



5th AIGEO NATIONAL CONFERENCE

Geomorphology for Society
from risk knowledge to landscape heritage

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LANDFORM DIVERSITY AT NEW ZEALAND'S GEOTHERMAL SITES – WHAT TOURISTS CAN SEE AND LEARN?

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Geothermal sites are among major tourist attractions of the North Island of New Zealand, with the tradition of visiting going back to the mid-19th century. They cluster in the central-north part of the island, between the towns of Rotorua and Taupo. About ten such locations have been developed for tourism, providing relevant facilities and – in most cases – offering interpretation of landforms, active geothermal phenomena, and historical events. These include, among others, Te Puia Whakarewarewa in the town of Rotorua, Waimangu Volcanic Valley, Wai-O-Tapu Thermal Wonderland, and Orakei Korako. They are very popular among visitors, with more than 1 million visiting Te Puia annually. Each of these sites comprises a variety of active geothermal phenomena and can be visited on self-guided tours using signposted trails, lasting for 1–3 hours.

Although active geysers, fumaroles, and colourful hot water pools are advertised as the main attractions, geothermal phenomena have also produced a range of erosional and depositional landforms which collectively make the physical landscape of the properties. The former include craters of diverse origin (explosive, collapse, erosional), hydrothermal caves and mud pool basins, whereas the latter comprise silica flats, silica terraces, sinter-covered fault scarps, raised pool rims, geyser cones, mud volcanoes and various surface incrustations. They vary in size from miniature features (mm-high silica terraces) through collapse craters up to 25 m long and 10 m deep to continuous silica depositional surfaces nearly 300 m long.

Whilst access to the main geothermal sites is very good and facilities are well maintained, interpretation tends to be limited and usually restricted to simple on-site information. The dominant style of presentation is to name the features present at each location and provide encyclopaedia-like explanation rather than to develop stories of how geothermal phenomena work and change the surface of the Earth. However, spatial distribution of geothermal landforms within each property makes storytelling a feasible option that can complement existing facilities aiming at a more specialist audience. Possible scenarios may be labelled as 'from erosion to deposition' (at Wai-O-Tapu), 'from source to sink' (at Orakei Korako) and 'journey through time' (at Waimangu, where the history of activity is most recent, dated back to 1886). In this way, better appreciation of geomorphological dimension of geothermal activity can be achieved. These scenarios are possibly applicable elsewhere, where geothermal fields exist, attract tourists, and can be enhanced as geosites.





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