M. and Gichuki, F. N., 1994, *More people, less erosion: environmental recovery in Kenya*. London: Wiley.

Timmerman, A., Oberhuber, J., Bacher, A., Esch, M., Latif, M. and Roeckner, E., 1999, Increased El Niño frequency in a climate model forced by future greenhouse warming. *Nature*, 398, 694–7.

Tipping, E. and 10 others, 2000, Reversal of acidification in tributaries of the River Duddon (English Lake District) between 1970 and 1998. *Environmental pollution*, 109, 183–91.

Titus, J. G., 1990, Greenhouse effect, sea level rise, and barrier islands: case study of Long Beach Island, New Jersey. *Coastal management*, 18, 65–90.

Titus, J. G. and Seidel, S., 1986, Overview of the effects of changing the atmosphere. In J. G. Titus (ed.), *Effects of changes in stratospheric ozone and global climate*. Washington, DC: United Nations Environment Program/U.S. Environmental Protection Agency, 3–19.

Tivy, J., 1971, *Biogeography. A study of plants in the ecosphere*. Edinburgh: Oliver and Boyd.

Tivy, J. and O'Hare, G., 1981, *Human impact on the ecosystem*. Edinburgh: Oliver and Boyd.

Tockner, K. and Stanford, J. A., 2002, Riverine flood plains: present state and future trends. *Environmental conservation*, 29, 308–30.

Todhunter, P. E. and Chihacek, L. J., 1999, Historical reduction of airborne dust in the Red River Valley of the North. *Journal of soil and water conservation*, 54, 543–51.

Tolba, M. K. and El-Kholy, O. A., 1992, *The world environment, 1972–1992*. London: United Nations Environment Program/Chapman & Hall.

Tomaselli, R., 1977, Degradation of the Mediterranean maquis. *UNESCO, Man and biosphere technical note*, 2, 33–72.

Trenberth, K. D. and Hoar, T. J., 1997, El Niño and climate change. *Geophysical research letters*, 24, 3057–60.

Trimble, S, W., 1974, *Man-induced soil erosion on the southern Piedmont*. Ankeny, Iowa: Soil Conservation Society of America.

——, 1976, Modern stream and valley sedimentation in the Driftless Area, Wisconsin, USA. *23rd International Geographical Congress*, sect. 1, 228–31.

——, 1988, The impact of organisms on overall erosion rates within catchments in temperate regions. In H. A. Viles (ed.), *Biogeomorphology*. Oxford: Basil Blackwell, 83–142.

——, 1997, Stream channel erosion and change resulting from riparian forests. *Geology*, 25, 467–9.

——, 2003, Historical hydrographic and hydrologic changes in the San Diego creek watershed, Newport Bay, California. *Journal of historical geography*, 29, 422–44.

——, 2004, Effects of riparian vegetation on stream channel stability and sediment budgets. *Water science and application*, 8, 153–69.

Trimble, S. W. and Crosson, S., 2000, US soil erosion rates – myth and reality. *Science*, 289, 248–50.

Trimble, S. W. and Lund, S. W., 1982, Soil conservation and the reduction of erosion and sedimentation in the Coon Creek Basin, Wisconsin. *US Geological Survey professional paper*, 1234.

Trimble, S. W. and Mendel, A. C., 1995, The cow as a geomorphic agent: a critical review. *Geomorphology*, 13, 233–53.

Troels-Smith, J., 1956, Neolithic period in Switzerland and Denmark. *Science*, 124, 876–9.

Tubbs, C., 1984, *Spartina* on the south coast: an introduction. In P. Doody (ed.), *Spartina anglica in Great Britain*. Shrewsbury: Nature Conservancy Council, 3–4.

Tucker, C. J., Dregne, H. E. and Newcomb, W. W., 1991, Expansion and contraction of the Sahara Desert from 1980 to 1990. *Science*, 253, 299–301.

