

Index

Page numbers in *italics* refer to Figures or Tables

- Abrigo de Vale de Ventos 289
Acanthophyllum 428
accommodation space 198–9
aeolianites 18–20
Aggtelek–Rudabánya Mts 316
 biological controls 331–2
 climate and sediment supply 333–5
 cycles of deposition 326–30
 facies analysis 318–25
 role of storms 332–3
 sea-level controls 335
 tectonic controls 331
 Triassic stratigraphy 316–18
Ahnet Basin Devonian ramp 397–8
 biostratigraphy 399–401
 biota 401–2
 build-up development 412
 diagenesis 406–7, 410–12
 dykes and cavities 405–6
 fauna 407–8
 modelling build-ups 410
 mud build-ups 401–2
 mud origin 410
 palaeogeography 408–10
 stratigraphy 402–4
 stromatactis 405
Al Dabb'iyā Peninsula 23, 24, 51
algal limestone 219–21
algal stabilized zone 58, 60
Algeria, Devonian ramp study 397–8
 biostratigraphy 399–401
 biota 401–2
 build-up development 412
 diagenesis 406–7, 410–12
 dykes and cavities 405–6
 fauna 407–8
 modelling build-ups 410
 mud build-ups 401–2
 mud origin 410
 palaeogeography 408–10
 stratigraphy 402–4
 stromatactis 405
Alpes Maritimes 207, 211
 Infranummulitic Formation 205–6
 depositional basin 206
 depositional model 222
 facies analysis 209–17
 stratigraphic evolution 223
 Nummulitic Limestone 206
 depositional model 222–3
 facies analysis 217–21
 palaeoecology 207–9
 stratigraphic evolution 223–4
Alveolina 183, 188, 195
Alveolites 407
ammonites 263, 323
Amphistegina 166, 168, 217, 218, 219, 223
Amplexocarinia 425
anaerobic facies 324, 325
anhydrite 24–7
Antalis entalis 85, 87, 91
Anti-Atlas ramps
 carbonate mounds
 Aferdou el Mrakib 418–20
 Guelb el Maharch 420–2
 Jebel el Offal 422–5
 facies analysis 425–9
 history of research 417–18
 mound drowning 431
 mound growth rate 431
 mound stability and shape 429–30
Arabian Gulf 8, 12, 45–6
 Pleistocene–Recent carbonates
 effect of sea level 47
 effect of tectonics 47–8
 erosional features 48
 sedimentation 48–50
 United Arab Emirates (UAE) coast 15–16
 climate 17
 geomorphology 17
 glacial influence 17
 marine currents 17–18
 microbial mats 38
 sea-level changes 35–7
 sedimentology
 Holocene 20–33
 Pleistocene 18–20
 seismic survey 34–5
 tectonic setting 16–17
 wind effects 33–4
Arca tetragona 85
Arcopagia crassa 84, 92
Arcopella balaustina 91
Arctica islandica 85
Areif el Naqa 260
arenaceous limestone 218–19
Argens 211
Armancies Formation 186, 195, 197
Assilina 183, 185, 186, 191, 192
Astarte crenata 91
Asterias rubens 91
Atrypa 420, 422, 425
Aulocystis 422, 425
Australian temperate carbonates 93–6, 96–8
Austrotrillina 166
autocycles *v.* sea-level cycles 108

Bacinella irregularis 233, 242
backshore facies association 300–1
bafflestone 294
Bainbridgia 420, 422, 425
Bakevellia 360
Balanus spp. 86
Balearic ramp 12
ball and pillow 323
bank, defined 369–70

