

Index

Page numbers in *italics* refer to Figures. Page numbers in **bold** refer to Tables.

- Adventalen Group 20, 38, 44
Ægir Ridge 2, 128, 130, **301**
 formation 129, 141, 305, 317, 319
 ridge transfer 328, 330
 rift cessation 141, 144
 rift transfer 141, 143–144, 412
Alpin Dome 250, 255
AMG95 seismic lines **210**, 357
AMG95-1 seismic line 182, 183, 358, **359**, 369
 and AMP-D 364–366
 and FLARE/Mobil-2 lines 367, 372
 and FLARE-1/FAST 361–364, 372
 and FLARE-7/8 **370**
AMG95-2 seismic line, Mobil-1 359–361
Ammassalik Basin 6, 12, **13**, 172, 173, 175, 376
 stratigraphy 23, 27, 46, 56
 depositional environment 46
 seismic profiles 30
 sub-basalt rift basin 375–389
 gravity anomalies 386–387
 seismic reflection data 378–386
AMP-D seismic refraction line 177, 357, 358, **359**
 and AMG95-1 364–366
 and FLARE-1 366–367
AMP-E seismic refraction line 177, 178, 179
Andøya, stratigraphy 39, 45
 depositional environment 40
Annika sub-basin 12, 340, 343, 348, 349, 350, 351
 stratigraphy, Permian–Triassic 26
Anticline B 255
Anticline D 250, 252, 255
Anticline H1 250, 253
anticlines, Iceland 130, **132**, 135, 136–138, 142, 145
Anton Dohrn Lineament 172, 173
Anton Dohrn seamount 46, 47, 56, **87**
Antrim Lava Group **86**, 92, 93
⁴⁰Ar/³⁹Ar dating 70, 72, 73–74, 75–76, 77,
 78–87
ArcGIS database 3, 15
‘Arctic’ rifting 13
Arfertuarsuk trachyte, geochronology 77, **78**
Atlantic Ocean, spreading 55
‘Atlantic’ rifting 13–14
Austurbrún Anticline and Syncline **132**
AWI seismic lines 184, 185–187, 189, 194, **210**

Barents Sea 23, 187
 see also Western Barents Sea margin
Barra Volcanic Ridge System 28, 48
basalt, flood
 NAIP 150, 171
 Antrim 92, 93
 Faroe Islands 77, 90, 91
 Greenland 72, 76, 77, 88–89
JMMC 313, 314
 mid-ocean ridge (MORB) 150
 see also North Atlantic Igneous Province,
 volcanism, breakup
 basement, oceanic 152, 154, 155, 157, 158
 depth 208, 243
 seismic refraction data 211–215, 218, 219
 morphology 139, 152
 roughness 151, 158, 159, 160, 427,
 433, 437–438
 rubbly 151, 152–155, 157, 158, 159, 160, 162
 volcanic 153, 158, 159
Bass Rock, basalt sill, geochronology **83**
Båt Group 24, 25, 39
bathymetry 5, 285, 286
Bearreraig Sandstone Formation 27, 40
Beinisvørð Formation 90, 112, 342, 346–347, 350
Ben Nevis Dome 250, 255
Bernbjerg Formation 22, 24, 37
 oil 450, 452
Bight Fracture Zone 12, **13**, 403–404
Bill Bailey Bank 425
Bivrost Lineament 174, 189, 282
Bjarmeland Group 20, 21
Bjarmeland Platform 12, **13**, 44
Bjerge Formation, geochronology 90
Bjørnøya, stratigraphy 17, 20, 21, 23
Bjørnøya Basin 12, **13**, 38
 tectonism, Cretaceous 43
Blosseville Group 46, 377
Blosseville Kyst 45, 305, 311, 317, 319, 323, 325
 flood basalt **81**, 328
Bontekoe Ø, basalt sill **83**
Bopladsdalen Formation 323
Boreas Basin 158, 161, 187
Borgarnes Anticline **132**
Bouguer gravity anomaly 234, 235, 236, 238, 341
Brendan Dome 255
Brentskardhaugen Bed 38
Bridge Anticline 250, 255
British–Irish Palaeogene Igneous Province 71,
 91–92
 geochronology **85–87**, 89, 95, 96
Bruggdan wells 345, 368, 371
Brynild sub-basin 340, 343, 348, 349, 350, 351

calderas 421, 109
Caledonian Orogeny 13
CAM77 seismic refraction data 177, 180, **211**
Canna Lava Field, geochronology 92
Carboniferous–Permian boundary 21, 51, 58
Causeway Member 92
Central East Greenland margin 12
 seismic profiles 38–39
 stratigraphy 23, 24, 25, 29, 30, 31, 38–39,
 44–45, 51, 52
 depositional environment 29, 31, 39, 45
 tectonism, Jurassic 39
Chalk Group 26, 47, 48
Charlie-Gibbs Fracture Zone 11, 12, **13**, 420
Colmán Dome 250, 254, 256
compression, Cenozoic 5, 247–271, 412–413

