

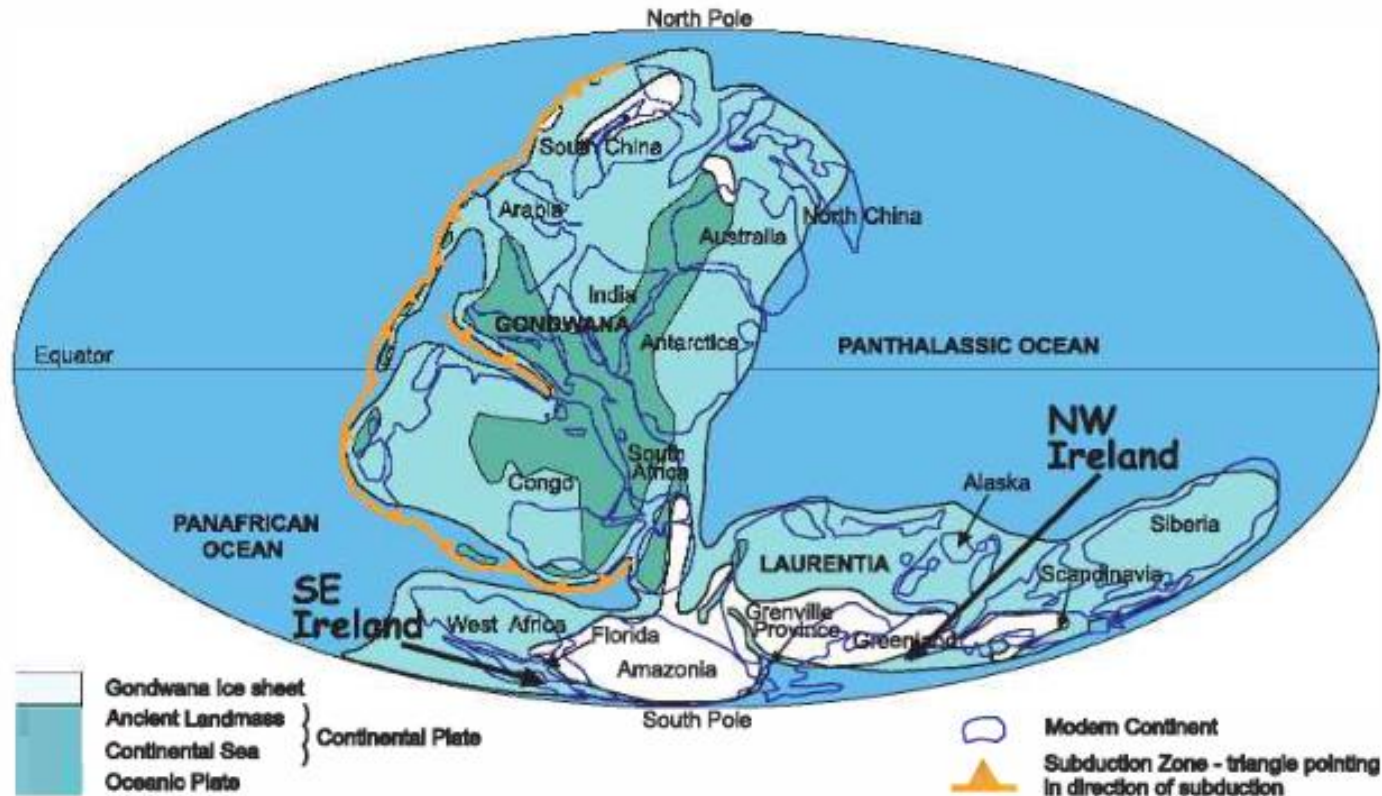
1800-1900 Million Years Ago

On ancient continents, the oldest rocks in Ireland are formed during the PreCambrian Era:

Schist, gneiss & quartzite

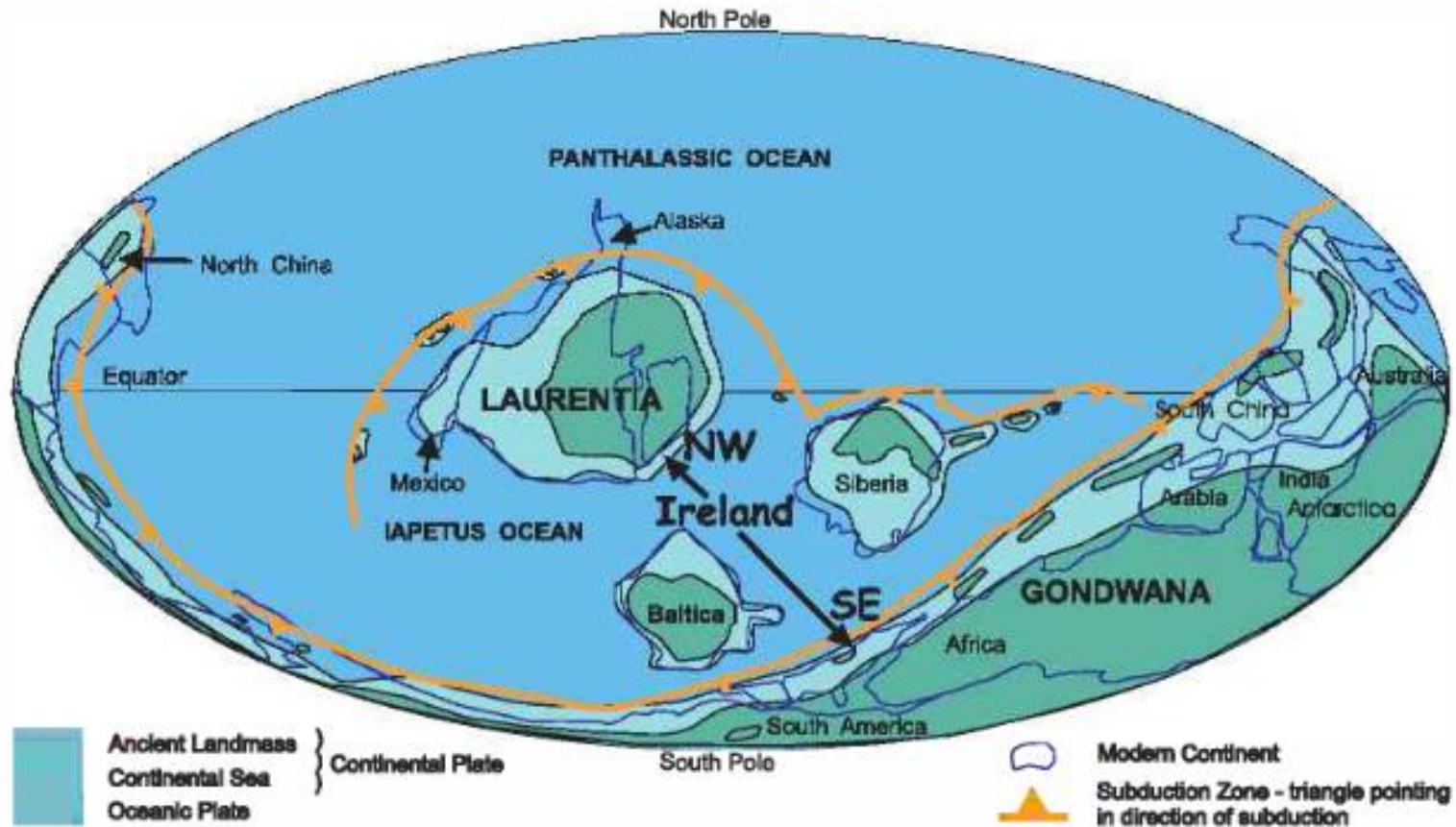
800-600 Million Years Ago

Modern day Ireland is split. NW & SE Ireland are on different plates near the south pole, the Gondwana and Laurentia plates.



545-495 Million Years Ago

NW Ireland has moved towards the equator on the plate Laurentia, while SE Ireland is still near the south pole on the Gondwana plate.



545-495 Million Years Ago

Cambrian Period

Sedimentary rocks are deposited on the continental shelf which will become part of the SE of Ireland:

Sandstone, slate, quartzite

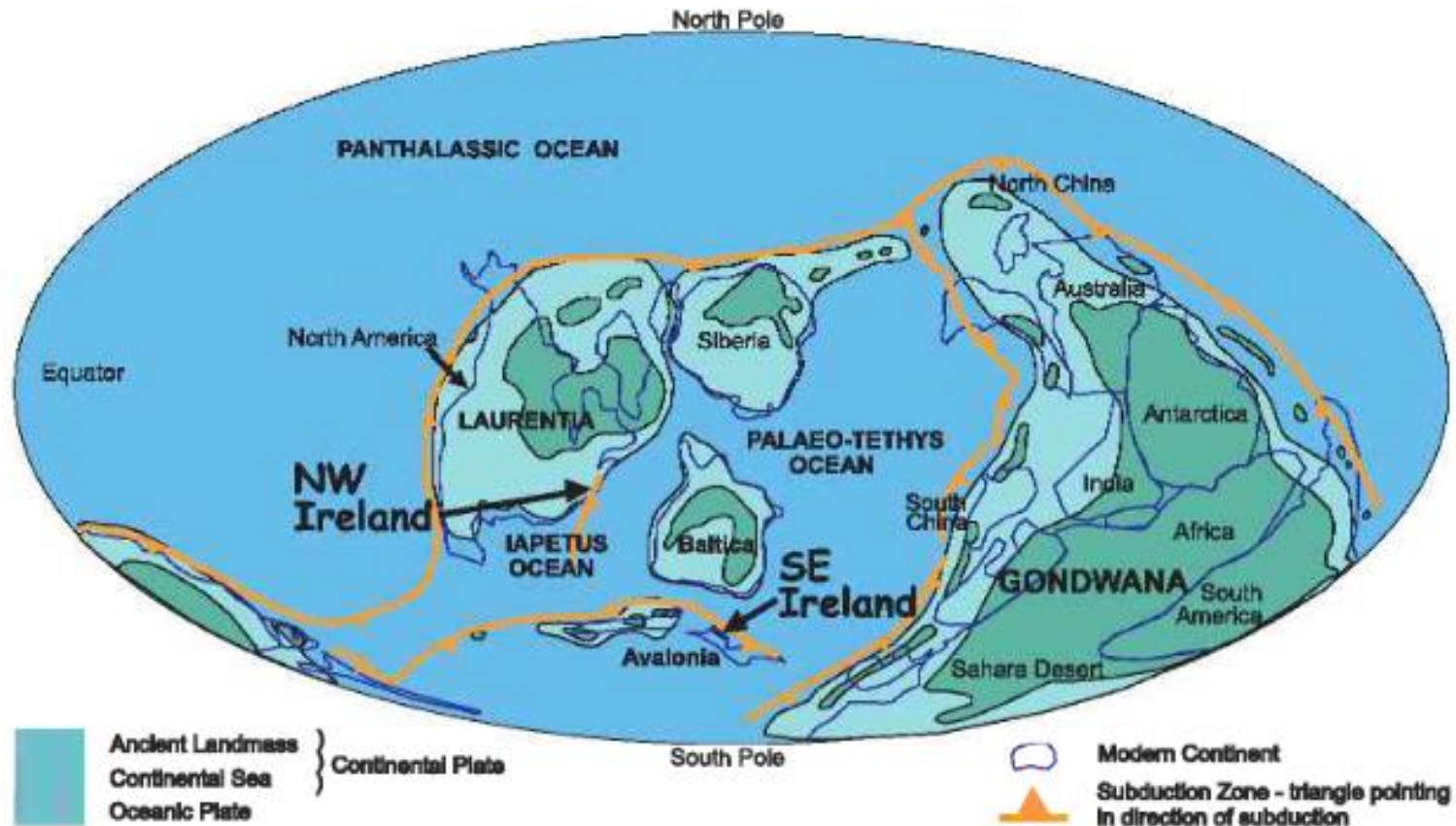
500 Million Years Ago

Cambrian Period

Marine organisms become varied and abundant; much of what will become Ireland is covered by water. Marine fossils are found in these rocks. Those from Booley Bay are unique to Ireland.