- barchan dunes 19
 barrier island evolution 24, 306–10
 backshore 300–1
 foreshore 299–300
 offshore 288–92
 shoreface 292–9
 basinal facies 377–8
 Basque–Cantabrian Basin *see* Egalezaburu
 Cretaceous ramp
 beach ridges 21–4
 bedforms
 Brazil ramp 61
 Shetland ramp 98–9
Beudanticeras 262
 Bilbao Anticlinorium 230
 bioclastic gravel facies 86
 bioclastic mud gravel facies 88–9
 bioclastic pebble sand facies 86
 bioclastic sand facies 85
 bioherm 369, 379–80
 biomicrite 288
 bivalves 84, 85, 86, 166, 218, 288, 323, 343, 344, 346
 Bódvaszilas Sandstone Formation 316, 318–20, 326, 327
 Bonney Shelf 94
 Borden Siltstone 370, 371
Boreotrophon truncatus 84, 90
 brachiopods 87, 88, 92, 288, 344
 Brazil offshore environment 55
 oceanography 56–8
 ramp comparisons 66–9, 70
 sediment composition 61–2
 sediment mixing 63–6
 sediment sources 63
 sediment transport 61
 sediment zones 58–61
 bryozoa 84, 85, 86, 88, 92, 166, 218, 389–90
 bryozoan sand facies 87
 Bu Labyad 23, 24, 29
Buccinum spp. 84, 90
 build-up character
 differences discussed 128–30
 greenhouse 114–15
 icehouse 126
 transitional climate 121–2
 Burlington Formation 370, 371
Buskea dichotoma 85, 87
Buthograptus laxus 442

 Cabeça Gorda 291
 Cabiço das Fontes 296, 297
 Cadi Formation 183, 186, 187, 188–92
Calceola spp. 407, 428
Caliapora 407
 carbonate aeolianites 18–20
 carbonate mounds
 mud mound
 defined 369, 417
 Guelb el Maharch 420–2
 Jebel el Otfal 422–5
 Port Payne Formation 378–9
 Ullin Formation 383
 reef mound
 defined 417
 Mader basin 418–20
 carbonate ramps
 character 107–8
 defined 1, 9, 229
 evolution of concept 9–11, 43–5
 origins 7–8
 Carboniferous
 climatic interpretation 11
 ramp examples *see* Illinois Basin
Carinatripa 420, 422
 Carpathian Basin Triassic ramp 340–2
 carbonate source 362–3
 diagenesis 358–9
 lithofacies
 Ladinian 354–7
 upper Anisian 352–4
 middle Anisian 348–52
 lower Anisian 343–8
 pre-ramp 342–3
 oceanographic setting 363–4
 palaeogeography 340
 physical environment 359–61
 ramp morphology 357–8
 role of frame-builders 363
 sea-level effects 361–2
 sedimentation rate 358
Caryophyllia smithii 84, 85, 86, 87, 91
 Castellet les Sausses 212
Cellaria fistulosa 87
 cement crystal properties 295, 302
Centrocythere sanninensis 262
Cerithium marl 216–16
Chaetacladus plumula 442
Chlamys islandica 88, 89
Chondrites 140, 144, 378, 385
 chronostratigraphy 221–2
Chrysalidina gradata 263
Cidaris cidaris 89, 91
Circumphalus casina 84, 91
Cladochonus 420, 422, 425
Clausinella fasciata 84, 91
Cleistopora 407
 Clifden Bay 73
 climate effects on ramps
 Cretaceous 276
 greenhouse 113–15
 icehouse 122–7
 transitional 115–22
 Triassic 334–5
Cliona spp. 84, 85
Clypeaster 166
 Codaçal 290
Coenothyris vulgaris 352, 353, 354, 360
 Col de la Combière 208
 Col de la Forclaz 209
 Col du Colonney 210
 Col du Fa 212
 Collongues 213
Colus spp. 84, 90, 91
 conglomerate facies 83
 conodonts 323, 377
 contourites 98–9
 coquina floatstone 351
 coralgal patch reef 166