- conjugate asymmetry 6, 117–119, 150–151, 197
 SE Greenland–Hatton margin 117, 150–151, 173
 see also seafloor spreading, asymmetry
- conjugate margins
 magma-rich 171, 173, 198
 seismic refraction data 173, 218–219
 north of Iceland 183–193
 south of Iceland 174–177
- conjugate symmetry, NE Greenland–Norway 150, 164–165
- conjugate transects 19
 north of Iceland 193–197
 south of Iceland 177, 179–181
- connectivity, inter-basinal 57–58
- Connemara oilfield 447, 451, 452
- continent–ocean boundary 6
 gravity modelling 236–237, 238, 239, 242, 243
 magma-rich margins 174, 175
 Mid-Norwegian continental margin 190, 291
 NAIP 110, 111, 129, 172, 173, 174
 breakup volcanism 113, 114, 116–117
 SDRs 112, 114, 115, 129, 172
 NE Greenland margin 152, 153, 154, 156, 157, 158, 160–161, 185, 187
 Vøring margin 195–196
- continent–ocean transition 174, 234, 238
 Farose continental margin 342, 344, 351
- Corona High 340, 349
- Corona sub-basin 12, 13, 340, 348, 349
 stratigraphy 26, 40
- Corrib Gas Field 447, 451
- Cretaceous, stratigraphy 20, 22, 24–28, 42–49
 distribution 18, 42, 43, 44–45, 46, 48
 framework 55–56, 59
- Cromer Knoll Group 24, 25, 26, 40, 41, 45–46, 47
- crust, high velocity 113–114
 HVLC 153, 154, 157, 175, 176, 197
 JMMC 192, 193, 195
 Mid-Norwegian continental margin 190, 191
 NE Atlantic 216–218, 237
 conjugate margins 197
 NE Greenland continental margin 184, 185
 NW European margin 259–261, 263, 267, 268
- Icelandic-type 127, 320
- NE Atlantic 233–244
 LCBs 237, 238
- oceanic 6, 127
 morphology 432
 and tectonism/volcanism 427, 433
 and SOIFs 427, 429, 432, 433, 437–438
- Danmarkshavn Basin
 hydrocarbons 444
 seismic profiles 30
 stratigraphy 16, 19, 20, 21, 37, 42–43
 depositional environment 37–38, 43
 tectonism, Cretaceous 42
 see also North Danmarkshavn Basin; South Danmarkshavn Basin
- Danmarkshavn Ridge
 Permian–Triassic stratigraphy, seismic profiles 30
 stratigraphy 22
- De Geer Zone 55, 172, 174, 187
- delta depositional systems, Western Barents Sea 23
- Djúpáll Anticline 132
- DLC97-07 seismic profile 384, 385
 DLC97-08 seismic profile 382–384, 386
 DLC97-09 seismic profile 380, 381–382
- Dooish Gas Field 447, 451
- Dreki Ridge 321, 330
- Dronning Augusta Dal, basalt sill 83
- Drumadoon dyke and sill 87
- DTU10 global gravity field model 5, 234, 235, 236
 dykes
 BIPIP 85, 87, 91
 Greenland 77, 79, 80, 82, 323
- East Faroe High Anticline 250, 255, 340, 348, 349
- East Greenland 71, 77
 geochronology 81–83, 88–90, 95
 oil seepage 444, 446–448, 450, 452
 seismic profiles 30
- East Greenland Ridge 12, 13, 16, 172, 174
 seismic refraction data 184, 185, 187
- East Greenland shelf 174
- East Iceland Volcanic Zone 130, 134, 141
- East Jan Mayen Fracture Zone 12, 128, 172, 189, 301
- East Solan Basin
 stratigraphy 18, 33, 35, 40, 46, 47
- Edoras Bank 172, 177
- Eggvin Bank, SOIFs 423, 430, 433
- Eigg Lava Formation 85, 91, 92
- Enni Formation 90, 91, 342, 346–347
- Erqua Formation 76, 77, 78
- Erris Basin 12, 13
 oil seepage 444, 446, 447, 451
 stratigraphy 28, 36, 41–42, 48, 52
 depositional environment 49
- escarpments, volcanic 108, 109, 110, 111, 112
 see also pseudo-escarpments
- Eurasia–Greenland
 breakup 187, 400, 402, 403
 pre-breakup 400, 402
 relative plate motions 399, 403–413, 404, 410–411
- Eurasia–North America, plate motion 405, 409, 410–411
- Eurasian Plate 410
- Eureka Orogeny 55
- evaporites, Permian–Triassic 20, 21, 52
- Eyjafjallajökull 130, 141
- Eyjafjörður Anticline 132
- Eysturoy Sill 91
- Fangst Group 24, 25, 39–40
- Farallon Plate 409, 411
- Faroe Bank Channel 255
- Faroe Bank High 250
- Faroe Islands 71, 84, 89, 90–91, 95, 96, 328
- Faroe Islands Basalt Group 90, 91, 112, 328, 342, 346
- Faroe Platform 250
 crustal thickness 347
 deformation 347
 gravity anomalies 347
 post-volcanic stratigraphy 346
 pre-volcanic stratigraphy 347, 350
 structure 347–348
 volcanics 346–347

- Faroe–Hatton–Rockall conjugate margin 173, 175–177, 178
 volcanic facies mapping 109, 111, 112, 115, 116
- Faroe–Shetland Basin 5, 6, 12, 172, 343, 344
 Cenozoic compression 250, 251, 255, 266
 gravity anomalies 349
 hyperextension and serpentinization 260
 intrusions 112
 seismic refraction data 33, 343, 344–345, 346–351
 stratigraphy 16, 17, 26, 35, 40–41, 47, 54
 post-volcanic 348
 pre-volcanic 348–349, 350
 structure 349
 volcanics 348
- Faroe–Shetland Channel 344, 358
 seismic velocity models 357–372
- Faroe–Shetland escarpment 112, 164
- Faroe–Shetland margin 12
- Faroe–Shetland sill complex 112
- Faroe–Shetland–northern Rockall–Hebrides margin
 stratigraphy
 Cretaceous 18, 27, 46–48, 56–57
 depositional environment 47–48
 Jurassic 17, 27, 40–41, 53, 54
 depositional environment 41
 Permian–Triassic 16, 27, 31, 34–35
 depositional environment 35
 seismic profiles 33
 tectonism, Cretaceous 47
- Faroe–Shetland–Rockall rift 57
- Faroese continental margin 5–6, 339–352
 COT 342, 344
 crustal structure 343
 geological setting 343–344
 gravity anomalies 341
 gravity data 344, 345
 structural framework 340, 342, 349–351
 sub-basalt geology 345–352
 crustal structure 349–351
 volcanism 339, 340, 341–342
- FAST seismic refraction line **210**, 357, **359**
 FLARE-1 and AMG95-1 361–364, 371–372
- Fastnet Basin 12, **13**
 stratigraphy 28, 41, 48
 depositional environment 49
- Finnian's Spur 250, 256
- FIRE seismic line 181–183, **211**, 346, 347, 349
- FLARE seismic lines **210**, 367, 368, 369, 371
 comparison with AMG95-1 and Mobil-2 367, **370**
- FLARE-1 seismic line 357, 358, **359**, 368
 comparison with AMP-D 366–367
 comparison with FAST and AMG95-1 361–364
 comparison with FLARE-2/12 367
- FLARE-2 seismic line 358, **359**, 368
- FLARE-3 seismic line 358, **359**, 368
- FLARE-4-12 seismic lines 358, **359**, 368, 369
- FLARE-6 seismic line 371
- FLARE-7 and 8 seismic lines, and AMG95-1 **370**
- FLARE-11 seismic line, and Mobil-2 **370**
- Flett sub-basin 12, **13**, 340, 343
 stratigraphy 26, 40, 47
- Foldvik Creek Group 22, 24, 25, 29
- Foula sub-basin 12, **13**, 340, 343
 stratigraphy 26, 40, 41, 47
- Fram Strait 11
- Franklin Seamount 424–425
- Freycinet Bjerg, basalt sill, geochronology **83**
- Fruholmen Formation, oil 449, 450
- Fugloy Ridge 250, 251, 252, 340, 342, 343–344, 347–348, 350
 gas chimneys, offshore Ireland 451–452
- Gåseslette Group 20, 43
- Geikie Plateau Formation 77
 geochronology 4
- GEUS2002 line B 184, **210**
- Gipsdalen Group 20, 21
- Gjallar Ridge 12, **13**, 45, 251, 252
- Global Offshore Seepage Database 6, 445
- Goban Spur Basin 12, **13**
 stratigraphy 28, 36, 41–42, 48, 49
- Goliat Field 445, 446, 448
 gravity anomalies, GIFRC 133
 gravity models
 NE Atlantic crustal structure 233, 234–244
 thermal effect 237–238
 NW European hyperextension/serpentinization 256, 258, 259
- Great Estuarine Group 27, 40
- Greenland
 relative plate motion **399**
see also East Greenland; NE Greenland; North-NE Greenland; SE Greenland; West Greenland
- Greenland Basin
 seafloor spreading 436
 seismic refraction data 184
 SOIFs 431, 437
- Greenland Escarpment 157, 159, 165
- Greenland Fracture Zone 12, **13**, 187
- Greenland and Western Europe Caledonian deformation zone 400, 402
- Greenland–Eurasia breakup 400, 402, 403
 relative plate motions **399**, 403–413, 404, 410–411
- Greenland–Faroe Transfer System 329
- Greenland–Iceland Ridge 12, **13**, 77, 128, 130, 172
 seismic profiles 137, 142, 175, 197
- Greenland–Iceland–Faroe Ridge Complex (GIFRC) 2, 4, 127–145, 128, 129, 172, 173, 319
 active rifting 143
 breakup 141, 143
 volcanism 117
- COB 129
 conjugate transect 179
 crustal thickness 114, 117, 129, 134, 139–141, 173, 175–177, 181, 240, 240–241
 databases 131–132, 135
 formation 327, 351
 gravity anomalies 133
 Iceland mantle plume 207
 magnetic anomalies 133, 135–136
 mantle plume activity 207, 344, 351
 oceanic basement morphology 139
 rift jumps 134, 135, 141, 144
 rift orientation 143–144
 seismic refraction data 181–185, 197
 unconformities 135, 136, 145
 volcanism 328

