

Index

Note: Page numbers of in *italics* refer to tables and those in **bold** refer to figures.

- acoustic reflectors
 - Bermuda Rise 23–48
 - locations **25**
 - Albian black shale facies, Blake Nose 5–7, 49–72
 - Oceanic Anoxic Events 49–72, 73–91
 - Albian–Cenomanian boundary events 1–19
 - Allison Guyot (ODP Site 865), carbon isotope records **204**
 - Aptian–Albian benthic foraminiferal record, ODP Leg 171B 73–91
 - correspondence analysis **80**
 - evolutionary change, factors 83–6
 - stratigraphic distribution **82**
 - astronomical calibration of Danian time scale 163–83
 - Atlantic Coastal Plain, sediment biostratigraphic subdivision and correlation 93–108
 - atmospheric general circulation model (AGCM), climate modelling, Palaeogene 254
- Bermuda Rise sites
 - acoustic reflectors **25**, 23–48
 - palygorskite clays in deep-water sediments 307–14
 - stratigraphy 37–40
- Blake Nose sites (ODP Leg 171B) 1–19
 - acoustic reflectors 23–48
 - Albian black shale facies 5–7, 49–72
 - Aptian–Albian benthic foraminiferal record 73–91
 - correlation with South Carolina Coastal Plain coreholes 93–108
 - Cretaceous–Tertiary (K–T) boundary 9–10, 35–7
 - Chicxulub ejecta deposits, geochemistry 131–47
 - climate change in subtropical North Atlantic 2–13
 - spherules as record of Chicxulub ejecta deposits 149–61
 - Eocene deep-water sediments 32–4
 - palygorskite clays 307–14
 - geochemical data **134–6**
 - isotope records, comparison with other sites 286–7
 - Late Palaeocene Thermal Maximum 10
 - carbon addition and removal 293–305
 - lithostratigraphy and seismic stratigraphy 2–4, 28–32
 - Maastrichtian, implications for global change 111–26
 - extinctions and palaeoceanographic events 9
 - setting and importance 114–26
 - Maastrichtian, Upper, sediment biostratigraphic subdivision and correlation 93–108
 - Mid-Cretaceous sea surface temperatures and OAE (1d and 2) 7–9
 - Mid-to Late Eocene organic walled dinoflagellate cysts, offshore Florida 225–50
 - orbitally forced climate change, stable isotopes in foraminifera 273–91
 - palaeobathymetry 27–8
 - previous work 25–6
 - seismic profile **5**
 - Site-1049 **51**, 53–60
 - geochemical data *134–6*, *139–41*
 - palygorskite clays 307–14
 - Site-1050 **51**, 62–3, 94, **95–6**
 - bio and magnetostratigraphy **170**
 - Danian time scale 163–83
 - geochemical data *137*, *142–3*
 - Site-1051
 - age model **279**
 - carbon isotope records **204**, 300–302
 - Late Palaeocene Thermal Maximum carbon addition/removal 293–305
 - magnetostratigraphic and biostratigraphic datum levels **278**
 - mid-latitude Palaeocene–Eocene radiolarian faunas 185–224
 - Site-1052 **51**, 60–2, 94, **95–6**
 - geochemical data *137*, *142–3*
 - Site-1053, dinoflagellate cysts 225–50
 - sites, maps and 3-D 3, **26–7**, **112**, **186–7**
 - spherule bed 151–57
 - comparisons with other K–T ejecta deposits 157–9
 - see also* Ocean Drilling Program
- Blake–Bahama Basin, burial history 53
- Campanian–Maastrichtian refrigeration, stable isotope records 16
- carbon dioxide, climate variability in early Palaeogene 253–70
- carbon isotopes
 - Blake Nose sites
 - Maastrichtian 118
 - Site-1051 **204**, 300–302
 - carbon addition/removal, Late Palaeocene Thermal Maximum 293–305
 - composition of organic matter 71–2
 - Holocene carbon cycle 297–8
 - Pacific, Atlantic and Caribbean **204**
 - theoretical background 295–6
- Caribbean Sea (ODP Leg 165: Site 1001A) 163–83
 - bio and magnetostratigraphy **174**, **176**
 - carbon isotope records **204**
 - XRF Fe record **171**
- Ceratolithoides* taxa, Upper Maastrichtian 99–102
- Chicxulub ejecta deposits 9–10, 131–47, 149–61
 - comparison with other deposits 146
 - geochemistry 131–47
 - iridium anomaly **36**, 131
 - spherules 149–61
- clay mineral analyses, Eocene 307–14
- climate change in subtropical North Atlantic Cretaceous–Tertiary/Palaeogene (K–T/C–P) boundary 1–19
- lithostratigraphy and seismic stratigraphy 2–5

