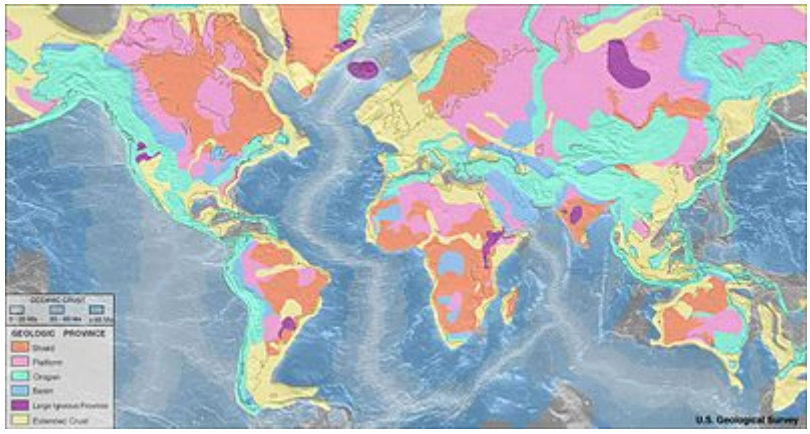
List of orogenies

The following is a list of known orogenies organised by continent, starting with the oldest at the top. The organization of this article is along present-day continents that do not necessarily reflect the geography contemporary to the orogenies. Note that some orogenies encompass more than one continent and might have different names in each continent. Like-wise some very large orogenies include a number of sub-orogenies. As with other geological phenomena orogenies are often subject to different and changing interpretations regarding to their age, type and associated paleogeography.



Geologic provinces of the world (USGS)

- Shield
- Platform
- Orogen
- Basin
- Large igneous province
- Extended crust

Oceanic crust:

- 0–20 Ma
- 20–65 Ma
- >65 Ma

Contents

African orogenies

- Pan-African orogeny – A series of major Neoproterozoic orogenic events which related to the formation of the supercontinents Gondwana and Pannotia (550 Ma) (Neoproterozoic)
- Damara orogeny – Mountain building event at the intersection of the Congo and the Kalahari cratons.
- Kibaran orogeny – A mountain building event in what is now Africa
- Eburnean orogeny – A mountain building event in what is now West Africa
- East African Orogeny – The main stage in the Neoproterozoic assembly of East and West Gondwana
- Mauritanide Orogeny – An ancient orogen parallel to the west coast of Africa from Morocco to Guinea-Bissau
- Mozambique Orogeny – A band in the earth's crust from East Antarctica through East Africa up to the Arabian-Nubian Shield
- Zambezian Orogeny – Area of mountain building now in southern Zambia and northern Zimbabwe

Antarctic orogenies

Orogenies affecting Antarctica include:[1]

- Napier orogeny (4000 ± 200 Ma)
- Rayner orogeny (~ 3500 Ma)
- Humboldt orogeny (~ 3000 Ma)
- Insel orogeny (2650 ± 150 Ma)
- Early Ruker orogeny (2000–1700 Ma)
- Late Ruker / Nimrod orogeny (1000 ± 150 Ma)
- Beardmore orogeny (633–620 Ma)
- Ross orogeny (~550 to ~480 Ma)

Asian orogenies

- The Aravalli-Delhi Orogen (precambrian)
- The Altaid Orogeny (Paleozoic)
- The Cimmerian and Cathaysian orogenies
  - Active through Triassic and Jurassic Periods along south and southeast Asia.
- Alpine orogeny, encompassing:
  - The Himalayan orogeny, forming the Himalaya Mountains, as a result of the ongoing collision of the Indian Plate with the Eurasian Plate.
- The Dabie-Sulu Orogen (Mesozoic)
- Uralian orogeny – the long series of linear deformation and mountain building events that raised the Ural Mountains Formation of the Ural Mountains, Eurasia, during the Permian Period.

