

MC KENNAN REEF (UNION REEFS)

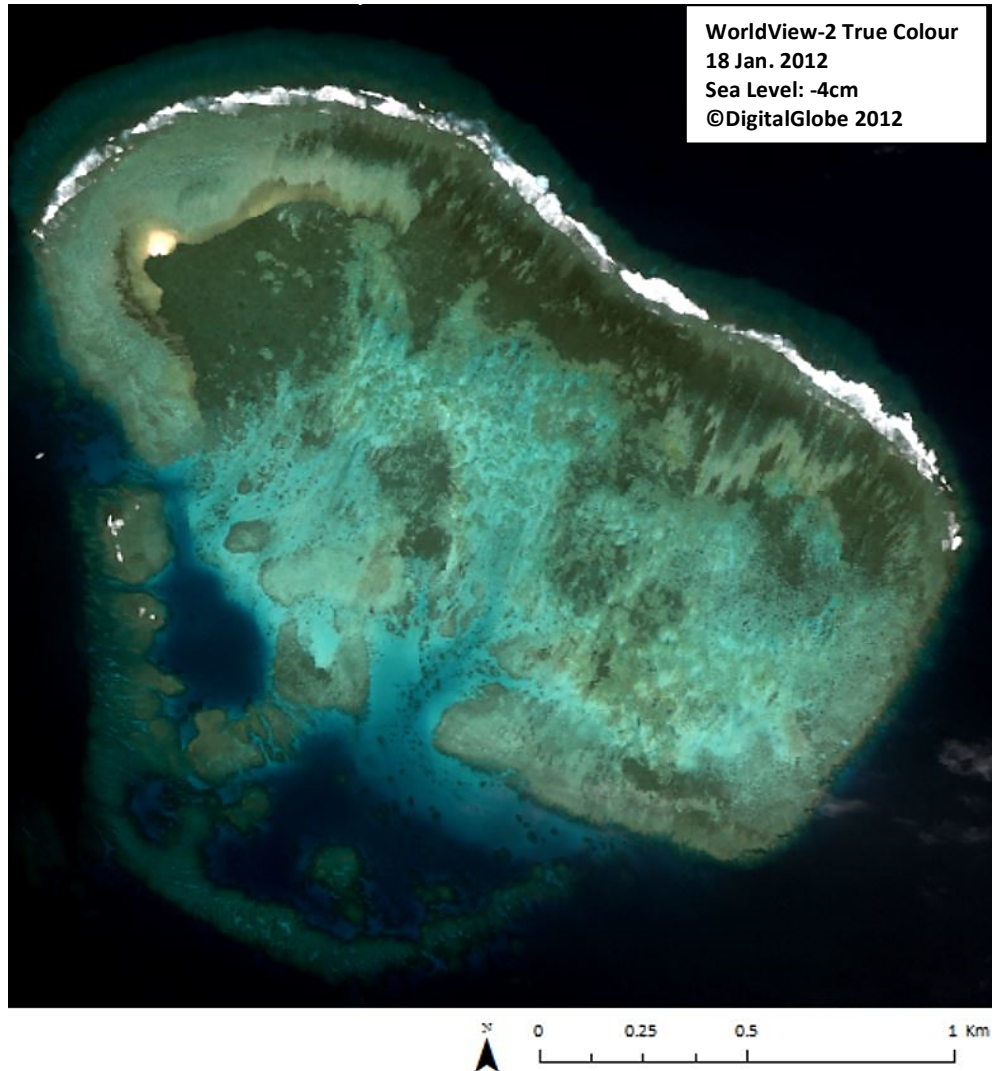
9°54'12.81"N, 114°27'55.03"E

Geographic area

Mc Kennan Reef is a shallow coral reef platform located on the northern side of Union Reefs between Hughes Reef, under 1NM east and Edmund Reef, around 3.4NM west. The reef platform is 2.5km long by 2km wide (when including the deeper reef formations connected to it in the south).