- orbital forcing, stable isotopes in foraminifera 273–91
- climate variability in early Palaeogene 253–70
 - sensitivity study
 - model and methods 256–7
 - results 257–63
- continental runoff 261–2, **264–5**, 268
- continental slope mass wasting, C–P boundary sites 35–7, **39**
- correspondence analysis, Aptian–Albian benthic foraminiferal record **80**
- Cretaceous
 - climate modelling sensitivity study 253–70
 - magnetic polarity time scale, calibration array **179**
- Cretaceous sea surface temperatures, and OAE [(1d and 2)] 7–9
- Cretaceous–Tertiary/Palaeogene (K–T/C–P) boundary
 - climate change in subtropical North Atlantic 1–19
 - continental slope mass wasting 35–7, **39**
 - element stratigraphy 138–46
 - detrital elements 145–6
 - redox-sensitive elements 138–45
 - Sr and Mg 138–9
 - geochemistry 131–47
 - comparison with other K–T ejecta deposits 146
 - geochemical data 134–7, 139–43
 - samples and analytical methods 132–8
 - spherules as record of Chicxulub ejecta deposits 9–10, 131–47, 149–61
 - stable isotope records 13–18
 - Campanian–Maastrichtian refrigeration 16
 - Cretaceous climate optimum 15–16
 - Danian climate 16–17
 - Palaeocene–Eocene climate trends 17–18
- Danian
 - climate, stable isotope records, K–T boundary 16–17
 - foraminiferal zone P-alpha 132
- Danian time scale 163–83
 - astronomical calibration 177–81
 - Palaeogene time scale and Danian stage 164–6
 - spectral analysis and direct cycle counts 168–76
 - Upper Danian stratigraphy at ODP Sites 1050 and 1001! 166–7
 - X-ray fluorescence (XRF) scanning 167–8
- Dinoflagellate cysts from ODP Leg 171B (Site 1053A), offshore Florida 225–50
 - absolute ages 235
 - first and last occurrences 232–3, **234**
 - material and methods 226–9
 - neritic ratios **237**, 238
 - palynomorph counts 230–1, **236**
 - previous studies 228–9
 - results 229–35
 - systematic palynology 239–43
 - taxonomic appendix 243–50
- Ekman transport divergence 263
- Eocene
 - climate and foraminiferal record 273–5
 - climate modelling sensitivity study 253–70
 - Palaeocene–Eocene climate trends 10–13, 17–18
 - palygorskite clays in deep-water sediments 307–14
 - precessional cycle, orbital forcing 256
- Eocene deep water, Late Palaeocene Thermal Maximum and continental slope mass wasting during C–P impact 23–45
 - Bermuda Rise, deposit stratigraphy 37–40
- foraminiferal record
 - excursion fauna 34
 - isotopes, evidence for orbitally forced climate change 273–91
 - ODP Leg 171B, Aptian–Albian 73–91
 - Palaeocene–Eocene transition 34–5
- greenhouse gases, climate variability in early Palaeogene 253–70
- high-resolution sampling 70–1
- inoceramid extinction, Blake Nose sites, Maastrichtian 117
- iridium anomaly, Chicxulub ejecta deposits **36**, 131
- isotope records
 - Blake Nose sites, comparison with other sites 286–7
 - Cretaceous–Tertiary/Palaeogene (K–T/C–P) boundary 13–18
- JOIDES project 23–48, 225–50
- Joint Time–Frequency Analysis (JTFA) Tool 168–76
- Late Palaeocene Thermal Maximum 10
 - carbon addition/removal, Site-1051, Blake Nose 293–305
 - carbon isotope excursion, general solutions 297–300
 - climate modelling 255–6
 - and continental slope mass wasting during C–P impact 23–45
 - Bermuda Rise, deposit stratigraphy 37–40
 - layer lamination and thickness 71
 - Lithraphidites* taxa, Upper Maastrichtian 102–3
- Maastrichtian
 - Blake Nose sites 114–15
 - implications for global palaeoceanographic and biotic changes 111–26
 - benthic foraminifera 120
 - inoceramid extinction 117
 - Maastrichtian models 123–6
 - models 123–6
 - other environments 119–26
 - palaeogeographical map **113**
 - sea levels 122–3
- Maastrichtian, Lower, disconformity 108
- Maastrichtian, Upper
 - Atlantic Coastal Plain and Blake Nose, sediment biostratigraphic subdivision and correlation 93–108
 - extinctions 9–10
- maceral analysis 71
- magnesium, Cretaceous–Tertiary/Palaeogene (K–T/C–P) boundary 138
- Maud Rise (ODP Site 690), carbon isotope records **204**