495-440 Million Years Ago

The Iapetus Ocean is narrowing. NW Ireland, still underwater, has moved towards the equator on Laurentia. SE Ireland, still underwater, remains near the south pole on the Gondwana plate.



495-440 Million Years Ago

Ordovician Period

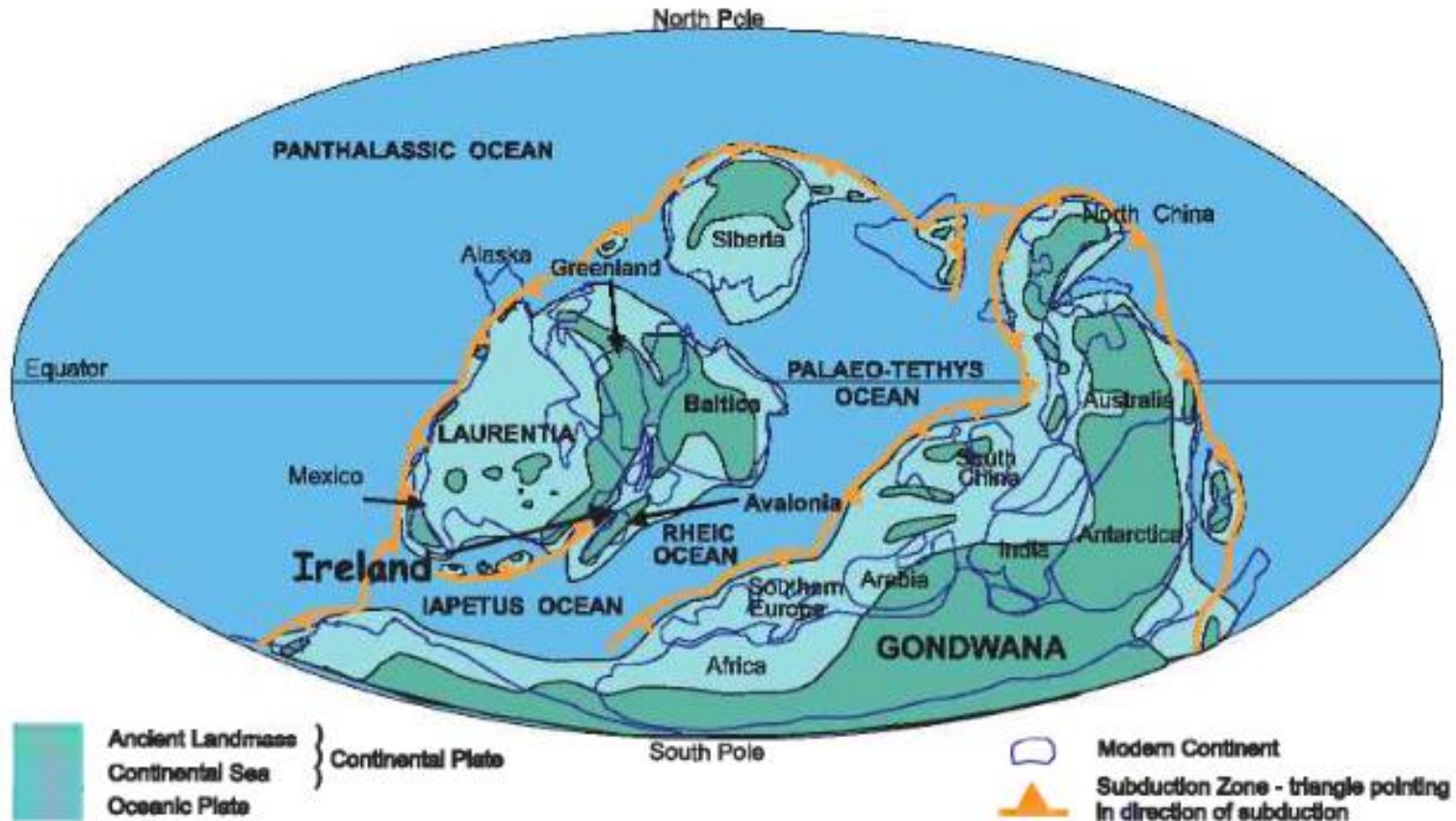
Sand and mud are deposited deep in the ocean by currents. Ring of volcanoes are around the oceans.

Mountain building happens in what will become NW Ireland:

Shale, Sandstone, Basalt, Rhyolite

440-410 Million Years Ago

The Iapetus Ocean narrows to a point where the two parts of Ireland begin to collide. Future Ireland is still located in the southern hemisphere.



