

# River of Sand: A Geological Perspective on Fraser Island and the GSR

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## Outline

- What types of deposits make up Fraser Island and surrounding seabed?
- How much sand is there in Fraser Island?
- What is under Fraser Island?
- How old is Fraser Island?
- Where did the Fraser Island sand come from?
- Where does the Fraser Island sand go to?
- What does the underwater part of Fraser Island look like?
- Is Fraser Island eroding?
- How did Fraser Island evolve?
- What is the geological future of Fraser Island?

## Regional Geology (pictures)

- Dilli X-section
- FI Model
- Age
- Wide Bay Inlet
- Holocene and Pleistocene Dunes
- Blue Mountains Sand Source
- HSS Zircon Fingerprint
- Sand Bypassing Tweed Heads
- Breaksea Spit Looking S to Fraser Island
- Breaksea Spit and Shoal Looking S to Fraser Island
- Hervey Bay Structure and Paleotopography
- Lowstand Incised Valley
- Lowstand Valley With Scale
- Stingray Shoal Dunes
- Upper Slope Gullies

## Conclusions

- Fraser Island is 123 km long, 26 km wide and contains 200 cubic km of sand
- Below SL FI averages 20-40 m thick, max of 104 m
- Fraser Island is at least 730,000 years old
- The FI sand came from NSW via longshore transport
- Currently the sand bypasses FI and continues via Breaksea Spit to the bottom of the Tasman Sea 4000 m below SL

- The Fraser Island region is just as spectacular underwater as above
- Long term Holocene erosion
- Major E shoreline erosion likely with future rising SL