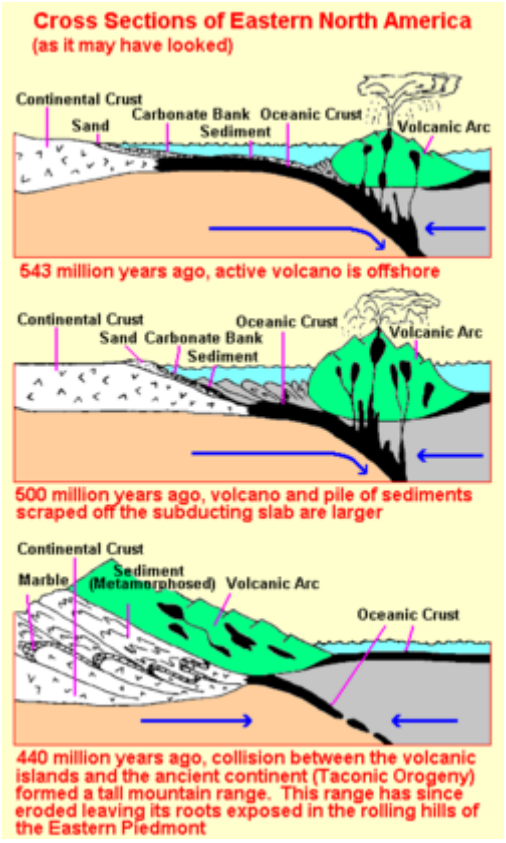
European orogenies

- Saamian orogeny Formation of an extensive area of tonalitic-trondhjemitic crust in Fennoscandia, from 3.1 Ga to 2.9 Ga
- Lopian orogeny Formation of two different types of terrain compatible with plate tectonic concepts. One is a belt of high-grade gneisses formed in a regime of strong mobility, while the other is a region of granitoid intrusions and greenstone belts surrounded by the remnants of a Saamian substratum, from 2.9 Ga to 2.6 Ga.
- Svecofennian orogeny, also known as Svecokarelian orogeny – A series of related orogenies that resulted in the formation of much of the continental crust in what is today Sweden and Finland plus some minor parts of Russia, from 2.0 Ga to 1.75 Ga.
- Gothian orogeny Formation of tonalitic-granodioritic plutonic rocks and calc-alkaline volcanites (like the Svecofennian orogeny) from 1.75 Ga to 1.5 Ga.
- Sveconorwegian orogeny Essentially reworking of previously formed crust, from 1.25 Ga to 900 Ma.
- Timanide orogeny affecting the northern Baltic Shield during the Neoproterozoic Era, from 620 Ma to 550 Ma.
- Cadomian orogeny on the north coast of Armorica in the Ediacaran/Cambrian from 660 Ma to 540 Ma.
- Caledonian orogeny Deformation of the western Scandinavian Peninsula, Britain and Ireland in the Ordovician *Grampian phase* and the Silurian *Scandian phase*.[2]
- Uralian orogeny – the long series of linear deformation and mountain building events that raised the Ural Mountains, during the Permian Period.
- Variscan orogeny, also known as Hercynian orogeny Deformation in western Iberia, SW Ireland, SW England, central and western France, southern Germany and Czech Republic during the Devonian and Carboniferous Periods.
- Alpine orogeny, encompassing:
  - the Formation of the Alps during the Eocene through Miocene Periods.
  - Carpathian orogeny building the Carpathian Mountains of eastern Europe during the Jurassic-Cretaceous to Miocene Period.
  - Hellenic orogeny in Greece and the Aegean area during Eocene through Miocene Periods.