- Grey Beds 24, 31
 Gridar Gorge 130
 Grimhild sub-basin 340, 343, 348, 349
 Grønne Ejland Sill, geochronology **80**
 Gudrun sub-basin 340, 343, 348, 349
- Hængefjeldet Formation 77
 Hall Bredning Group 25, 39
 Halten Terrace 12, **13**, 31, 190
 stratigraphy, Jurassic 39
 Hammerfest Basin 12, **13**, 38
 oil seepage 444, 445, 446, 448, 449
 stratigraphy 16, 17, 18, 20, 21, 23, 44
 Hareelv Formation, oil 311, 450, 452
 Hareøen Formation 76, 77, **78**
 Harstad Basin 12, **13**, 38, 43
 oil seepage 444, 446, 449
 tectonism, Cretaceous 43
 Hartz Fjeld Formation 45
 Hatton Bank 172, 178
 Hatton Basin 12, **13**, 41, 172, 173
 basalt-free windows 386, 387
 crustal thickness 240, 241
 seismic refraction data 177, 178
 Hatton High 12, **13**, 253
 stratigraphy, Cretaceous 18, 47, 56
 Hatton–Greenland rift 57, 376, 387, 389
 asymmetry 150, 173
 seismic volcanostratigraphy 150–151
 Havsule Dome 250, 251
 Heather Formation 41
 Hebrides margin, stratigraphy 27, 40–41
 see also Faroe–Shetland–northern
 Rockall–Hebrides margin
 Hebrides Shelf, stratigraphy 33, 41, 56
 Hebrides terrace, geochronology **86**, **87**
 Hedda Dome 250, 251
 Hekkingen Formation, oil 448–449, 450
 Helland-Hansen Arch 250, 251, 252
 Hellefisk-1 well, geochronology **79**
 Héraðsflói Syncline **132**
 Heri High 340, 348, 350, 351
 Hesteelv Formation 25, 45
 Hold with Hope area, stratigraphy 37
 Hold with Hope Group 24, 43
 Hornsund margin 172, 174, 187, 189
 hotspot track 119–120, 130, 175, 351, 405
 Hovgaard Ridge 172, 174
 Hreppar Anticline **132**
 Humber Group 26, 41
 Hvalrosø pegmatite, geochronology **83**
 Hvannhagi Formation 90–91, 342, 346, 347
 hydrocarbons, NE Atlantic 443–453
 hydrothermal vents, NE Greenland 159,
 165, 166
 hyperextension 114, 117, 249, 251, 256–259, 266,
 269–270
- Iceland
 anticlines 130, **132**, 135, 136, 137, 138,
 142, 145
 rift jumps 144
 synclines 130, **132**, 135, 136, 137, 138,
 142, 145
 Iceland Basin 12, 128
 igneous centre 424
 seafloor spreading 401, 405, 412, 423, 434
 SOIFs 428, 437
 Iceland Basin Anticline/Syncline **132**
 Iceland mantle plume 13, 91, 114, 130, 140, 163, 175,
 197, 207
 GIFRC 140, 144, 181, 351
 and oceanic crust 140, 207, 427
 and SOIFs 437–438
 Traill Ø ridge interaction 166, 405
 and volcanism 13, 433
 reconstruction 400, 403, 405
 Iceland Plateau 300
 rift system 128, 141, 143, 319, 321, 323, 324, 327,
 329–330
 Iceland Shelf 141, 144
 Iceland–Faroe Fracture Zone 128, 141, 144, 330, 331
 Iceland–Faroe Ridge 12, **13**, 128, 130, 172, 340, 344
 COT 351
 crustal thickness 339, 346
 post-volcanic stratigraphy 345
 pre-volcanic stratigraphy 346
 rift systems 135, 136, 137
 seismic profiles 137, 138, 142
 volcanics 345–346
 ICEMELT seismic refraction line 182, 183, **211**
 Ifsorisok Member, geochronology 77, **79**
 igneous centres 109, 421, 424
 igneous complexes 109, 135, 421, 424, 427, 429, 433
 Igtertivå Formation 77, **82**, 323, 328
 Imilik gabbro intrusion 77, 90
 Inland nunatak zone, geochronology **83**
 Inner Hebrides 16, 17, 18, 27, 40–41, 47, 56
 Inner Hebrides Group 27
 Interbasaltic Formation 92
 intrusions 108, 109
 BIPIP 91–93
 Faroe Islands 91
 Greenland 77, 90
 Ireland
 NW offshore, stratigraphy 28, 52, 53, 54, 56
 offshore, oil seepage 444, 446, 447, 449–452
 Irminger Basin 12, 128
 seafloor spreading 401, 404, 405, 412, 423, 434
 SOIFs 428, 437
 Isak Dome 250, 251
 iSIMM seismic refraction line 177, 178, 180, 181–183,
 210, 357, 358, **359**, 371
 comparison with Mobil-2 361, 362, **363**
 isochrons 6, 396, 397, 398, 400
 isostasy 279–280
 anomaly 234, 235, 236
 compensation depth 285, 287
 mid-Norwegian margin 284–294
- Jacobsen Formation 77
 Jameson Land Basin 12, **13**, 172, 311, 317
 marine connection 23
 oil seepage 444, 452
 stratigraphy 16, 17, 23, 25, 29, 38–39, 44–45,
 53, 328
 seismic profiles 30
 tectonism, Jurassic 39