Turco, R. P., Toon, O. B., Ackermann, T. P., Pollack, J. B. and Sagan, C., 1983, Nuclear winter: global consequences of multiple nuclear explosions. *Science*, 222, 1283–92.

Turner, B. L. and 7 others, 1990, Two types of global environmental change: definitional and spatial-scale issues in their human dimensions. *Global environmental change*, 1, 14–22.

Turner, I. M., 1996, Species loss in fragments of tropical rain forest: a review of the evidence. *Journal of applied ecology*, 33, 200–9.

Tyldesley, J. A. and Bahn, P. G., 1983, The use of plants in the European palaeolithic: a review of the evidence. *Quaternary science reviews*, 2, 53–81.

Tyler, S. W. and 7 others, 1997, Estimation of groundwater evaporation and salt flux from Owens Lake, California, USA. *Journal of hydrology*, 200, 110–35.

UK Climate Impacts Programme, 2001, *Climate change and nature conservation in Britain and Ireland*. Oxford: UKCIP summary report.

UNEP, 1991, *United Nations Environment Programme environmental data report* (3rd edn). Oxford: Basil Blackwell.

US Bureau of Entomology and Plant Quarantine, 1941, *Insect pest survey bulletin*, 21, 801–2.

US Environmental Protection Agency, 1994, *Technical document: acid mine drainage prediction*. Washington, DC: US Environmental Protection Agency.

US General Accounting Office, 2000, *Acid rain. Emissions trends and effects in the eastern United States*. Washington, DC, US General Accounting office.

Usher, M. B., 1973, *Biological management and conservation*. London: Chapman & Hall.

Utset, A. and Borroto, M., 2001, A modelling-GIS approach for assessing irrigation effects of soil salinisation under global warming conditions. *Agricultural water management*, 50, 53–63.

Vale, T. R., 1974, Sagebrush conversion projects: an element of contemporary environmental change in the western United States. *Biological conservation*, 6, 272–84.

Vale, T. R. and Vale, G. R., 1976, Suburban bird population in westcentral California. *Journal of biogeography*, 3, 157–65.

Van Andel, T. H., Zangger, E. and Demitrack, A., 1990, Land use and soil erosion in prehistoric and historical Greece. *Journal of field archaeology*, 17, 379–96.

Van Auken, O. W., 2000, Shrub invasion of North American semiarid grasslands. *Annual review of ecological systematics*, 31, 197–215.

Vandermeulen, J. H. and Hrudey, S. E. (eds), 1987, *Oil in freshwater: chemistry, biology, countermeasure technology*. New York: Pergamon.

Van der Ween, C. J., 2002, Polar ice sheets and global sea level: how well can we predict the future? *Global and planetary change*, 32, 165–94.

Vankat, J. L., 1977, Fire and man in Sequoia National Park. *Annals of the Association of American Geographers*, 67, 17–27.

Vaudour, J., 1986, Travertins holocènes et pression anthropique. *Mediterranée*, 10, 168–73.

Vaughan, D. G. and Doake, C. S. M., 1996, Recent atmospheric warming and retreat of ice shelves on the Antarctic Peninsula. *Nature*, 379, 328–31.

Vaughan, D. G. and Spouge, J. R., 2002, Risk estimation of collapse of the west Antarctic ice sheet. *Climatic change*, 52, 65–91.

Veblen, T. T. and Stewart, G. H., 1982, The effects of introduced wild animals on New Zealand forests. *Annals of the Association of American Geographers*, 72, 372–97.

Vendrov, S. L., 1965, A forecast of changes in natural conditions in the northern Ob'basin in case of construction of the lower Ob'Hydro Project. *Soviet geography*, 6, 3–18.

Venteris, E. R., 1999, Rapid tidewater glacier retreat: a comparison between Columbia Glacier, Alaska and Patagonian calving glaciers. *Global and planetary change*, 22, 131–8.

