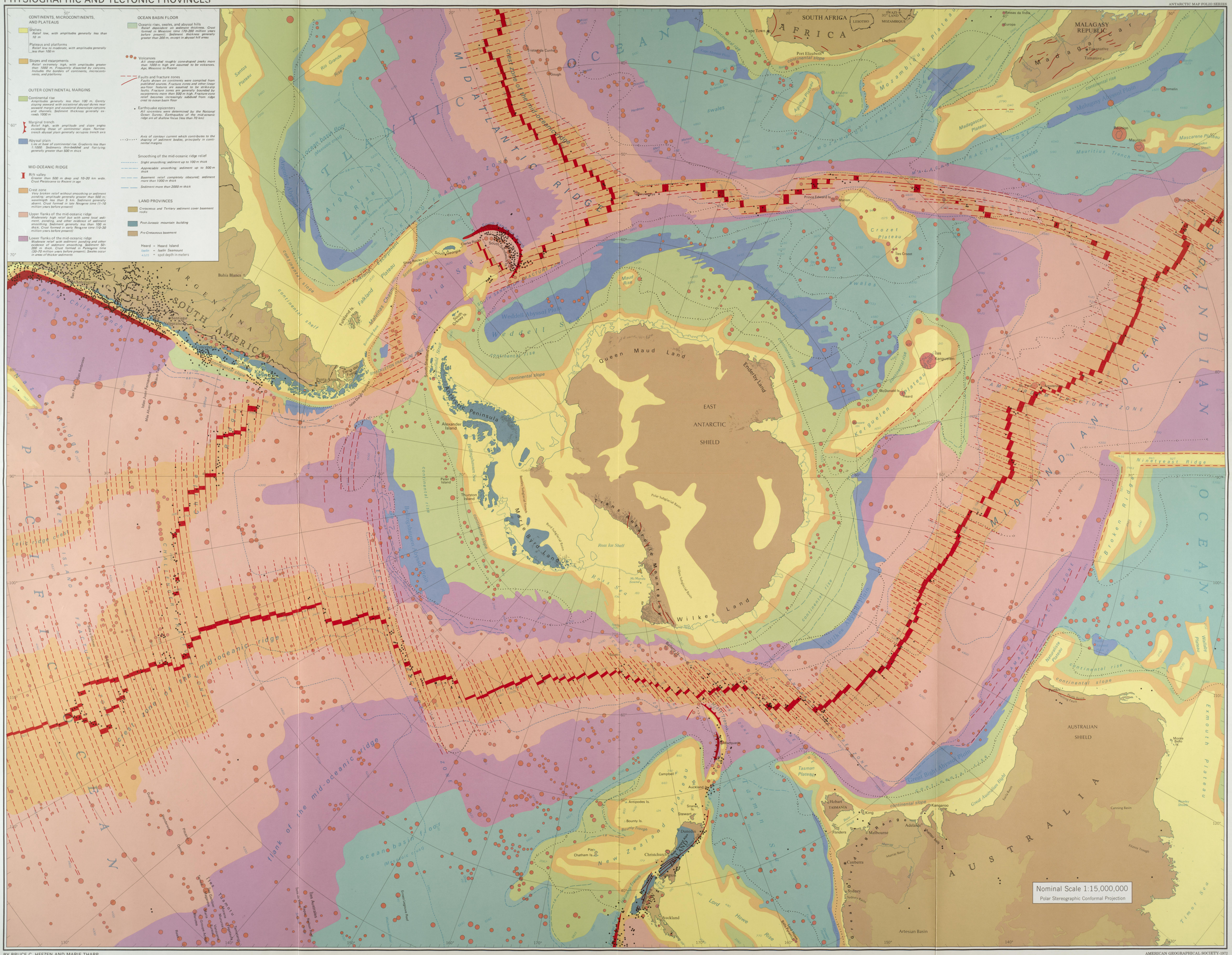
PHYSIOGRAPHIC AND TECTONIC PROVINCES


CONTINENTS, MICROCONTINENTS, AND PLATEAUS
Shelves
Relief low, with amplitudes generally less than 10 m
Plateaus and platforms
Relief low to moderate, with amplitudes generally less than 100 m
Slopes and escarpments
Relief extremely high, with amplitudes greater than 1000 m. Frequently dissected by canyons. Includes the borders of continents, microcontinents, and platforms
OUTER CONTINENTAL MARGINS
Continental rise
Amplitudes generally less than 100 m. Gently sloping seaward with occasional abyssal dunes near seaward margin and occasional downslope canyons and channels. Sediment thickness generally exceeds 1000 m
Marginal trench
Relief high, with amplitude and slope angles exceeding those of continental slope. Narrow-trench abyssal plain generally occupies trench axis
Abyssal plain
Lies at base of continental rise. Gradients less than 1:1000. Sediments thin-bedded and flat-lying; generally greater than 500 m thick
MID-OCEANIC RIDGE
Rift valley
Greater than 500 m deep and 10-20 km wide. Crust Pleistocene to Recent in age
Crest zone
Very broken relief without smoothing or sediment ponding, amplitude generally greater than 500 m; wavelength less than 5 km. Sediment generally absent. Crust formed in late Neogene time (1-10 million years before present)
Upper flanks of the mid-oceanic ridge
Moderately high relief but with some local sediment, ponding, and other evidence of sediment smoothing. Sediment generally less than 100 m thick. Crust formed in early Neogene time (10-30 million years before present)
Lower flanks of the mid-oceanic ridge
Moderate relief with sediment ponding and other evidence of sediment smoothing. Sediment 50-200 m thick. Crust formed in Paleogene time (30-70 million years before present). Swales occur in areas of thicker sediments
OCEAN BASIN FLOOR
Oceanic rises, swales, and abyssal hills
Relief dependent on sediment thickness. Crust formed in Mesozoic time (70-200 million years before present). Sediment thickness generally greater than 200 m, except in abyssal hill areas
Volcanoes
All steep-sided roughly cone-shaped peaks more than 1000 m high are assumed to be volcanoes. Age, Mesozoic to Recent
Faults and fracture zones
Faults shown on continents were compiled from published sources. Fracture zones and other linear sea-floor features are assumed to be strike-slip faults. Fracture zones are generally bounded by escarpments more than 500 m high. Fracture-zone relief becomes increasingly subdued from ridge crest to ocean basin floor
Earthquake epicenters
All epicenters were determined by the National Ocean Survey. Earthquakes of the mid-oceanic ridge are all shallow focus (less than 70 km)
