

HALF MOON SHOAL

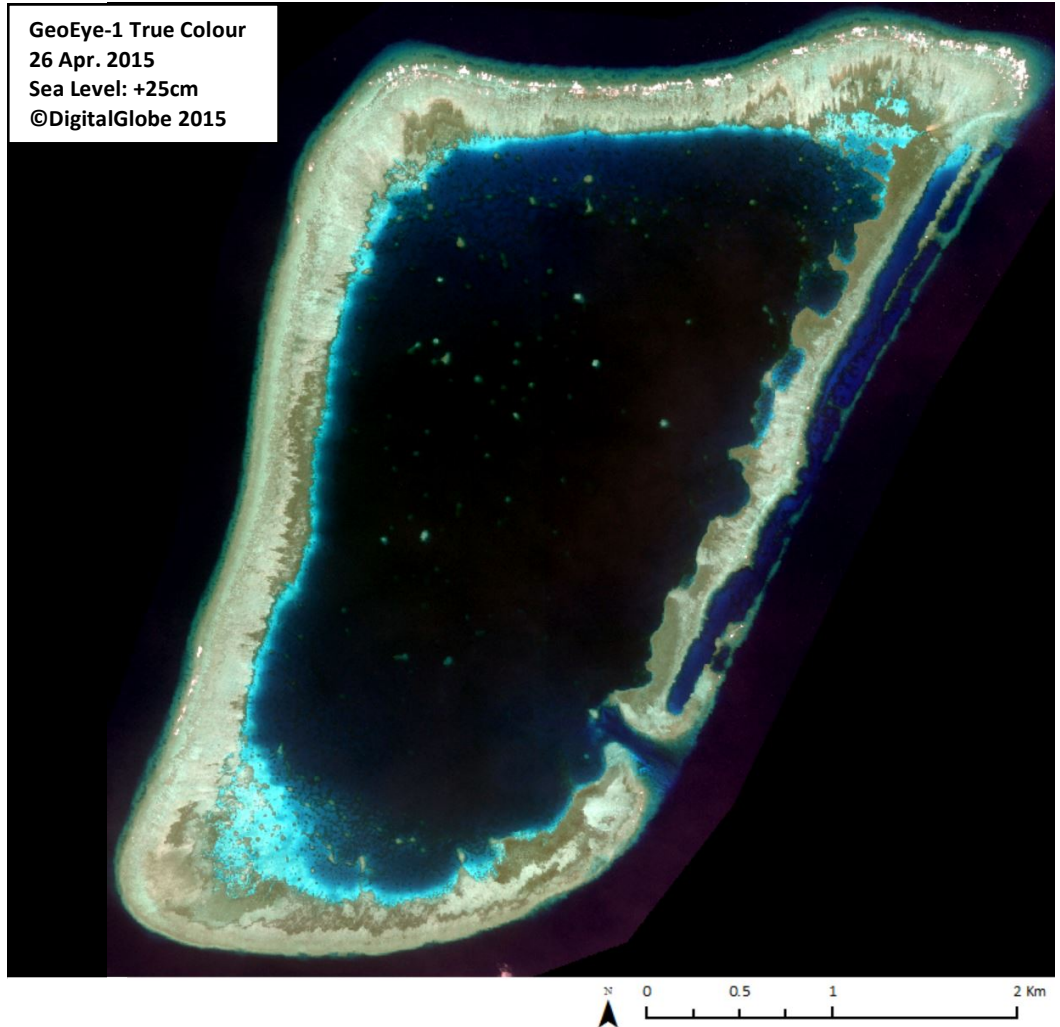
8°54'15.81"N, 116°16'30.13"E

Geographic area

Half Moon Shoal is an oceanic coral atoll that has developed on top of a seamount in the eastern part of the Spratlys. It is located approximately 60NM west of the island of Palawan and 115 NM northwest of the island of Borneo. The closest shallow geographic features are Investigator Northeast Shoal and Royal Captain Shoal, which are located 17.4NM and 22NM northeast, respectively. This atoll is shaped like a rectangle and extends 5km along its northeast-southwest axis and up to 4km along its west-east axis.

