

CORNWALLIS SOUTH REEF

8°43'01.28"N, 114°10'56.91"E

Geographic area

Cornwallis South Reef is an oceanic coral atoll that developed on top of a seamount in the southern part of the Spratlys. It is located less than 190NM west of Palawan and northwest of the island of Borneo. The closest shallow geographic features are Alison Reef, less than 6NM west and Pigeon Reef, 27NM east. The atoll extends close to 10km on its north-south axis and reaches 4km on its west-east axis.

Land area above water

There are no above-water land areas in the 12 March 2014, 11 November 2014 or 8 December 2014 satellite images.

Human infrastructure

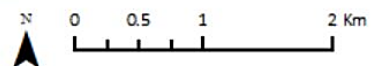
Three man-made structures can be observed on two locations of the reef flat: two of them, connected by a 30m above-water pathway, are located on the southwestern part of the reef flat; the third one is on the northeastern reef flat. They are all halfway between the seaward edge of the reef flat and the start of the lagoon. They are also of a similar size and shape: a 15m tower constructed on a 30m platform and surrounded by two or more jetties that extend 10-20m. In the 11 November 2014 satellite image viewable on Google Earth, a fourth structure of the same type has been added to the two southwestern structures. A 250m-long man-made channel is also visible north of these three structures, as well as a 320m-long non-accessibility device placed seaward on the edge of the reef flat, presumably to prevent landing on the structures.

Intertidal and submerged area

The aerial coverage of this coral atoll is 30.70km² comprising a reef flat of 13.87km², a reef slope of 3.05km² and a lagoon of 13.78km². The reef flat surrounds the lagoon in a 23km-long and 600-800m-wide and continuous band that is interrupted by a 200m-wide opening into the lagoon in the southern side of the reef flat. Shallow areas of less than 1.2m can be observed all around the reef flat. A notable one is the northern part of the reef flat where the depth is less than 1m in some places. The rest of the reef flat is 1.3-1.6m deep and approaches 2m in a few locations. It is expected that the sea level would decrease by 1.27m at Lowest Astronomical Tide, which would result in much of the outer edge of the reef flat being exposed. The reef slope is narrow as the visible section extends generally not more than 150m (except off the northeastern side where it extends close to 250m). It is therefore expected to be steep all around. Pronounced spurs and grooves can nevertheless be observed. The lagoon is 6-9m deep and characterised by a dense reticulate reef system including numerous shallow coral heads or patch reefs that are 10-50m wide. Two gillnets appear to have been placed on the part of the reef flat that borders the northeastern area of the lagoon. They may also be abandoned nets as nets of the same shape and size can be observed in the same location on 11 November 2014 and 8 December 2014. Dredging marks and areas of degraded reef can also be observed, totalling 91,000m².