- Jan Mayen Basin *12*, **13**, 299, *300*, **301**, 327
 Jan Mayen Basin South 299, *300*
 Jan Mayen Fracture Zone *2*, 280, 299, *300*, 319
 Jan Mayen Island *172*, 299
 Jan Mayen Lineament *172*, 189
 Jan Mayen microcontinent *2*, *5*, *12*, **13**, *128*, *130*, *172*,
174, 299–331, *300*
 bathymetry *302*, 322
 breakup volcanism 117, 313, 315, 319, 328, 329
 COB *300*, **301**, 403
 comparison with Jameson Land Basin 311
 COT 302
 crustal thickness *241*, 243, *322*, 328
 geological setting 305
 gravity anomalies *308*, 322
 gravity modelling 238
 isolation 141, 144, 327, 329
 kinematic reconstruction 315, 317–327, 400
 magnetic anomalies *322*, 323, 328
 oil seepage *444*, 448, *450*, 452–453
 relative plate motion **399**, 400
 rifting 319–324, 329, 331, 403
 SDRs **301**, 313, 315, 319
 seismic data 191, 193, 198, **310**
 conjugate transects *192*, 193, 195
 reflection data *307*, *308*, 309, *316*
 refraction data *306*, *307*, *308*, 309, *316*
 SOIFs *420*, 423, *430*, 437
 stratigraphy *304*, *306*, 309, 311, 313, *314*, 315
 breakup phases 313–314, 328–329, 331
 Cenozoic *306*, 311, 313, *314*
 igneous sequence 313, 315
 Late-Palaeozoic–Mesozoic *25*, 49–50
 depositional environment 50
 seismic profiles *49*, 50
 tectonism 50
 Mesozoic *306*, 311, *312*, *314*
 Palaeozoic *306*, 311, *312*, *314*
 pre-breakup 311, 313, 327–328, 330
 unconformities 309, 317, 329
 volcanostratigraphy
 Eocene–Neogene 117, 313, 315, 319, 328–329
 ‘F-reflector’ *314*, 315, *320*, 327, 329
- Jan Mayen Ridge
 relative plate motion **399**
 stratigraphy *16*, 50, 329
- Jan Mayen Ridge North *12*, **13**, **301**
- Jan Mayen Trough 299, *300*, **301**
 extension 327, 329
- Judd High *12*, **13**, *26*, *250*, 255
- Judd sub-basin *12*, *16*, *18*, *340*, 343, 348, 349, 350
 stratigraphy *26*, 40, 47
- Jurassic,
 stratigraphy *20*, *22*, *24–28*, 36–42, 53–54, 58
 distribution *17*, 36–37, 38–39, 40, 41
- Jurassic–Cretaceous boundary *54–55*, 58–59
- K/Ar dating *72*, *73*, *74*, *75*
- Kangerlussuaq Alkaline Complex *77*, **82**, 90
- Kangerlussuaq Basin *12*, **13**, *376–377*, *377*
 oil seepage *447*, *448*, 452
 stratigraphy *18*, 26, 46, 56
- Kangerlussuaq Group *26*, 46, *377*
- Kanĭsut volcanics *77*, **79**
- Kap Broer Ruys felsite, geochronology **83**
- Kap Edvard Holm, geochronology 90
- Kap Gustav Holm *12*, 46, *77*, *376*, *377*
- Kap Stewart Group *25*, 29, 37, 38, 39, *450*
- Kapp Toscana Group *20*, 21, 23, 38, 449
- Kefersteinberg, sill **83**
- Kejser Franz Joseph Fjord *184*
- Kilen area 37, 42
- Kilen Group *20*, 43
- Kimmeridge Clay Formation 41
- King Oscar Fjord, oil seepage 446–447, *448*, 452
- Knipovich Ridge *12*, *172*, *431*
 seismic refraction data 221–222
- knolls 421
- Kolbeinsey Basin *401*
 seafloor spreading 321, 323, 327, 395, *401*,
403, *404*, *435*
- Kolbeinsey Ridge *2*, *128*, *130*, 174, *184*, **301**
 establishment *324*, *326*, 327, 412
 gravity modelling 238
 insular shelf 144
 SOIFs *420*, 423
 transfer zone 141, 329–330
- Koldeway Platform *12*, **13**
 stratigraphy *17*, *18*, 19, 21, 22, 37, 42, 43
- Kolje Formation, oil 449, *450*
- Kong Karls Land, Cretaceous magmatism 44
- Kruuse Fjord gabbro intrusion 77, 90
- Ladesgårdsåen Formation *20*, 37, 43
 landward lava flows 107–108
 NAIP *111*, 112, 113, *115*, 116
 NE Greenland margin 153, 156, 159, 164
- Laramide Orogeny 409
- Large Igneous Provinces (LIPs)
 age determination 71–72
 definition 69, 129
- Late-Cimmerian Unconformity 55
- Laurussia, formation 11, 13
- lava, landward flows *see* landward lava flows
- Lewis, dyke geochronology **87**
- Lias Group *27*, 40, 41
- lithosphere-asthenosphere boundary, mid-Norwegian
 margin 283
- Little Minch Basin, stratigraphy *27*
- Liverpool Land Basin *12*, **13**
 seismic profiles *30*
 stratigraphy *23*, 25, 39, 45
- Lofoten Basin *401*
 seafloor spreading *436*
 SOIFs *431*
- Lofoten margin 174, 280, *281*, 282
 conjugate transects 196
 seismic refraction data *188*, 189, 190,
194, 198
- Lofoten Ridge 282, 290
- Lofoten-Vesterålen margin 164–165, 166
- Loppa High *12*, **13**, *16*, 20, 23
- Lopra Formation **84**, 90, 91, *342*, 346
- Lopra-1 well *342*, 345, 348, 350
- Lousy Bank, crustal thickness 177
- Lousy High *250*, 255
- Lower Basalt Formation **86**, 92, 93
- Lower Kanĭsut Member **79**