Land area above water

There is one small above-water sand bank of 25m by 10m in the 26 April 2015 satellite image. However, it is not visible on 17 February 2012 and it is not clearly present on 23 December 2013 (satellite images viewable on Google Earth). This suggests that this sand bank is unstable. Furthermore, it is likely to be covered at Mean High Water Spring on the basis that the sea level is expected to increase by 56cm.



Human infrastructure

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

Intertidal and submerged area

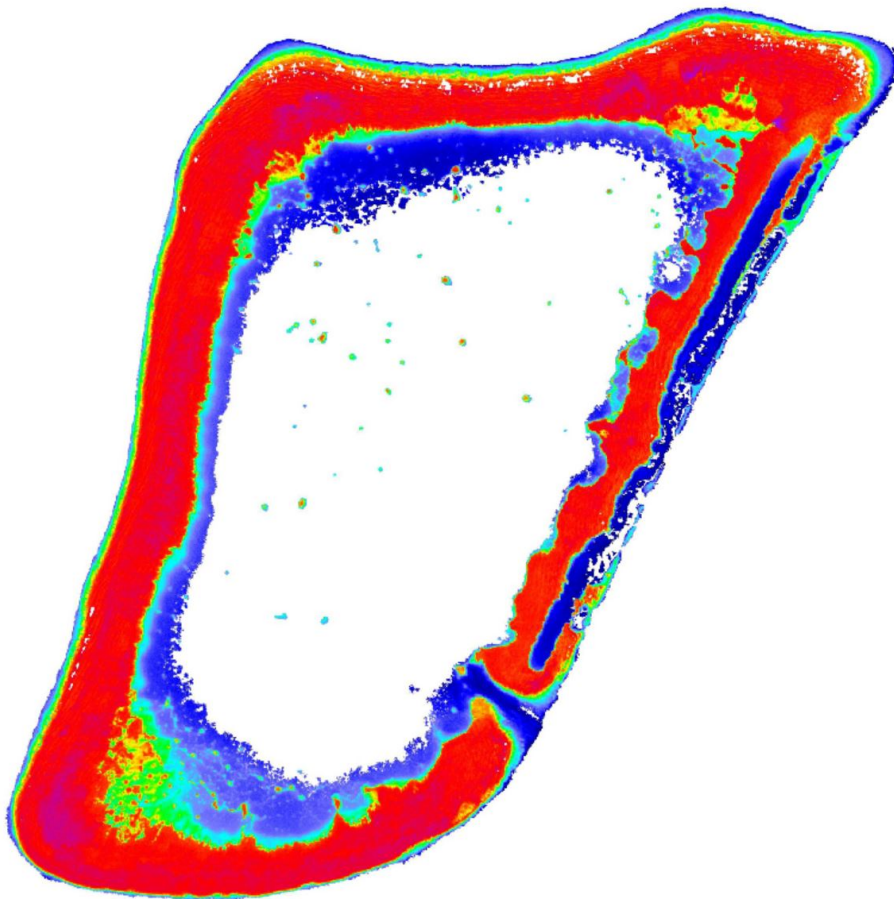
The total aerial coverage of the atoll is 15.57km² comprising a reef flat of 5.55km², several lagoons connected together totaling 8.89km² and a reef slope of 1.13km². In addition, the seaward side of the eastern reef flat is divided in a meshed network within which six narrow lagoons of varying sizes can be observed; the smallest is just over 20m by 20m; the longest is 1.8km long by 150m wide. The main reef flat is a continuous band of 14.8km that is 1.3-1.7m deep. It is 250-400m wide on the northern, western and southern sides. The eastern side is narrower (generally less than 250m), slightly deeper and operates as a ridge between two lagoonal areas, the main lagoon and the eastern small lagoons. It is also interrupted by a 170m-wide opening between the main lagoon and the open sea, south of the eastern lagoons. Some areas of the reef flat are expected to uncover at Lowest Astronomical Tide on the basis that the sea level is expected to decrease by 1.37m. The lagoons, which are 6-7m deep on the edges, are all expected to be over 10m deep. Sections of the lagoons bear the characteristics of a reticulate reef system that include numerous 50m-wide coral heads. The visible part of the reef slope is narrow all around. Given the great depth of the surrounding seabed it is likely that the reef slope is very steep. Pronounced spurs and grooves can be seen all around. Discrete areas with dredging marks can be observed on the eastern side of the main reef flat (totaling 46,000km²). They may be the result of destructive fishing methods or coral harvesting.