WorldView-2 True Colour
12 Mar. 2014
Sea Level: +11cm
©DigitalGlobe 2014

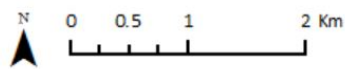
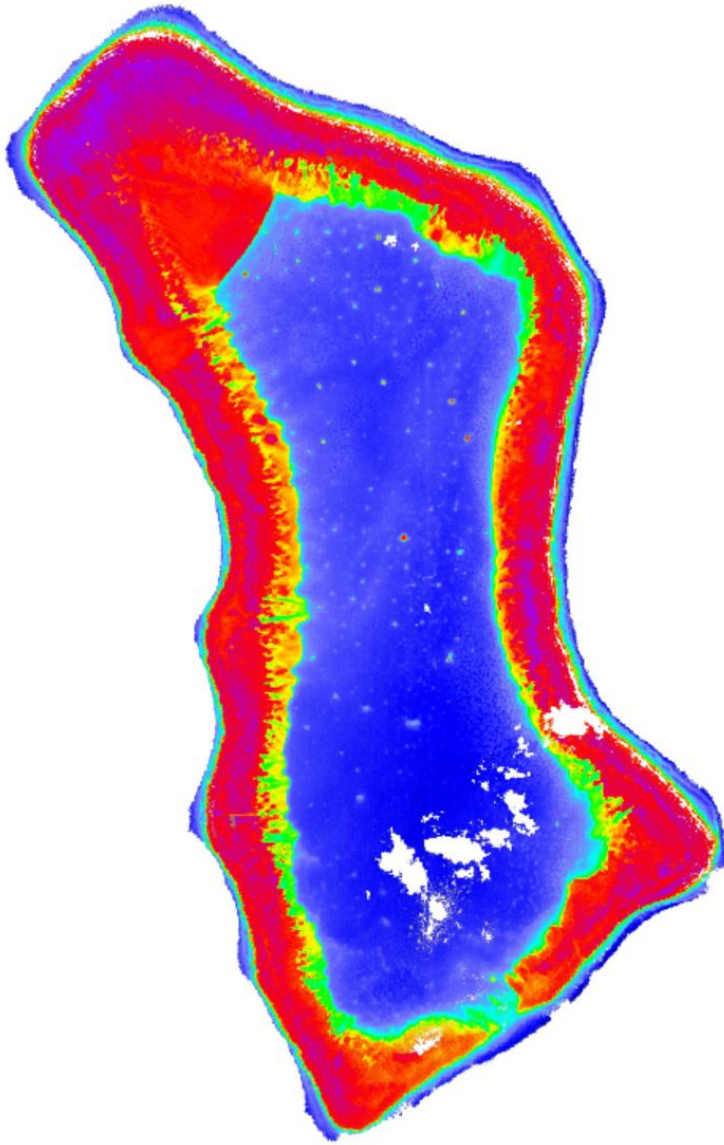


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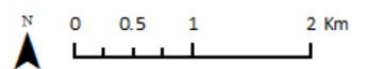
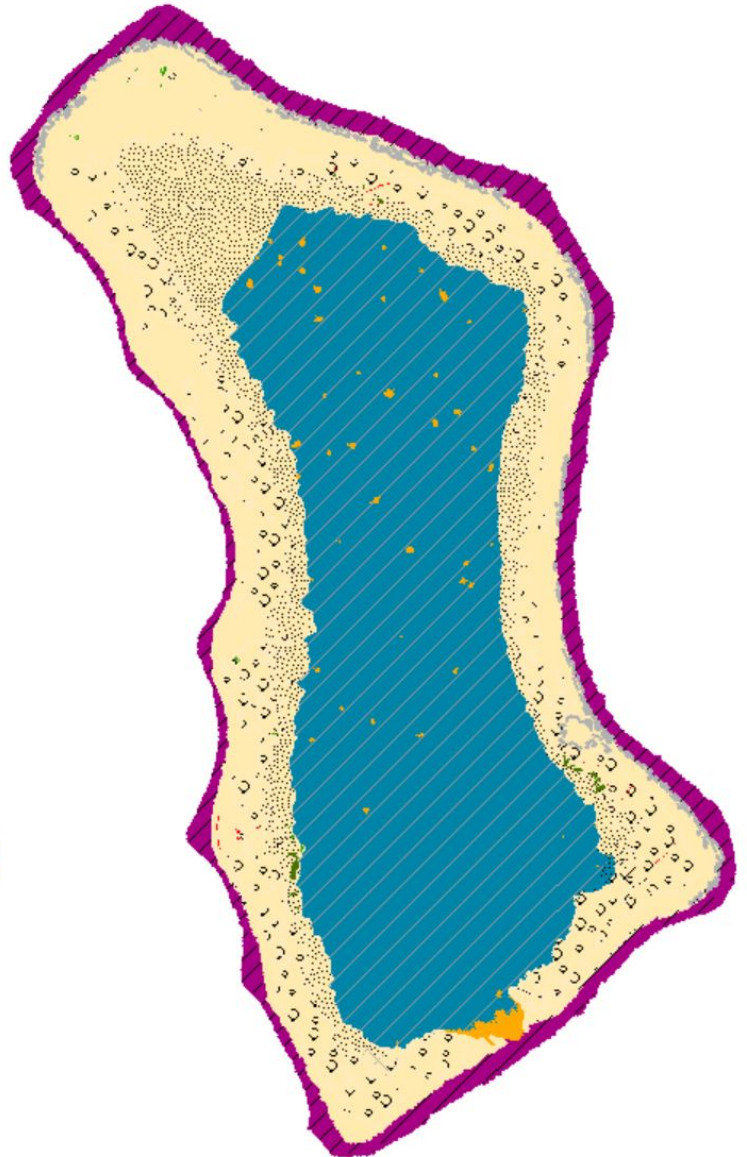
8°43'01.28"N, 114°10'56.91"E