- coralline algal rhodolith 166
 corals 294, 407–8, 429
 Coronos Formation 186, 193–5
Coronopora truncata 87
Costatoria costata 343
Costatoria goldfuss 346, 360
Crania anomala 87, 88, 91, 92
Crenulipora 422
 Cretaceous ramps *see* Gorbea Massif *also* Sinai
 crinoids 322–3, 351–2, 390, 429
 cross bedding 297–8, 302
 current-facing effects 173–4
 cyclicity and cyclostratigraphic modelling 11, 241–3
 method 110–13
 problems 108–10
 results
 greenhouse climate 113–15
 icehouse climate 122–7
 transitional climate 115–22
 results discussed 128–30
Cycloclypeus 166
Cystiphylloides 420, 428
- Dadocrinus* 351, 352
 Decorah Formation 438
 desiccation cracks 344
 Devonian ramps *see* Ahnet Basin *also* Mader Basin
Devonogypa 420
 diagenesis
 Ahnet Basin 406–7, 410–12
 Carpathian Basin 358–9
Discocyclina 183, 185, 192, 207, 218, 223
Ditrupea arientina 91
Ditrupea sand facies 88
 dolomiticrite 441
 dolomite
 Carpathian Basin 343, 348
 Sinai Cretaceous ramp 259, 261
Dosinia lupinus 86
Dualipora 425
 dune sands 18–20, 58, 60, 61
 dysaerobic facies 324, 325, 344–8
- Echinocyamus pusillus* 85, 86, 91
 echinoids 85, 86, 87, 166, 218, 288
Echinus esculentus 91
Eckicrinus radiatus 353
 economic significance of limestones 390–1
 Eddystone shell gravels 73
 Egalezaburu Cretaceous ramp 230–3
 controls on development 247–9
 cyclicity 241–3
 facies
 inner 233–7
 mid 237–41
 outer 241
 sea-level change 243–6
 sequence stratigraphy 243
 timescale 246–7
Emarginula fissura 85
Enantiuistreon difforme 360
 English Channel 73
Entolium 360
Entolium discites 353
- Eocene ramps *see* Haute Savoie *also* Sierra del Cadí
Eogaudryceras vocontianum 262
 epeiric seas
 defined 437
 ramp facies 439–45
 Eucla Platform 94
 eustasy *see* sea-level change
 evaporites
 Carpathian Basin 343
 United Arab Emirates 24–31, 37
- facies analysis
 Egalezaburu Cretaceous ramp
 inner 233–7
 mid 237–41
 outer 241
 Iberian Peninsula Jurassic
 inner ramp 145, 146–7
 mid ramp 144–5, 146
 outer ramp 140–3, 146
 Infrannummulitic Formation 209–17
 Nummulitic Limestone 217–21
 Sinai Cretaceous ramp 264–70
 West Shetland Shelf 82–3
 bioclastic gravel 86
 bioclastic mud gravel 88–9
 bioclastic pebble sand 86
 bioclastic sand 85
 bryozoan sand 87
 conglomerate 83
 Ditrupea sand 88
 foraminiferan mud 87–8
 shell gravel 84–5
 facing, significance of 173–6
 Fair Isle Channel 99
Favosites 407
 Fern Glen Formation 370, 371
 Flaïne 210
 floatstone
 Carpathian Basin 345–6, 348, 351
 Mader Basin 426
 Sinai Cretaceous ramp 259, 261
 Florida Shelf 66
 foraminifera 288, 323
 Cretaceous of Sinai 262, 263
 Eocene 183, 186
 palaeoecology in Nummulitic Limestone 207–9
 foraminiferal facies
 Mediterranean Miocene 166
 West Shetland Shelf 87–8
 foreland basins
 carbonate setting 205
 Eocene of Spain 181–3
 facies model 183
 platform evolution 198–200
 sequence sedimentology 183–98
 foreshore facies association 299–300
 Fort Payne Formation 372–3
 biostratigraphy 376–7
 bryozoan–crinoidal build-ups 389–90
 comparison with Waulsortian mounds 388–9
 depositional environment 385–6
 economic properties 390–1
 facies analysis 377–9