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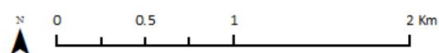
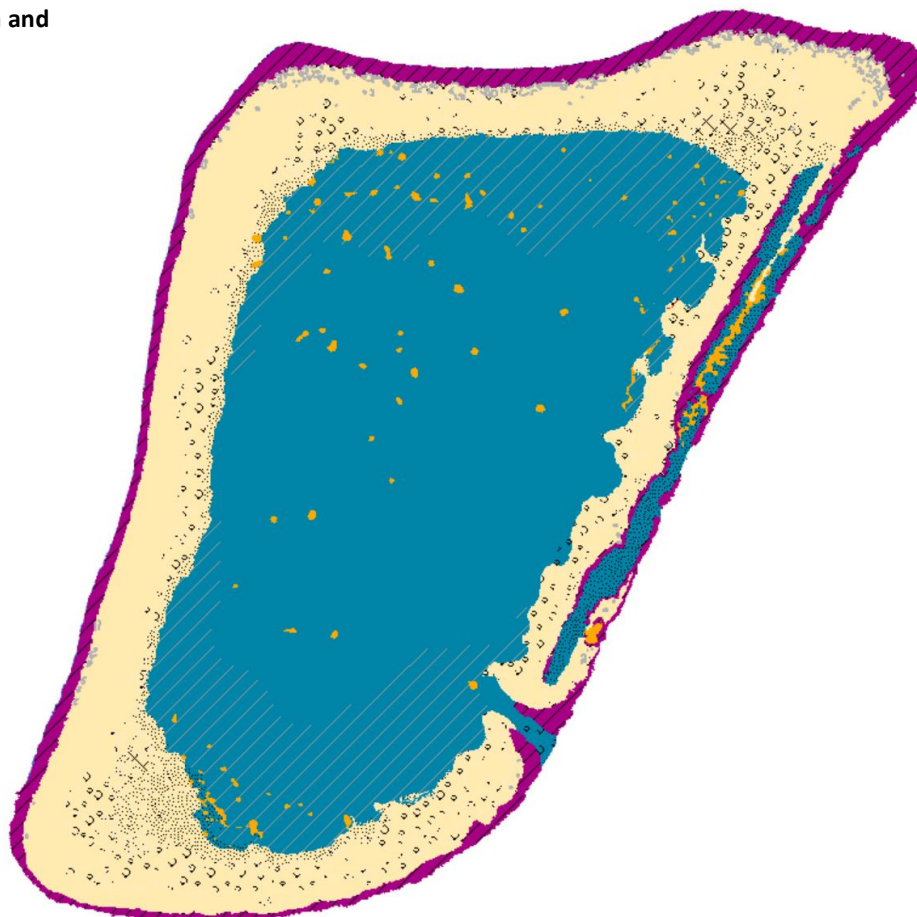
8°54'15.81"N, 116°16'30.13"E

Derived from GeoEye-1 satellite data captured on 26 April 2015 [Sea Level: +25cm]

