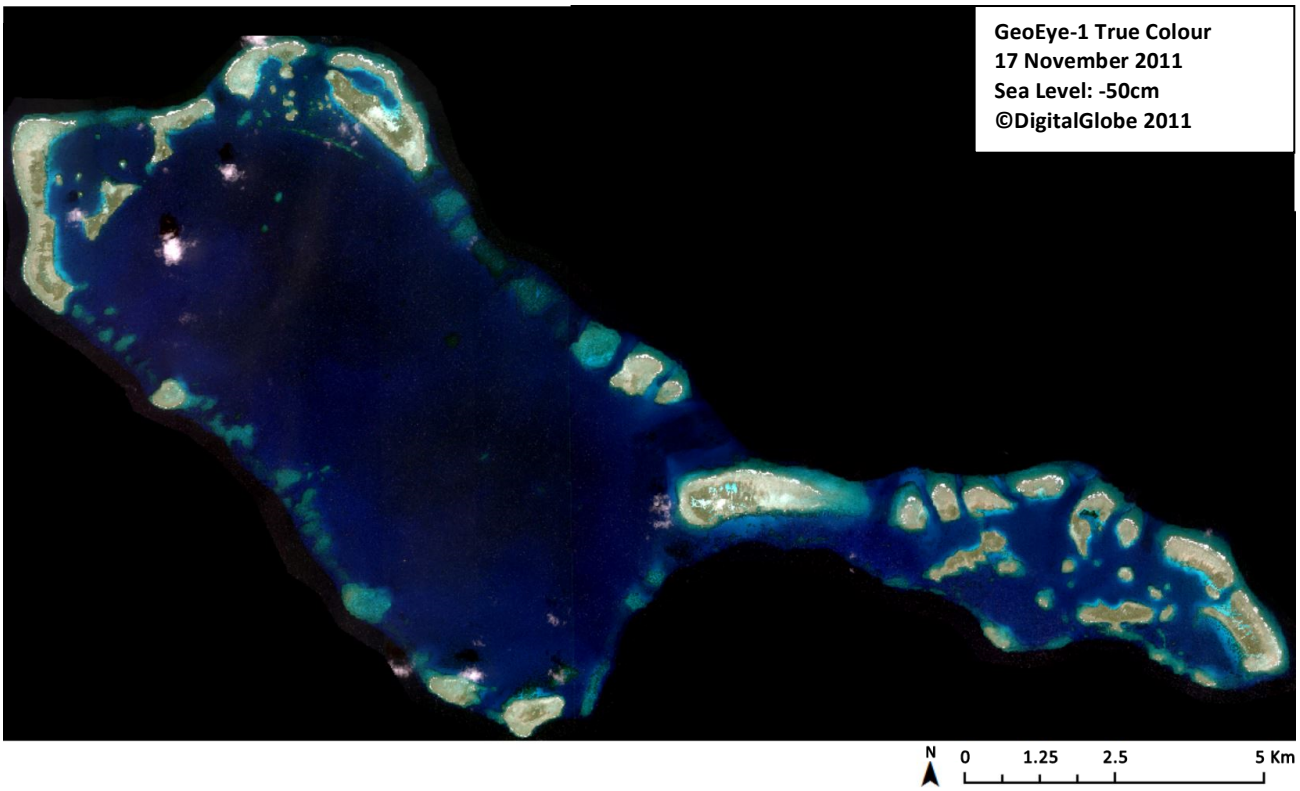
SABINA SHOAL

9°45’29.80”N, 116°29’27.45”E

Geographic area

Sabina Shoal is an oceanic coral atoll that developed on top of a seamount in the eastern part of the Spratlys. It is located around 72NM northwest of the island of Palawan and 160NM northwest of the island of Borneo. The closest shallow geographic feature is Boxall Reef, located just over 18NM southwest. Hardy Reef and Bombay Shoal are close to 25NM northwest and southeast, respectively. Sabina Shoal extends close to 23Km along its northwest-southeast axis. It is composed of two main parts connected by a narrow section. The western part measures 13km long by 6km wide and is larger than the eastern part, which measures 10km by 3km. They both have a central lagoon surrounded by a coral ring made of discontinuous shallow sections.