Vesely, J., Majer, V. and Norton, S. A., 2002, Heterogeneous response of central European streams to decreased acid atmospheric deposition. *Environmental pollution*, 120, 275–81.

Vice, R. B., Guy, H. P. and Ferguson, G. E., 1969, Sediment movement in an area of suburban highway construction, Scott Run Basin, Fairfax, County, Virginia, 1961–64. *United States Geological Survey water supply paper*, 1591-E.

Viessman, W., Knapp, J. W., Lewis, G. L. and Harbaugh, T. E., 1977, *Introduction to hydrology* (2nd edn). New York: IEP.

Viets, F. G., 1971, Water quality in relation to farm use of fertilizer. *Bioscience*, 21, 460–7.

Viles, H. A., 2002, Implications of future climate change for stone deterioration. In S. Siegesmund, T. Weiss and J. A. Vollbrecht, *Natural stone, weathering phenomena, conservation strategies and case studies*. Geological Society of London special publication 205, 407–18.

——, 2003, Conceptual modelling of the impacts of climate change on karst geomorphology in the UK and Ireland. *Journal of nature conservation*, 11, 59–66.

Viles, H. A. and Goudie, A. S., 2003, Interannual decadal and multidecadal scale climatic variability and geomorphology. *Earth-science reviews*, 61, 105–31.

Viles, H. A. and Spencer, T., 1995, *Coastal problems: geomorphology, ecology and society at the coast*. London: Edward Arnold.

Vine, H., 1968, Developments in the study of soils and shifting agriculture in tropical Africa. In R. P. Moss (ed.), *The soil resources of tropical Africa*. Cambridge: Cambridge University Press, 89–119.

Vinnikov, K. Y. and 9 others, 1999, Global warming and Northern Hemisphere sea ice extent, *Science*, 286, 1934–7.

Vita-Finzi, C., 1969, *The Mediterranean valleys*. Cambridge: Cambridge University Press.

Vitousek, P. M., Gosz, J. R., Gruer, C. C., Melillo, J. M., Reiners, W. A. and Todd, R. L., 1979, Nitrate losses from disturbed ecosystems. *Science*, 204, 469–73.

Vitousek, P. M., P. M., Mooney, H. A., Lubchenco, J. and Melillo, J. M., 1997, Human domination of Earth's ecosystems. *Science*, 277, 494–9.

Vogl, R. J., 1974, Effects of fires on grasslands. In T. T. Kozlowski and C. C. Ahlgren (eds), *Fire and ecosystems*. New York: Academic Press, 139–94.

——, 1977, Fire: a destructive menace or a rational process. In J. Cairns, K. L. Dickson and E. E. Herricks (eds), *Recovery and restoration of damaged ecosystems*. Charlottesville: University Press of Virginia, 261–89.

Vörösmarty, C. J., Meybeck, M., Fekete, B., Sharma, K., Green, P. and Syvitski, J. P. M., 2003, Anthropogenic sediment retention: major global impact from registered river impoundments. *Global and planetary change*, 39, 169–90.

Von Broembsen, S. L., 1989, Invasions of natural ecosystems by plant pathogens. In J. A. Drake (ed.), *Biological invasions: a global perspective*. Chichester: Wiley, 77–83.

Wackernagel, M. and Rees, W., 1995, *Our ecological footprint. Reducing human impact on the earth*. Gabriola Island: New Society Publishers.