Bathymetry Map



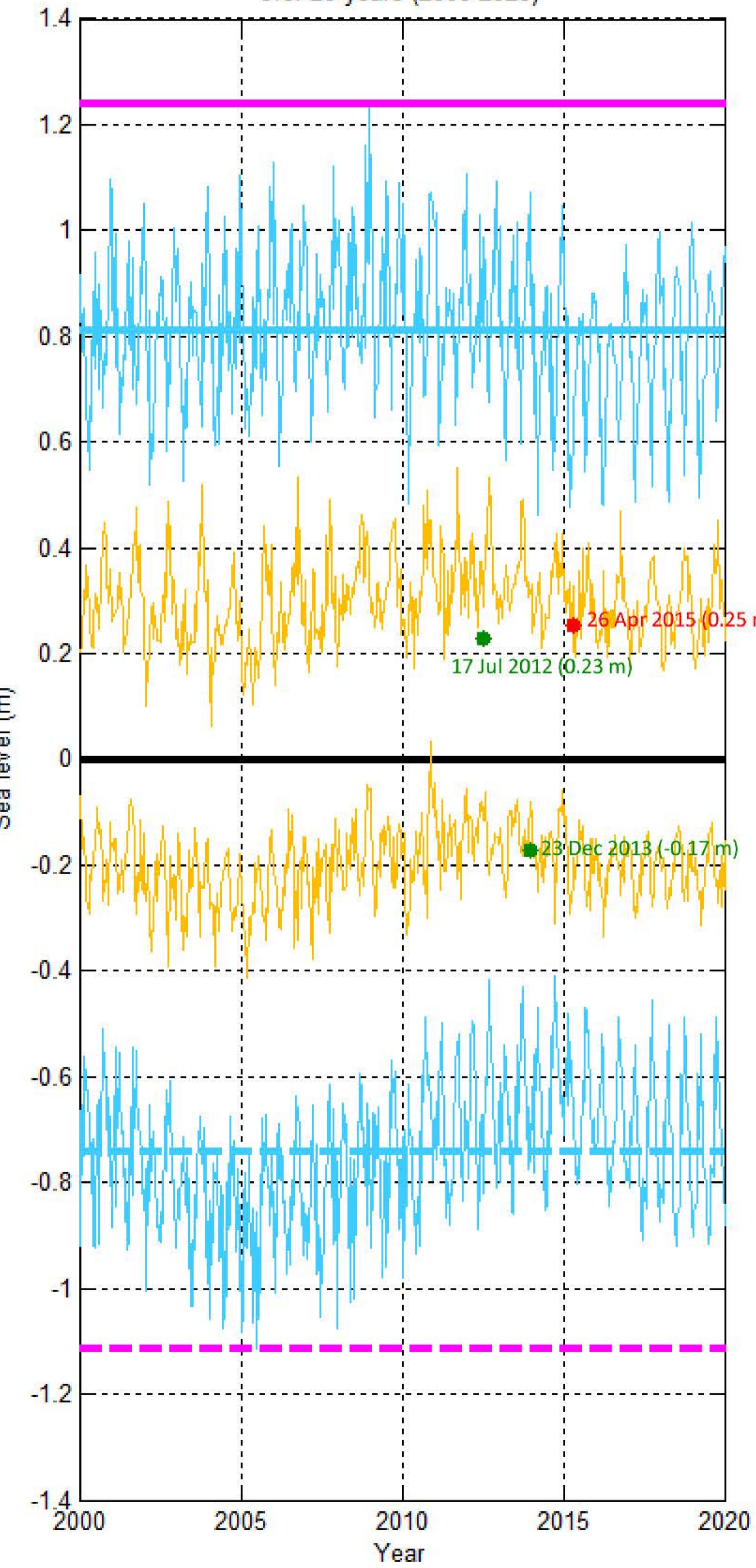
Habitat Classification and Land Cover Map