- history of research 373–6
- sequence stratigraphy 387–8
- Foula Ridge 82, 84
- frame-builders 363
- framestone 294
- French Alps
 - Infranummulitic Formation 205–6
 - depositional basin 206
 - depositional model 222
 - facies analysis 209–17
 - stratigraphic evolution 223
 - Nummulitic Limestone 206
 - depositional model 222–3
 - facies analysis 217–21
 - palaeoecology 207–9
 - stratigraphic evolution 223–4
- Galena Formation 438
- Gari tellinella* 84, 85, 90, 91
- Garumnian Formation 185
- gastropods 84, 85, 86, 87, 89, 90
- Gebel el Mistan 257, 258
- Gebel Halal 260
- Gebel Mansoura 257, 258, 263
- Gebel Minshera 260
- Gebel Raghawi 257, 258
- Gervillea* 343
- glauconite 323
- Glenwood Formation
 - lithofacies analysis 439–45
 - model of ramp facies 450–4
 - palaeogeography 438
 - sequence stratigraphy 445–50
- Glottida tenuissima* 344
- Glycymeris glycymeris* 84, 85, 86, 90, 91
- Gorbea Massif 230
 - Egalezaburu Cretaceous ramp 230–3
 - controls on development 247–9
 - cyclicality 241–3
 - facies
 - inner ramp 233–7
 - mid ramp 237–41
 - outer ramp 241
 - sea-level change 243–6
 - sequence stratigraphy 243
 - timescale 246–7
- Gouldia minima* 91
- grainstone
 - Aggtelek–Rudabánya Mts ramp 323
 - Carpathian Basin 348, 351–2
 - Egalezaburu Cretaceous ramp 238, 239, 240
 - Glenwood Formation 443–4
 - Maciço Calcário ramp 288, 289, 291, 292, 295, 297, 300
 - Mediterranean Miocene 165–6
 - Sierra del Cadí Basin 188
 - Sinai Cretaceous ramp 259, 261
 - Ullin Formation 383
- grapestone 292
- gravity sliding 170–2
- greenhouse climate and ramp response 113–15
- Gutenstein Formation 316
- gutter cast 324
- gypsum 27
- Hajar Mts 16, 18
- Halimeda* spp. 59, 60, 62
- Halitherium* 166
- Hapsiphyllum* 407
- hardground 31–3, 292
- Haute Savoie 207
- Infranummulitic Formation 205–6
 - depositional basin 206
 - depositional model 222
 - facies analysis 209–17
 - stratigraphic evolution 223
- Nummulitic Limestone 206
 - depositional model 222–3
 - facies analysis 217–21
 - palaeoecology 207–9
 - stratigraphic evolution 223–4
- Hebrides 73
- Hechticythere croutensis* 262
- Heliophyllum* 420, 428
- herringbone cross bedding 297
- Heteranomia squamula* 86
- Heterostegina* 166, 168, 170
- Heterozoan Association 11, 92, 93
- Hexagonaria* 407, 420
- highstand systems tract
 - Egalezaburu Cretaceous ramp 245–6
 - Eocene of Spain 198
 - Iberian Peninsula Jurassic 147, 149, 159
 - Sinai Cretaceous ramp 275–6
- Hiatella arctica* 85, 86
- Hinia incrassata* 91
- Hoernesia* spp. 353, 360
- Holocrinus* 360
- homoclinal ramp 108
- hummocky cross stratification
 - Aggtelek–Rudabánya Mts 320, 321, 323
 - Carpathian Basin 345, 346, 351
 - Lusitania Basin 295
 - Ullin Formation 381, 383, 385
- Hungary Triassic ramps
 - Aggtelek–Rudabánya Mts 316
 - biological controls 331–2
 - climate and sediment supply 333–5
 - cycles of deposition 326–30
 - facies analysis 318–25
 - role of storms 332–3
 - sea-level controls 335
 - stratigraphy 316–18
 - tectonic controls 331
 - Carpathian Basin 340–2
 - carbonate source 362–3
 - diagenesis 358–9
 - lithofacies
 - Ladinian 354–7
 - upper Anisian 352–4
 - middle Anisian 348–52
 - lower Anisian 343–8
 - pre-ramp 342–3
 - oceanographic setting 363–4
 - palaeogeography 340
 - physical environment 359–61
 - ramp morphology 357–8
 - role of frame-builders 363
 - sea-level effects 361–2

