

BARQUE CANADA REEF

8°10'19.65"N, 113°18'21.79"E

Geographic area

Barque Canada Reef is an oceanic, shallow, long (close to 30km) and narrow (less than 4km in the widest point) coral atoll in the southern part of the Spratlys. It is located more than 200NM west of the islands of Borneo and Palawan. The closest shallow geographic feature is Amboyna Cay, just over 20NM southwest.

Land area above water

There are no visible above-water land areas in the 20 May 2013 satellite image captured when the sea level was 20cm above Mean Sea Level. However, several buildings and human infrastructure are visible.

Human infrastructure

Six man-made structures are grouped in pairs in the southern, central and northern parts of the reef flat. They are all similar: two towers of 15m in diameter built 35m away from each other on a wider base of 30m in diameter. They are connected by an above-water narrow pathway. The southern and northern structures are built on a shallow area towards the northernmost and southernmost parts of the reef flat. The central pair of structures is on the western bank of the reef flat. They can be accessed by a 425m-long man-made channel that cuts across the reef flat and the reef slope into the lagoon. Another 350m-long man-made channel across the reef flat is visible, which is located towards the southeastern part of the reef flat.

Intertidal and submerged area

The atoll is composed of an extensive reef flat (33.48km²), three lagoons (19.25km², 0.10km² and 0.49km² from north to south, respectively) and a reef slope that surrounds the reef flat (9.48km²). The shallowest part of the reef flat is a 200 to 400m-wide band that follows the reef slope and is 1m deep or less (except on a 2km stretch of the southeastern reef flat that is slightly deeper). It is expected to uncover at Lowest Astronomical Tide where the sea level is expected to decrease by 1.42cm. The three lagoons are of irregular size though they are all more than 6m deep, even the smallest in the middle. All three are also characterised by a reticulate reef system. The largest central lagoon is over 8m deep. The reef slope is generally narrow all around (100-200m or less), except in the northernmost tip where it extends over 500m. However, pronounced spurs and grooves are visible throughout. Dredging marks are visible on a sandy area of the northeastern part of the reef flat on a section that is 140m by 80m (26,000m²). Distinctive patches of seagrass/algae/cyanobacteria cover can also be observed.