440-410 Million Years Ago

Silurian Period

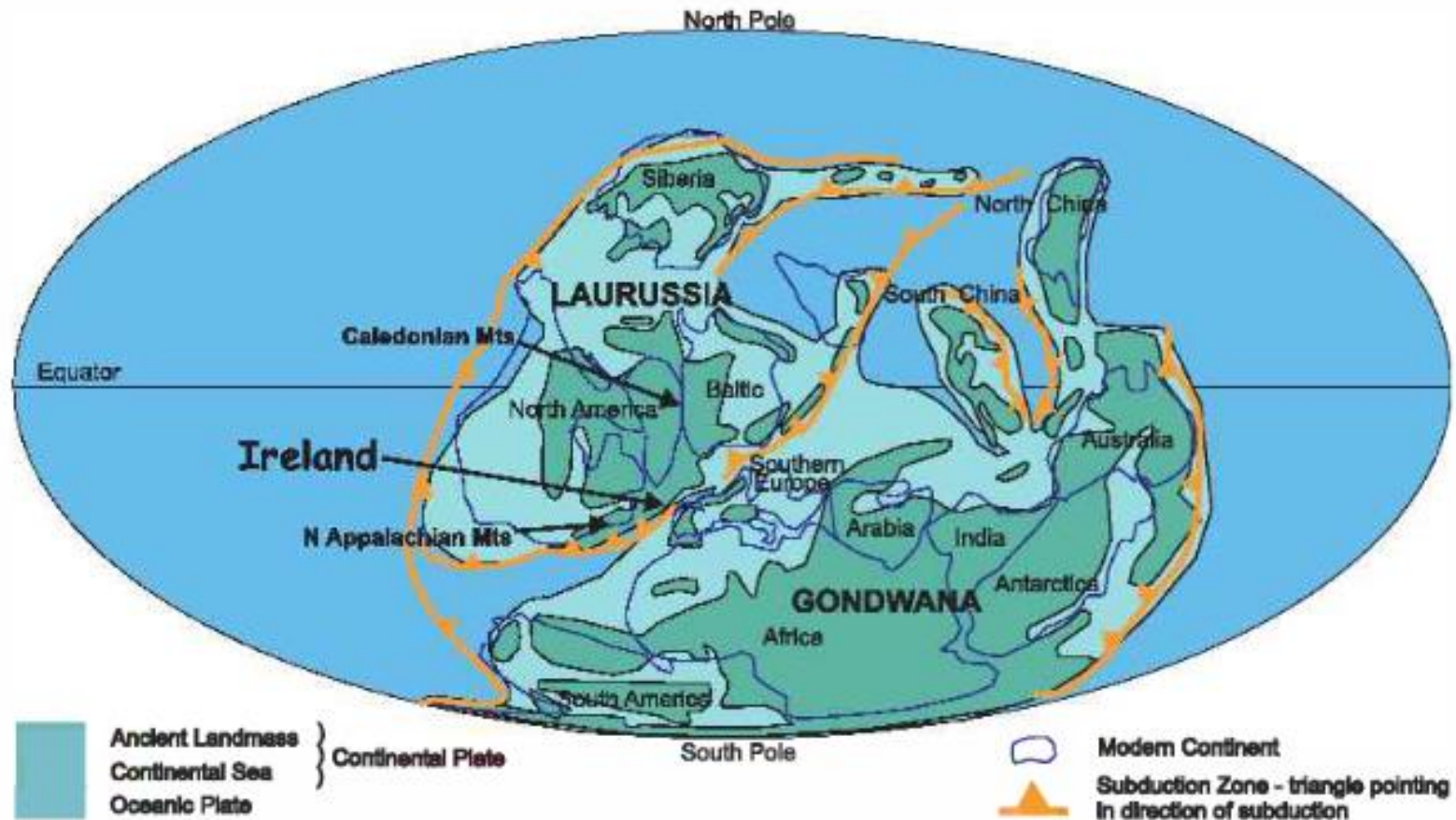
Sand and mud deposit in the narrowing ocean basin both in deep water and in shallow water with lots of marine life:

Sandstone & Shale

At the same time, volcanic rocks are mixed in with the shallow rocks.

410-354 Million Years Ago

The two parts of Ireland have crashed into each other. Now all together, Ireland is located on the SE margin of a large “Old Red Sandstone” landmass. The Iapetus Ocean has closed.