- sedimentation rate 358
- Hyblean Plateau 176
- hydrodynamics 303–4
- Iberian Peninsula *see* Portugal *also* Spain
- icehouse climate ramp response 122–7
- Illinois Basin Carboniferous ramp 370–2
 - biostratigraphy 376–7
 - bryozoan–crinoidal build-ups 389–90
 - carbonate source 389
 - comparison with Waulsortian mounds 388–9
 - economics of limestones 390–1
 - facies analysis 377–85
 - history of research 373–6
 - modelling depositional environment 385–7
 - regional stratigraphy 372–3
 - sequence stratigraphy 387–8
- Infrannummulitic Formation 205–6
 - depositional basin 206
 - depositional model 222
 - facies analysis 209–17
 - stratigraphic evolution 223
- Ireland, ramp sites 73
- iron oxide bands 33
- isotopic analysis 410–12
- Italy (southern) *see* Mediterranean divide
- Ivdelinia* 420
- Ivoie 212
- Jurassic ramps
 - Portugal 281–4
 - barrier evolution 306–10
 - carbonate production 310–11
 - facies associations
 - backshore 300–1
 - foreshore 299–300
 - lagoonal 302–3
 - offshore 288–92
 - shoreface 292–9
 - tidal inlet-delta 301–2
 - hydrodynamics 303–4
 - palaeogeography 285
 - sand body geometry 304–6
 - sequence stratigraphy 310
 - Spain 138–40
 - model and field data discussed 155–9
 - model parameters 148–9, 154
 - model results 154–5
 - Teruel section 152, 153
 - Zaragoza section 150, 151
 - modelling program 148
 - Teruel section 141, 143, 146–8
 - Zaragoza section 140, 141, 142, 144–5
- Kellia suboricularis* 85
- Keokuk Formation 370, 371
- Kimmeridgian ramp *see* Jurassic of Spain
- Knemiceras* 262, 263
- La Bonbardellaz 209
- La Communaille 208
- La Rochette 213
- Lacepede shelf 12, 94
- lagoonal facies 165, 302–3, 320–1
- Le Chinaillon 208
- leeward effects 174–6
- Lepidocyclus* 166, 168, 170, 173, 218
- L'Epine 210
- Leptaena* 420
- Leptochiton asellus* 85, 86
- light effects on ramp development 360
- lime mud 218
- Limopsis aurita* 89, 91
- Lincoln Shelf 94
- Lingula tenuissima* 343
- Lithophaga* 166, 214
- Lithophyllum* 60
- longshore transport 158
- lowstand systems tract
 - Egalezaburu Cretaceous ramp 245–6
 - Iberian Peninsula Jurassic 159
 - Sinai Cretaceous ramp 272–4
- Lusitanian Basin
 - barrier evolution 306–10
 - carbonate production 310–11
 - facies associations
 - backshore 300–1
 - foreshore 299–300
 - lagoonal 302–3
 - offshore 288–92
 - shoreface 292–9
 - tidal inlet-delta 301–2
 - hydrodynamics 303–4
 - Jurassic palaeogeography 285
 - sand body geometry 304–6
 - sequence stratigraphy 310
- Lyriomyophoria* 360
- Macandrevia cranium* 88, 89, 91
- Maciço Calcário ramp 281–4
 - barrier evolution 306–10
 - carbonate production 310–11
 - facies associations
 - backshore 300–1
 - foreshore 299–300
 - lagoonal 302–3
 - offshore 288–92
 - shoreface 292–9
 - tidal inlet-delta 301–2
 - hydrodynamics 303–4
 - Jurassic palaeogeography 285
 - sand body geometry 304–6
 - sequence stratigraphy 310
- Mader Basin Devonian ramp 418
 - carbonate mounds
 - Aferdou el Mrakib 418–20
 - Guelb el Maharch 420–2
 - Jebel el Otfal 422–5
 - facies analysis 425–9
 - history of research 417–18
 - mound drowning 431
 - mound growth rate 431
 - mound stability and shape 429–30
- Malta *see* Mediterranean divide
- Mannin Bay 73
- marls 241, 259, 261
- Massif de Platé 210
- Meandrina* 168

