

Ocean energy potential in Islands - Fiji

Projects/Initiatives	Challenges	Potential	Next actions
Wave Resource Assessment near Taveuni, Fiji Islands	A small variation in wave height have high variations in wave power.	The average power 12kW/m @ wave height of 1m while a peak wave height of 3.75m yield output power of 24kW/m. The absence of significant land mass to the south provides continuous availability of power.	Detail feasibility study would be necessary for future work.
Gun Barrel Tidal research	Site is quite narrow passage, the velocity profile is affected at the seabed near the surface.	Current speeds exceeding 2m/s at many times with an average 0.85m/s current recorded. Power output simulated to 150kW. Tidal and non-tidal current same direction.	Detail Feasibility Study required..
Taqaqe Wave measurement	Near-shore location -- wave is reduced .	Energy potential of 9.81kW/m at a depth of 15m.	A Bathymetry study with the feasibility study.
Muani Kadavu (wave measurement)	Near-shore location -- wave is reduced .	Energy flux of around 28.78kW/m @18m depth	A Bathymetry study with the feasibility study.
Wilkes passage (Tidal measurement)	Tidal velocity is not that high.	Tidal velocity 45.2cm/s. power output 92.35W/m.	Feasibility study for lower speed device.

Wave and Tidal Monitoring Sites

Wave & Tidal Monitoring Sites, Fiji



Castaway Passage
Wilkes Passage
Navula Passage
Tagaqe, Coral Coast
Dravuni, Kadavu
Muani, Kadavu
Kadavu

Vanua Levu

Taveuni

Vuna



Legend

Wave Energy Sites

Kilometers



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community