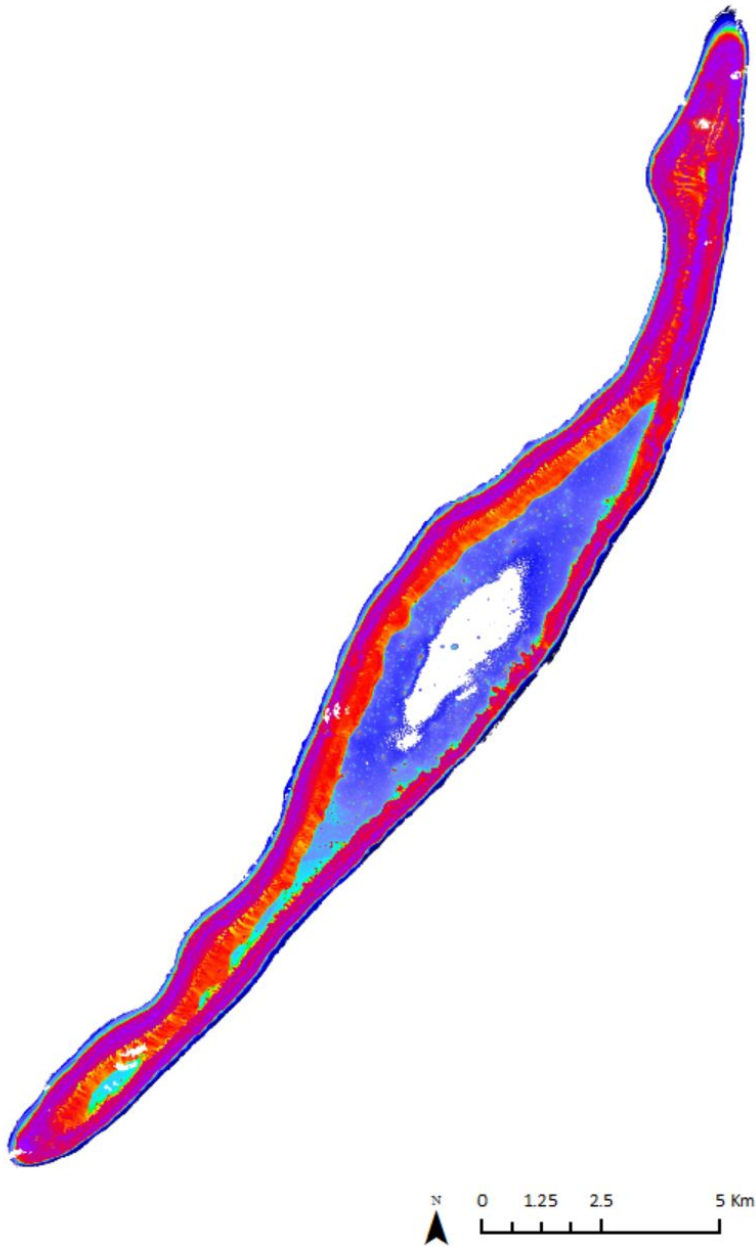


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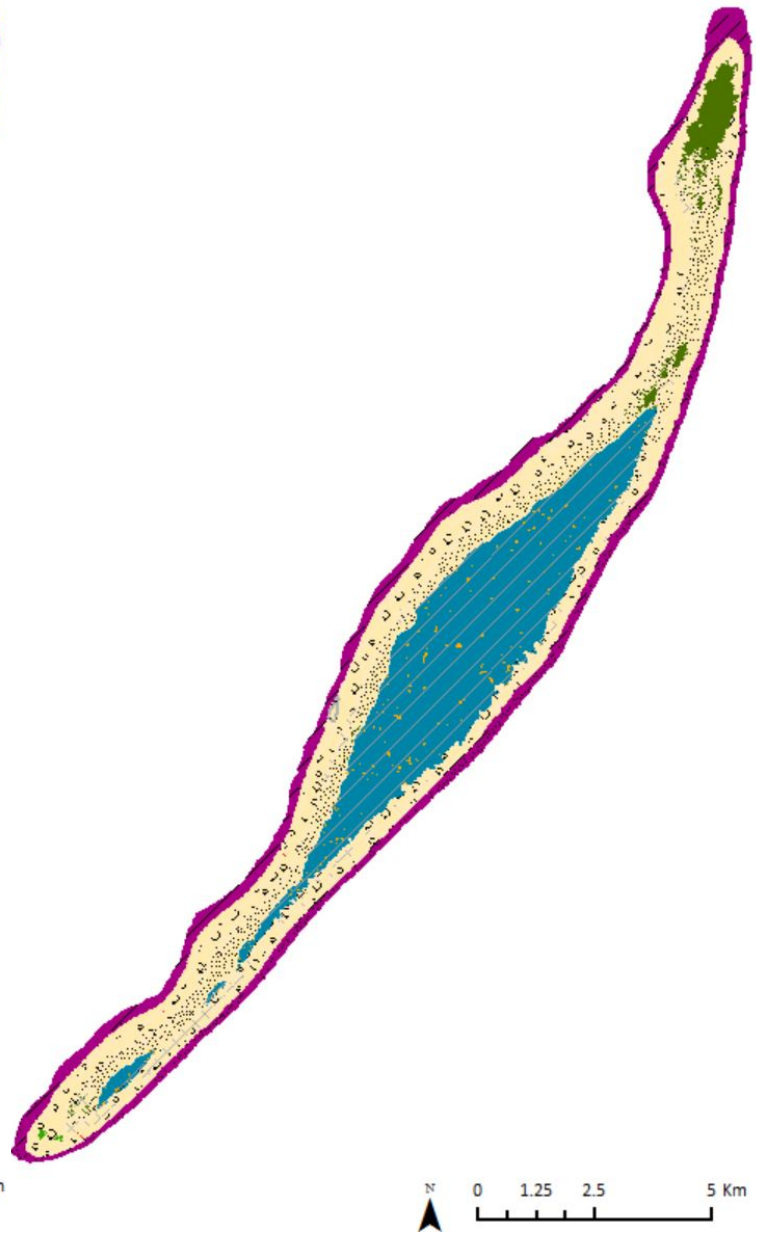
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Derived from WorldView-2 satellite data captured on 20 May 2013 [Sea Level: +20cm]