- Mediterranean divide
 Oligo-Miocene ramp 163
 facies 165–7
 facing effects 173–6
 productivity 167–9
 profiles 172–3
 sediment supply 169–72
- Mesophyllum* 60
- Mesorbitolina* 232, 262, 263
- Meubles Montagnardes 208
- Mexico, Yucatan ramp 66
- microbial mats, UAE 38
- Microcodium* 214
- miliolite 18–20, 51
- Millepora* 60
- Miocene *see* Oligo-Miocene
- modelling of depositional environments
 cyclostratigraphy 241–3
 method 110–13
 problems 108–10
 results 113–27
 results discussed 128–30
- foreland basins 222–3
- regional studies
 Ahnet Basin 410
 Glenwood Formation 450–4
 Iberian Basin 148–55
 Illinois Basin 385–7
 Sierra del Cadí Basin 183
 Sinai 272–6
- Modiolus modiolus* 84, 85, 86, 89, 91
- Modiolus triquetrus* 346
- Moerella donacina* 85
- Morocco carbonate mounds
 Aferdou el Mrakib 418–20
 facies analysis 425–9
 Guelb el Maharch 420–2
 Jebel el Otfal 422–5
 history of research 417–18
 mound drowning 431
 mound growth rate 431
 mound stability and shape 429–30
- Mouydir Basin 398
 biostromes 407–8
 mud build-ups 401–7
 palaeogeography 408–10
 stratigraphy 399–401
- mud atolls 402
- mud mound
 defined 369, 417
 facies analysis
 Guelb el Maharch 420–2
 Jebel el Otfal 422–5
 Port Payne Formation 378–9
 Ullin Formation 383
- mud ridges 402
- Muschelkalk *see* Carpathian Basin
- Mussafah 26, 28, 30, 32
- Myophoria* 343
- Naticella* 346
- Neptunian dykes 405, 422
- New Albany Shale Group 370, 371
- New South Wales Shelf 94
- New Zealand temperate carbonates 93–6, 96–8
 nodular marl 214–16
- North Brazil Current 56, 57
- North Portugal Shelf 94
- Northeast Orkney Shelf 94
- Nowakia* 420, 422, 425
- Nummulites* 183, 185, 186, 188, 191, 192, 195
- Nummulitic Limestone 206
 depositional model 222–3
 facies analysis 217–21
 palaeoecology 207–9
 stratigraphic evolution 223–4
- offshore facies association 288–92
- Oligo-Miocene ramps 163
 facies 165–7
 facing effects 173–6
 productivity 167–9
 profiles 172–3
 sediment supply 169–72
- ooids
 Iberian Peninsula Jurassic 147
 Sinai Cretaceous ramp 259, 276–7
- oolite sand bodies 31, 281, 295–9
- oolite shoals 321–2
- Operculina* 183, 188, 191, 192, 218, 223
- Orbitolina* 232, 263
- Ordovician ramps
 lithofacies analysis 439–45
 model of ramp facies 450–4
 palaeogeography 438
 sequence stratigraphy 445–50
- Orkney Shelf 73, 94
- ostracods 262, 263, 288, 344
- Otway Shelf 94
- oxygen isotope curve 47
- oxygenation and ramp development 360
- Pacaly 209
- Pachystriatopora* 422, 425
- packstone
 Aggtelek–Rudabánya Mts ramp 321, 323
 Ahnet Basin 399, 401
 Carpathian Basin 348, 351–2
 Egalezaburu Cretaceous ramp 238, 239, 240, 241
 Glenwood Formation 442, 445
 Maciço Calcário ramp 288, 292, 300
 Mediterranean Miocene 166
 Sierra del Cadí Basin 185
 Sinai Cretaceous ramp 259, 261
- palaeocurrents 292
- palaeoecology 207–9
- palaeogeography
 Cretaceous 255, 267
 Triassic 340
 Devonian 408–10
 Ordovician 438
- Palaeoplesiastraea* 168
- Palaeotherium* 214, 215
- Palorbitolina heddini* 262
- Paraceratites binodosus* 354
- parasequences
 greenhouse 113–14
 icehouse 122–6

