

GENT REEF (UNION REEFS)

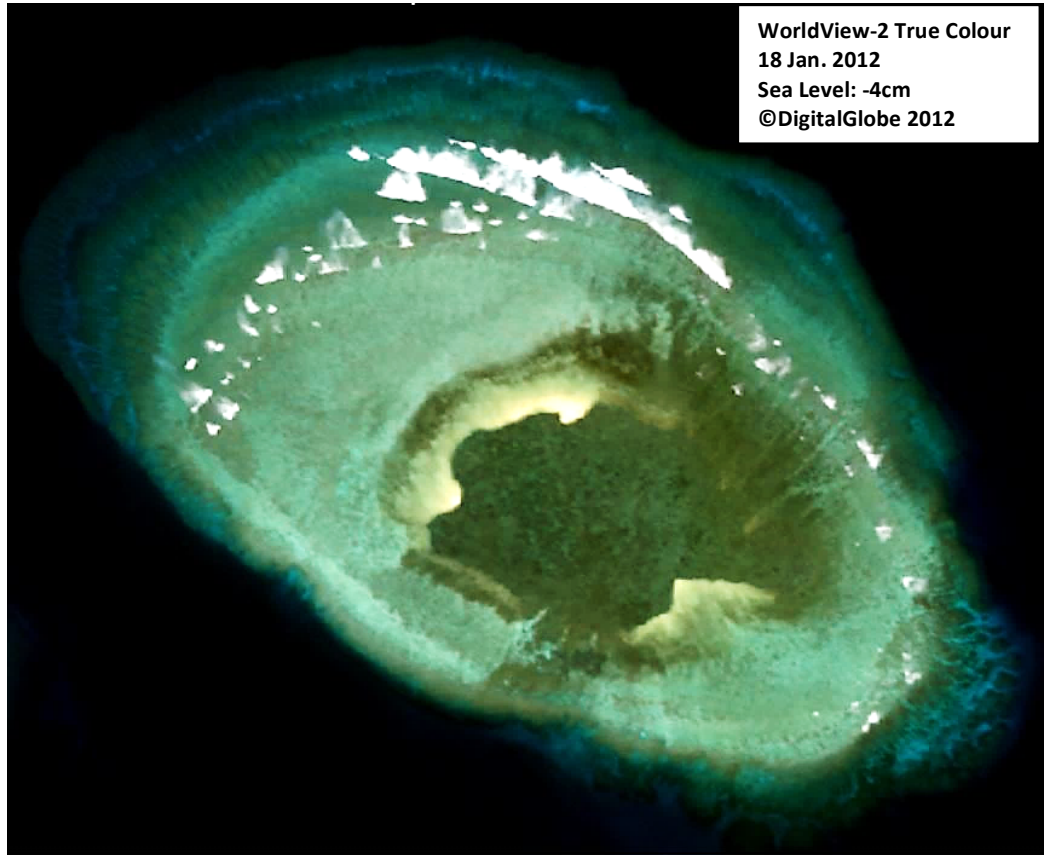
9°52'45.23"N, 114°18'23.36"E

Geographic area

Gent Reef is a shallow and oval coral reef platform located in the northwest of Union Reefs between Sin Cowe Island (less than 1NM northeast) and Loveless Reef (less than 2NM southwest). The shape of the reef slope suggests that it may be connected at depth to Loveless Reef by deep coral formations that cannot be seen in satellite images. Gent Reef extends 1.4 km along its northwest-southeast axis and close to 900m along its southwest-northeast axis.

Land area above water

In the 18 January 2012 satellite image, two above-water sand banks are visible in the centre of the reef flat: one is 130m by 20m and the other one is 20m by 30m. They are 100m from each other and rise above water from the same submerged sand bank. It is noted that this sand bank is far smaller on the 17 February 2006 image viewable on Google Earth.



