

Outline 16: The Paleozoic World

Paleozoic Plate Tectonics and Paleogeography

Paleozoic Continents

- How do we reconstruct Paleozoic geography?
- Location and age of Paleozoic mountain belts
- Reconstruction of climatic zones
- Paleomagnetic data

Paleomagnetic Data

- Direction of ancient magnetic field
- Gives the N-S direction of the continent
- Inclination of ancient magnetic field
- Gives the latitude of the continent, but not the longitude

Paleozoic Continents

- Baltica: northern Europe and western Russia
- China: southern China and southeast Asia
- Siberia: Siberia and northern China
- Kazakhstania: Kazakhstan, Uzbekistan, etc.

Paleozoic Continents

- Gondwana: mainly the southern continents, South America, Antarctica, Australia, Africa, India, southern Europe, Florida, Georgia, and the Bahamas.
- Laurentia: North America, Greenland, Scotland, part of Scandinavia

Paleozoic Orogenies

- Taconic Orogeny, Ordovician: Baltica moving towards Laurentia
- Caledonian Orogeny, Silurian: Baltica collides with Laurentia in the north
- Acadian Orogeny, Devonian: Baltica collides with Laurentia in the south. Forms the continent Laurussia.

Paleozoic Orogenies

- Allegheny Orogeny, Pennsylvanian and Permian: Gondwana collides with Laurussia.
- The Taconic, Caledonian, Acadian, and Allegheny orogenies together formed the Appalachian Mountains from Georgia to Norway.

Paleozoic Orogenies

- Ural Orogeny, Permian: Laurussia+Gondwana collides with Siberia+Kazakhstan. Forms Ural Mountains.
- Triassic: China collides with the other continents to complete Pangea. Forms mountains of Mongolia.