Wagner, R. H., 1974, *Environment and man*. New York: Norton.
Waithaka, J. M., 1996, Elephants: a keystone species. In T. R. McClanahan and T. P. Young (eds), *East African ecosystems and their conservation*. New York: Oxford University Press, 284–5.
Waldichuk, M., 1979, Review of the problems. *Philosophical transactions of the Royal Society*, 286B, 399–429.
Walker, H. J., 1988, *Artificial structures and shorelines*. Dordrecht: Kluwer.
Walker, H. J., Coleman, J. M., Roberts, H. H. and Tye, R. S., 1987, Wetland loss in Louisiana. *Geografiska annaler*, 69A, 189–200.
Walker, M. D., Gould, W. A. and Chapin, F. S., 2001, Scenarios of biodiversity changes in Arctic and alpine tundra. In F. S. Chapin, O. E. Sala and E. Huber-Sannwald (eds), *Global biodiversity in a changing environment*. New York: Springer-Verlag, 83–100.
Walling, D. E. and Gregory, K. J., 1970, The measurement of the effects of building construction on drainage basin dynamics. *Journal of hydrology*, 11, 129–44.
Walling, D. E. and Quine, T. A., 1991, *Recent rates of soil loss from areas of arable cultivation in the UK*. Wallingford: International Association of Hydrological Sciences, Publication 203, 123–31.
Wallwork, K. L., 1956, Subsidence in the mid-Cheshire industrial area. *Geographical journal*, 122, 40–53.
——, 1960, Some problems of subsidence and land use in the midCheshire industrial area. *Geographical journal*, 126, 191–9.
——, 1974, *Derelict land*. Newton Abbot: David & Charles.
Walsh, K. and Pittock, B., 1998, Potential changes in tropical storms, hurricanes, and extreme rainfall events as a result of climate change. *Climatic change*, 39, 199–213.
Walter, H., 1984, *Vegetation and the Earth* (3rd edn). Berlin: Springer-Verlag.
Ward, R. C., 1978, *Floods – a geographical perspective*. London: Macmillan.
Ward, S. D., 1979, Limestone pavements – a biologist's view. *Earth science conservation*, 16, 16–18.
Warner, R. C. and Budd, W. F., 1990, Modelling the long-term response of the Antarctic Ice Sheet to global warming. *Annals of glaciology*, 27, 161–8.
Warren, A. (ed.), 2002, *Wind erosion on agricultural land in Europe*. Brussels: European Commission.
Warren, A. and Maizels, J. K., 1976, *Ecological change and desertification*. London: University College.
——, 1977, Ecological change and desertification. In United Nations, *Desertification: its causes and consequences*. Oxford: Pergamon, 171–260.
Warrick, R. A. and Ahmad, Q. K. (eds), 1996, *The implications of climate and sea level change for Bangladesh*. Dordrecht: Kluwer.
Warrick, R. A. and Oerlemans, J., 1990, Sea level rise. In J. T. Houghton, G. J. Jenkins and J. J. Ephraums, 1990, *Climate change: the IPCC scientific assessment*. Cambridge: Cambridge University Press, 257–81.
Washburn, A. L., 1979, *Geocryology*. London: Arnold.
Waters, M. R. and Haynes, C. V., 2001, Late Quaternary arroyo formation and climate change in the American southwest. *Geology*, 29, 399–402.
Watson, A., 1976, The origin and distribution of closed depressions in south-west Lancashire and north-west Cheshire. Unpublished BA dissertation, University of Oxford.
Watson, A., Price-Williams, D. and Goudie, A. S., 1984, The palaeoenvironmental interpretation of colluvial sediments and palaeosols of the Late Pleistocene hypothermal in southern Africa. *Palaeogeography, palaeoclimatology, palaeoecology*, 5, 225–49.
Watson, R. T., Zinyowera, M. C. and Moss, R. H. (eds), 1996, *Climate change 1995. Impacts, adaptations and mitigation of climate change: scientific-technical analyses*. Cambridge: Cambridge University Press.
Weare, B. C., Temkin, R. L. and Snell, C. M., 1974, Aerosols and climate: some further considerations. *Science*, 186, 827–8.
Weaver, J. E., 1954, *North American prairie*. Lincoln: Johnsen.
Weber, P., 1993, Reviving coral reefs. In L. R. Brown (ed.), *State of the world 1993*. London: Earthscan, 42–60.
Weertman, J., 1974, Stability of the junction of an ice sheet and an ice shelf. *Journal of glaciology*, 13, 3–11.
Wein, R. W. and Maclean, D. A. (eds), 1983, *The role of fire in northern circumpolar ecosystems*. Chichester: Wiley.
Weisrock, A., 1986, Variations climatiques et periodes de sedimentation carbonatée a l'Holocene-l'age des depôts. *Mediterranée*, 10, 165–7.
Wellburn, A., 1988, *Air pollution and acid rain: the biological impact*. London: Longman.
Wells, N. A. and B. Andriamihaja, 1993, The initiation and growth of gullies in Madagascar: are humans to blame? *Geomorphology*, 8, 1–46.
Wells, J. T., 1995, Effects of sea level rise on coastal sedimentation and erosion. In D. Eisma (ed.), *Climate change impact on coastal habitation*. Boca Raton: Lewis, 111–36.
——, 1996, Subsidence, sea level rise, and wetland loss in the lower Mississippi River Delta. In J. D. Milliman and B. V. Haq (eds), *Sea level rise and coastal subsidence*. Dordrecht: Kluwer.
Wells, P. V., 1965, Scarp woodlands, transported grass soils and concept of grassland climate in the Great Plains region. *Science*, 148, 246–9.
Wells, S. G., McFadden, L. D. and Schulz, J. D., 1990, Eolian landscape evolution and soil formation in the Chaco Dune field, southern Colorado Plateau, New Mexico. *Geomorphology*, 3, 517–46.
Werritty, A., 2002, Living with uncertainty: climate change, river flows and water resource management in Scotland. *The science of the total environment*, 294, 29–40.
Werritty, A. and Lees, K. F., 2001, The sensitivity of Scottish rivers and upland valley floors to recent environmental change. *Catena*, 42, 251–73.
Werth, D. and Avissar, R., 2002, The local and global effects of Amazon deforestation. *Journal of geophysical research – atmospheres*, 107 (D20), article no. 8087.