It is also smaller on the 22 February 2015 satellite image than on the 18 January 2012 and has a slightly different shape. This suggests that the sand banks that form on Gent Reef are dynamic under the combined effect of astronomic tides, storm surges and wind-waves. Furthermore, on the basis that the sea level was 4cm below Mean Sea Level when the 18 January 2012 satellite data was captured, the sea level is expected to increase by over 80cm at Mean High Water Spring, which may be sufficient to submerge the small sand banks visible in the image.

Human infrastructure

There are no man-made structures visible on this reef as at 22 February 2015.

Intertidal and submerged area

The aerial coverage of the coral reef area is 1.01km² comprising a reef flat of 0.65km² and a reef slope of 0.36km² of reef slope. In addition to the sand bank with two emerged sections at Mean Sea Level (at the time of the satellite image of 18 January 2012), the other shallowest part of the reef flat is another sand bank of 0.1-1m in depth that is located 300m southeast. The rest of the reef flat is 1-2m deep. Parts of the reef flat that are 1m or less in the 18 January 2012 satellite image are expected to uncover at Lowest Astronomical Tide. The central part of the reef flat is dominated by coral/seagrass/algae. The reef slope extends 300m off the northwestern, northern and southeastern sides of the reef flat where pronounced spurs and grooves can be seen.

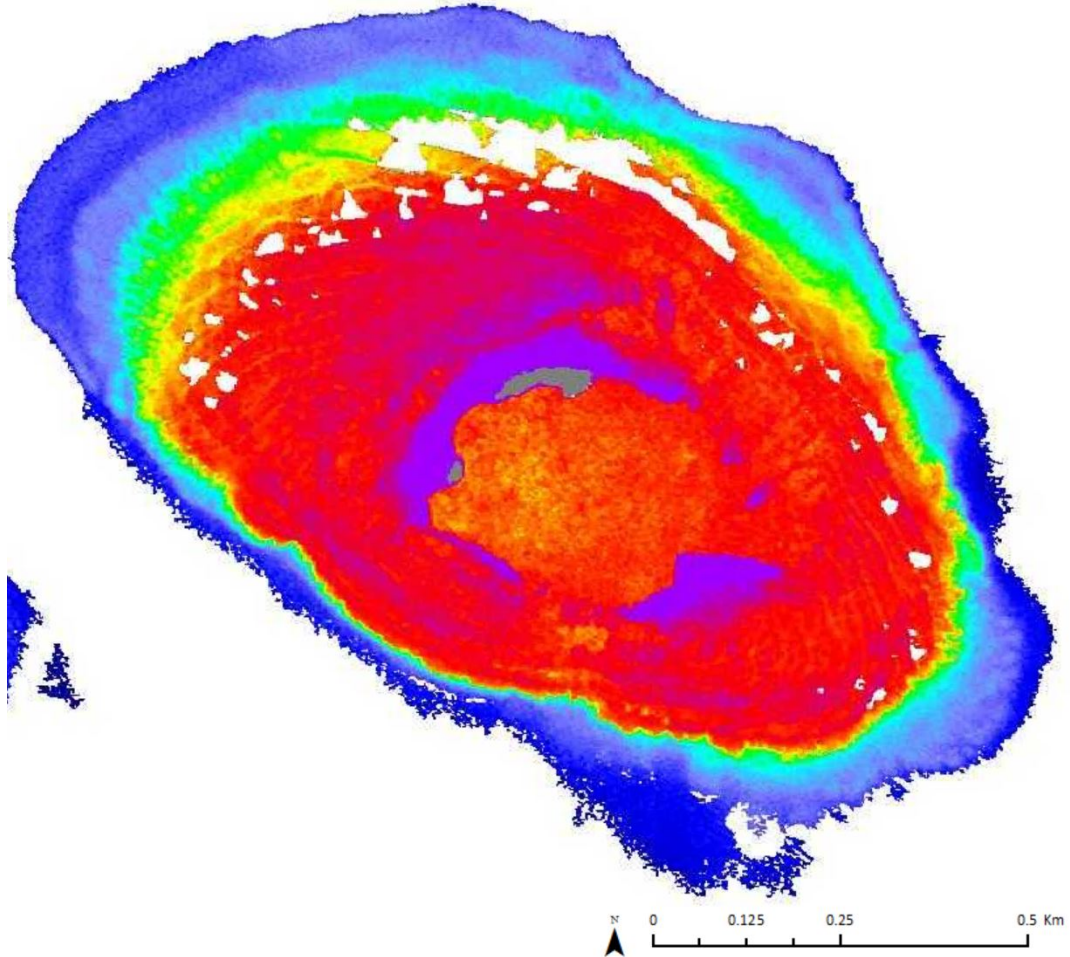
There is no sign of dredging activities on this reef as at 22 February 2015.