- Lower Plateau Lava Series **82**
 Lower Series Basalts 77, **84**, 88, 89–90
 Lundy Island 93
 Lyngvi Ridge 328
 Lyonesse Fold Complex 250, 256
- magmatism 44
 LIPs 71–72
 NAIP 171, 173
- magnetic anomalies
 GIFRC 133, 135–136
 NE Atlantic 395–396, 397, **398**, 400, 402, 422, 427
 Reykjanes Ridge 1
- Main Series Basalts 77, 88, 90
 Maligât Formation 76, 77, **78**, 88
 Malinstindur Formation 90, 91, 342, 346–347
 Mallemuk Mountain Group 19, 20, 21
 Månedal Formation 43
- mantle plume activity
 and crustal thickness 114, 117, 129, 134, 139–141, 173, 175–177, 181
 NAIP formation 106, 119–120, 129, 150
 and ocean crust morphology 427
 and SOIFs 437–438
 and volcanism 13
 reconstruction 400, 402, 403, 405
see also Iceland mantle plume
- mantle structure 7
 Mid Faroe High 340, 349
 Mid-Cimmerian Unconformity 53
 Mid-Hatton Bank Fold Complex 250, 256
 Mid-Iceland Volcanic Belt 128
 Mid-Norway Shelf, oil seepage 444
 Mid-Norwegian margin
 bathymetry 281, 285, 286
 comparison with NE Greenland 150, 164–165
 depositional environment 31
 geological history 280, 282
 LAB 283
 Moho depth 190, 283, 290, 291
 seismic refraction data 188, 189–191, 283
 stratigraphy 31, 39–40, 45–46, 55–56
 subsurface density model 283–284
 elevation residuals 285, 287, 288, 289, 291, 292
 gravity residuals 288, 289, 291
 isostatic calculations 284–294
 limitations 292–294
 long-wavelength residuals 285, 287
 short-wavelength residuals 288
see also Norwegian margin
- Mid-Norwegian–SW Barents Sea conjugate 4–5, 164–165
 seismic profiles 32
- Mid-Rockall Dome 250, 254, 256
 Middle Ifsorisok Member **79**
 Middle Kanisut Member **79**
 Middle Series Basalts 77, **84**, 90, 91
 Mikis Formation 77
 Milne Land, stratigraphy, Cretaceous 44–45
 Milne Land Formation 77, **81**, 90, 328
 Mobil-1 seismic line **210**, 358, **359**
 and AMG95-2 359–361
- Mobil-2 seismic line 182, 183, **210**, 358, **359**
 and FLARE/AMG95-1 367, 369
 and FLARE-11 **370**
 and iSIMM 361, 362, **363**
- Modgunn Arch 250, 251
 Mohn's Ridge 2, 12, 128, 172, 221, **301**
 formation 129
 SOIFs 420, 427, 431
- Moho 233
 depth 5
 GIFR 181
 JMMC 192, 193
 margins south of Iceland 175, 198
 Mid-Norwegian margin 190, 283, 290–291
 NE Atlantic 208, 237, 238, 239, 240
 seismic data 211–212, 214–216, 218, 221–223
 SW Barents Sea 187, 189
- Molloy Fracture Zone 12, **13**
 Møre Basin 128, 280
 crustal thickness 240, 241
 seismic profile 32, 45
 stratigraphy 18, 45–46
 tectonism, Cretaceous 45
- Møre Marginal High 280
 Møre-mid-Norway margin 12, 195, 280, 281, 291
 seismic refraction data 188, 189, 190–191, 292
 stratigraphy 25, 31, 39–40, 45–46, 54–56
 depositional environment 31, 40, 46
 seismic profiles 32
 tectonism, Cretaceous 45
- Mourne granite intrusions 93
 Muck Tuff, geochronology **85**, **86**, 93
 Mull
 basalt, geochronology **85**
 stratigraphy 27
- Mull Central Lavas 92
 Mull Lava Group 91, 92
 Mull Plateau Lava Formation 92
 Munkagrunnur Ridge 250, 255, 340, 342, 343–344, 347–348, 350
- NAG-TEC project 3
 Geochronological Database, NAIP 70, 72–97
 study area 2, 12, 14
Tectonostratigraphic Atlas 3–4, 6, 70, 233, 282
- Naglfar Dome 250, 251
 Nagssugtoqidian Orogen 376, 377
 Nansen Fjord Formation 77, **81**, 89
 Naqerloq Formation 76, 77, **78**
- NE Atlantic 1, 2
 aeromagnetic data 395
 basement depth 208, 211–215, 218, 219, 223
 basin formation 395
 bathymetry 235, 236, 394
 breakup 400–403, 405, 412
 Cenozoic compressional events 412–413
 crustal structure 208
 3D gravity model 233–244
 2D cross-sections 242, 243
 COB 236–237, 238, 239, 242, 243
 COT 234, 235, 238
 crustal thickness 240, 241, 243, 400
 elevation maps 235
 gravity data 234–244

- HVLC 237
- initial model 236–238
- inversion 238, 239, 243–244
- LCBs 237, 238
- Moho depth 237, 238, 239, 240
- crustal thickness 216–223, 240, 241, 243, 400, 402
- evolution 13–14, 395
- extension 13–14, 305, 311, 393
- fracture zone mapping 395, 396, 397
- hydrocarbons, oil seepage 443–453
- isochrons 6, 396, 397, 398, 400
- kinematic model 396–400, 405
- magnetic anomalies 395–396, 397, **398**, 400, 402, 422, 427
- Moho depth 208, 211–212, 214–216, 218, 221–223, 237, 238, 239, 240
- nomenclature and correlation 3
- opening 70, 171, 173, 207, 339, 377, 378, 393–395, 400–403, 405, 412–413
- palaeogeography, reconstruction 57–58
- passive margin reactivation 412–413
- plate reconstruction 14, 323, 324–326, 400, 402
- relative plate motions 398, **399**, 400
- ridge formation and evolution 396, 398
- rifting events 13–14, 400, 402
- seafloor spreading 393, 395, 396, 400, 401, 426, 427, 434–436
 - influence of tectonic events 405–413
- sediment thickness 422, 423
- seismic refraction data 208–209, **210–211**, 234
- SOIFs 419–439
- stratigraphy 11–59
- volcanism 305, 412
- NE Greenland margin 4, 151
 - breakup volcanics 160–162, 164
 - COB 152–154, 156, 157, 158, 160–161, 185, 187
 - comparison with Norway margin 150, 164–165
 - conjugate transects 194, 196
 - hydrothermal vents 159, 165, 166
 - landward lava flows 153, 156, 159, 164
 - oceanic basement 160
 - see also basement, oceanic
 - oceanic crust 160
 - plate kinematics 163
 - rubbly basement 160–162
 - SDRs 154, 155, 156, 158, 159, 160, 162, 166
 - seismic refraction data 183–187, 198
 - seismic volcanostratigraphy 151–166
 - seismic facies 151–160, 161
 - sills 155, 159, 160, 161, 162, 163, 165, 166
 - subaerial exposure 161, 165, 166
 - volcanic basement 153, 158, 159, 164, 165
- NE Greenland Volcanic Province 163, 165–166
- NE Rockall Basin, stratigraphy 47
 - seismic profiles 33
- Neill Klintner Group 25, 37, 38, 39
- neo-Tethys ocean 13
- Njörður volcano 130, 143
- Nordkapp Basin 12, **13**
- Nordland Ridge 12, **13**
 - stratigraphy 16, 39
- North America-Eurasia, plate motion 405, 409, 410–411
- North Atlantic Igneous Province 7, 69, 70, 106, 172
- COB 110, 111, 113, 114, 116, 129, 172, 173, 174
- conjugate margins 171–198
- evolution 72, **131**
- formation 129, 149–150, 400
- magmatism 171, 173
- mantle plume activity 106, 119–120, 129, 150
- NAG-TEC Geochronological Database 70, 72–74
 - BIPIP **85–87**, 92–93, 95
 - current geochronological knowledge 94
 - data evaluation 74–76
 - East Greenland **81–83**, 88–90, 95
 - Faroe Islands **84**, 91, 95
 - future work 94–96
 - off-shore studies 93
 - optimized age model 93–94
 - West Greenland 76–77, **78–80**, 95
- North Atlantic Ocean, opening 70, 72
- SDRs 110, 111, 112–116, 121, 129, 172
- volcanism 105–121
 - breakup 105, 113–117, 129, 160–162, 164, 171
 - conjugate asymmetry 117–119
 - distribution 112–121
 - north-south asymmetry 119–120
 - northern limit 120–121
 - post-breakup 129
 - pre-breakup 105, 113, 129, 171
 - role of lithosphere 106
 - seismic facies 107–109
 - seismic facies mapping 109, 110
 - Faroe-Rockall-Hatton 109, 111, 112
- North Bróna Basin 12, **13**, 41
- North Danmarkshavn Basin 12, **13**, 172, 197
 - crustal thickness 240, 241
 - stratigraphy 19, 20, 21, 43
- North Hatton Bank Anticline 250, 253, 255
- North Iceland shelf, seismic profiles 137
- North Iceland Volcanic Zone 128, 130, 141
- North Lewis Basin 12, **13**
 - seismic profiles 33
 - stratigraphy 16, 17, 27, 35, 40–41
- North Minch Basin 12, **13**
 - seismic profiles 33
 - stratigraphy 16, 17, 27, 35, 40–41
- North Rona Basin 40, 46, 47
- North Vøring margin, stratigraphy 24
- North-NE Greenland margin 12
 - stratigraphy 16, 19, 20, 21, 22, 24, 36–38, 42–43, 51–52, 53
 - depositional environment 43
 - tectonism, Cretaceous 42–43
- Northeast Atlantic Geoscience (NAG) group 3
- Northeast Rockall Basin 12, **13**
- Northern Rockall Basin, hyperextension and serpentinitization 260, 266
- Norway Basin
 - relative plate motion **399**
 - seafloor spreading 321, 323, 327, 395, 401, 403, 404, 435
 - SOIFs 420, 423, 429