Wertine, T. A., 1973, Pyrotechnology: man's first industrial uses of fire. *American scientist*, 61, 670–82.

Westhoff, V., 1983, Man's attitude towards vegetation. In W. Holzner, M. J. A. Werger and I. Ikusima (eds), *Man's impact on vegetation*. The Hague: Junk, 7–24.

Westing, A. and Pfeiffer, E. W., 1972, The cratering of Indochina. *Scientific American*, 226 (5), 21–9.

Wheaton, E. E., 1990, Frequency and severity of drought and dust storms. *Canadian journal of agricultural economics*, 38, 695–700.

Whitaker, J. R., 1940, World view of destruction and conservation of natural resources. *Annals of the Association of American Geographers*, 30, 143–62.

White, T. and 6 others, 2003, Pleistocene *Homo sapiens* from Middle Awash, Ethiopia. *Nature*, 423, 742–7.

Whitlock, C., Shafer, S. L. and Marlon, J., 2003, The role of climate and vegetation change in shaping past and future fire regimes in to northwestern US and the implications for ecosystem management. *Forest ecology and management*, 178, 5–21.

Whitmore, T. M., Turner, B. L., Johnson, D. L., Kates, R. W. and Gottschang, T. R., 1990, Long term population change. In B. L. Turner, W. C. Clark, R. W. Kates, J. T. Matthews and W. B. Meyer (eds), *The Earth as transformed by human action*. Cambridge: Cambridge University Press, 26–39.

Whitney, G. G., 1994, *From coastal wilderness to fruited plain*. Cambridge: Cambridge University Press.

Whittaker, E., 1961, Temperatures in heath fires. *Journal of ecology*, 49, 709–15.

Whitten, A. J., Damanik, S. J., Anwar, J. and Nazaruddin, H., 1987, *The ecology of Sumatra*. Yogyukarta: Gadjah Mada University Press.

Whyte, A. V. I., 1977, Guidelines for field studies in environmental perception. *UNESCO, MAB technical note 5*.

