

Index

- Aegean Sea 160
 aeolian 20, 21, 22, 23, 25, 28, 30, 86, 96, 106, 256
 Africa 20, 21, 24, 25, 33, 39, 47, 111, 141, 145, 209, 236, 239, 241, 255, 256
 Alaska 112, 145, 148, 159, 182, 184, 207, 215, 216
 Altai Mountains 75
 aluminium 27
 amorphisation 234
 Antarctica 111, 213, 214, 221, 240, 249, 250
 archaeological evidence 35, 153, 165, 166, 208, 209
 archaeological methods 211
 Arctic 213, 221
 aridity 17, 19, 28, 30, 31
 asteroid 110, 222, 223, 224
 Atlantic Ocean 23, 78, 113, 114, 195
 Australia 1, 20, 25, 31, 47, 61, 73, 82, 259
 bayesian analyses 6
 beach ridges 64, 90, 91
 Bernoulli effect 67
 binomial distribution 7
 biotite 245
 Burdekin River 70, 73, 74, 264
 C3 vegetation/plants 36, 40
 Cairns 11, 82, 87, 100, 106, 253
 calcium (carbonate) 29, 31, 48, 73, 107, 120, 127, 174
 California 125, 141, 151, 155, 182, 257
 Cambrian 243, 244
 Canada 58, 112, 153, 158, 184, 225
 Canary Islands 113, 193, 194, 201, 209
 Cape Leveque 135, 138
 carbon (isotopes) 36, 40, 160, 164, 165, 224, 245
 Carboniferous 244
 Caribbean Islands/Sea 78, 79, 95
 Cascadia subduction zone 118, 125
 Cayuga Lake 29, 255
 Central America 40, 211, 220
 channel scabland, USA 65, 75
 channelisation 53
 charcoal 22, 34, 35, 165, 166, 217
 cheniers 90
 Chicxulub 228, 236, 238, 239, 247
 China 1, 23, 36, 37, 57, 85, 104, 145, 146, 149, 182, 184, 244
 chondrites 248, 249
 climate change 2, 28, 37, 42, 43, 44, 238, 254, 266, 267
 Climate Leaf-Analysis Multivariate Program 45
 coesite 231, 234, 236
 Colorado 247
 comets 227, 241, 242
 commonsensism 13
 conceptual idealisations 12
 coral 12, 73, 74, 84, 85, 174, 253, 254, 259
 coral luminescence 73, 75, 264
 coral rubble ridge 86, 87, 88, 89, 98, 99, 102, 103
 coseismic uplift/event 158, 159, 160, 162, 171
 Cretaceous 136, 137, 138, 226, 227, 238, 242
 Cretaceous-Tertiary (K-T) boundary 226, 236, 242
 cryospheric instability 25
 Curacoa Island, Australia 86, 89, 90, 99
 Dead Sea Fault 141, 166, 168, 175, 257

294 Index

- debris flow 113, 171, 181,
 185, 189, 194, 200
 Deccan Traps 242
 deduction 11, 12
 dendrochronology 188, 189,
 193, 201
 dendrohydrology 45, 47
 dendroseismology 171
 desertification 17, 19, 21, 37
 desiccation 17, 178
 Devonian 243, 244
 diamictites 233
 diamicts 135
 diaplectic glass 234
 diatom 22, 33, 119, 120, 126,
 127, 164, 255
 discharge (river) 31, 54, 60,
 63, 66, 69, 70, 73, 74, 163,
 260
 discriminant function
 analysis 214
 drag force 67, 133
 drought 17, 255
 Dust Bowl, USA 20, 23, 28
- earth flows 181
 earthquakes 6, 15, 110, 112,
 140, 187, 257
 easterly trade winds 18, 20
 ejecta 210, 218, 230, 232
 ejecta deposits 234, 235, 238
 ejecta lobateness 232
 El Niño Southern
 Oscillation (ENSO) 18, 51,
 259, 262
 electron micro-probe 215
 Elk Lake 25, 27, 28, 256
 emergent shorelines 159
 Eocene 236, 240, 241, 245
 Exmouth Gulf 131
 exposure 1, 2, 3, 4, 10, 21,
 47, 50, 89, 265
 extreme events 1, 2, 13, 15,
 251, 255
- fallibilism
 Federal Emergency
 Management Agency
 (FEMA) 98
 Ferral Cell 18
 floods 20, 25, 33, 37, 51, 256,
 264
 Florida 79, 91, 95, 96, 99, 105
 foraminifera 22, 31, 33, 119,
 120, 126, 127, 255
 fossil teeth 22
 French Guiana 35
 Frutexites 243
 Funafuti Atoll 87, 89
- geological record (prehistoric
 record) 12, 91, 150, 158,
 212, 235, 240
 geology approach 13
 glacial surges 25
 Gleissberg cycle 31
 Great Barrier Reef 73, 84
 Great Plains of North
 America 20, 21, 23, 47, 58
 Greek Gods 212
 Greenland 25, 29, 44, 214
 greigite 28
 Guatemala 210, 211
 Gulf of Carpentaria 25, 30,
 90, 91
 Gulf of Mexico 23, 78, 95,
 228, 233, 238, 239
- Hadley Cell 18
 Haiti 247
 Hawaii 83, 112, 113, 130, 193,
 202, 204, 205, 207, 217, 243
 Hayward fault, USA 151
 hazard regime 10, 151, 266
 Holocene Climatic Optimum
 (HCO) 24, 66
 historical record 1, 2, 12, 17,
 29, 37, 47, 50, 58, 119, 168,
 175, 193, 263, 265, 267
- Holocene 23, 25, 27, 28, 30,
 85, 90, 91, 99, 100, 105,
 118, 159, 168, 212
 Holocene transgression 103
 hot spots 142, 202, 243
 hydrodynamic equation
 (storm/tsunami) 132
 hydroisostasy 102
 hydroperiods 33
 hydroplastic sediments 155,
 156, 157
- imbrication 89, 128, 129,
 131, 136
 impact craters 225, 227, 229,
 230, 231, 232, 235, 250
 India 23, 31, 33, 37, 52, 57,
 58, 75, 111, 141, 142, 145,
 146, 242, 255
 Indonesia 18, 20, 79, 115,
 124, 145, 148, 206, 207, 218
 inertia force 133
 instrumented data/record 2,
 11, 12, 46, 49, 104
 Intertropical Convergence
 Zone 18, 21
 iridium 226, 237, 238, 242,
 250
 iron meteorites 248, 249
 isotopes 36, 38, 40, 41, 213,
 216, 248
 isotropization 234
 Italy 53, 54, 146, 184, 206,
 240, 241, 245
- Japan 112, 114, 115, 119, 121,
 125, 127, 145, 146, 156,
 159, 184, 195, 207
 jet stream 18, 20, 23, 95, 204
 jökulhlaups 75
- K/T boundary 235, 236, 237,
 238, 240, 242, 243, 245,
 246, 247, 249