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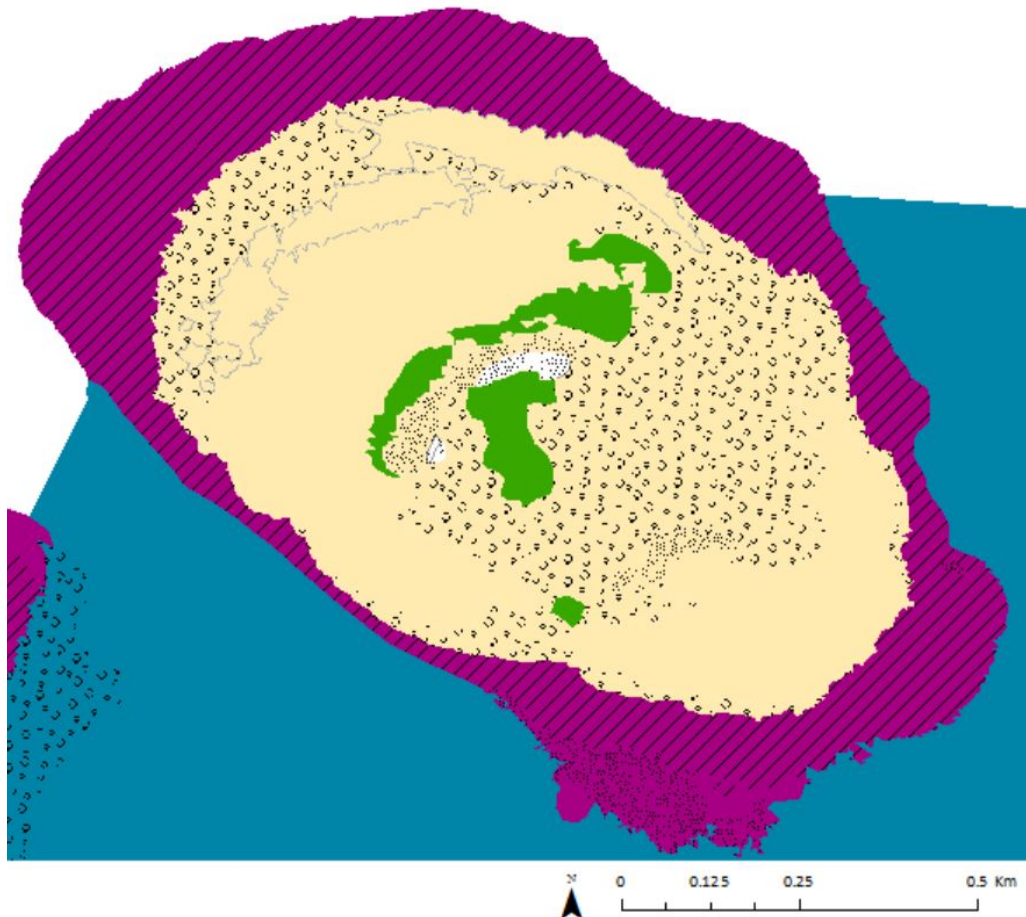
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Derived from WorldView-2 satellite data captured on 18 January 2012 [Sea Level: -4cm]