Wigley, T. M. L., 1983, The pre-industrial carbon dioxide level. *Climatic change*, 5, 315–20.

Wigley, T. M. L. and Raper, S. C. B., 1993, Future changes in global mean temperature and sea level. In R. A. Warrick, E. M. Barrow and T. M. L. Wigley (eds), *Climate and sea level change*. Cambridge: Cambridge University Press, 111–33.

Wigmosta, M. S. and Leung, R., 2002, Potential impacts of climate change on streamflow and flooding in snow-dominated forested basin. In R. C. Sidle (ed.), *Environmental change and geomorphic hazards in forests*. Wallingford: CABI, 7–23.

Wilby, R. L., 2003, Past and projected trends in London's urban heat island. *Weather*, 58, 251–60.

Wilby, R. L. and Gell, P. A., 1994, The impact of forest harvesting on water yield: modelling hydrological changes detected by pollen analysis. *Hydrological sciences journal*, 39, 471–86.

Wilby, R. L., Dalgleish, H. Y. and Foster, I. D. L., 1997, The impact of weather patterns on historic and contemporary catchment sediment yields. *Earth surface processes and landforms*, 22, 353–63.

Wilken, G. C., 1972, Microclimate management by traditional farmers. *Geographical review*, 62, 544–60.

Wilkinson, W. B. and Brassington, F. C., 1991, Rising groundwater levels – an international problem. In R. A. Downing and W. B. Wilkinson (eds), *Applied groundwater hydrology – a British perspective*. Oxford: Clarendon Press, 35–53.

Wilkinson, C., Linden, O., Cesar, H., Hodgson, G., Rubens, J. and Strong, A. G., 1999, Ecological and socio-economic impacts of 1998 coral mortality in the Indian Ocean: an ENSO impact and a warning of future change? *Ambio*, 28, 188–96.

Williams, E. H. and Bunkley-William, L., 1990, The worldwide coral bleaching cycle and related sources of coral mortality. *Atoll research bulletin*, 1–71.

Williams, G. P., 1978, The case of the shrinking channels – the North Platte and Platte rivers in Nebraska. United States Geological Survey circular, 781.

Williams, M., 1970, *The draining of the Somerset levels*. Cambridge: Cambridge University Press.

——, 1988, The death and rebirth of the American forest: clearing and reversion in the United States, 1900–1980. In J. F. Richards and R. P. Tucker (eds), *World deforestation in the twentieth century*. Durham, NC and London: Duke University Press, 211–29.

——, 1989, *Americans and their forests*. Cambridge: Cambridge University Press.

——, 1990, *Wetlands: a threatened landscape*. Oxford: Basil Blackwell.

——, 1994, Forests and tree cover. In W. B. Meyer and B. L. Turner II (eds), *Changes in land use and land cover: a global perspective*. Cambridge: Cambridge University Press.

——, 2000, Deforestation: general debates explored through local studies. *Progress in environmental science*, 2, 229–51.

——, 2003, *Deforesting the earth. From prehistory to global crisis*. Chicago: The University of Chicago Press.

Williams, P. W. (ed.), 1993, Karst terrains: environmental changes and human impact. *Catena supplement*, 25.

Williams, R. S. and Moore, J. G., 1973, Iceland chills lava flow. *Geotimes*, 18, 14–17.

Williams, W. D., 1999, Salinisation: a major threat to water resources in the arid and semi-arid regions of the world. *Lakes and reservoirs: research and management*, 4, 85–91.

Williamson, M., 1996, *Biological invasions*. London: Chapman & Hall.

Willis, C. M. and Griggs, G. B., 2003, Reductions in fluvial sediment discharge by coastal dams in California and implications for beach sustainability. *Journal of geology*, 111, 167–82.

Willis, K. J., Gillson, L. and Brncic, T. M., 2004, How 'virgin' is virgin rainforest? *Science*, 304, 402–3.

