

Locators in *italics* refer to illustration e.g. 28, those prefixed by B refer to information within a box on page indicated e.g. B2. (From page 1 of 5)

acid rain B3
acidification of oceans 4, 6–7, 16–17, Fig.18, 19, 28
 see also carbon dioxide
adaptations of species 28
aerosols B3, 9, 12–13
agriculture 7–9, 29
air pollution B3
air temperatures *see* atmospheric temperatures
animals 4, 19, 28
 migration 17
 see also diseases; ecosystems; feeding patterns; livestock
Antarctic ice core analysis 7, 18, 19
Antarctic sea ice 26
Arrhenius, Svante B1
Arctic Ocean 15, 26
Arctic sea ice 16
atmospheric temperatures 4, Fig.11, 12

biosphere 18, 19
birds 4, 17
 see also ecosystems
Bolin, Bert 7
breeding patterns 17, 28

carbon-14 B2
carbon cycle Fig.4, 6, 19
carbon dioxide (CO₂)
 absorption by oceans 6–7, 16, 17
 agricultural impacts 29
 in the carbon cycle 6
 changes with temperature 18, 19
 future predictions 21–22
 as greenhouse gas 5, B5, 9, 10
 human influence 6–7, 8, 9
 measurements of 7
 see also acidification of oceans; greenhouse gases; water vapour
carbonic acid 16
cement production 6, 8
CFC's (chlorofluorocarbons) 8, 26
climate, definition 1
climate feedback loops 10, 19
climate fluctuations 12, Fig.12, 13
climate forcing Fig.8, 9–10, 13, 19, 21
climate models B4, 13–14, 13, 14, 21, 24
climate monitoring 3–4
climate science, definition 2
coal *see* fossil fuels
coastal flooding 26–27
cold spells 4, 15
cooling agents 9, B9, 10, 12–13
crops Fig.28, 29
 see also growing season; life cycle events

glaciers 4, 15, 26, 29

global surface temperatures
climate models 13–14, 13
crop yields 29
future predictions 20–23, 21, 22
greenhouse effect 4, B5, 5
ice core records 18
measurements of 3–4
natural cycles 12–14, 13, 18–19
regional variations 22–23
seasonal patterns 15

global warming
evidence 2–4
greenhouse effect 4, B5, 5, 11, 12
human influence 9–10, 13–14
natural cycles 12–14, 13, 18–19
observed impacts 15–17
predicted impacts. *See* future predictions
seasonal patterns 15
solar activity 11–12
see also global surface temperatures; greenhouse gases

governmental policies 21, 22

greenhouse effect Fig.3, 4, B5, 5, 10, 11, 12

greenhouse gases
as cause of warming 12, 14, 15
forcing power 9
future emissions 21–22
greenhouse effect 4
human influence 5, 6–8, B8
see also carbon dioxide (CO₂); greenhouse effect; water vapour

growing season 29
see also crops; life cycle events

Hadley Centre for Climate Change 3

halocarbons 10
see also CFC's (chlorofluorocarbons)

heat index 22–23

heat waves 4, 15, Fig.21, 22–23, 23

human health 23

human influence on climate change 6–8, 9–10, 13–14

hurricanes 26

hydropower 26

ice 4, 10, 15, 16, 18, 26

Ice Age cycle Fig.14, 18–19

ice cores 7, 18, 19

industrial processes 8

Industrial Revolution 19

infrastructure 26, 28

insects 17
see also ecosystems

Japan Meteorological Agency 3

Keeling, Charles David 7