Bathymetry Map



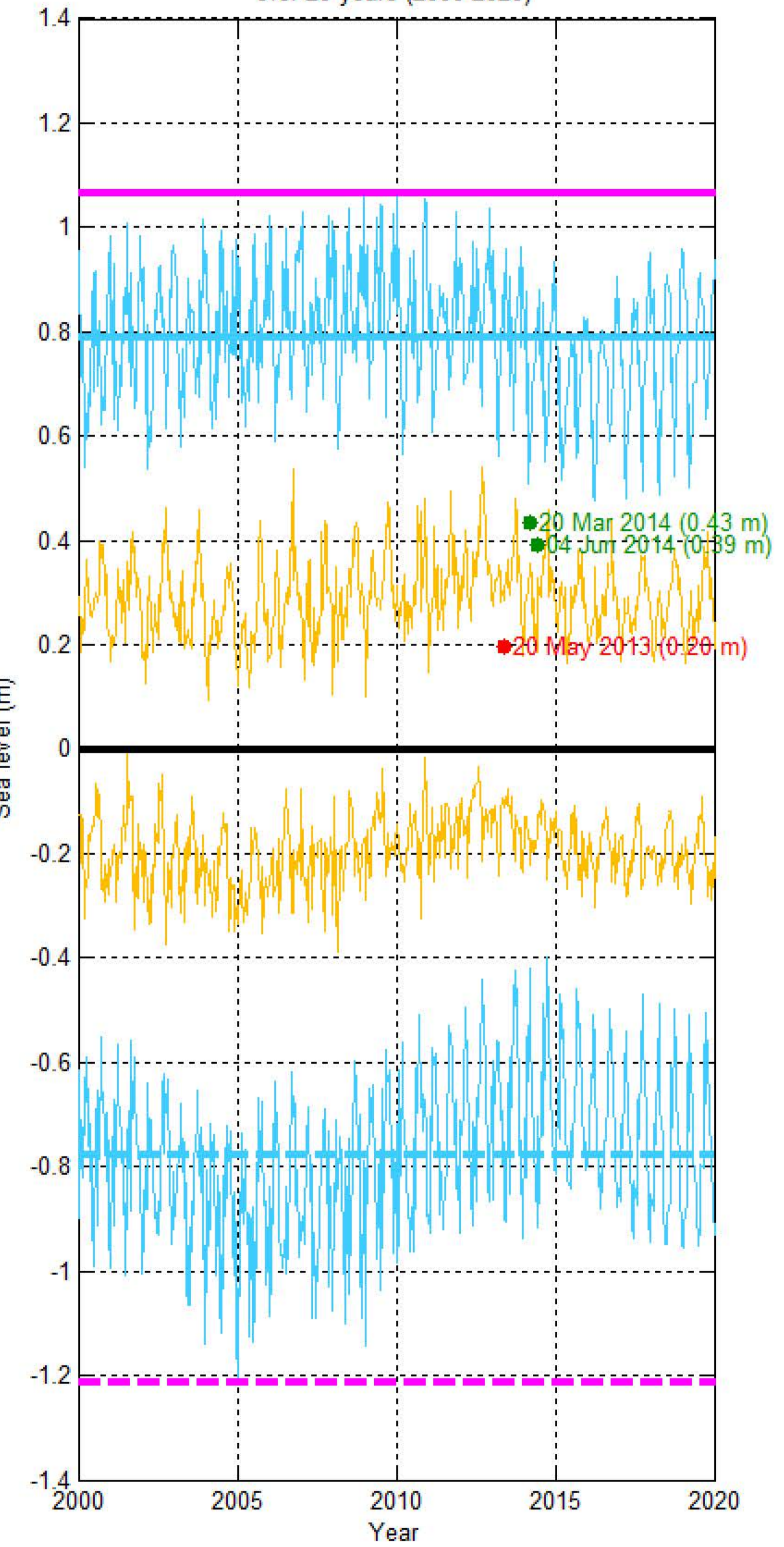
Habitat Classification and Land Cover Map



