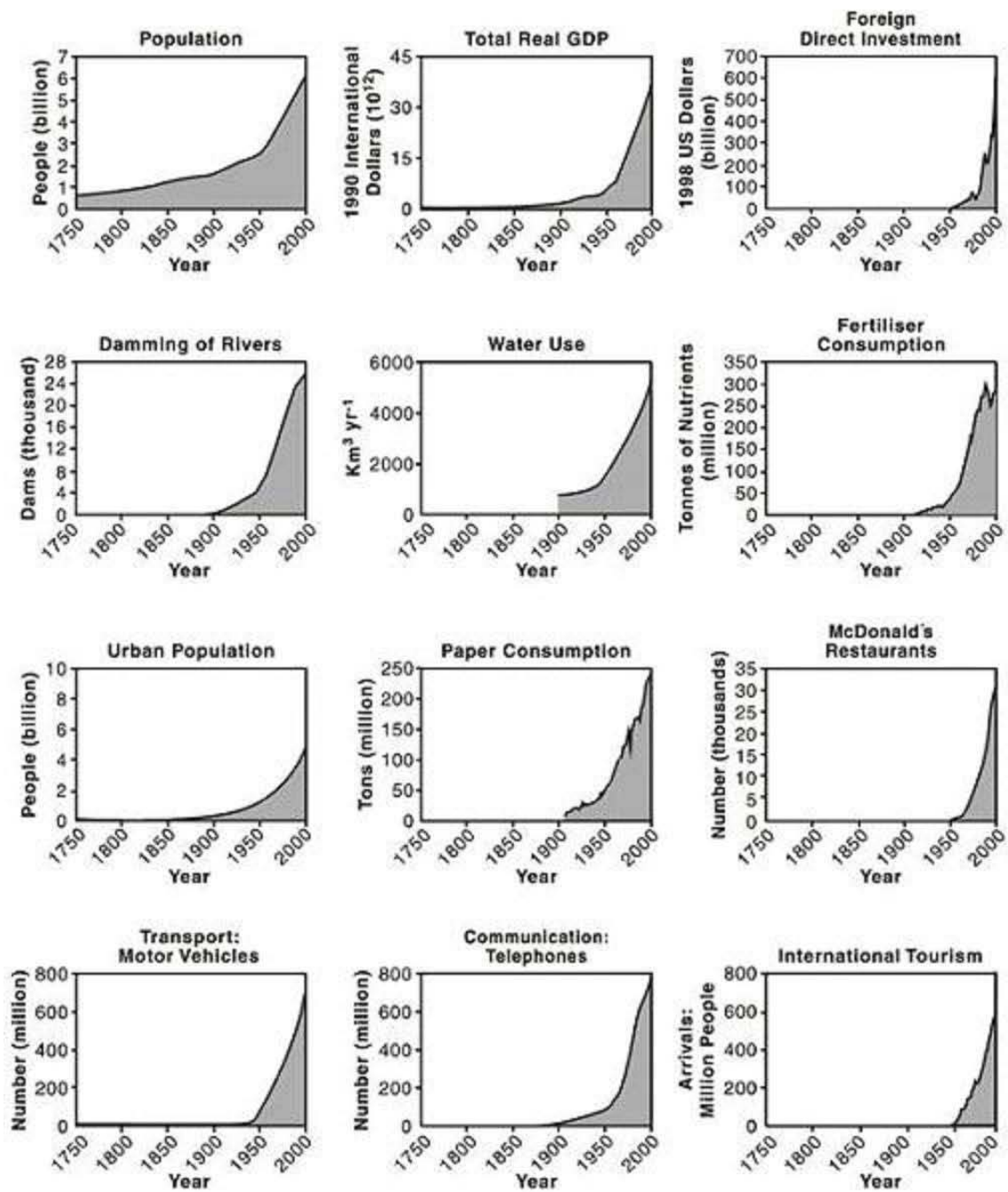
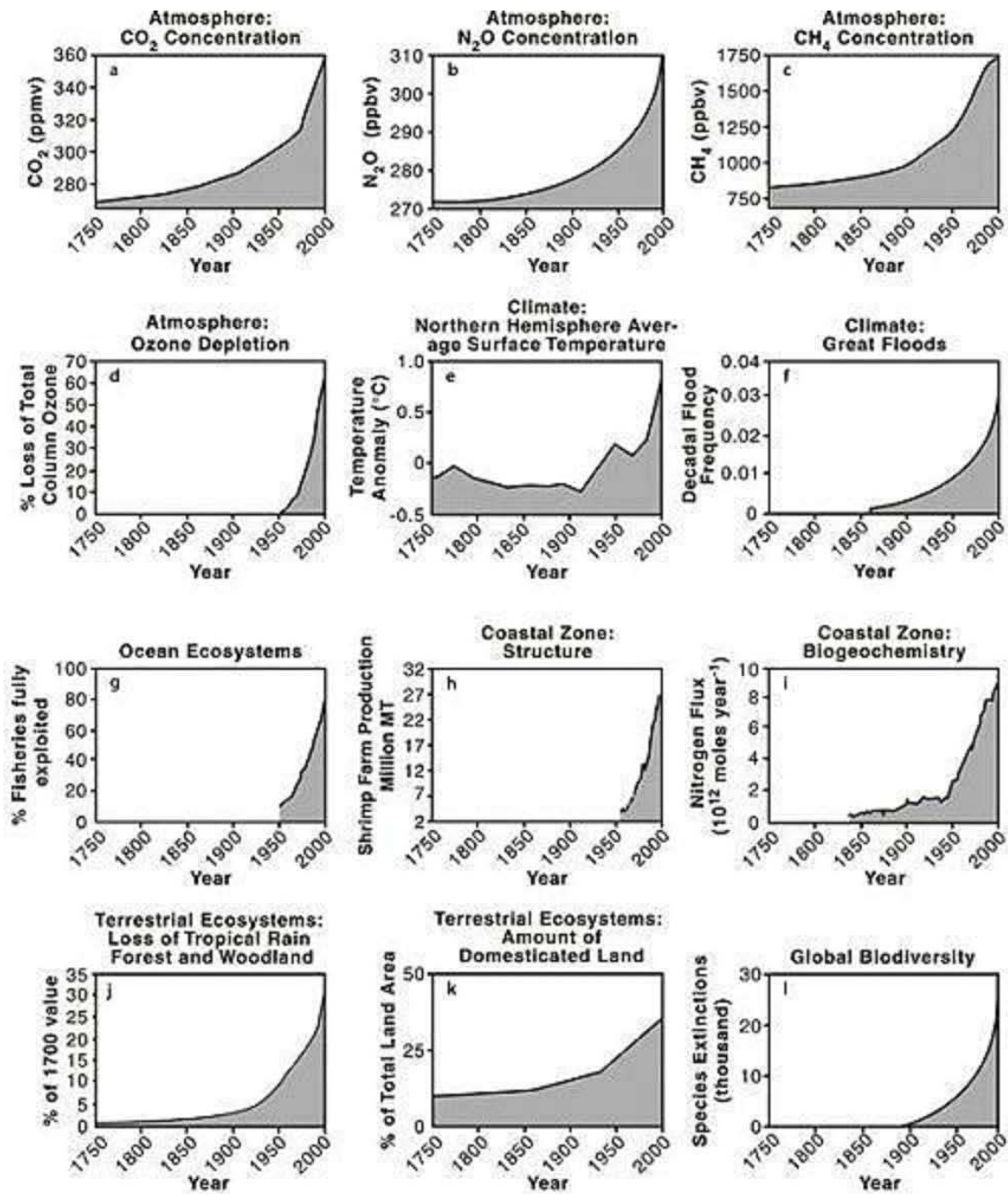