Bathymetry Map



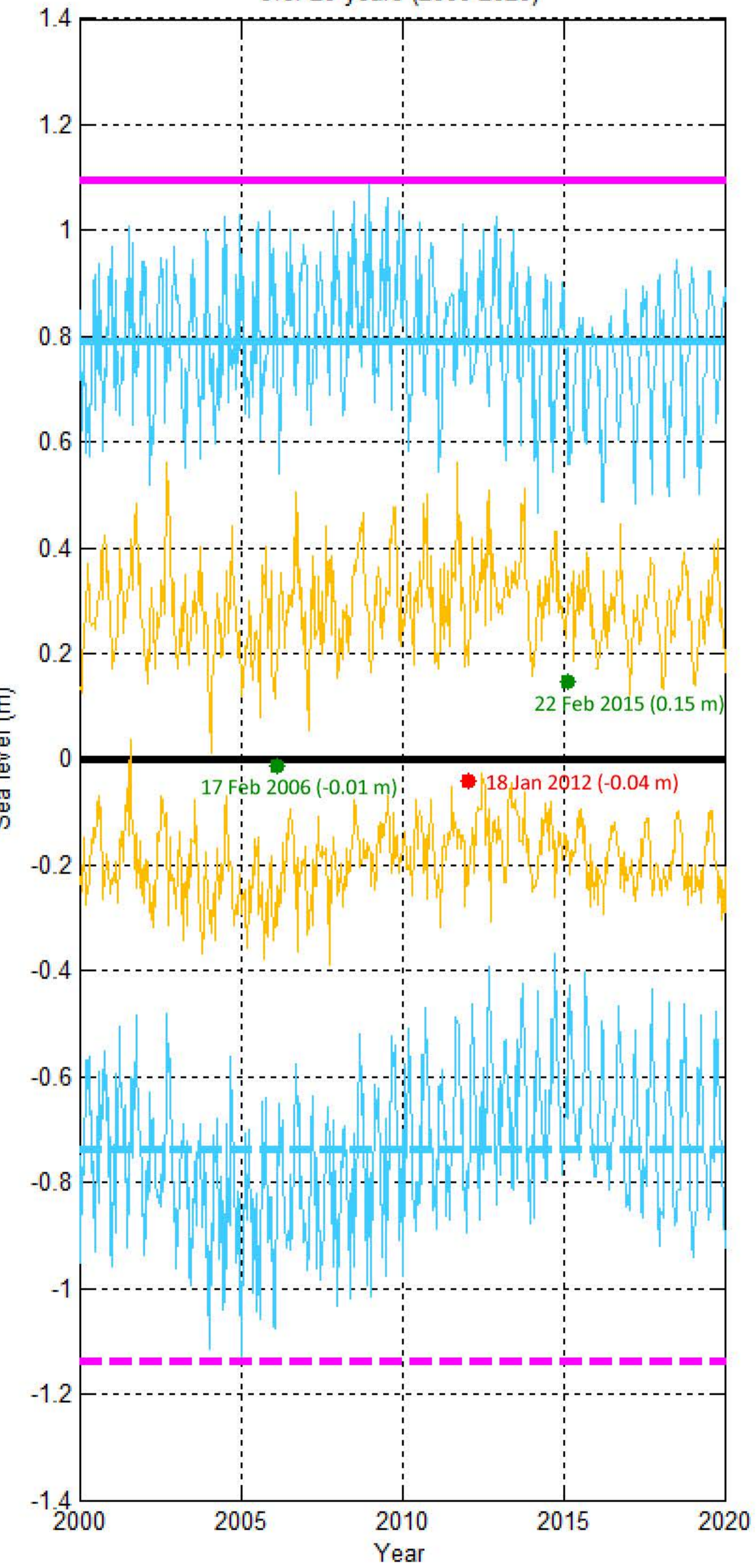
Habitat Classification and Land Cover Map