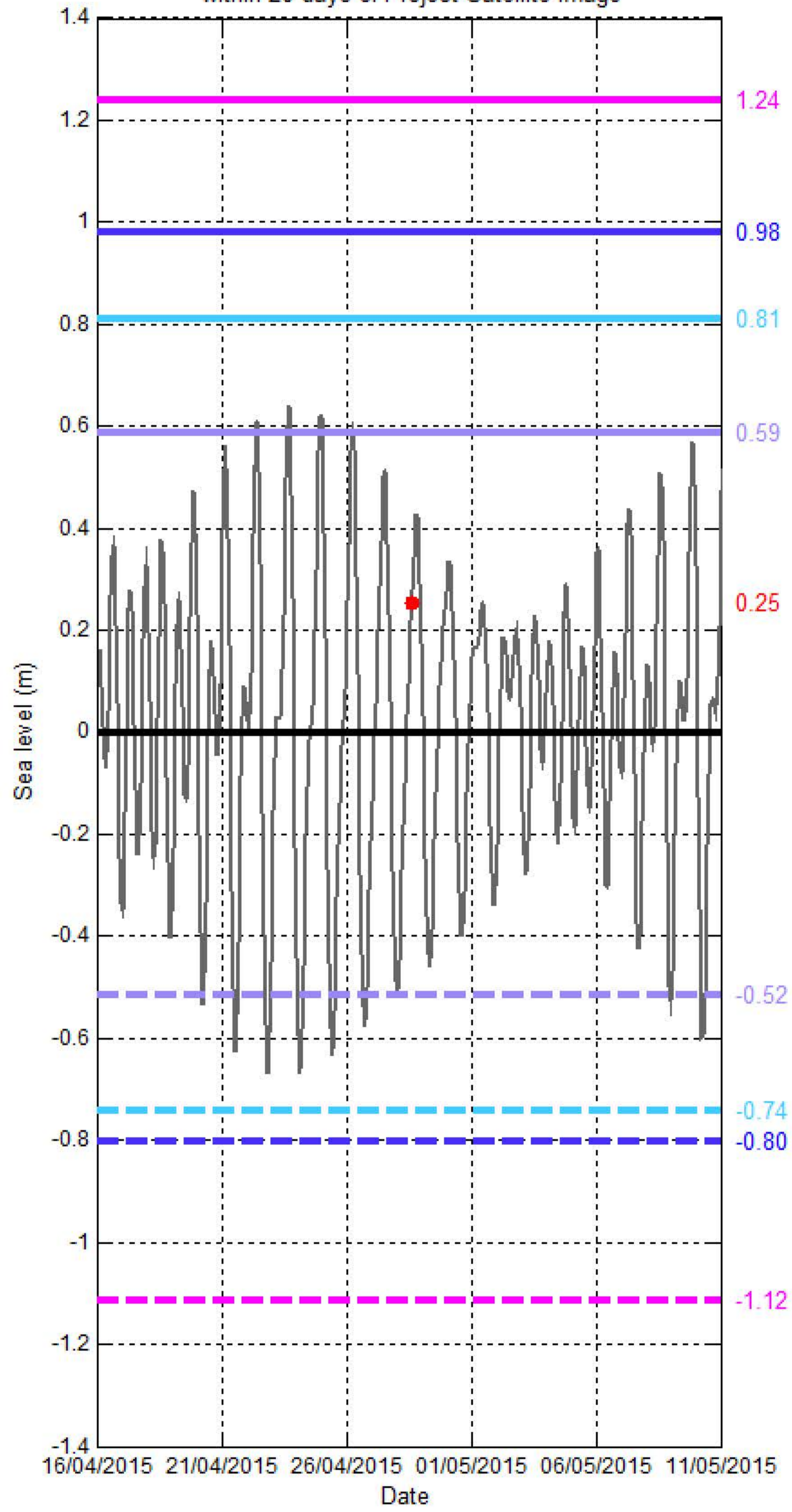
Sea level (SL) at HALF MOON SHOAL

[8°54'15.81"N, 116°16'30.13"E]