- Mediterranean Ridge

North American orogenies

- Algoman orogeny, also known as Kenoran orogeny – Late Archaean episode of mountain building in what is now North America, Superior province, South Dakota to Lake Huron, Late Archean 2700-2500 Ma.
- Wopmay orogeny, Along western edge of Canadian shield, 2100–1900 Ma.
- Trans-Hudson orogeny, also known as Hudsonian orogeny, Extends from Hudson Bay west into Saskatchewan then south through the western Dakotas and Nebraska. Result of the collision of the Superior craton with the Hearne craton and the Wyoming craton during the Proterozoic. Lasted from 2000–1800 Ma.
- Penokean orogeny Wisconsin, Minnesota, and Michigan, U. S. A. and southern Ontario, Canada, 1850-1840 Ma.
- Big Sky orogeny Proterozoic collision between the Hearne craton and the Wyoming craton in southwest Montana, 1770 Ma.
- Ivanpah orogeny Mojave province, south western USA
- Yavapai orogeny, mid to south western USA, 1710-1700 Ma.
- Mazatzal orogeny, mid to south western USA, 1675-1650 Ma.
- Grenville orogeny Worldwide during the late Proterozoic, 1300–1000 Ma. Associated with the assembly of the supercontinent Rodinia. Formed folded mountains in Eastern North America from Newfoundland to North Carolina, 1100–1000 Ma.
- Caledonian orogeny, including:
  - East Greenland Orogen, formed from Cryogenian to Devonian
  - Taconic phase – A mountain building period that affected most of New England in the NE U.S. and Canada during the Ordovician Period.
  - Acadian phase in the Eastern U.S. during Silurian and Devonian Periods.
- Appalachian orogeny, usually seen as the same as the Variscan orogeny in Europe.
  - Appalachian Mountains is a well studied orogenic belt resulting from a late Paleozoic collision between North America and Africa.
  - Taconic orogeny – A mountain building period that affected most of New England
  - Acadian orogeny
  - Alleghanian orogeny
- Ouachita orogeny, Ouachita Mountains of Arkansas and Oklahoma is an orogenic belt that dates from the late Paleozoic Era and is most likely a continuation of the Appalachian orogeny west across the Mississippi embayment - Reelfoot Rift zone.
- Antler orogeny, Ancestral Sierra Nevada western United States. Late Devonian - early Mississippian.
- Innuitian orogeny, also known as Ellesmerian orogeny, Innuitian Mountains, Canadian Arctic, extending from Ellesmere Island to Melville Island, Mississippian 345 Ma.
- Sonoma orogeny, Rocky Mountains, western North America, 270–240 Ma.
- Nevadan orogeny, Developed along western North America during the Jurassic Period.
- Sevier orogeny, Rocky Mountains, western North America, 140–50 Ma.
- Laramide orogeny, Rocky Mountains, western North America, 40–70 Ma.
- Pasadena orogeny, Transverse Ranges, western North America, Pleistocene to present day



Taconic orogeny

Oceania orogenies

Australian orogenies

- Sleaford Orogeny, (2440–2420 Ma), Gawler Craton, South Australia
- Glenburgh Orogeny, (c. 2005–1920 Ma), Glenburgh Terrane, Western Australia.
- Kimban Orogeny, (c. 1845–1700 Ma), Gawler Craton, South Australia
- Yapungku Orogeny, (c. 1765 Ma), North Yilgarn craton margin, Western Australia
- Mangaroon Orogeny, (c.1680–1620 Ma), Gascoyne Complex, Western Australia.
- Kararan Orogeny, (1650– Ma), Gawler Craton, South Australia
- Barramundi Orogeny, (c. 1870 - 1800 Ma), MacArthur Basin, northern Australia
- Albany-Fraser Orogeny, (c. 1710–1020 Ma), Western Australia
- Isan Orogeny, c. 1600 Ma, Mount Isa Block, Queensland
- Olarian Orogeny, Olary Block, South Australia
- Capricorn Orogeny, Gascoyne Complex, Western Australia
- Musgrave Orogeny, (c. 1080 Ma), Musgrave Block, Central Australia.
- Edmundian Orogeny, (c. 920–850 Ma), Gascoyne Complex, Western Australia.
- Petermann Orogeny, (c. 550–535 Ma late Neoproterozoic to Cambrian), Central Australia
- Delamerian Orogeny – A major geological province in central South Australia, (ca. 514 - 510 Ma) South Australia and Victoria, Australia, Ordovician
- Lachlan Orogeny, c. 540 and 440 Ma., Victoria and New South Wales
- Thomson Orogeny, northern continuation of the Lachlan Orogeny
- Kanimblan Orogeny, (c. 318 Ma.), Carboniferous, Victoria and New South Wales
- Alice Springs Orogeny, (450 - 300 MA) in central Australia, Early Carboniferous
- Hunter-Bowen orogeny, also known as New England Orogeny, (c. 260–225 Ma) Permian to Triassic, Queensland and New South Wales

New Zealand orogenies

- Tuhua Orogeny, (370–330 Ma)
- Rangitata Orogeny, (142–99 Ma)
- Kaikoura Orogeny, (24 Ma–present)

South American orogenies

- Transamazonian orogeny, (Paleoproterozoic)[3]
- Sunsás orogeny
- Cariri Velhos orogeny
- Brasiliano-Pan African orogeny, Brasilia Belt
  - Pampean orogeny, Paraguai Belt
- Chonide orogeny
- Terra Australis Orogeny
  - Pampean orogeny
  - Famatinian orogeny
- San Rafael orogeny
- Gondwanide orogeny, Sierra de la Ventana
- Toco orogeny, Chilean Coast Range 300–330 Ma.[4]
- Andean orogeny – Ongoing mountain-forming process in South America, Andes Mountains, 0–200 Ma.

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