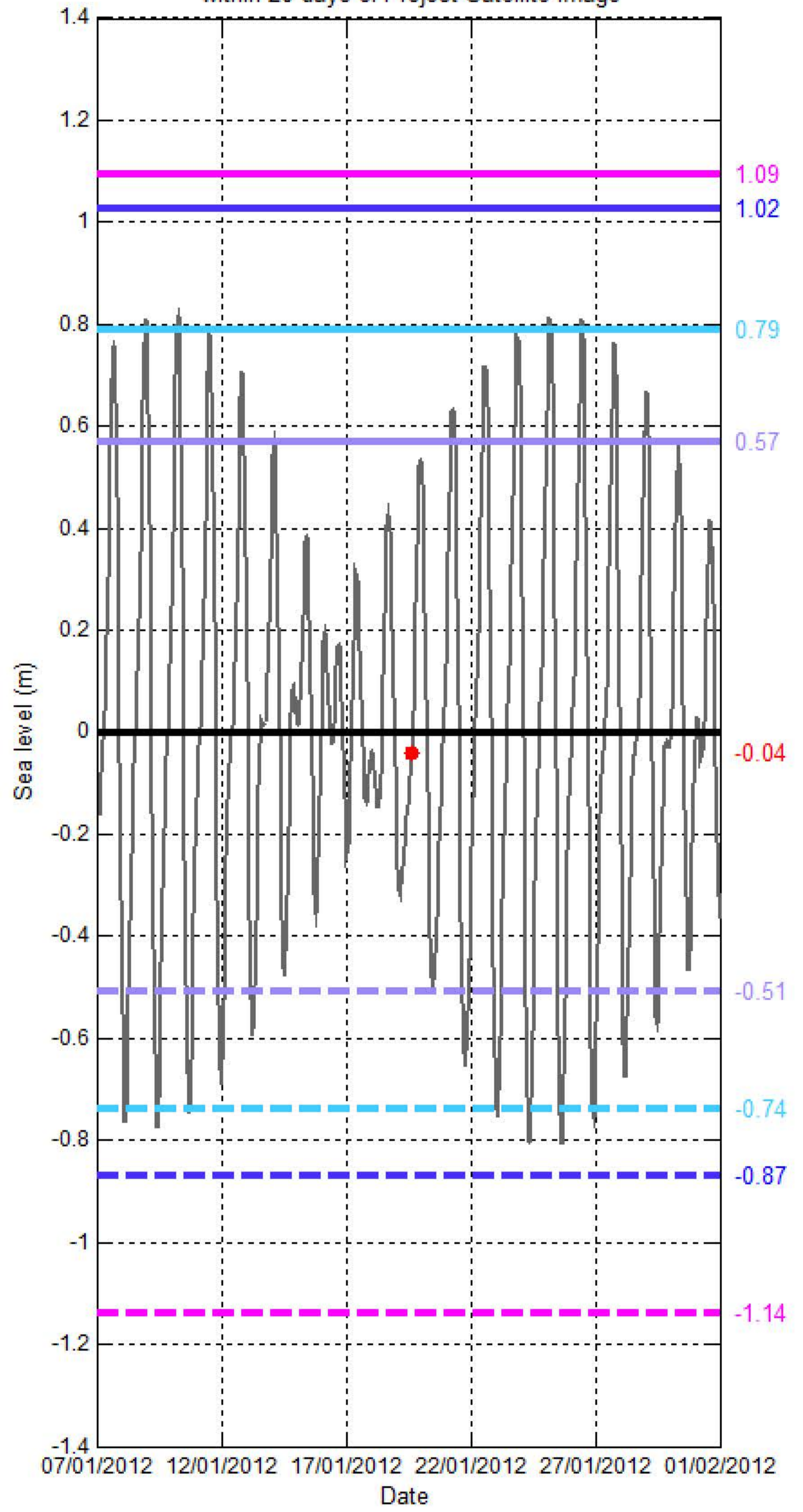
Sea level (SL) at GENT REEF (UNION REEFS)

[9°52'45.23"N, 114°18'23.36"E]