Derived from WorldView-2 satellite data captured on 12 March 2014 [Sea Level: +11cm]

Bathymetry Map



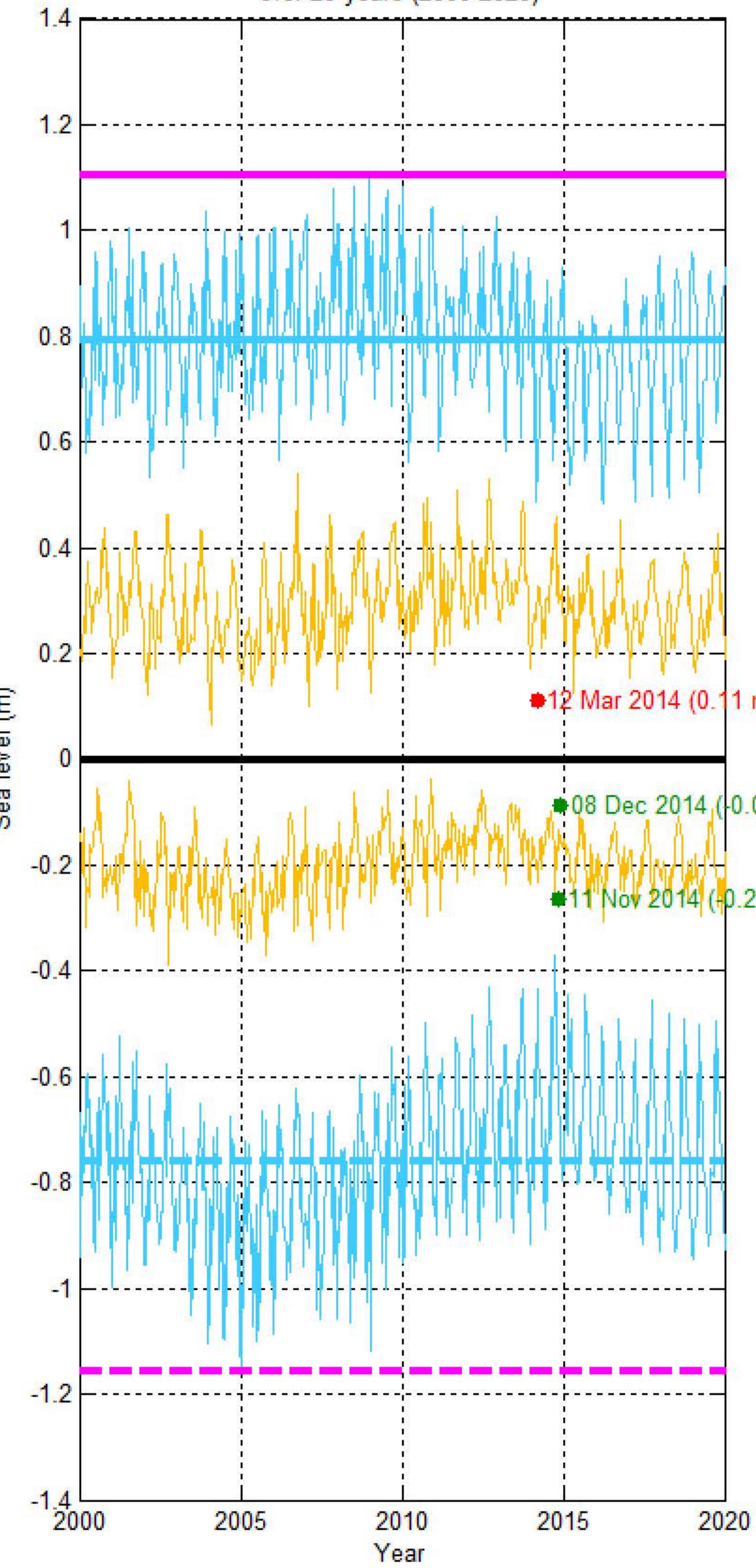
Habitat Classification and Land Cover Map