- K–T impact 233, 239, 242
 Kakadu National Park 64
 Kali River, India 31
 Kangaroo Island 42
 Katherine Gorge 65, 69, 70
 Krakatau 114, 207
- La Niña 20, 23, 51
 lahars 205, 206, 208, 217
 Lake Keilambete 29
 Lake Naivasha 33
 Lamogan Volcanic Field,
 Indonesia 218, 219
 landslide dammed lakes 162,
 163
 landslides 176
 last glacial maximum 43, 64,
 195
 LGM 25
 lava 202, 203, 205, 217
 lichen 184, 186
 lichenometry 184
 lift force (waves) 67, 68
 liquefaction 147, 151, 154,
 168
 liquefaction deposits 154
 Little Ice Age 28, 33
 luminescence dating 61,
 153
 lunar cycle 20
- maars 218, 220, 221
 magnetic susceptibility 27,
 164, 214, 215
 magnetite 214, 215, 241
 magnetostratigraphy 214,
 215, 221, 245
 magnitude–frequency 8,
 108
 marine carbon reservoir
 effect 160
 marine inundation 83, 84,
 96, 100, 118, 125, 135
 Maunder Minimum 28
- Maya/civilisation/culture 40,
 210, 211, 220
 Medieval Warm Period 33,
 267
 megadroughts 23, 25
 Mercalli scale 143
 Mermaids Rock 129, 144
 meteoroid 144, 146, 224
 meteorological tsunamis 114
 microfaults 150, 156, 158,
 165
 microkrystites 236
 micrometeorite 241, 242
 microtektite 233, 236, 239,
 245
 Minoan 127, 209, 210
 Mississippi 53, 57, 58, 255
 Missoula floods 55, 59
 models (numerical) 11, 15,
 106
 Moon Lake 33
 mosaicism 234
 Mount St Helens 208
 muddy sediment deformed
 structures 155, 156, 158
 myths 208, 212
- natural hazard 1, 2, 3, 4, 5, 6,
 7, 10, 13, 16, 259, 265, 267
 Near Earth Objects 227
 Nebraska 40
 New England 105
 New Jersey 95, 105
 New Madrid seismic zone
 153, 168, 171, 200
 New Zealand 31, 114, 115,
 119, 123, 125, 127, 139,
 141, 162, 173, 187, 197,
 198, 200, 201, 207, 217,
 220, 258
 Nigeria 28
 Nile River 33
 Nicaragua 148
 nitrogen isotope 41
- Niue Island 129
 Northern Territory 25, 64,
 65, 66, 69, 254
 Norway 121, 124, 184, 240,
 241
- Oligocene 240, 241
 optically stimulated
 luminescence 62, 269
 Ord River 61
 Oregon 217
 outlier event 8, 10
 oxygen isotope 38
 Oxygen Isotope Stage 31
- Pacific Ocean 18, 20, 23, 79,
 112, 113, 141
 palaeobotanical 22
 palaeodrought 22, 49
 palaeoearthquake 149
 palaeoflood 58, 159
 palaeolandslides 183
 palaeoseismic record 151,
 163, 167, 168, 257
 palaeotempestology 85, 106,
 108
 palaeotsunami 118, 119, 120,
 258
 Papua New Guinea 31, 111,
 160, 196, 212
 Peru 18, 146, 147, 184
 physics 11, 12, 16
 plagioclase 27, 217
 planar deformation features
 231, 232, 234, 237
 planning 4, 9, 183, 254, 265,
 266
 Platinum Group Elements
 (PGE) 242
 Pleistocene 30, 42, 55, 74, 91
 Pliny the Younger 206
 plunge pool 58, 63
 pollen 22, 42, 220
 Portugal 27, 145, 148

