

# Permian Petrified Forest

**Volcanic Explosions and Petrified Forests at Swansea Heads:** A petrified forest is preserved in a layer of volcanic rock at Swansea Heads. This volcanic rock, called a tuff, was deposited from an ash fall during an enormous volcanic explosion, which occurred during the Permian, more than 250 million years ago. This explosion was so violent that it obliterated forests for kilometres all around. Trees were uprooted or snapped off during the blast. The remaining tree stumps and flat-lying tree trunks were fossilized and preserved at the base of the ash layer. Recent erosional processes have removed much of this relatively soft tuff rock along the foreshore at Swansea Heads, thereby exposing a magnificent example of a Permian petrified forest. The aim of this excursion is twofold:

- 1) to use basic geological skills in order to identify the various rock types; and
- 2) to locate the source of the volcanic explosion, by statistical analysis of tree and branch orientation of the petrified forest.

<http://www.newcastle.edu.au/discipline/geology/fieldwrk/geos1040/swansea.htm>

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**The Permian** period was between 290 million and 249 million years ago. A large mass extinction at end of Permian period wiped out most life on planet and cleared the way for the “age of the dinosaurs”. All the continents were joined in one large land mass called Pangaea.

The plants probably looked like pine trees (were gymnosperms) by the end of the Permian and fern-like plants at the beginning.