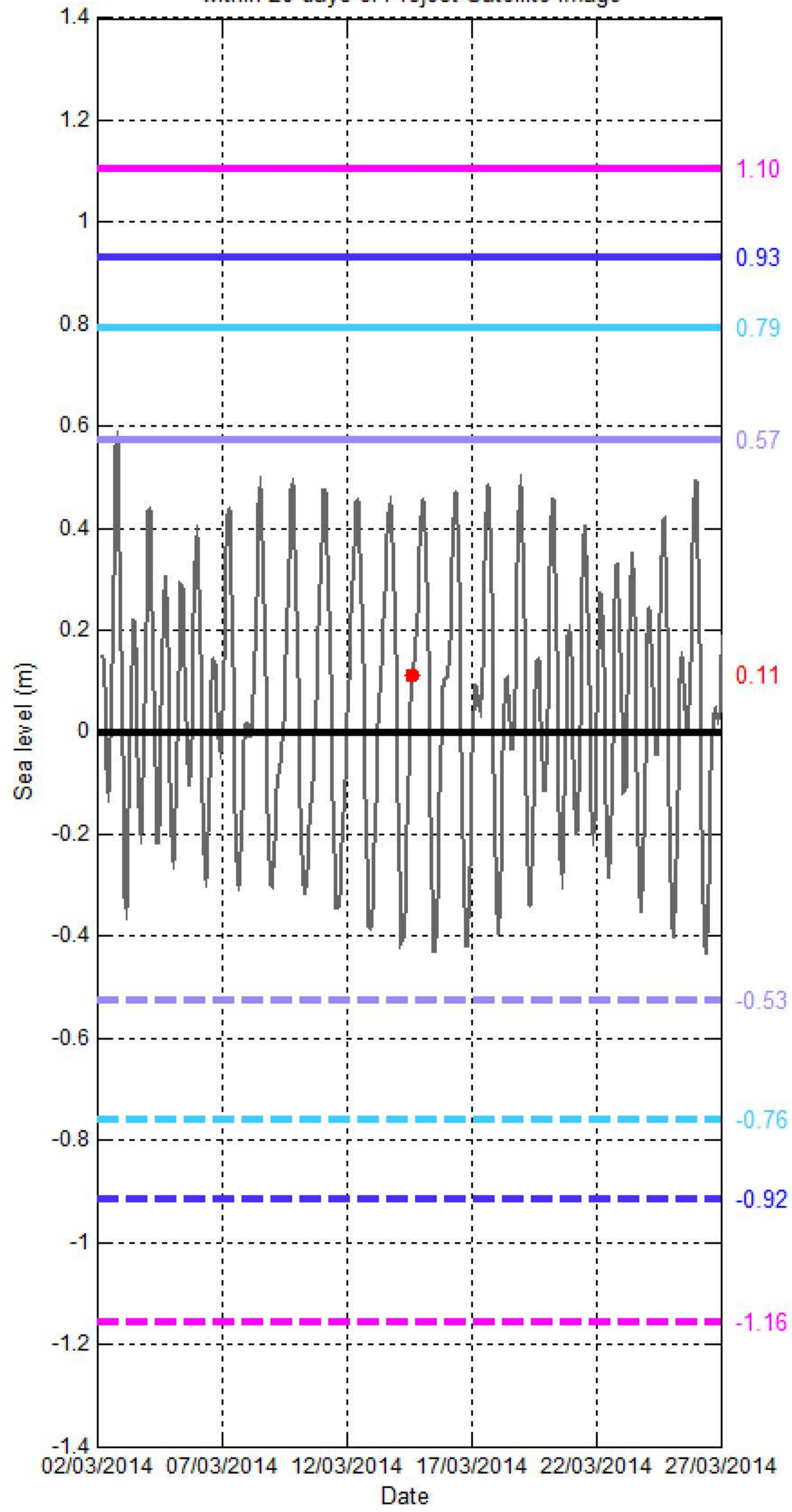
Sea level (SL) at CORNWALLIS SOUTH REEF

[8°43'01.28"N, 114°10'56.91"E]