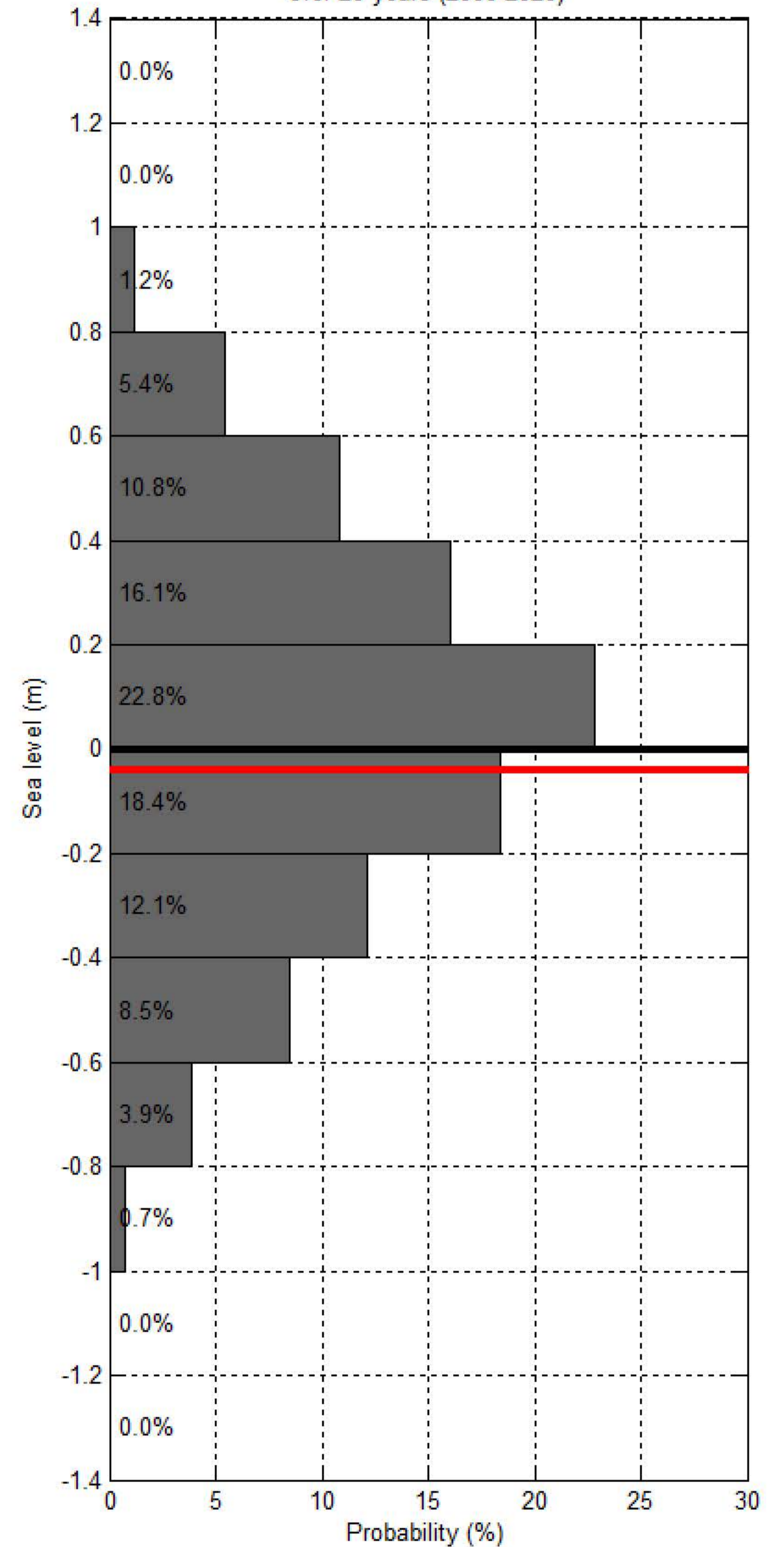
Sea level at spring/neap tide at UNION REEFS - GENT REEF over 20 years (2000-2020)



Sea level at UNION REEFS - GENT REEF within 20 days of Project Satellite Image



Probability of sea level at UNION REEFS - GENT REEF over 20 years (2000-2020)



- 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