Land area above water

As the 17 November 2011 satellite image was captured at low tide (the sea level is estimated to have been 50cm below Mean Sea Level), most of the reef flats are less than 1m deep, with large areas that are awash and four above-water sand banks. The above-water areas are all less than 50m long or wide and the awash areas can extend several 100m in length, though their width is 10-20m at most. It is expected that all these above-water areas are intertidal and below water when the sea level increases by 1.31m as is expected at Mean High Water Spring.

Human infrastructure

There are no man-made structures visible on this atoll as at 8 November 2012.

Intertidal and submerged area

The aerial coverage of the overall atoll is 94.53km^2 comprising a total reef flat area of 11.43km^2, a reef slope and deep reef platforms that form the coral ring of Sabina Shoal of 11.61km^2 and 71.4km^2 of lagoon area. The western part of Sabina Shoal is characterised by a coral ring of varying depths resulting in a discontinuous chain of visible shallow or deeper reef platforms. The reef flats are largest in the northwest-facing side of this part where they are also generally less than 1m deep. Parts of these areas are therefore expected to further uncover at Lowest Astronomical Tide where the sea level is expected to decrease by 58cm. The lagoon is characterized by numerous small coral heads and knolls that are less than 30m away from each other although they do not appear to be directly connected, except in some areas where they form a dense reticulate reef system. Their size vary from less than 20m across to 50m. The depth of the lagoon appears to drop, in many parts, from a depth of 3m to 8m or more within a distance of less than 100m from the reef flat. The eastern part of Sabina Shoal is characterized by dispersed reef segments of varying sizes, coral heads and knolls that are often shallow and are located primarily in the north, east and centre of the eastern lagoon. The southern part of the coral ring is, by comparison, narrow and deep. The depth profile of the reef flats in this area presents similar characteristics to that of the western part. However, they are dispersed in a lagoon that is much smaller and appears to be shallower with a depth of 10-13m. At least 20 small vessels can be observed on the southern reef slope of the western part of the shoal. Areas of degraded reef flats that may be the result of destructive fishing activities are also visible (totaling 0.10km^2).