Axis of contour current which contributes to the shaping of sediment bodies, principally in continental margins
Smoothing of the mid-oceanic ridge relief
Slight smoothing; sediment up to 100 m thick
Appreciable smoothing; sediment up to 500 m thick
Basement relief completely obscured; sediment more than 1000 m thick
Sediment more than 2000 m thick
LAND PROVINCES
Cretaceous and Tertiary sediment cover basement rocks
Post-Jurassic mountain building
Pre-Cretaceous basement
Heard – Heard Island
Isolin – Isolin Seamount
4325 – spot depth in meters
SOUTH AFRICA
AFRICA
LESOTHO
KWAZULU
MOZAMBIQUE
MALAGASY REPUBLIC
Madagascar
Cape Town
Durban
Port Elizabeth
Massas da India
Europa
Tromelin
Reunion
Mauritius
Rodriguez
Mascarene Plateau
Mozambique Plateau
Madagascar Plateau
Agulhas Plateau
Mozambique Fracture Zone
Malagasy Abyssal Plain
Mauritius Trench
Crozet Plateau
Iles Crozet
Prince Edward Is.
Marion
Kerguelen Plateau
Iles Kerguelen
McDonald Is.
Heard
St. Paul
Amsterdam
Ninetyeast Ridge
Broken Ridge
Wallaby Plateau
Natal Plateau
Tristan da Cunha
Gough
Discovery Bank
Meteor Bank
Hermes
Mid-Atlantic Ridge
crest zone of the mid-oceanic ridge
Rio Grande Rise
Santos Plateau
Argentine Rise
Argentine Abyssal Plain
Falkland Plateau
Falkland Is.
Malvinas Chasm
Falkland Escarpment
Scotia Sea
South Sandwich Trench
South Sandwich Is.
Clerke Rocks
South Georgia
Shag Rocks
Bouvet Is.
Maud Rise
Weddell Abyssal Plain
Weddell Sea
South Orkney Is.
South Shetland Is.
Bahia Blanca
Santiago
Valparaiso
Peru Chile Trench
Nazca Ridge
Punta Arenas
Tierra del Fuego
Isla Desventuradas
Juan Fernandez
San Felix
San Ambrosio
Easter Island
Sala y Gomez
Chile Rise
Chile Ridge
Galapagos Rift
Galapagos Islands
Cocos Ridge
Cocos Island
Malpelo Island
Queen Maud Land
Enderby Land
EAST ANTARCTIC SHIELD
Antarctic Peninsula
Alexander Island
Bellingshausen Sea
Peter I. Island
Thurston Island
Marie Byrd Land
Ross Ice Shelf
Ross Sea
Transantarctic Mountains
Wilkes Land
Balleny Is.
Macquarie
Tasman Plateau
Tasman Sea
Campbell
Auckland Is.
Antipodes Is.
Bounty Is.
Bounty Trough
Snares Is.
Stewart I.
Dunedin
Chatham Is.
Pitt I.
Christchurch
Wellington
Auckland
Lord Howe Rise
Norfolk Ridge
Kermadec Trench
Tonga Trench
Fiji
Samoa
Tuamotu
Society Is.
Marquesas
Cook Is.
Austral Is.
Tubuai
Pitcairn
Gambier
Easter Island
Sala y Gomez
Nazca
Chile Rise
Galapagos Rift
Galapagos Islands
Cocos Ridge
Cocos Island
Malpelo Island
Clipperton
Revillagigedo
Socorro
Tres Marias
Mas Afuera
Mas Tierra
Juan Fernandez
Isla Desventuradas
Iles Australes
Iles Tuamotu
Iles Gambier
Iles Marquises
Iles Sous le Vent
Iles du Vent
Iles Tubuai
Iles Australes
Rapa
Ducie
Henderson
Pitcairn