410-354 Million Years Ago

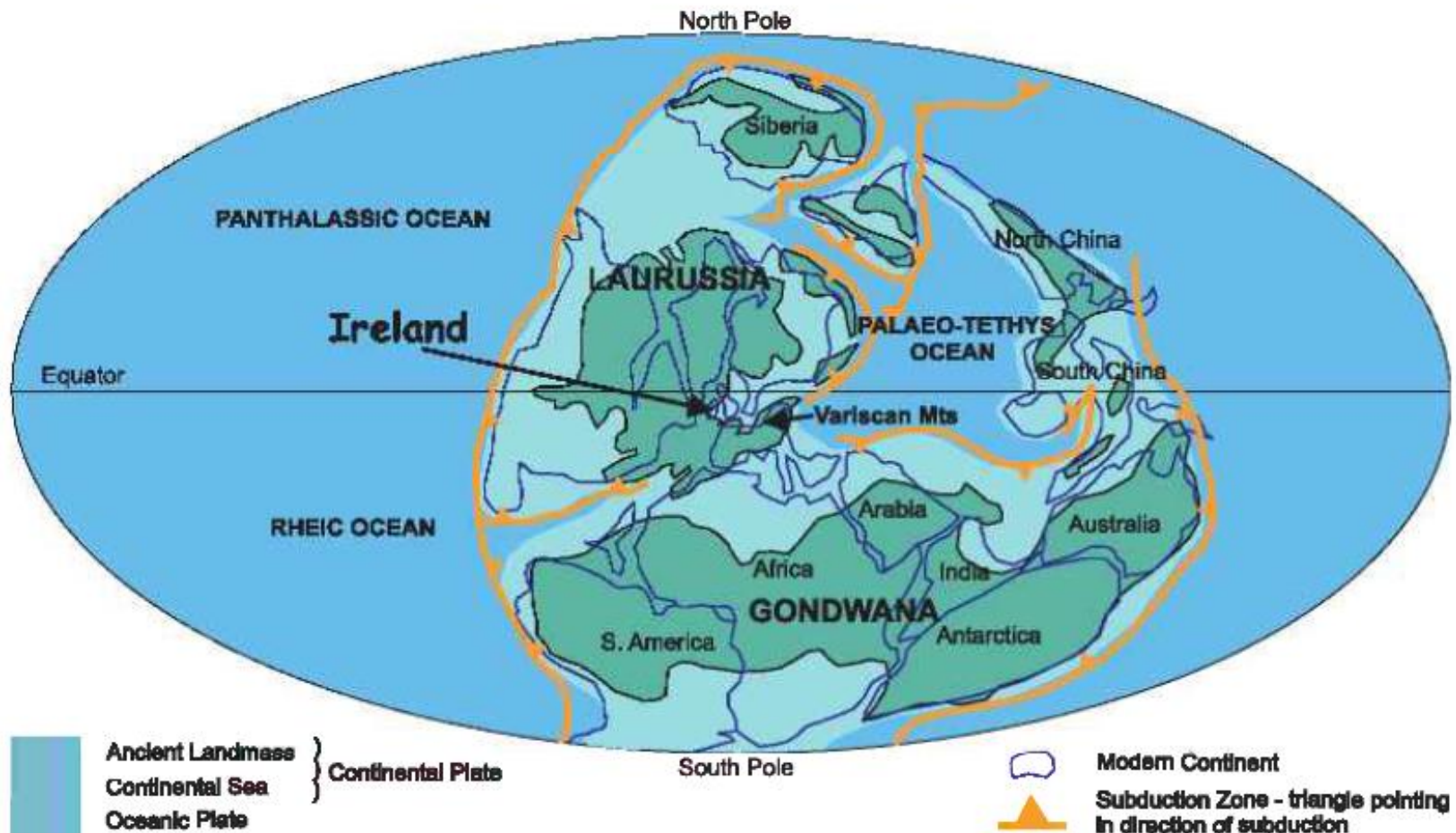
The Devonian Period

Mountains and rivers are formed. Red sand and mud are deposited by large river systems. The SW is blanketed by thick sediment: Old Red Sandstone.

Fossil footprints are created on Valentia island.

354-298 Million Years Ago

Ireland is on a stable land mass moving north. It is now in the tropics almost to the equator.



354-330 Million Years Ago

Early Carboniferous Period

The sea is advancing and much of southern Ireland is underwater, sand and mud are deposited:

Sandstone & Shale

330-306 Million Years Ago

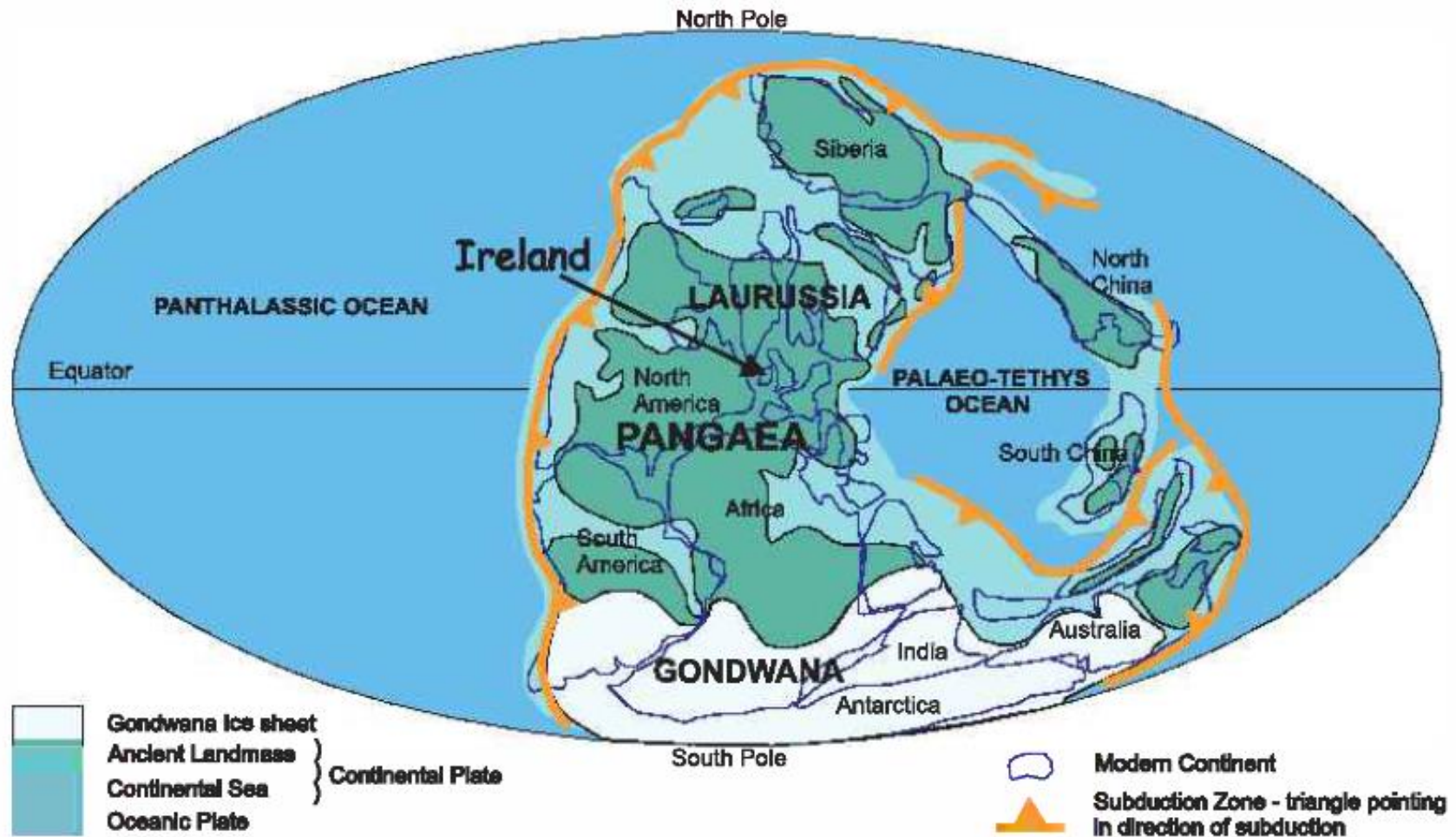
Middle Carboniferous Period

Warm, tropical, shallow water covers much of Ireland. Sea creature shells create limestone forming much of the islands interior rock.

Volcanos erupt from time to time adding basalt and ash.

306-298 Million Years Ago

Ireland is now part of the super continent Pangea-Gondwanaland.
The sea dropped by 60 meters becoming trapped in ice-sheets.