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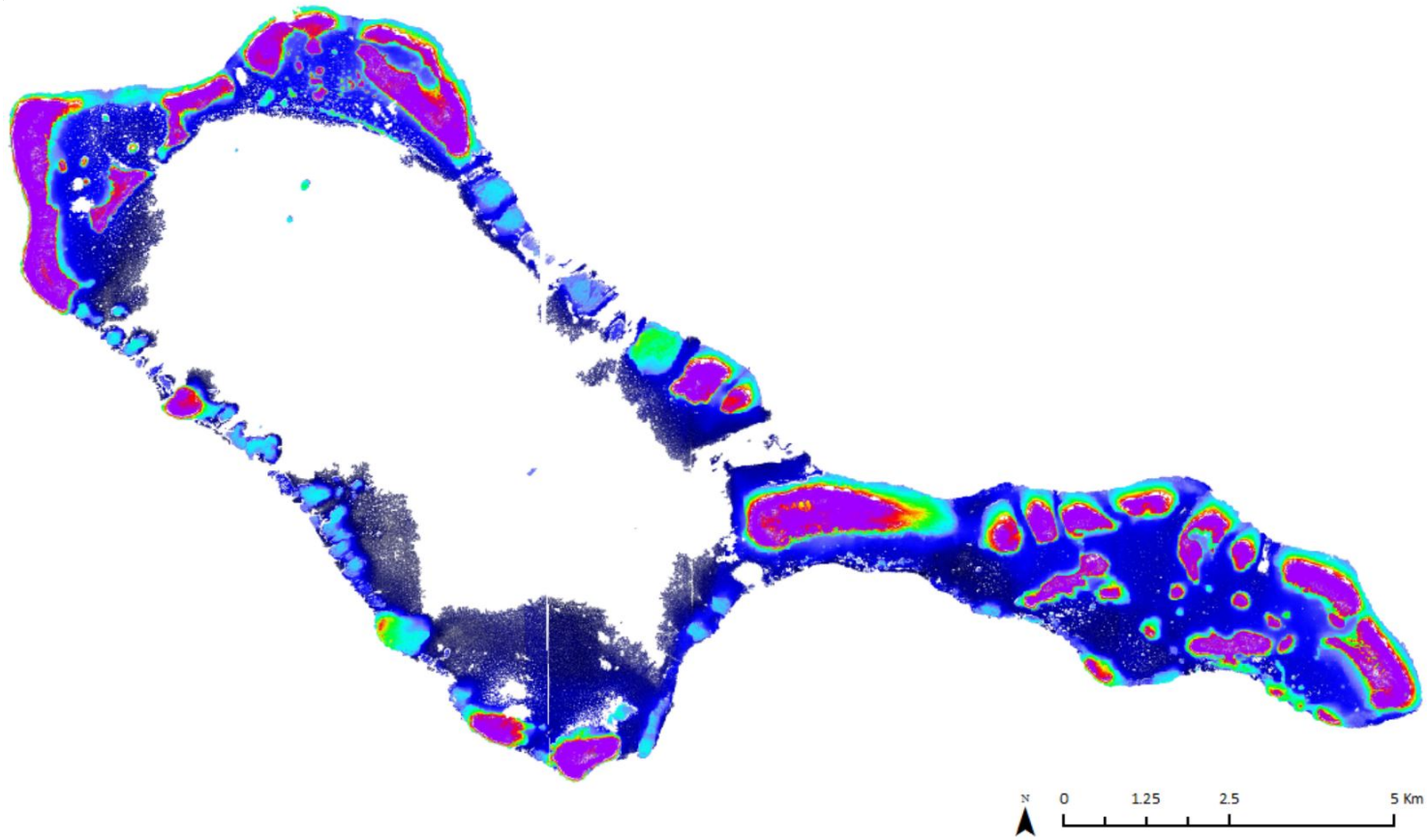
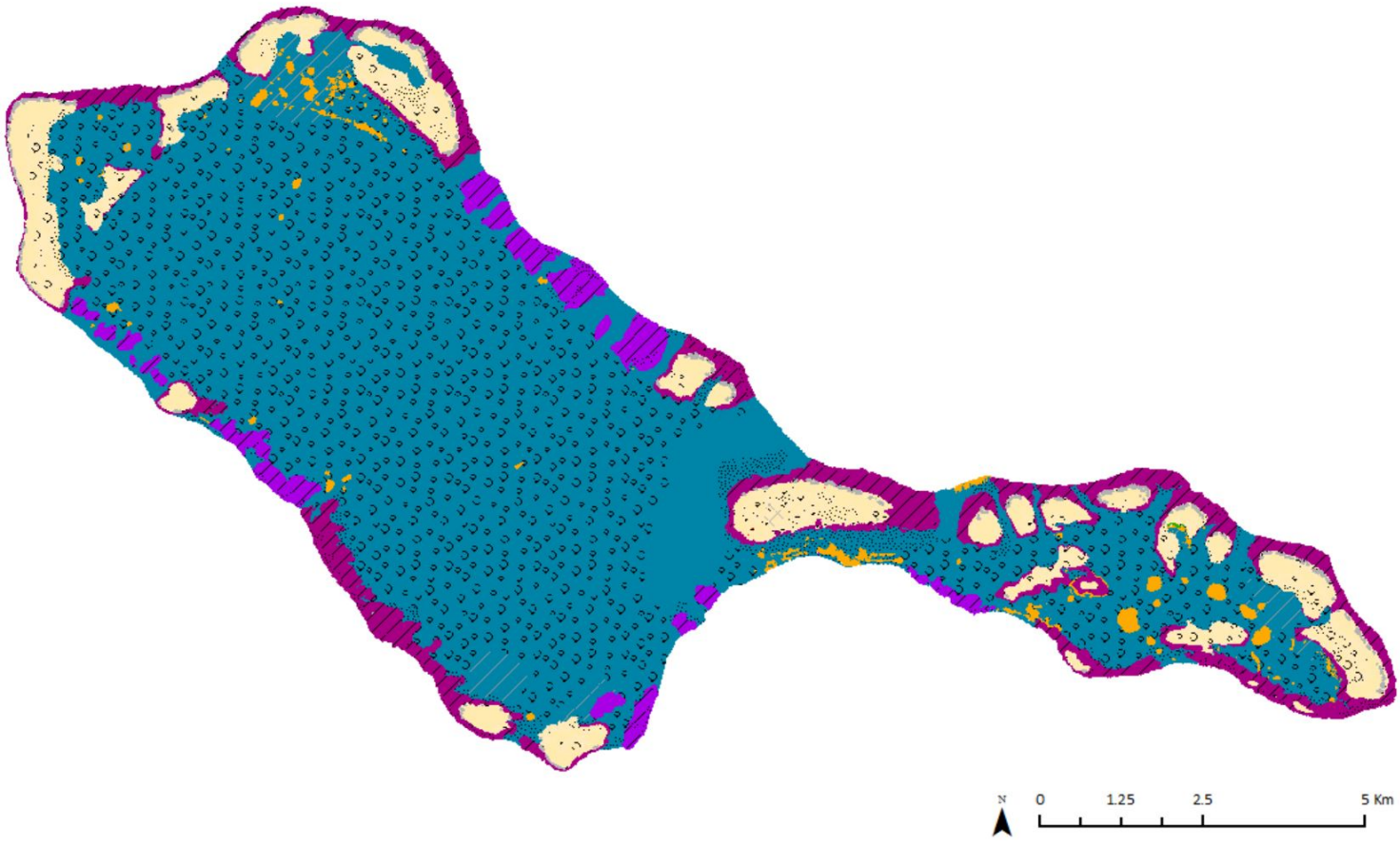
Derived from GeoEye-1 satellite data captured on 17 November 2011 [Sea Level: -50cm]