- Norway Basin-Kolbeinsey transfer system 329
- Norwegian margin
Cenozoic compressional structures 250,
251, 252
HVLC 259–260, 261, 263, 267, 268
hyperextension and serpentinization 259–260, 266
see also Mid-Norwegian margin
- Norwegian–Greenland Sea, opening 173–174
- Nūk takisóq Member, geochronology 77, **78**
- Nun Volcanics Formation 26, 35
- Nuut Member, geochronology 77, **78**
- NW European margin
Cenozoic compressional structures 249, 250,
251–256, 266–271
crustal thickness 256–259
extension 249
HVLC 259–260, 261, 263, 267, 268
hyperextension and serpentinization 249, 251,
256–259, 266, 269–270
rheological modelling 261–266
- NW Iceland Anticline **132**
- NW Iceland Rift Zone **132**, 141
- NW Iceland Syncline **132**
- Nygrunnen Group 20, 44
- Nyk High 12, **13**, 45
- oceanic basement *see* basement, oceanic
- oceanic core complexes 427, 429, 433, 437
- ODP Site 917 377, 378, 386, 387
- ODP Site SEG80B 377, 378, 380, 381
- oil seepage 6, 444
distribution 444, 445–448
JMMC 311
SAR observation 443, 445
- Onika Anticline 250, 255
- Óræfajökull Volcanic Belt 128
- Ormen Lange Dome 250, 251
- Outer Hebrides High 12, **13**
- palaeomagnetism, GIFRC 133, 135–136
- Pangaea supercontinent 13, 14, 249, 305, 341–342
- Papa Basin 33, 35, 40
- Papa Group 26, 35
- Peary Land, stratigraphy 42
depositional environment 37
- Penarth Group 27, 35
- Permian–Triassic, stratigraphy 19–36,
51–52, 58
distribution 16, 19, 21, 23, 31, 34, 35
- Pilot Whale Anticline 250, 255
- Porcupine Bank 172
- Porcupine Basin 12, 172
compressional structure 250, 256
hyperextension and serpentinization 260–261
oil seepage 444, 446, 447, 451–452
seismic refraction data 175, 178, 197
stratigraphy 28, 35–36, 41–42, 48–49,
52–54, 56
depositional environment 36, 42, 49
tectonism 42
seismic profiles 34
- Porcupine High, crustal thickness 241
- Porcupine Volcanic Ridge System 28, 48
- Prestfjall Formation 90, 342, 346, 347
- Prinsen af Wales Formation 77, 89, 90
pseudo-escarpments 152, 154, 155, 158, 159
- Qeqertalik Member, geochronology 77, **79**
- Raasay, stratigraphy, Jurassic 40
- RAPIDS seismic refraction data 177, 178, 180, **211**
- Raukelv Formation 39
- Ravnefjeld Formation, oil 450, 452
- Rb/Sr dating 72, 73, **74**
- Re–Os dating, NAIP **74**
- Red Beds 24, 25, 31
- Reykjanes Ridge 2, 12, 128, 130, **301**
formation 129, 320
gravity modelling 238, 243
paired SOIFs 438, 439
transfer zones 141, 329–330
- Reykjanes Volcanic Belt 128
- Rheology, modelling, NW European margin 261–266
and serpentinization 264–265
- ridge transfer 328
- rift jumps
GIFRC 134, 135, 144
Iceland Plateau 315
- rift propagation 427
- rift systems
extinct 127, 135
GIFRC 127–148
SE Greenland margin 387–389
- rifting
Cretaceous 49, 55, 56
Jurassic 38, 39, 48, 53, 54
Permian–Triassic 52
post-Variscan 13–14
- Rockall Bank 172, 177, 178
- Rockall Basin 12, 173
crustal thickness 240, 241
hyperextension and serpentinization 260
oil seepage 444, 446, 449, 451
seismic refraction data 176–177, 178
stratigraphy 16, 27, 28, 52
depositional environment 36
seismic profiles 33, 34
see also NE Rockall Basin; Southern Rockall Basin
- Rockall High 12, **13**, 241
- Rockall Plateau
SOIFs 428, 429, 433, 437
stratigraphy 17, 27, 56
- Rold Bjerge Formation 43
- Rømer Fjord Formation 77, **81**
- Rona High 12, **13**, 26, 46
- Rosemary Bank seamount 46, 47, 56, **87**
- Røst High 188, 190, 194
- Rotliegend Group 26, 35
- Rum, Central Complex **85**, 92
- Ryberg Formation 311
- SAR, oil slick observation 443, 445
- Sarqâta qâqâ central intrusion, geochronology 77, **80**
- Sassendalen Group 20, 21, 23
oil 448–449, 450
- Scoresby Land Group 24, 25, 29, 39
- Scoresby Sund 317, 328
oil seepage 447, 448, 452