306-298 Million Years Ago

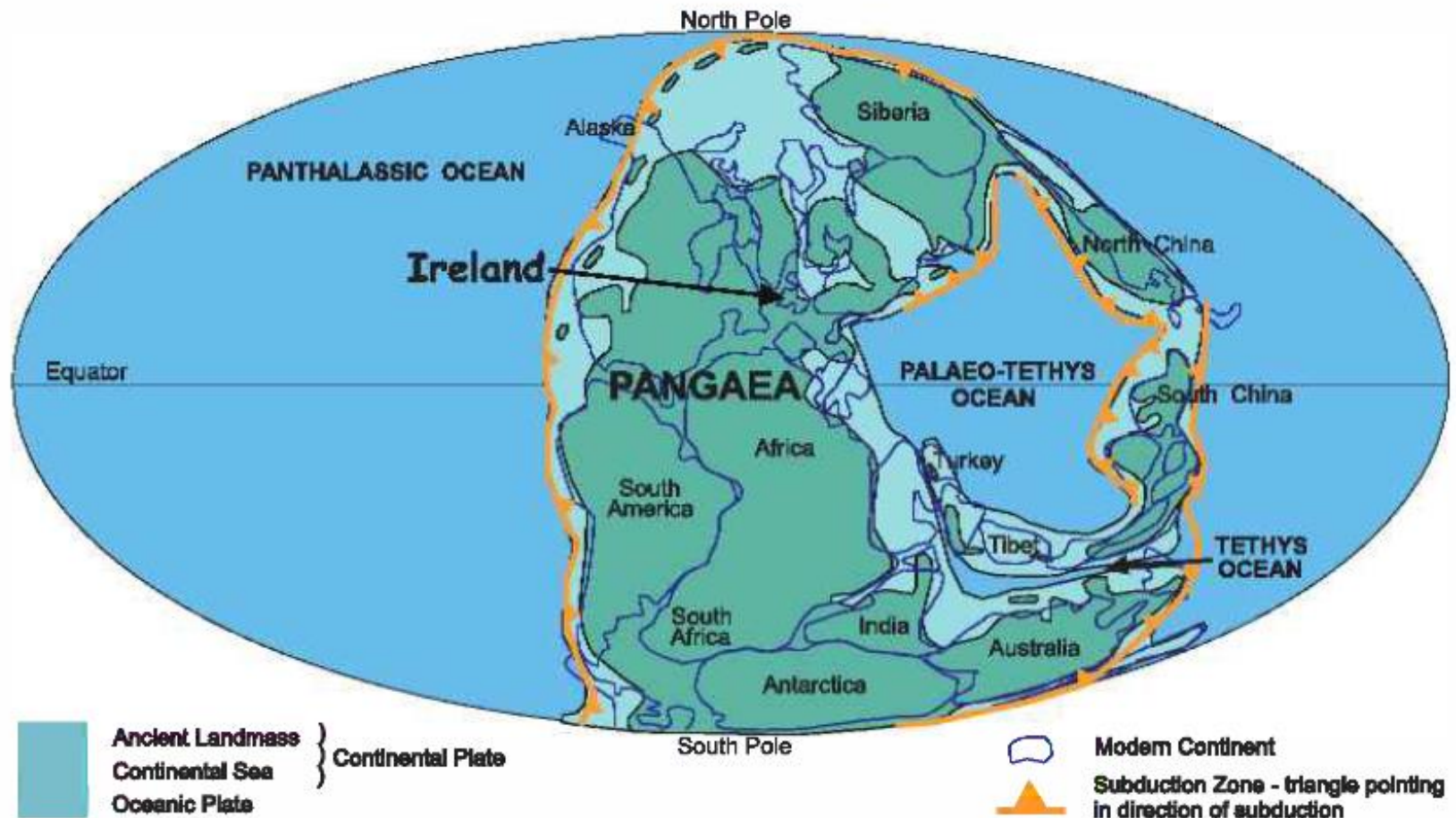
Later Carboniferous Period

The sea is receding allowing for more land. Sand and mud are deposited in large river delta systems and flow to the sea.

Coal is formed in hot swamps.

298-202 Million Years Ago

Ireland, part of the supercontinent of Pangaea, continues to move north. Most of the area is rocky deserts and sand dunes similar to modern day Saudi Arabia.