- transitional climate 115–21
- Pecten* spp. 344, 346
- Pedraforca Thrust Sheet 181
- Pedragosa Formation 186, 195–8
- peloidal limestone 217
- peloids 147
- Pennatula phosphorea* 88
- Perissocytheridea sahni* 263
- peritidal facies 165, 343–4, 348
- Persian Gulf *see* Arabian Gulf
- Peyresq 211
- Phascolion loscombi* 88
- Phillipsastrea* 407, 420
- Phyoctythere citreum* 263
- phosphatic shale 441–2
- Photozoan Association 11, 93
- Physocythere nobilis* 262
- Placostegus tridentata* 88, 91
- Plagiostoma lineatum* 353, 354
- Planatrypa* 420
- planktonic marl facies 166
- Planolites* 428
- Plasmophyllum* 407
- Plattenville Formation
 - lithofacies analysis 439–45
 - model of ramp facies 450–4
 - palaeogeography 438
 - sequence stratigraphy 445–50
- Platyaxum* 420
- Pleistocene *see* Quaternary
- Pleuromya* 360
- Polinices montagui* 84, 87, 90, 91
- Pomatoceras* 84, 91, 92
- Pont au Miolans 213
- Pont Noir 212
- Porcupine Bank 73
- Porites* 168
- Portugal, Jurassic ramp 281–4
 - barrier evolution 306–10
 - carbonate production 310–11
 - facies associations
 - backshore 300–1
 - foreshore 299–300
 - lagoonal 302–3
 - offshore 288–92
 - shoreface 292–9
 - tidal inlet-delta 301–2
 - hydrodynamics 303–4
 - palaeogeography 285
 - sand body geometry 304–6
 - sequence stratigraphy 310
- Portugal Shelf, North 94
- Praealveolina cretacea* 263
- Prairie du Chien Group 438
- Procytherina cuneata* 263
- progradation processes 35–7
- Pseudedomia drorimensis* 263
- Punctospirella fragilis* 352, 354, 360
- Pyrenees *see* Sierra del Cadí
- Quaternary ramps
 - Arabian Gulf carbonates 8, 12, 45–6
 - effect of sea level 47
 - effect of tectonics 47–8
 - erosional features 48
 - sedimentation 48–50
- United Arab Emirates (UAE) coast 15–16
 - climate 17
 - geomorphology 17
 - glacial influence 17
 - marine currents 17–18
 - microbial mats 38
 - sea-level changes 35–7
 - sedimentology 18–20
 - seismic survey 34–5
 - tectonic setting 16–17
 - wind effects 33–4
- reef mound 417, 418–20
- reefs, Brazil 58, 60
- Rehacythereis btaterensis* 262
- Remesia* 422, 425
- reservoir properties 390
- Rhizocorallium* 350
- Rio Grande do Norte shelf 55
- Rizan Aneiza 257
- Rockall Bank 73
- Rókahegy dolomite 348
- Rothpletzella* 420, 425, 428
- Rottnest Shelf 94
- rudstone
 - Egalezaburu ramp 238, 239
 - Maciço Calcário ramp 288, 289, 291, 292, 300
- sabkha 37
- Sagnari Formation 183, 185, 186, 188, 192, 193
- St Benoit 212
- St Peter Sandstone 438
- salina 37
- salinity and ramp development 360
- sand bodies 281, 295–9
- sand ribbons 58, 60, 61
- sandwave facies 380–5
- Scaffarels 212
- scaphopods 85, 86
- Schizophoria* 420
- Scotland, ramp sites 73
- Scott Shelf 94
- sea-level change 199
 - Holocene 35–7
 - Cretaceous 253–4
 - Triassic 335, 361–2
 - Devonian 431
- sea-level cycles 108
- greenhouse 113
- icehouse 122
- transitional climate 115
- sedimentation rates 149, 154
 - benthic *v.* pelagic 156–8
- seif dunes 18, 19
- Semibalanus balanoides* 86
- sequence stratigraphy
 - Egalezaburu Cretaceous ramp 243–6
 - Illinois Carboniferous Basin 387–8
 - Maciço Calcário Jurassic ramp 310
 - Wisconsin Ordovician ramp 445–50
 - Sinai Cretaceous ramp 270–2
- Serpula vermicularis* 88

- shell pavement 352
shell gravel facies 84–5
Shetland *see* West Shetland Shelf
shoreface facies association 292–9
Sicily 174, 175, 176
Siderastrea 60
Sierra del Cadí 181–3
 facies model 183
 platform evolution 198–200
 sequence sedimentology 183–98
siliciclastic aeolianites 18
siliciclastic influxes 62–6, 126–7
Sinai Cretaceous ramp 254–6
 depositional model 272–6
 facies analysis 264–70
 sequence stratigraphy 270–2
 stratigraphy 256–64
Skolithos 439
slope responses
 greenhouse 113
 icehouse 122
Smackover Formation 7–8
Snares Platform 94
Solariella amabilis 91
Solenomeris 191
Sorosphaera 422, 425
Spain
 Egalezaburu Cretaceous ramp 230–3
 controls on development 247–9
 cyclicality 241–3
 facies
 inner ramp 233–7
 mid ramp 237–41
 outer ramp 241
 sea-level change 243–6
 sequence stratigraphy 243
 timescale 246–7
 Jurassic ramp 138–40
 Teruel section
 computer modelling 152, 153
 facies analysis 140–5
 Zaragoza section
 computer modelling 150, 151
 facies analysis 146–8
 Sierra del Cadí 181–3
 facies model 183
 platform evolution 198–200
 sequence sedimentology 183–98
Spisula elliptica 84, 85, 86, 91
spits 21
sponge spicules 288
Springville Shale Formation 370, 371
Steinalm Formation 318
storms and ramp development 323–3
 storm beaches 23
 storm facies 344, 348, 351, 360–1
 storm laminae 303
 storm sheets 320, 322–3, 324
 storm surging 170
stratigraphy, modelling of cyclic
 method 110–13
 problems 108–10
 results
 greenhouse climate 113–15
 icehouse climate 122–7
 transitional climate 115–22
 results discussed 128–30
Striatopora 407
stromatactis 405, 429
substrate effects on fauna 360
Szin Marl Formation 316, 320–4, 327–9
Szinpetri Limestone Formation 316, 324–5, 330