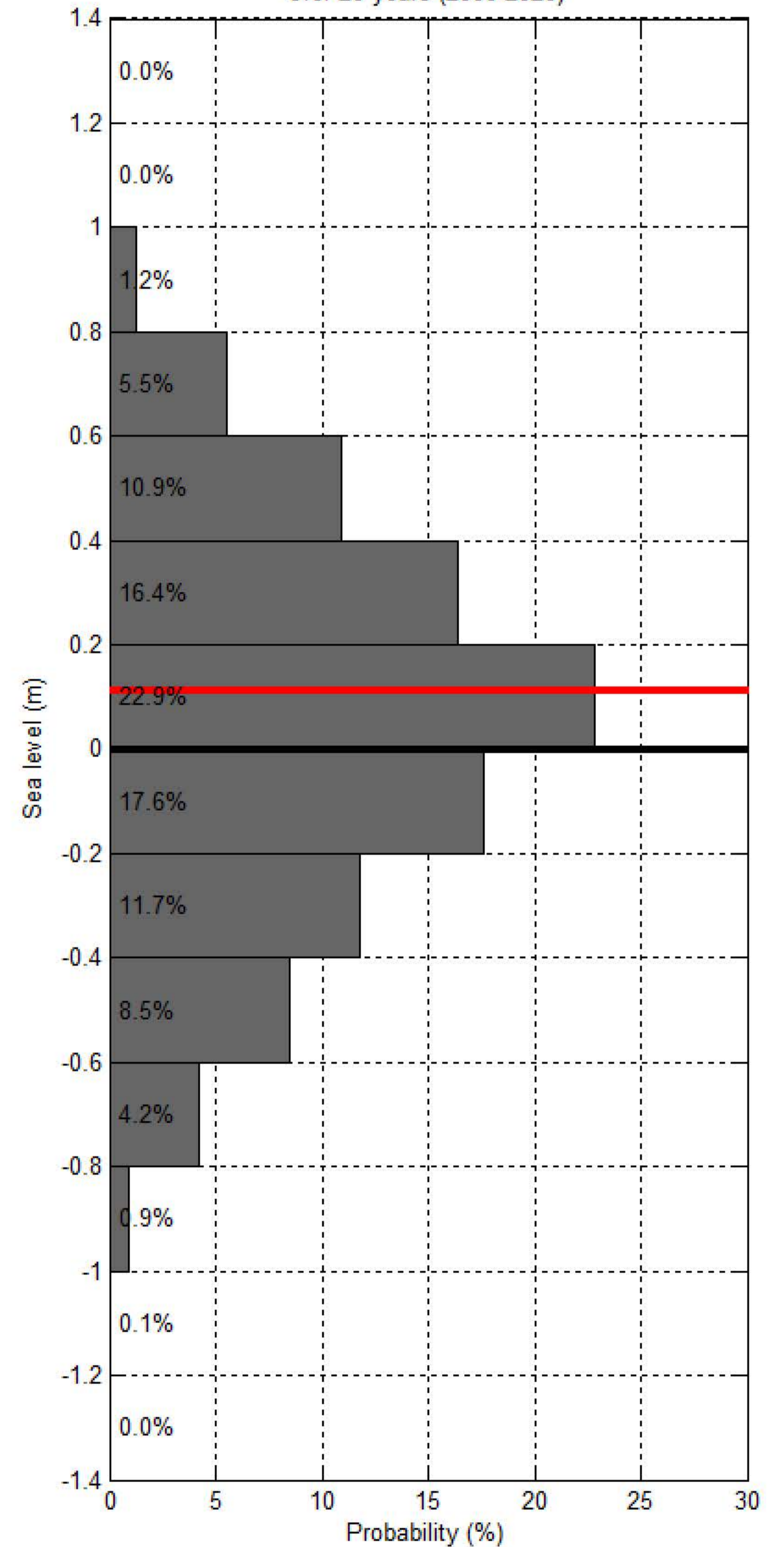
Sea level at spring/neap tide at CORNWALLIS SOUTH REEF over 20 years (2000-2020)



Sea level at CORNWALLIS SOUTH REEF within 20 days of Project Satellite Image



Probability of sea level at CORNWALLIS SOUTH 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