Bathymetry Map

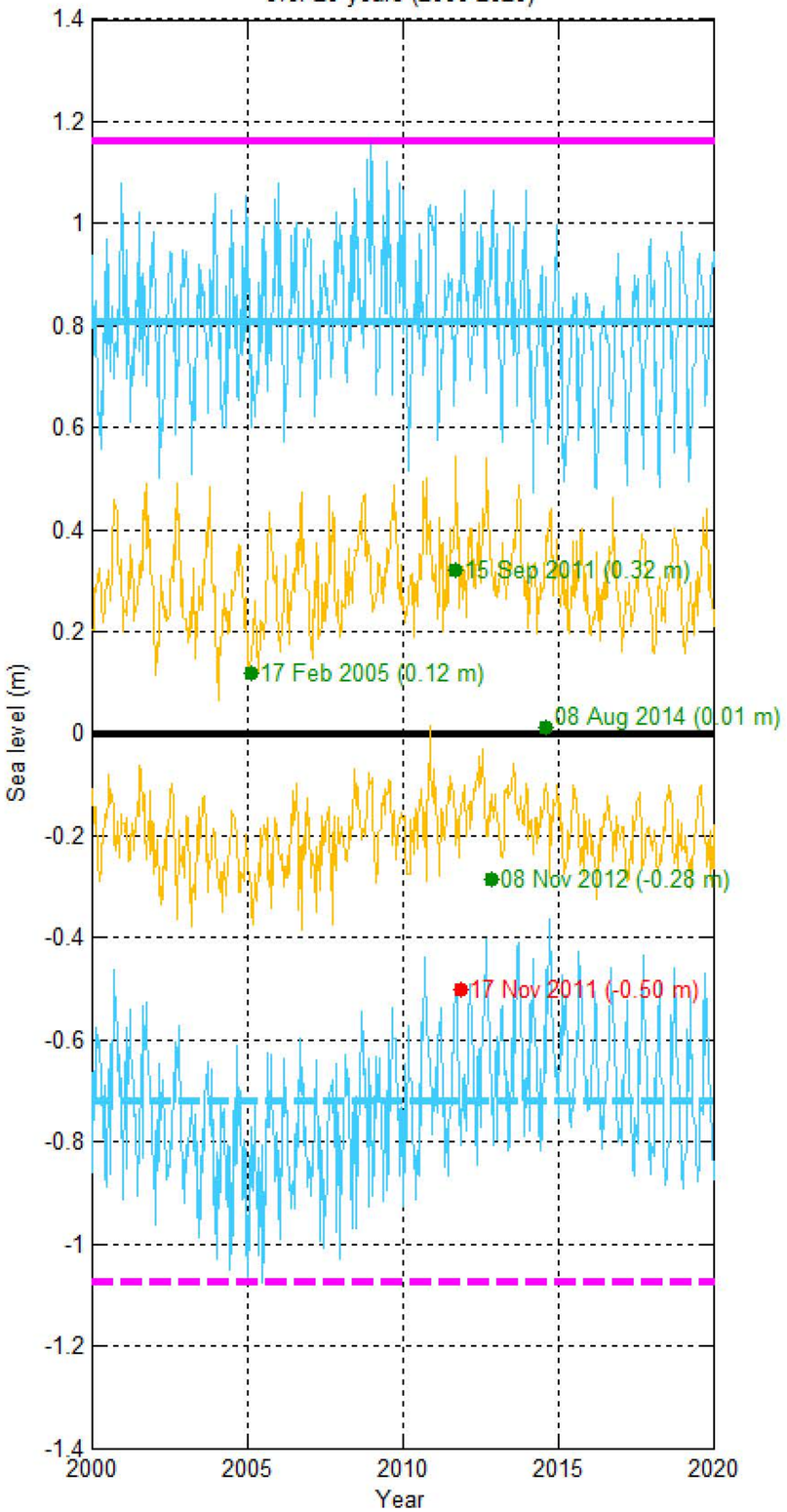




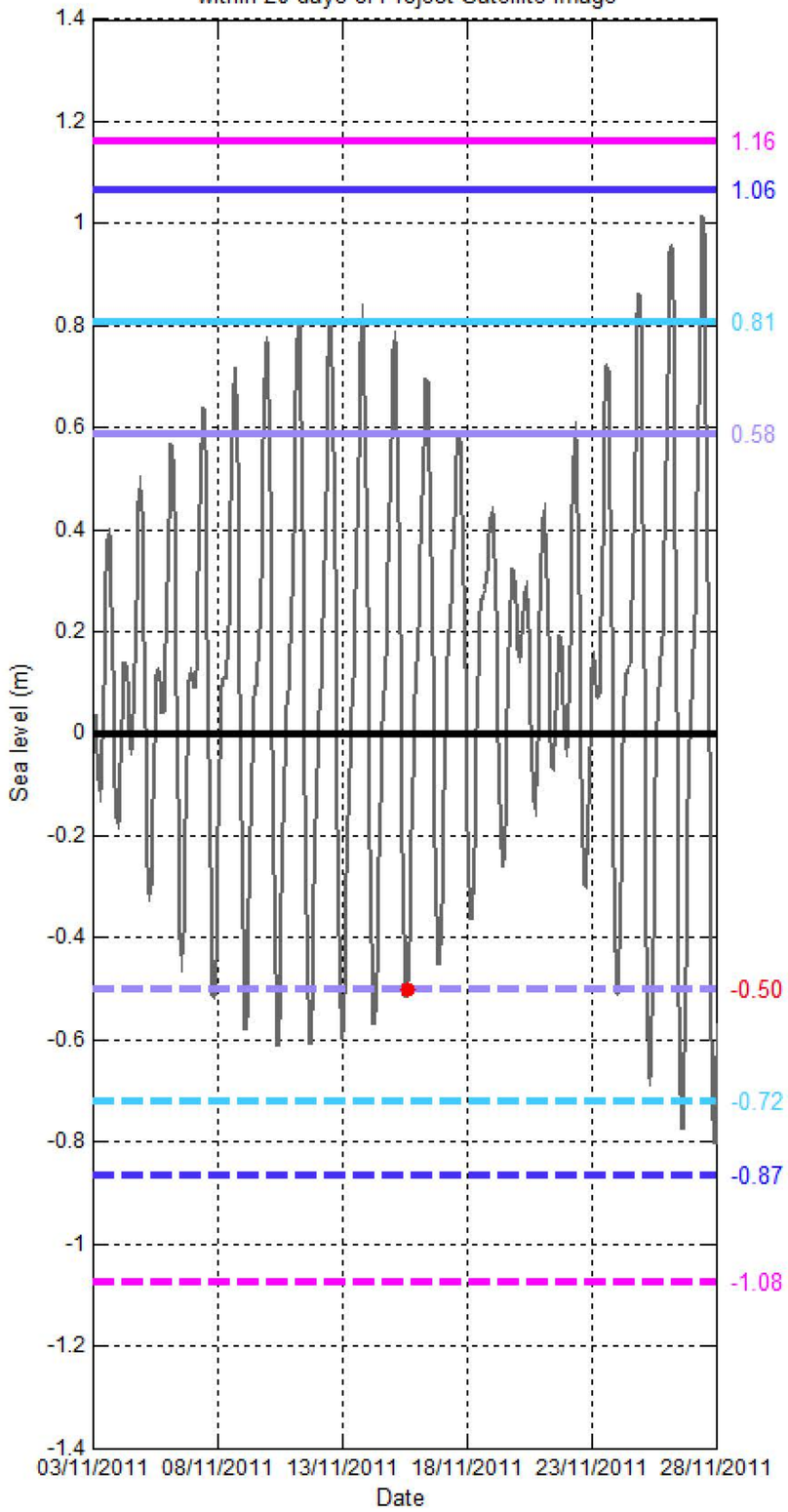
Sea level (SL) at SABINA SHOAL

[9°45'29.80"N, 116°29'27.45"E]