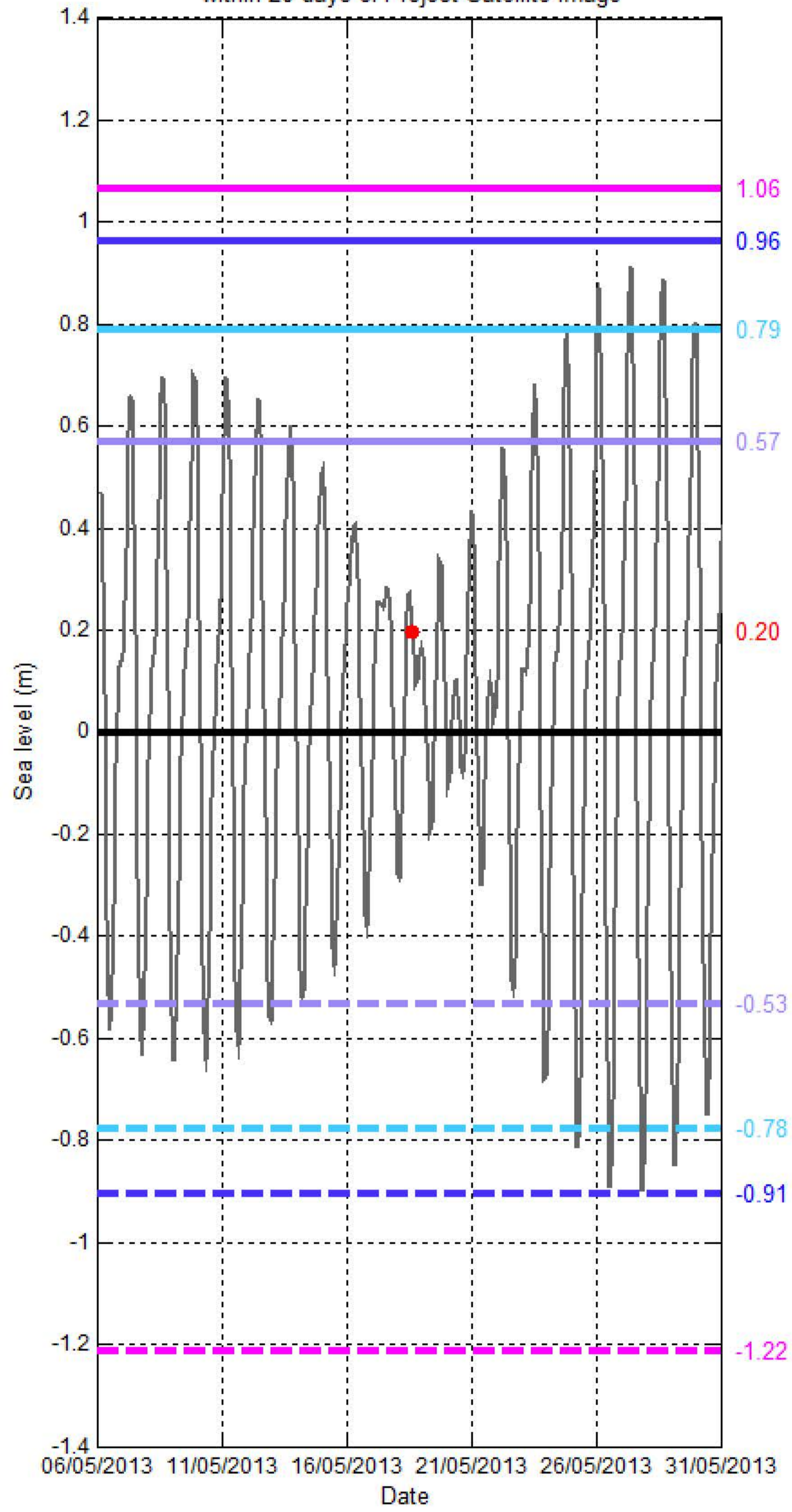
Sea level (SL) at BARQUE CANADA REEF

[8°10'19.65"N, 113°18'21.79"E]