Wilshire, H. G., 1980, Human causes of accelerated wind erosion in California's deserts. In D. R. Coates and J. D. Vitek (eds), *Geomorphic thresholds*. Stroudsburg: Dowden, Hutchinson & Ross, 415–33.

Wilshire, H. G., Nakata, J. K. and Hallet, B., 1981, Field observations of the December 1977 wind storm, San Joaquin Valley, California. In T. L. Péwé (ed.), *Desert dust: origin, characteristics and effects on man*. Denver, CO: Geological Society of America, 233–51.

Wilson, C. J., 1999, Effects of logging and fire on runoff and erosion on highly erodible granitic soils in Tasmania. *Water resources research*, 35, 3531–46.

Wilson, E. O., 1992, *The diversity of life*. Cambridge, MA: Harvard/Belknap.

Wilson, K. V., 1967, A preliminary study of the effect of urbanization on floods in Jackson, Mississippi. *United States Geological Survey professional paper*, 575-D, 259–61.

Winkler, E. M., 1970, The importance of air pollution in the corrosion of stone and metals. *Engineering geology*, 4, 327–34.

Winstanley, D., 1973, Rainfall patterns and general atmospheric circulation. *Nature*, 245, 190–4.

Wishart, D. and Warburton, J., 2001, An assessment of blanket shire degradation and peatland gully development in the Cheviot Hills, Northumberland. *Scottish geographical magazine*, 117, 185–206.

Wolfe, S. A., 1997, Impact of increased aridity on sand dune activity in the Canadian Prairies. *Journal of arid environments*, 36, 412–32.

Wolfe, S. A., Huntly, D. J. and Ollerhead, J., 1995, Recent and late Holocene sand dune activity in southwestern Saskatchewan. *Current research, Geological Survey of Canada*, 1995B, 131–40.

Wolfe, S. A., Muhs, D. R., David, P. P. and McGeehin, J. P. 2000, Chronology and geochemistry of the Late Holocene eolian deposits in the Brandon Sand Hills, Manitoba, Canada. *Quaternary international*, 67, 61–74.

Wolman, M. G., 1967, A cycle of sedimentation and erosion in urban river channels. *Geografiska annaler*, 49A, 385–95.

Wolman, M. G. and Schick, A. P., 1967, Effects of construction on fluvial sediment, urban and suburban areas of Maryland. *Water resources research*, 3, 451–64.

Wondzell, S. M. and King, J. G., 2003, Postfire erosional processes in the Pacific Northwest and Rocky Mountain regions. *Forest ecology and management*, 178, 75–87.

Woo, M.-K., 1996, Hydrology of northern North America under global warming. In J. A. A. Jones et al. (eds), *Regional hydrological response to climate change*. Dordrecht: Kluwer, 73–86.

Woo, M.-K., Lewkowicz, A. G. and Rouse, W. R., 1992, Response of the Canadian permafrost environment to climate change. *Physical geography*, 13, 287–317.

Wood, B., 2002, Hominid revelations from Chad. *Nature*, 418, 133–5.

Woodroffe, C. D., 1990, The impact of sea-level rise on mangrove shorelines. *Progress in physical geography*, 14, 483–520.

Woodwell, G. M., 1992, The role of forests in climatic change. In N. P. Sharman (ed.), *Managing the world's forests*. Dubuque, Iowa: Kendall/Hunt, 75–91.

Wooster, W. S., 1969, The ocean and man. *Scientific American*, 221, 218–23.

World Commission on Dams, 2000, *Dams and development*. London: Earthscan.

World Conservation Monitoring Centre, 1992, *Global biodiversity*. London: Chapman & Hall.

World Meteorological Organization, 1995, *Climate system review*. Geneva: WMO.

World Resources Institute, 1986, *World resources 1986–7*. New York: Basic Books.

——, 1988, *World resources 1988–9*. New York: Basic Books.