Land area above water

A small above-water sand bank is visible in this 18 January 2012 satellite, which is around 90m by 60m. However, the 2 February 2004 satellite image available on Google Earth shows a narrower and more elongated sand bank. The most recent satellite images viewable on Google Earth (captured on 26 February 2014 and 26 January 2015) also show a bank that is smaller and located farther south, which suggests that sand banks on this reef flat are dynamic (and therefore temporary) under the combined effect of astronomic tides, storm surges and wind-waves.



Furthermore, on the basis that the sea level would increase by more than 80cm to reach Mean High Water Spring (MHWS), this sand bank is likely to be submerged at MHWS.

Human infrastructure

There are no man-made structures visible on this reef platform as at 26 January 2015.

Intertidal and submerged area

The aerial coverage of the reef platform is 4.03km², which comprises a reef flat of 2.64km², a reef slope of 0.98km² and a lagoon of 0.41km². The depth of the reef flat ranges from 1m to 3-4 m at Mean Sea Level. Areas in the northwestern part of the reef flat that are 1.1m deep or less (in the bathymetry map derived from the WorldView-2 satellite data captured on 18 January 2012) are expected to uncover at Lowest Astronomical Tide. The southwestern reef slope extends in a deeper semi-circular formation that stretches seaward in the southwest direction where pronounced spurs and grooves can be seen. This section of the reef slopes encloses the lagoon, which is 7-9m deep.

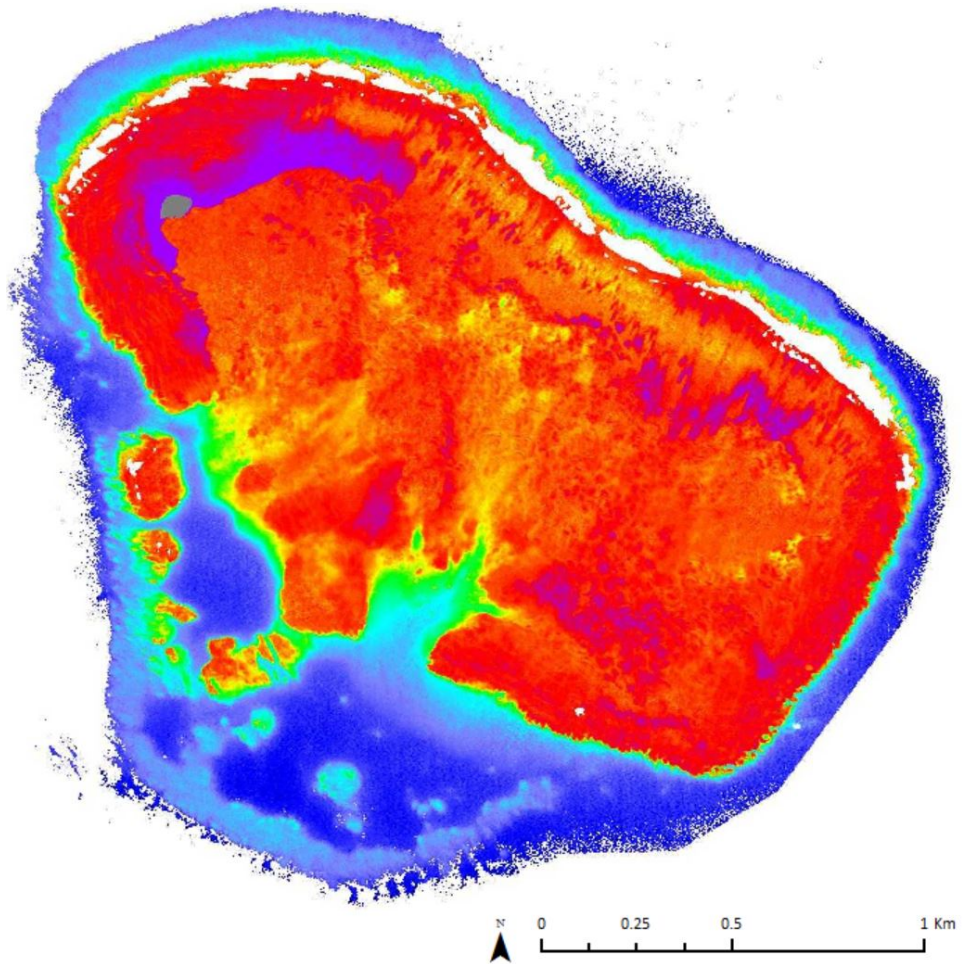
Extensive dredging marks are visible on the reef flat. They cover a total area of 1.02km² (39% of the reef flat) and are denser in sand-dominated areas although they are also visible on areas that are dominated by coral/seagrass/algae.