298-202 Million Years Ago

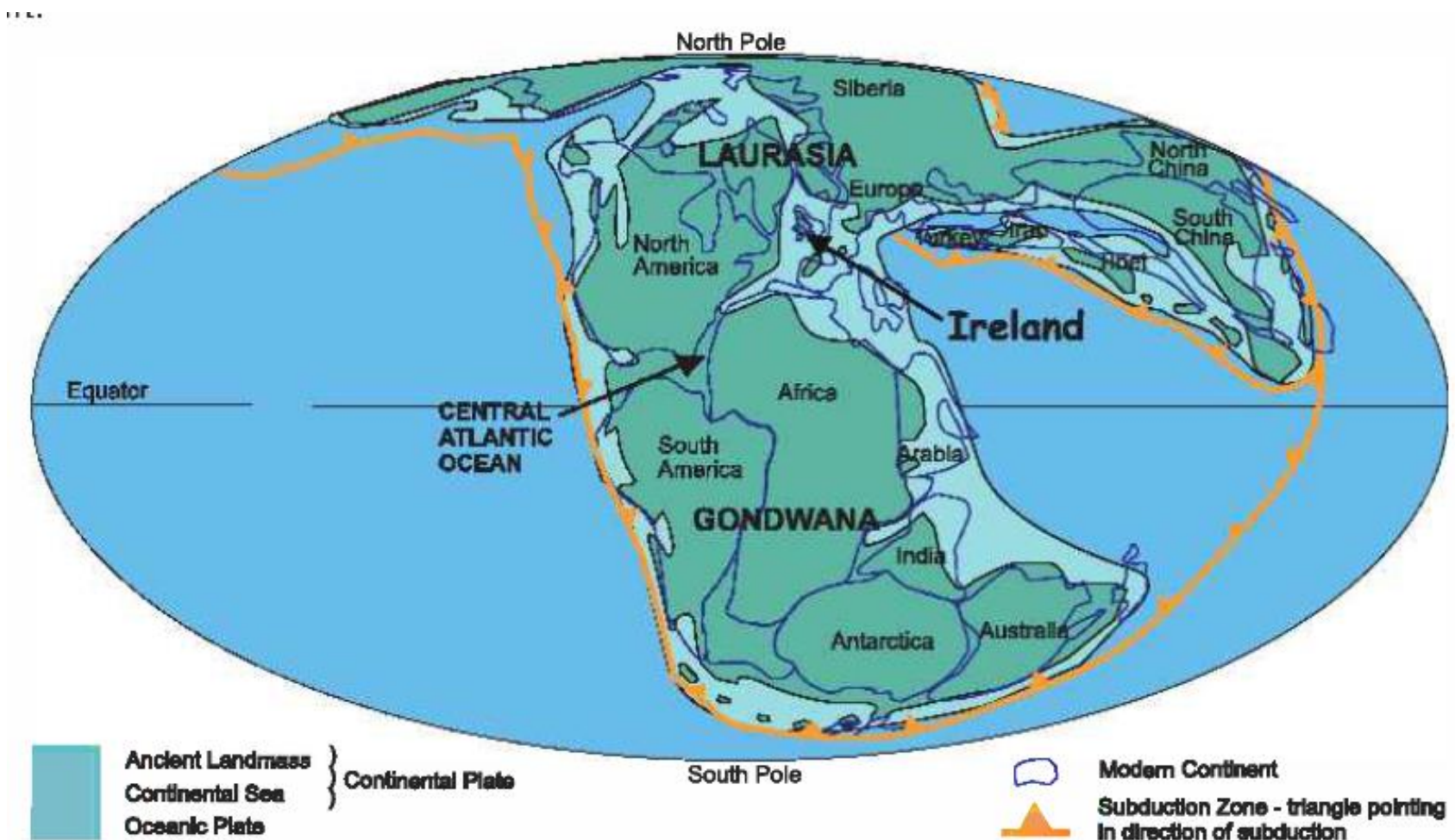
Permian and Triassic Periods

Ireland lies just north of the equator. It is a low-lying arid desert. Rocks and sand-dune seas dominate the landscape:

“New Red Sandstone”

203-144 Million Years Ago

The supercontinent of Pangaea is breaking up. A small new landmass is created, a combination of modern-day Ireland and Britain.



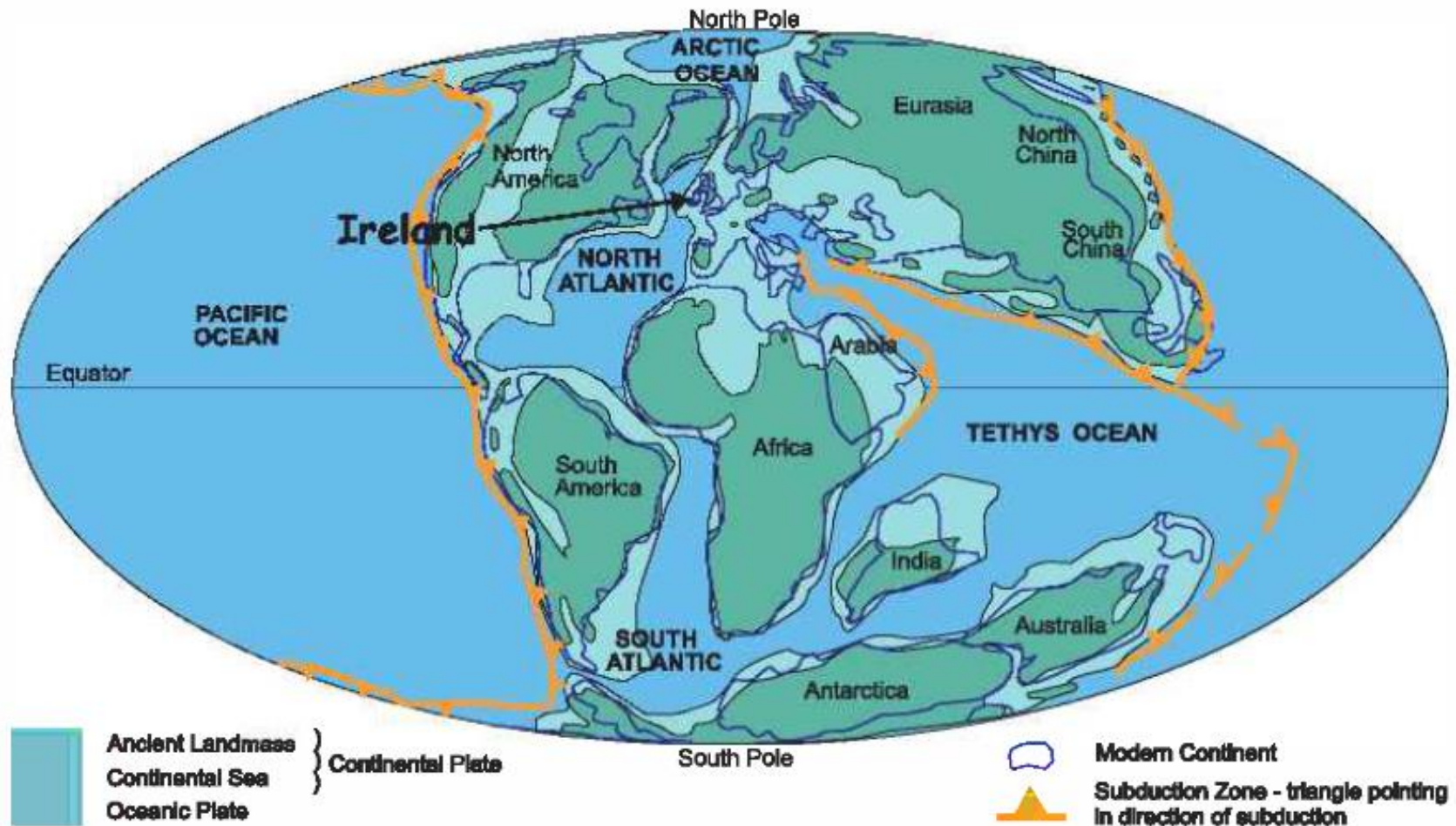
203-144 Million Years Ago

Jurassic Period

The NE of Ireland is covered by a warm shallow sea. The rest of Ireland is land. The weather is humid and warm. The landscape is highly vegetated.