Taouzia 425
Tapes rhomboides 84
Tarbellastraea 168
tectonic effects on ramps 172, 200
temperate carbonates 11
 biological characters 96
 classification 90–2
 occurrences 92–3
 localities compared 96–8
 physical characters 93–6
 role in rock record 98–100
temperature and ramp development 360
Terebratulina retusa 89, 91
Tertiary *see* Eocene; Oligo-Miocene
Teruel Kimmeridgian ramp
 computer model 152, 153
 facies analysis 146–8
 stratigraphy 141, 143
Tete de la Sallaz 208
Tethys 315
Terebratulina retusa 88
Tetractinella trigonella 354, 360
Tetragonites timotheanus 262
Thalassinoides 144, 223, 350, 439
Thamnophyllum 420
Thamnopora 407, 420
Thônes syncline 208, 209
Three Kings Plateau 94
tidal flat development 128, 318–20
tidal inlet-delta facies association 301–2
Timoclea ovata 91
trace fossils 360
 Chondrites 140, 144, 378, 385
 Rhizocorallium 350
 Thalassinoides 144, 223, 350, 439
 Zoophycos 378, 385
transgression, Holocene 100
transitional climate ramp response 115–22
transitional systems tract
 Egalezaburu Cretaceous 245
 Sierra del Cadí Eocene 198
 Iberian Peninsula Jurassic 149, 155–6, 159
 Sinai Cretaceous 274–5
transported facies 379
Trempe Formation 185
Triassic
 ramps *see* Hungary
 tectonics of Lusitanian Basin 282
Trigonodus 356
trilobites 429
tropical environment carbonates 11
Troschelia berniciensis 91

Ullin Formation 373
 biostratigraphy 376–7

- bryozoan–crinoidal build-ups 389–90
- comparison with Waulsortian mounds 388–9
- depositional environment 386–7
- economic properties 390–1
- facies analysis 379–85
- history of research 373–6
- sequence stratigraphy 387–8
- Umm Shaif 49
- United Arab Emirates *see* Arabian Gulf coast
- USA *see* Illinois Basin *also* Wisconsin

- Vallfogona Formation 186
- Valverde structure 300
- Vancouver, Scott Shelf 94
- Veeniacythereis maghrebensis* 263
- Veruca stroemia* 86
- Virgularia mirabilis* 88

- wackestone
 - Aggtelek–Rudabánya Mts ramp 321, 323
 - Ahnet Basin 399, 401
 - Glenwood Formation 442, 444
 - Maciço Calcário ramp 288
 - Mader Basin 428
 - Mediterranean Miocene 166
 - Sierra del Cadí basin 185
 - Sinai Cretaceous ramp 259, 261
- Wanganui Shelf 94
- washover channel 300
- Waulsortian mounds 388–9
- wave base, effects of 99–100
- West Scottish Shelf 94
- West Shetland Shelf 75, 79
 - bathymetry 79
 - environment comparisons 92–3, 96–8
 - biological character 96
 - physical character 93–6
 - glacial history 79
 - hydrography 79
- nutrient status 81–2
- sediment studies
 - bioclastic gravel 86
 - bioclastic mud gravel 88–9
 - bioclastic sand 85
 - bryozoan sand 87
 - conglomerate 83
 - Ditrupa* sand 88
 - facies analysis 82–3
 - faunal analysis 77
 - foraminiferal mud 87–8
 - pebble sand 86
 - sampling regime 74–5
 - shell gravel 84–5
 - textural analysis 76, 78
 - significance of deposits 98–101
- Wetterstein Formation 318
- Wisconsin Ordovician ramps
 - lithofacies analysis 439–45
 - model of ramp facies 450–4
 - palaeogeography 438
 - sequence stratigraphy 445–50
- wind processes 33–4
- windward effects 173–4
- winged spits 24, 27
- Wisconsin *see* Glenwood Formation *also* Plattenville Formation

- Yucatan ramp 66

- Zagros orogeny 16
- Zaragoza Kimmeridgian ramp
 - computer model 150, 151
 - facies analysis 140, 144–5
 - stratigraphy 141, 142
- Zemmourella* 422
- zonation of ramps 58–61
- Zoophycos* 378, 385, 428