- Scoresby Sund Group 25, 39, 45
 Scrabo Hill sill, geochronology **86**
 SE Greenland margin *12, 376*
 asymmetry with Hatton Bank margin 150, 173
 offshore geology 377–378
 onshore geology 376–377
 SIGMA seismic refraction lines 175, 176, 177, 179
 stratigraphy, Cretaceous 26, 46
 sub-basalt rift basins 375–389
 tectonic setting 378
 Sea of Hebrides–Little Minch Basin *12, 13*
 stratigraphy 17, 27, 40–41
 sea-level change 38, 41, 44, 48, 52
 see also transgression
 seafloor spreading 6, 150, 428–431
 asymmetry 426, 427, 428–431, **432**, 434–436, 438
 JMMC 315
 mid-Norwegian margin 280
 NAIP 113, 172, 174
 NE Atlantic 207, 305, 393, 395, 396, 400, 401, 403–413, 426, 427
 Norway Basin 321, 323, 327, 395, 401, 403, 404, 435
 and tectonic events 405, 409, 410, 427
 seamount-like oceanic igneous features *see* SOIFs
 seamounts *see* SOIFs
 seaward-dipping reflectors (SDRs) *108*
 GIFRC 135, 138
 Greenland 70, 72
 NAIP 109, 110, 111, 112, 113, 129, 150
 NE Greenland margin 154, 155, 156, 158–160, 162
 seismic refraction profiles 5
 East Greenland margin 30
 Faroe–Shetland Basin 33, 343, 344–345, 346–351
 NE Atlantic
 conjugate margins 173, 174–198
 Moho and basement depth 208–223
 NW European hyperextension and serpentinization 256, 257, 259
 Senja Fracture Zone *12, 13*, 187
 Senja margin 172, 174, 187
 serpentinization 176, 249, 251, 256–259, 260–270
 and rheology 264–265
 Shannon, basalt sill geochronology **83**
 Shannon High, seismic profiles 30
 Shannon Island 172
 Sherwood Sandstone 36
 Shetland Group 24, 25, 26, 45, 46, 47, 48
 SIGMA seismic lines 175–177, 179, 180, 181, **210**
 sills *108, 109*
 BIPIP **86, 87**, 91
 Greenland 77, **79, 80, 82**
 NAIP 110, 111, 112, 120–121, 172
 NE Greenland margin 155, 159, 160, 162, 165, 166
 Sjúrdúr High 340, 348, 350
 Skærgaard intrusion, geochronology **81**, 90
 Skalø Member, geochronology 76, 77, **78**
 Skerry Group 26, 41
 Skrænterne Formation 77, **81**
 Skye **85**
 stratigraphy 27, 40
 Skye Central Complex 92
 Skye Lava Group 91–92
 Slyne Basin *12, 13*
 oil seepage 446, 447, 451
 stratigraphy 28, 36, 41–42, 48
 depositional environment 49
 Snæfellsnes Jökull 130, 141
 Snæfellsnes Volcanic Belt 128
 Snæfellsnes–Húnaflói Rift Zone 134, 141
 Snæfellsnes–Húnaflói Syncline **132**
 Sneis Formation 91, 346, 347
 SOIFs 6, 109, 110, 135, 419–439
 distribution 420, 421–427, **432**, 433, 438
 GIFRC 140, 143
 gravity anomalies 421, 422, 425
 and Iceland magma plume 437–438
 Iceland-Bight Fracture Zone 420, 421, 423, 428
 Kolbeinsey Ridge 420, 423, 430
 magnetic anomalies 422, 427, 429
 Mohn's Ridge 427, 431
 Norway Basin 420, 423, 429
 oceanic crust formation 427, 429, **432**, 433, 437–438
 paired 438–439
 and seismicity 438
 Sørvestsnaget Basin *12, 13*
 Permian–Triassic stratigraphy 23
 seismic profile 32, 44
 tectonism, Cretaceous 43
 South Danmarkshavn Basin *12, 13*
 sills and hydrothermal vents 159, 160, 161, 162, 163, 165, 166
 stratigraphy 22, 43
 seismic profiles 30
 South Iceland Seismic Zone 128
 South Modgunn Arch 250, 251
 South Vøring margin, stratigraphy 24
 Southern Ridge Complex 299, 300, **301**, 305, 327
 Southern Rockall Basin
 Cenozoic compressional structures 250, 256
 hyperextension and serpentinization 260
 Southern Rockall–Porcupine margin 12
 seismic refraction data 175–177, 197
 stratigraphy 28, 35–36, 41–42, 48–49, 56
 depositional environment 42, 49
 seismic profiles 34
 tectonism 41–42, 48
 Spitsbergen Fracture Zone *12, 13*
 Staffa Lava Formation 92
 Staffin Bay Formation 27, 40
 Staffin Shale Formation 27, 40
 Steensby Bjerg Formation 24, 43
 Steinvør sub-basin 340, 343, 348, 349
 Stornoway Formation 27, 35
 stratigraphy
 Cretaceous 42–49
 distribution 18, 42, 43, 44–45, 46, 48
 Jurassic 36–42
 distribution 17, 36–37
 Late Palaeozoic–Mesozoic 4, 14–59
 correlation panels 15, **19**, 22, 24, 26, 27, 28, 51
 distribution 15, 16, 17, 18, 19, 50
 Jan Mayen microcontinent 49–50

