

## **Sub-Basins of the East Coast, North Island, New Zealand**

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New seismic acquisition shows that different regions of the East Coast Basin were formed by radically different processes suggesting that exploration strategies must vary between the different sub-basins. The region's potential is highlighted by onshore oil and gas seeps and historical oil production.

To the north of the Raukumara Peninsula, the 13000 metres thick Raukumara sub-basin appears to have originated as a Cretaceous rift basin similar in many ways to the well-known Taranaki Basin. To the east of the peninsula, tectonism is extreme and, while individual trapping structures are well-imaged, seismic correlation between them is very difficult. The Hawke Bay and offshore Wairarapa regions also contain thick sedimentary successions and a large number of structures formed by compression and perhaps strike-slip faulting. Modelling suggests that some regions may be gas prone, while others are more oil prone. In the south, Cook Strait appears to contain pull-apart basins, while the offshore Pegasus sub-basin appears to have source sequences at depth covered by up to 8000 metres of Neogene turbidites.