——, 1992, *World resources 1990–91*. New York and Oxford: Oxford University Press.

——, 1996, *World resources 1994–5*. New York and Oxford: Oxford University Press.

——, 1998, *World resources 1996–7*. New York and Oxford: Oxford University Press.

Wright, L. W. and Wanstall, P. J., 1977, The vegetation of Mediterranean France: a review. Occasional paper 9, Department of Geography, Queen Mary College, University of London.

Wullschleger, S. D., Gunderson, C. A., Hanson, P. J., Wilson, K. B. and Norby, R. J., 2002, Sensitivity of stomatal and canopy conductance to elevated CO_2 concentration – interacting variables and perspective on scale. *New phytologist*, 153, 485–96.

Yaalon, D. H. and Yaron, B., 1966, Framework for man-made soil changes – an outline of metapedogenesis. *Soil science*, 102, 272–7.

Yang, D., Kanae, S., Oki, T., Koike, T. and Musiake, K., 2003, Global potential soil erosion with reference to land use and climate changes. *Hydrological processes*, 17, 2913–28.

Yi-fu Tuan, 1971, *Man and nature*. Washington, DC: Association of American Geographers, Commission on College Geography Resource Paper, 10.

Yorke, T. H. and Herb, W. J., 1978, Effects of urbanization on streamflow and sediment transport in the Rock Creek and Anacostia basins, Montgomery County, Maryland, 1962–74. *United States Geological Survey professional paper* 1003.

Yoshikawa, K. and Hinzman, L. D., 2003, Shrinking thermokarst ponds and groundwater dynamics in discontinuous permafrost near Council, Alaska. *Permafrost and periglacial processes*, 14, 151–60.

Young, J. E., 1992, *Mining the earth*. Washington, DC: Worldwatch Institute, Worldwatch Paper 109, 1–53.

Yunus, M. and M. Igbal (eds), 1996, *Plant response to air pollution*. Chichester: Wiley.

Zabinski, C. and Davis, M. B., 1989, Hard times ahead for Great Lakes forests: a climate threshold model predicts responses to CO_2-induced climate change. In J. B. Smith and D. Tirpak (eds), *The potential effects of global climate change on the United States*. Washington, DC: US Environmental Protection Agency, Appendix D, 5–1–5–19.

Zakharov, V. F., 1997, Sea ice in the Climate System. *World Climate Research Programme/Arctic Climate System Study, WMO/TD 782*. Geneva: World Meteorological Organization, 80 pp.

Zaret, T. M. and Paine, R. T., 1973, Species introduction in a tropical lake. *Science*, 182, 449–55.

Zeeberg, J. and Forman, S. L., 2001, Changes in glacier extent of north Novaya Zemlya in the twentieth century. *The Holocene*, 11, 161–75.

Zhang, G. L. and Gong, Z.-T., 2003, Pedogenic evolution of paddy soils in different soil landscapes. *Geoderma*, 115, 15–29.

Zinyowera, M. C., Jallow, B. P., Maya, R. S. and Okoth-Ogendo, H. W. O., 1998, Africa. In R. T. Watson, M. C. Zinyowera and R. H. Moss (eds), *The regional impacts of climate change*. Cambridge: Cambridge University Press, 29–84.

Zohary, D. and Hopf, M., 2000, *Domestication of plants in the Old World* (3rd edn). Oxford: Oxford University Press.

Zwally, H. J., Abdalafi, W., Herring, T., Larson, K., Saba, J. and Steffen, K., 2002, Surface melt-induced acceleration of Greenland ice-sheet flow. *Science*, 297, 218–21.

Zwiers, F. W. and Kharin, V. V., 1998, Changes in the extremes of the climate simulated by CCC GCM2 under CO_2 doubling. *Journal of climate*, 11, 2200–22.

INDEX

Note: page numbers in *italics* refer to figures, those in **bold** refer to tables.