

Marine Fossils on the Continents

All the marine fossils in these displays were found on the continents. This shows that the sea once covered most or all of the continents.



Scaphites, an ammonite found in Cretaceous sediments in many parts of the world

Image: Vassil, Public domain, via Wikimedia Commons (background removed)

Drainage Basins

Modern currents flow into drainage basins from many different directions. Fossil current flow was often unidirectional across large areas of a continent, indicating that most or all of the continent was submerged, and subjected to large unidirectional flows.



Spiti Valley, India

Image: Timothy Gonzalves, CC by SA 4.0

Fossil Ripple Marks

Ripple marks and other sedimentary structures in the rocks show the direction of water flow at the time of their formation. Compilation of such evidence shows that in certain intervals of the rock record the directions of water flow are consistent over large areas of the continents.



Fossil ripple marks from Wisconsin

Image: Kenneth C Gass, CC by SA 4.0

Fossils in Alignment

Paleocurrent direction may be determined when fossils are oriented in parallel. An example is shown in the photograph below. A similar slab is displayed in this museum. Another example, *Tentaculites*, is shown on this table.



Fossil cephalopods, *Orthoceras*, showing parallel orientation

Image: Sanjay Acharya, CC by SA 4.0

Turbidites

Turbidites are under-water deposits that formed rapidly. They are typically associated with large-scale flooding or tectonic activity. They comprise a major portion of the rock record, and show that catastrophic geologic processes have been important in producing the geologic column.



Turbidites near Broto, Spain

Image: GRI