144-65 Million Years Ago

The American and Eurasia plates separate creating the North Atlantic Ocean.



144-65 Million Years Ago

The Cretaceous Period

Most of this period Ireland was dry land. Near the end it was covered by water. It is estimated that sea levels were the highest at about 300 meters higher than today. Chalk is deposited in modern day Antrim.

65 Million Years Ago

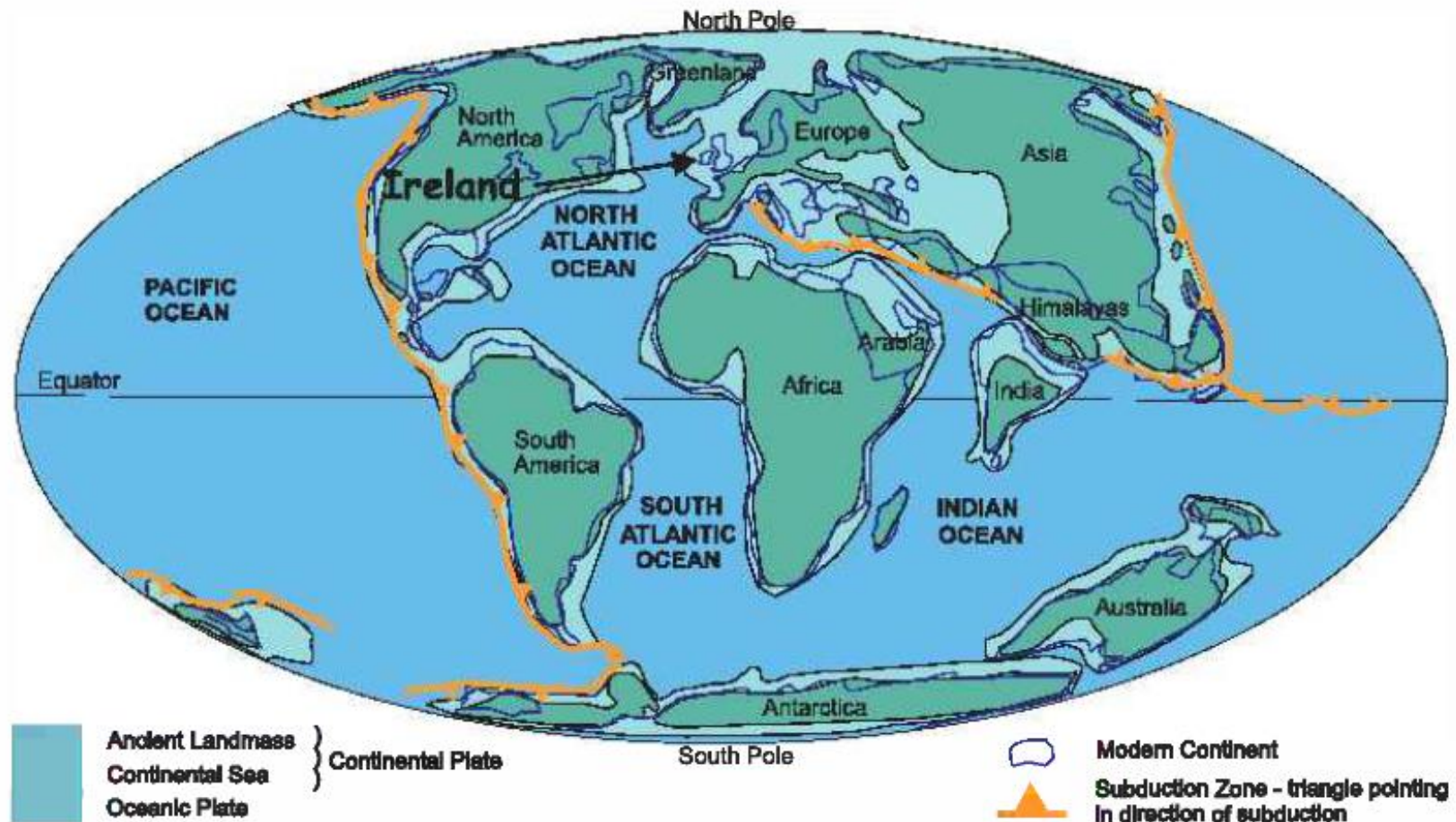
Cretaceous / Tertiary Boundary

Mass Distinction

Mass distinction occurs both on land and in water. Something happened quite quickly: Rapid climate change, sea level fall, volcanic activity or an asteroid collision. Scientist are unsure.

65 Million Years Ago

Ireland is underwater, located at about present-day Southern France. The waters will soon recede and Ireland and Britain will be a connected landmass.



61-58 Million Years Ago

Early Tertiary Period

Explosive volcanos occur in NE Ireland, covering areas with ash and basalt lava fields. Breaks in volcanic activity include a hot wet climate which weather the rocks.

61-58 Million Years Ago

Early Tertiary Period

After weathering of early basalts, a new basalt erupted. The lava filled river valleys. It pressed together and contracted as it cooled, forming Giants Causeway:

Basalt

61-54 Million Years Ago

Early Tertiary Period

The ocean has risen. Ireland is its own Island, cut off from Britain. The weather is warm and vegetation covers the land, including palm trees.

54-28 Million Years Ago

Mid-Tertiary Period

Ice sheets start to cover Antarctica.

Sedimentary deposits occur in the area
which become Lough Neagh:

Clay

1.8 Million-35,000 Years Ago

Quaternary Period (Ice)

Arctic Ice spreads across Europe. Ice sheets form across Ireland. Glaciers carve out valleys. The ice advances and melts many times.

35,000-20,000 Years Ago

Last Glaciation

Land, bones, till are clumped together and moved by ice sheets. They are deposited, creating drumlins like in Clew Bay.

20,000-12,000 Years Ago

Post Glacial

The ice melts. The oceans rise. The landmass connecting Ireland to Britain is submerged. Vegetation begins to grow. Man is pushed to higher ground and first inhabits the Island of Ireland 12,000 years ago.