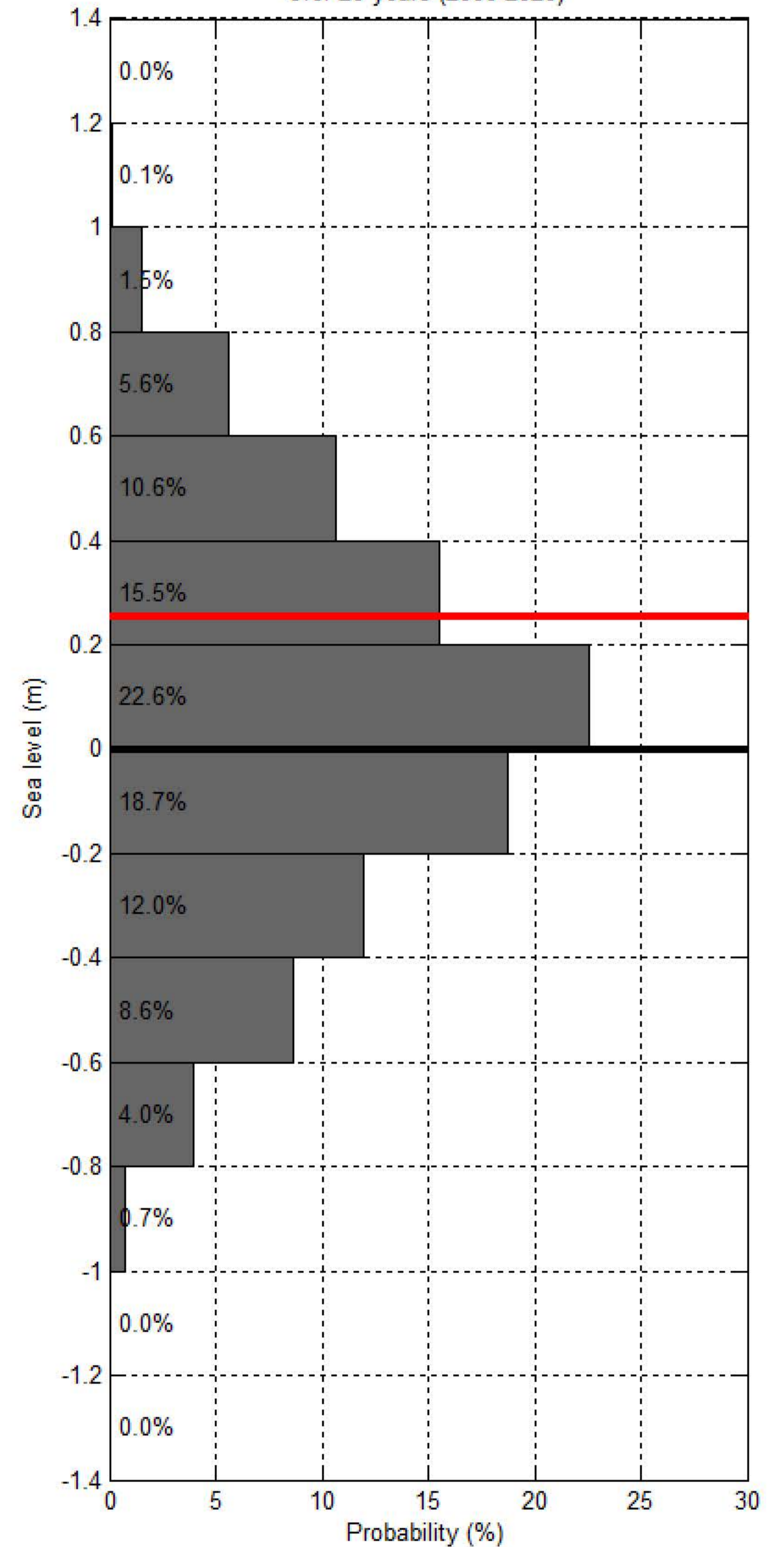
Sea level at spring/neap tide at HALF MOON SHOAL over 20 years (2000-2020)



Sea level at HALF MOON SHOAL within 20 days of Project Satellite Image



Probability of sea level at HALF MOON SHOAL 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