296 Index

- potassium 127
 Potassium–Argon (K–Ar)
 dating 216
 Precambrian 236, 239, 240
 prediction 11, 104, 105, 108,
 148, 175, 266
 probability 1, 3, 4, 5, 6, 7,
 187, 252, 260, 262, 264,
 265
 Probability (Annual
 Exceedence Probability) 7
 pseudotachylite 231
 pyroclastic flows 114, 203,
 204, 205, 206, 209, 213,
 217

 quartz 27, 234, 235, 247
 Quaternary 2, 131, 194, 196,
 220
 Queensland 11, 70, 73, 87,
 105, 264

 radiocarbon 168, 185, 192,
 196, 216, 217, 253
 radius of maximum winds
 80, 82, 96, 100,
 103
 random event 7
 randomness 5, 7, 252, 253,
 255, 256, 258, 261, 262,
 264, 267
 realism 13
 recurrence intervals 105,
 154, 160, 161, 257
 Red Cliff Point 82, 100, 101,
 103
 regime shift 47, 106, 108,
 253, 254, 256, 266
 restraining force 133
 return period 7, 11, 265
 Reynolds number 232, 265
 Richter scale 17, 110, 112,
 143, 147
 risk 1, 2, 3, 104, 176, 265

 risk assessment 2, 4, 15, 149,
 252, 253, 267
 Roanoke Island 47

 Saffir–Simpson scale 80, 104
 Saharan desert 21, 37
 Sahel region 21
 salinity 21, 28, 29, 31, 33, 41,
 73
 Samos Island 160, 169
 San Andreas fault 141, 151,
 257
 sand blows 149, 151, 152,
 153, 154, 165, 168
 sand boils 154
 sand dike 151, 154
 sand dunes 22, 83, 91, 95,
 96, 138
 sand sheets 119, 125, 126,
 134
 sand splay 91, 93
 Santorini 127, 207, 209, 210
 scientific approach 13
 Scotland 121, 259
 Shelby Lake 95, 99
 shock features 230, 246, 247
 shock metamorphism 235,
 249
 shock pressure 234
 siderophile elements 248
 side-scan sonar 193, 201
 Sissano Lagoon 111, 112, 116,
 119, 121, 124, 125, 135
 slackwater sediments 59
 sodium 27, 120
 solar variability 27
 South Africa 241
 speleothem 22, 42, 48, 149,
 256, 260
 spherule 235
 spinel 240
 stationarity/non-
 stationarity 2, 8, 12, 251,
 254, 264, 267

 stishovite 231, 234, 236
 Storegga Slide tsunami 121,
 124
 storm surge 79, 80, 82, 87,
 94, 131, 134
 storm tide 11, 82, 88
 strontium 106
 subduction zones 118, 141,
 159, 187, 202
 Sunset Beach, Hawaii 130
 sunspot cycles 20
 Syria 166, 168

 Tasman Sea 31
 tectonic plates 140, 141,
 202
 tektites 236
 tephra 195, 204, 205,
 208, 210, 213, 214, 215,
 220
 tephrochronology 213
 thermoluminescence 25
 Tibetan Plateau 18, 20, 37,
 142
 titanium 27, 127
 Titans 212, 213
 Titius–Bode rule 222
 trace elements 27, 244
 tree rings 22, 25, 45, 66, 107,
 149, 171, 172, 188, 255
 tropical cyclones 11, 77,
 265
 tsunami earthquakes 110
 tsunamis 92, 109, 208
 Tunguska 228, 229
 turbidites 163, 165
 Typhoeus 212

 uncertainty margins 101,
 104, 153, 185, 214, 264,
 265, 267
 underfit streams 71
 United States of America 23,
 29, 46, 47, 55, 66

- U–Pb isotopic dating 246, 247
- varves 25
- Vesuvius 206, 212, 220
- volcanoes 25, 202, 211, 220, 242
- vulnerability (community vulnerability) 1, 2, 4, 21
- Washington state 59, 75, 118, 119
- washover events 94, 95
- wave run-up 82, 83, 87, 88, 100, 102
- wave set-up 11, 82, 83, 84, 88, 98, 100
- Western Australia 61, 79, 111, 236, 243
- Western Lake 95, 105
- Windjana Gorge 61
- Yangtze River 57
- Younger Dryas 43
- Yucatan Peninsula 40, 41, 228
- Zeus 212, 213
- zircon 230, 246