Special report: The facts about overconsumption



© Springer-Verlag Berlin Heidelberg 2005

The increasing rates of change in human activity since the beginning of the Industrial Revolution. Significant increases in rates of change occur around the 1950s in each case, and illustrate how the past 50 years have been a period of dramatic and unprecedented change in human history (US Bureau of the Census 2000; Nordhaus 1997; World Bank 2002; World Commission on Dams 2000; Shiklomanov 1990; International Fertilizer Industry Association 2002; UN Centre for Human Settlements 2001; Pulp and Paper International 1993; McDonalds 2002; UNEP 2000; Canning 2001; World Tourism Organization 2001).



© Springer-Verlag Berlin Heidelberg 2005

Global-scale changes in the Earth system, as a result of the dramatic increase in human activity: (a) atmospheric CO₂ concentration (Etheridge et al, 1996); (b) atmospheric N₂O concentration (Machida et al, 1995); (c) atmospheric CH₄ concentration (Blunier et al, 1993); (d) percentage total column ozone loss over Antarctica, using the average annual total column ozone, 330, as a base (Image: J D Shanklin, British Antarctic Survey); (e) northern hemisphere average surface temperature anomalies (Mann et al, 1999); (f) natural disasters after 1900 resulting in more than ten people killed or more than 100 people affected (OFDA/CRED, 2002); (g) percentage of global fisheries either fully exploited, overfished or collapsed (FAOSTAT, 2002); (h) annual shrimp production as a proxy for coastal zone alteration (WRI, 2003; FAOSTAT, 2002); (i) model-calculated partitioning of the human-induced nitrogen perturbation fluxes in the global coastal margin for the period since 1850 (Mackenzie et al, 2002); (j) loss of tropical rainforest and woodland, as estimated for tropical Africa, Latin America and South and Southeast Asia (Richards, 1990; WRI, 1990); (k) amount of land converted to pasture and cropland (Klein Goldewijk and Batjes, 1997); and (l) mathematically calculated rate of extinction (based on Wilson, 1992)