- stratigraphy (*Continued*)
 regional framework 50–56, 58–59
 Carboniferous–Permian boundary 51
 correlation panel 51
 Cretaceous 55–56
 Jurassic 53–54
 Jurassic–Cretaceous boundary 54–55
 Permian–Triassic 51–53
 Triassic–Jurassic boundary 53
 seismic sections 19
 Permian–Triassic 19–36
 distribution 16, 19
 seismic profiles 30, 32, 33
 Strede Bank Anticline and Syncline **132**
 Stremoy Sill 91
 subduction 409, 410, 412
 subsidence, Cretaceous 55–56
 Suðuroy Island 347, 350, 351
 Sula Sgeir High, seismic profiles 33
 Sulugsat Alkaline Complex 90
 Svalbard, stratigraphy 17, 20, 21, 23, 38, 43–44, 51, 53
 Svartenhuk Formation 76, 77
 SW Barents Sea margin
 COB 187, 189
 crustal thickness 187, 189
 seismic refraction data 186, 187–189
 synclines, Iceland 130, **132**, 135, 136, 137, 138, 142, 145
 Talerua Member 77, **78**
 Tardree Rhyolite Complex **86**, 92, 93
 tectonism
 Cretaceous 56
 Faroe–Shetland–Rockall–Hebrides margin 47
 Møre–mid-Norway margin 45
 North–NE Greenland margin 42
 Southern Rockall–Porcupine margin 48
 Western Barents Sea–Svalbard margin 43–44
 Jurassic 53–54
 Central East Greenland margin 39
 Southern Rockall–Porcupine margin 41–42
 Western Barents Sea–Svalbard margin 38
 Late-Palaeozoic–Mesozoic, JMMC 50
 Permian–Triassic 52
 Templefjorden Group 20, 21
 TGS seismic line 384–386, 386–389
 Thetis Basin 12, **13**, 163, 172, 194, 197
 stratigraphy 19, 21, 22, 37, 43, 52
 seismic profiles 30
 tectonism, Cretaceous 42
 Thetis Escarpment 159, 163, 165
 Thetis Marginal High, seismic profiles 30
 tilt derivative 234, 235, 236
 Tjörnes Fracture Zone 128, **301**
 Traill Ø
 basalt sill, geochronology **83**
 plume–ridge interaction 166
 stratigraphy 29, 37, 42, 43
 Traill Ø–Vøring Igneous Complex 162, 165–166
 transgression 41, 48, 52, 53
 see also sea-level change
 Triassic, stratigraphy 52
 see also Permian–Triassic, stratigraphy
 Triassic–Jurassic boundary, stratigraphy 53, 58
 triple junctions 165, 346, 395
 Troll Wall–Soria Moria 427
 Trolle Land Group 20
 Permian–Triassic stratigraphy 19, 20, 21
 depositional environment 20, 21
 Tromsø Basin 12, **13**
 oil seepage 444, 446, 449
 seismic profile 32
 stratigraphy 17, 38, 44
 tectonism, Cretaceous 43
 Trøndelag Platform 12, **13**, 31, 281, 282, 291
 seismic profiles 16, 32
 stratigraphy 39
 Tróndur High 340, 348, 349
 Tunuarsuk Member, geochronology 77, **78**
 U–Pb dating 70, 72, 73, 74, **85**, **86**
 Ubekendt Ejlund volcanics 77, **78–80**
 unconformities
 Carboniferous–Permian boundary 21, 51
 Cretaceous 43, 44, 45, 46–47, 48–49
 GIFRC 135, 136, 142, 144, 145
 JMMC 309, 317
 Jurassic 37, 38, 39, 40, 41, 42, 53
 Jurassic–Cretaceous boundary 54–55
 Permian–Triassic 20, 21, 22, 24, 25, 29, 31, 35, 36
 Triassic–Jurassic boundary 53
 underplating, magmatic 113–114
 NE Greenland margin 150, 154, 156, 158, 159
 uplift
 Cretaceous 55–56
 Jurassic 39, 53
 Upper Basalt Formation 92, 93
 Upper Basalt Series 77, 90, 91
 Upper Ifsorisok Member **79**
 Upper Kanisut Member **79**
 Upper Plateau Lava Series **83**
 Upper Series Basalts **84**
 Uralian Orogeny 21, 52, 53
 Urbjerget Formation 77
 Utgard High 45
 Utrøst Ridge 282
 Vaigat Formation 76, 77, **78**, 88
 Vandfalsdalen Formation 77
 Vardekloft Group 22, 24, 25, 37, 39
 Variscan Orogeny 13
 Vega Sund Formation 43
 Vema Dome 250, 251
 Veslemøy High 12, **13**
 seismic profile 32, 44
 Vestbakken margin 187, 189
 Vestbakken Volcanic Province 165, 172, 174, 186, 189, 198
 Vesteris Seamount 151, 427, 429, 431, 433
 Vesturdjúp Syncline **132**, 139, 140, 143
 Vigrid Syncline 12, **13**, 45
 Viking Group 24, 25, 39, 40
 Vindtop Formation 77, **81**
 volcanic cones 151, 153, 156, 157, 158
 volcanic features 419–439
 distribution 420, 421–427

- volcanism 4
 Cretaceous 44
 intra-plate 419
 mid-Norwegian margin 280
see also basalt, flood; NE Atlantic, volcanism; North Atlantic Igneous Province, volcanism
- volcanoes 421
 active 109, 135, 136
 GIFRC 135, 136, 141, 143
 inactive 109, 135, 136
- volcanostratigraphy, seismic 107–109, 150–151
 mapping 109, 110
 Faroe–Rockall–Hatton 109, 111, 112
 NE Greenland margin 151–166
see also Jan Mayen microcontinent, volcanostratigraphy
- Vopnafjörður Anticline **132**
- Vøring Basin 12, 128, 194, 282
 Cenozoic compressional structures 250, 251
 seismic profiles 32, 45
 sills 165
 stratigraphy 45–46
 tectonism, Cretaceous 45
- Vøring Escarpment 163, 164–165
- Vøring margin 31, 280, 281, 282
 COB 282
 crustal thickness 195, 196
 seismic refraction data 188, 189, 190, 198
 stratigraphy 39–40, 52, 53
- Vøring marginal plateau 174, 282
 conjugate to NE Greenland 164
- Wandel Sea Basin 12, **13**
 stratigraphy 16, 17, 18, 19, 20, 21, 37, 42–43, 55
 depositional environment 20, 21, 37, 43
 tectonism, Cretaceous 42
- West Flannan Basin 12, **13**
 stratigraphy 17, 40, 41, 47
- West Greenland 71, 76–77, **78–80**, 88, 95
- West Iceland Volcanic Zone 128, 130, 141
 rift Jumps 134
- West Jan Mayen Fracture Zone 12, **13**, 128, 172, **301**
 seismic refraction data 183–185
- West Lewis Basin 12, **13**
 stratigraphy 16, 17, 27, 35, 40, 41, 56
- West Orkney Basin 12, **13**, 33, 35
- West Shetland Basin 12, **13**, 40
 stratigraphy 18, 26, 35, 46–47
- West Shetland margin, stratigraphy 26, 52
- West Shetland Shelf
 seismic profiles 33
 stratigraphy 35, 47
- West Solan Basin, stratigraphy 40, 41, 46, 47
- Western Barents Sea margin, oil seepage 444, 445–446, 448–449, 450
- Western Barents Sea-Svalbard margin 12
 stratigraphy 16, 17, 18, 20, 21, 23, 38, 43–44, 51, 53
 depositional environments 20, 23, 38, 44
 tectonism 43–44
- Westray Anticline 250, 255
- Wilson tectonic cycle 1
- Wollaston Foreland Basin 12, **13**
 stratigraphy 16, 17, 22, 23, 29, 37
 depositional environment 37
- Wollaston Foreland Group 22, 24, 37
- Wyville–Thomson Ridge 113, 115, 250, 253, 255, 343–344
- Yermak Plateau 172
 yield-strength envelopes 261–266
- Ymir Ridge 250, 253, 255
- Zechstein Basin, marine connection 23, 24
 Zechstein Group 24, 26, 31, 35
 Zechstein Sea 52