- methane
 climate variability in early Palaeogene 253–70
 injection into carbon cycles 298–300
Micula taxa, Upper Maastrichtian 103–6
 Milankovitch cyclicity *see* orbital forcing
- North Atlantic
 continental runoff 261–2, **264–5**, 268
 net moisture balance 260–1, 267–8
 sea ice, modelling 260, 267
 upwelling 263, **266**
see also sea surface temperatures
- Ocean Drilling Program
 Bermuda Rise sites 23–48, 307–14
 Blake Nose sites 2–13, **5**, **50**, **51**, **166**
 Early Albian black shale OAEs 5–7, 49–72
 lithostratigraphy and seismic stratigraphy 2–4,
 28–32
see also Blake Nose sites (ODP Leg 171B)
 Caribbean Sea site (ODP Leg 165: Site 1001A)
 163–83
 Pacific, Allison Guyot (ODP Site 865) **204**
 South Atlantic, Maud Rise (ODP Site 690) **204**
- Oceanic Anoxic Events 49–72, 73–91
 1b, Aptian–Albian benthic foraminiferal record
 73–91
- orbital forcing
 Eocene
 climate change 284–6
 precessional cycle 256
 orbitally forced climate change, stable isotopes in
 foraminifera 273–91
- organic matter *see* carbon isotopes
- oscillations
 obliquity vs precession 163–4, 175–6
 spectral analysis and direct cycle counts 168–76
- oxygen isotopes, Blake Nose sites, Maastrichtian
 117–18
- Pacific, Allison Guyot (ODP Site 865), carbon isotope
 records **204**
- Palaeocene–Eocene radiolarian faunas 185–224
see also radiolarian faunas
- Palaeocene–Eocene transition 34–5
 climate trends 10–13, 17–18
see also Late Palaeocene Thermal Maximum
- Palaeogene, magnetic polarity time scale
 biochronology **165**
 calibration array **179**
 Danian stage 164–6
- palygorskite clays, Eocene deep-water sediments, Blake
 Nose sites 307–14
- Podorhabdus? elkefensis*, Upper Maastrichtian 106–7
- polar stratospheric clouds (PSCs) 254–6
- radiolarian faunas, Palaeocene–Eocene 185–224
 across P–E boundary and LPTM interval 199–201
 biostratigraphy and biochronology 188–91
 first and last occurrences 188–90
 hiatuses 197–9
 lithostratigraphy 187–8
 RP6, *Bekoma campechensis* Interval Zone 196
 RP7, *Bekoma bidartensis* Interval Zone 196
 RP8, *Buryella clinata* Interval Zone 196
 RP9, *Phormocyrtis striata* Interval Zone 195
 RP10, *Theocotyle cryptocephala* Interval Zone 195
 RP11, *Dictyoprora mongolfieri* Interval Zone 195
 RP12, *Thyrsoyrtis (Pentalcorys) triacantha* Interval
 Zone 194–5
 RP13, *Podocyrtis (Podocyrtoges) ampla* Lineage
 Zone 194
 RP14, *Podocyrtis (Lampterium) mitra* Lineage Zone
 194
 RP15, *Podocyrtis (Lampterium) chalara* Lineage
 Zone 193–4
 RP16, *Podocyrtis (Lampterium) goetheana* Interval
 Zone 191
 species list and taxonomic notes 208–220
 systematics 202–8
- Rock–Eval analysis 53
- sea surface temperatures
 Cretaceous 7–9
 Mid-Eocene 279–87
 modelling 257–60
 responses to forcing 263–8
- sedimentary organic matter (SOM) *see* Albian black
 shale facies; carbon
- seismic profiling 23–48
 horizon A* 43–5
 reflectors A^a, A^b, A^c 40–5
- South Atlantic
 Maud Rise (ODP Site 690), carbon isotope records
204
 spreading rates **180**
- South Carolina Coastal Plain coreholes, correlation
 with Blake Nose sites (ODP Leg 171B) 93–108
- spherules *see* Chicxulub ejecta deposits
- strontium, Cretaceous–Tertiary/Palaeogene
 (K–T/C–P) boundary 138
- upwelling 263, **266**
- wetlands, climate variability in early Palaeogene 254
- X-ray fluorescence (XRF) scanning, Danian 167–8