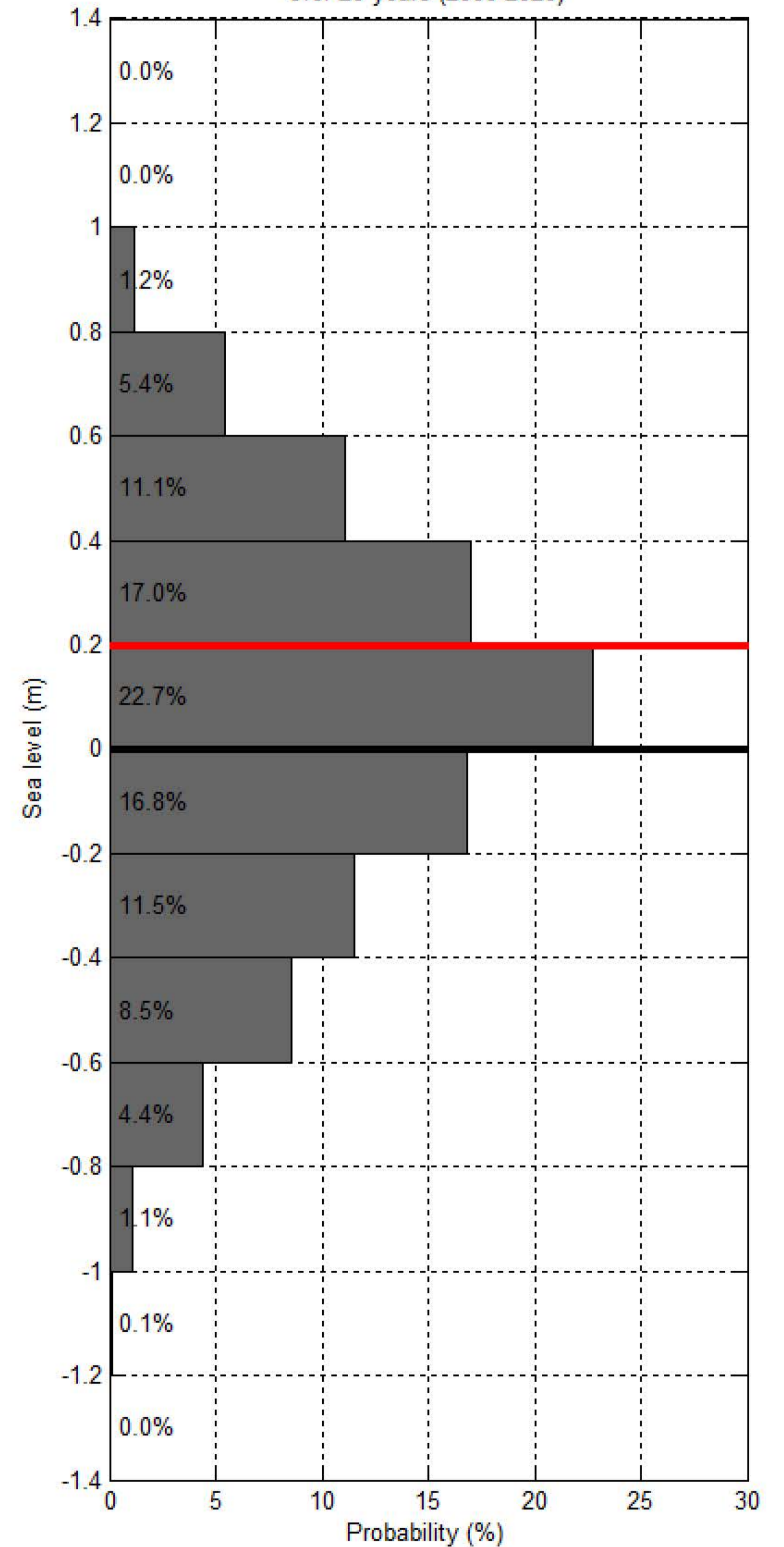
Sea level at spring/neap tide at BARQUE CANADA REEF over 20 years (2000-2020)



Sea level at BARQUE CANADA REEF within 20 days of Project Satellite Image



Probability of sea level at BARQUE CANADA 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