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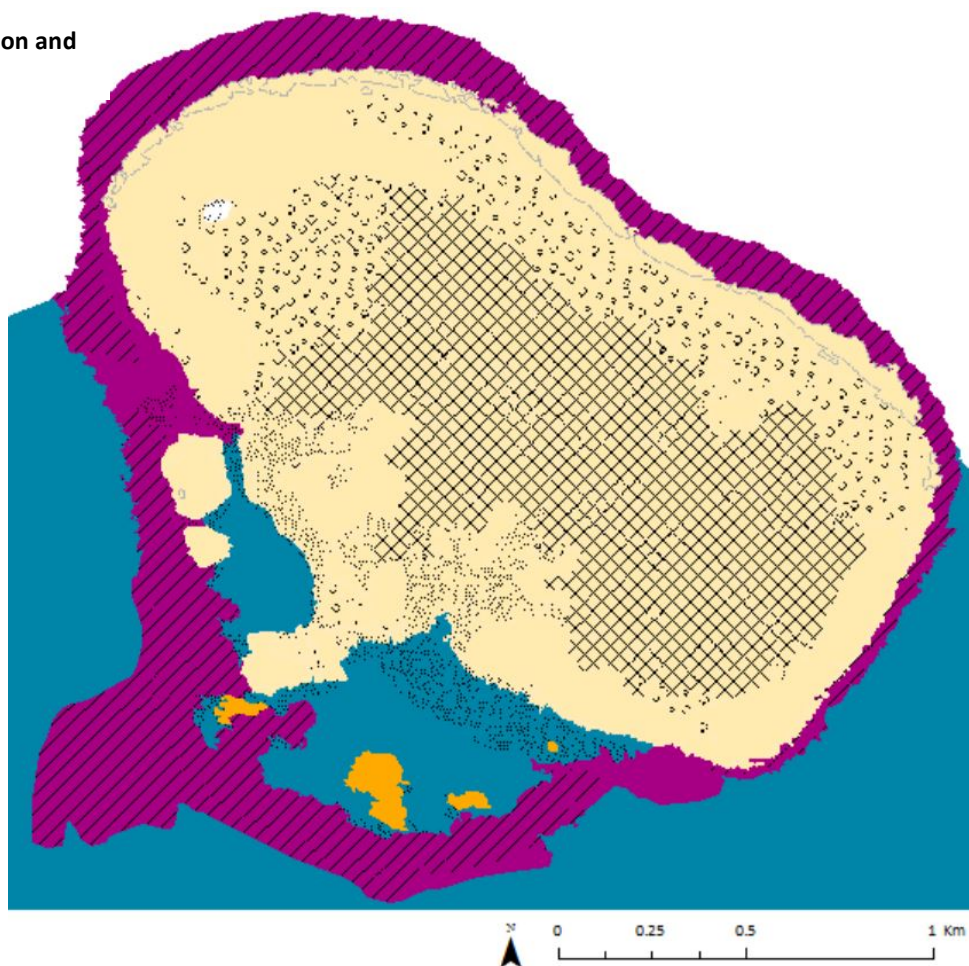
9°54'12.81"N, 114°27'55.03"E

Derived from WorldView-2 satellite data captured on 18 January 2012 [Sea Level: -4cm]