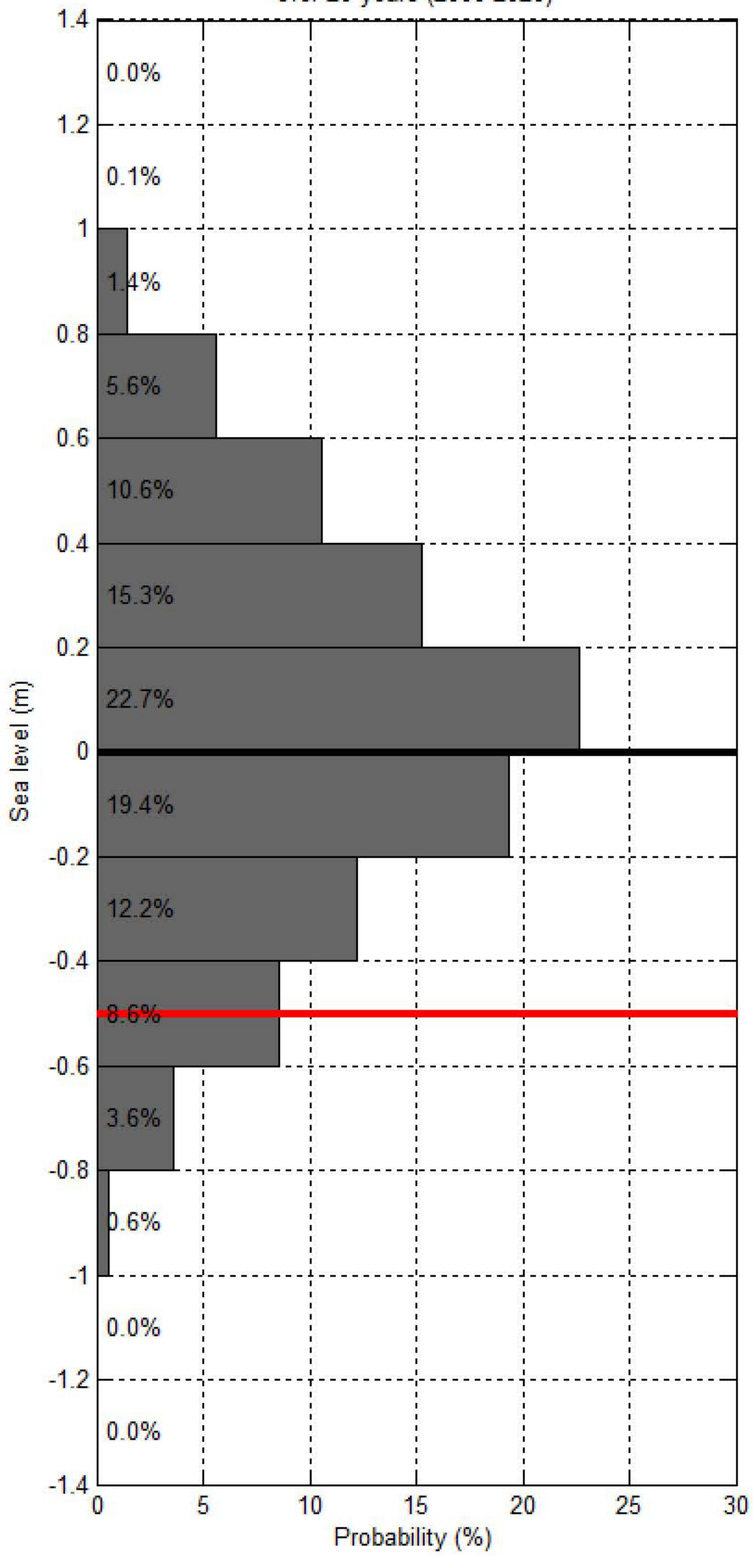
Sea level at spring/neap tide at
SABINA SHOAL
over 20 years (2000-2020)



Sea level at
SABINA SHOAL
within 20 days of Project Satellite Image



Probability of sea level at
SABINA SHOAL
over 20 years (2000-2020)



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