Bathymetry Map

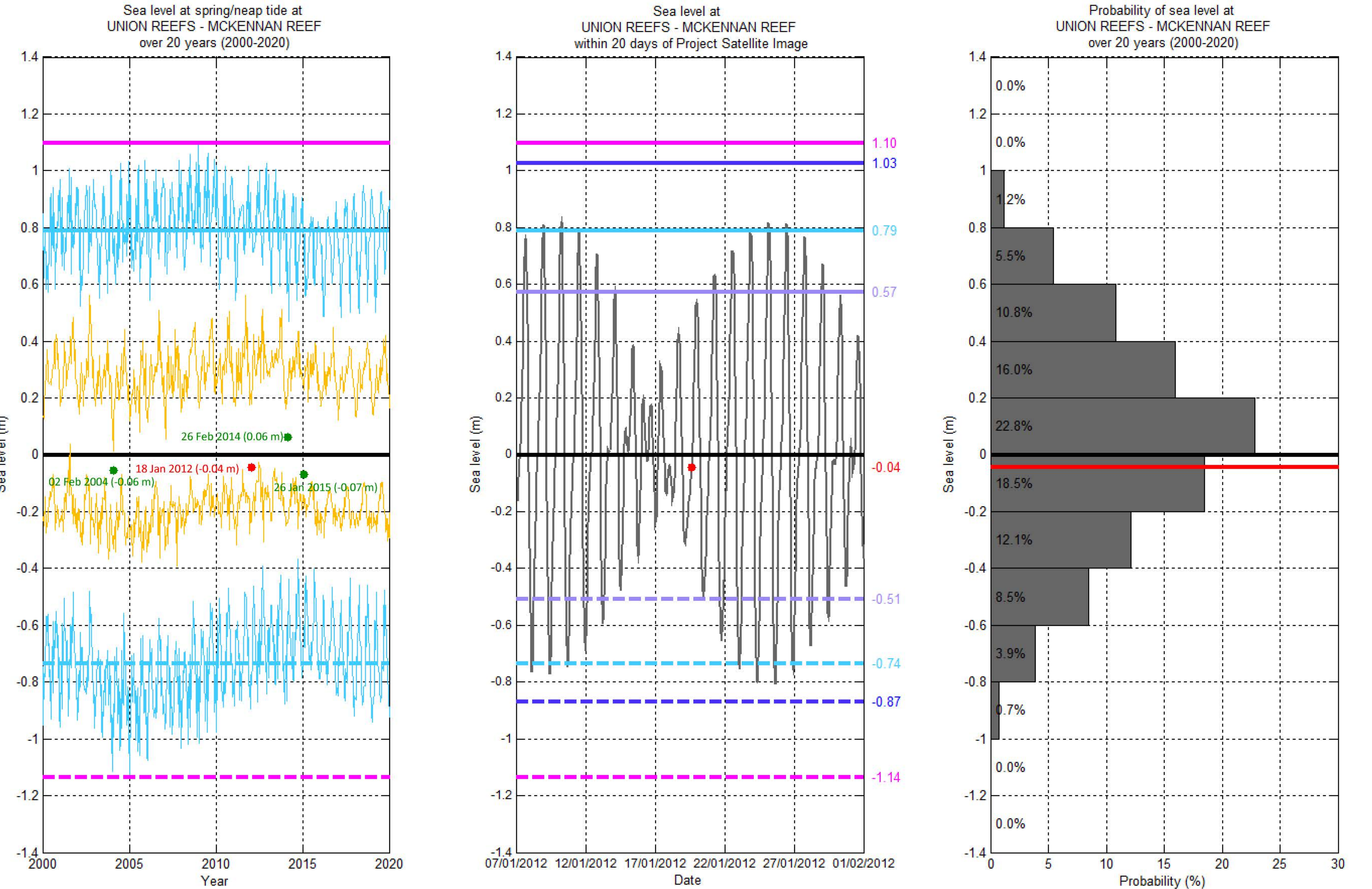


Habitat Classification and Land Cover Map



Sea level (SL) at MCKENNAN REEF (UNION REEFS)

[9°54'12.81"N, 114°27'55.03"E]



Hourly sea level SL at spring tide SL at Mean High Water Spring SL at highest tide of the year SL at Mean Higher High Water SL at Highest Astronomical Tide Project Satellite Image
Mean Sea Level SL at neap tide SL at Mean Low Water Spring SL at lowest tide of the year SL at Mean Lower Low Water SL at Lowest Astronomical Tide Google Earth and Landsat satellite images