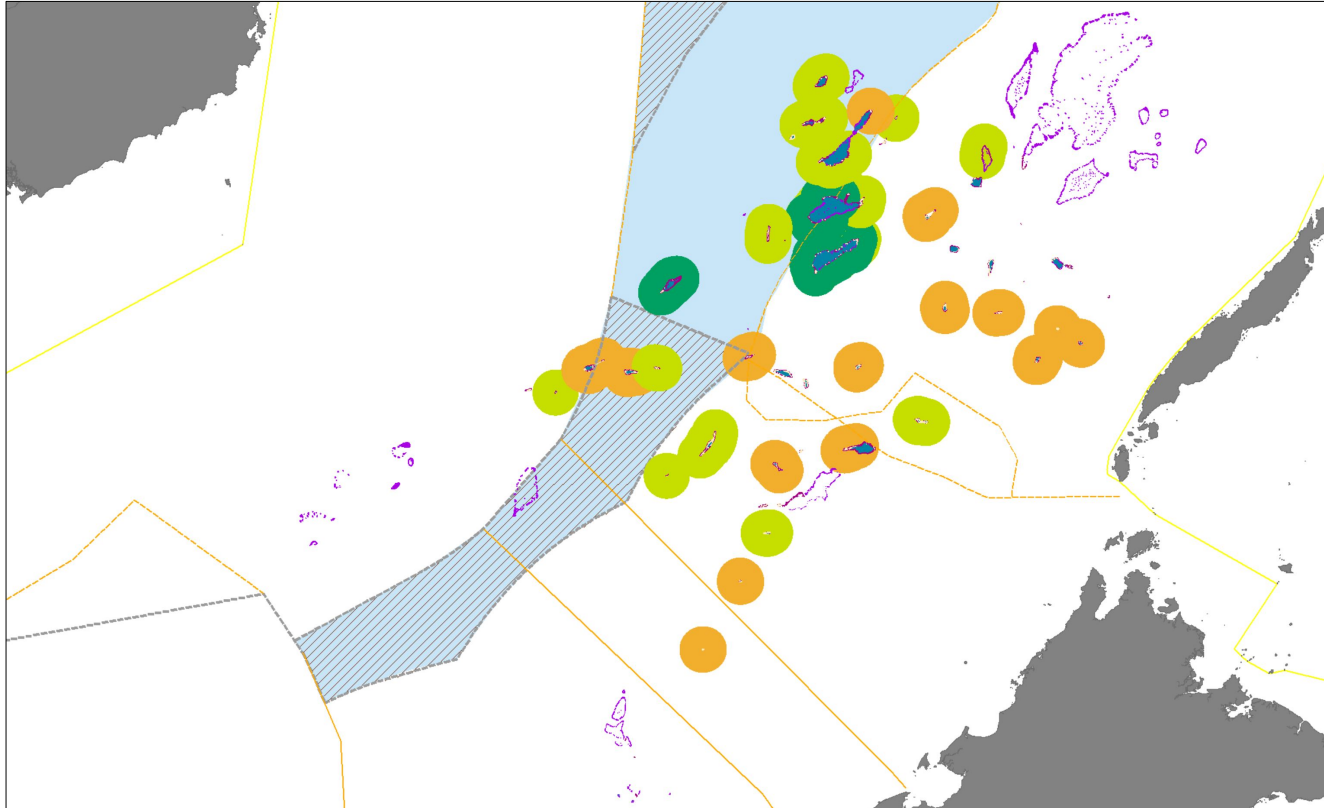


High Tide Features in the SCS Arbitration: Distinguishing small and insular land areas from seabed formations



CIL South China Sea Award Conference: The Legal Dimension

Session 4

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National University of Singapore

Outline

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II. Which High Tide?

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- *Permanence in Same Location and Dynamic Features*

IV. Implications for Other Shallow Features

- *Impact of new evidence and data*
- *Clear Cut vs. Dubious Cases*

Introductory Comments

- Application of UNCLOS Article 121(1): What is a naturally formed area of land above water at high tide?
- The Tribunal called it a 'High Tide Feature', the term used in this presentation. A 'High Tide Feature' may be a simple 'rock' or a full fledged 'island' capable of generating an EEZ and continental shelf of its own
- Focus on the distinction between High-Tide Feature vs. Low Tide Feature (whether a Low-Tide Elevation or a submerged feature; Not on the distinction between Low Tide Elevation vs. fully submerged feature
- Which high tides can/should be used as reference?
- How often can a naturally formed area of land get submerged by naturally occurring tide and foreseeable meteorological processes whilst still qualifying as an 'island' or 'high tide feature'?
- Can a high tide feature be temporary, such that it exists for a few weeks or a few months?
- Can it move places and still qualify as an above water area of land?

I. The Award

Determined High-Tide Features

In addition to Itu Aba, 10 features had their status determined:

High- Tide Features

- Scarborough Reef
- Cuarteron Reef
- Fiery Cross Reef
- Johnson Reef
- McKennan Reef
- Gaven Reef North

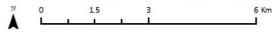
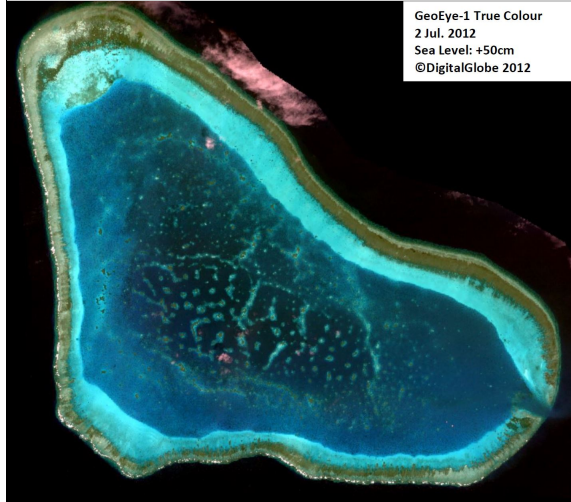
Low-Tide Features

- Hughes Reef
- Subi Reef
- Mischief Reef
- Second Thomas Shoal

I. The Award

Determined High-Tide Features

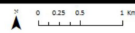
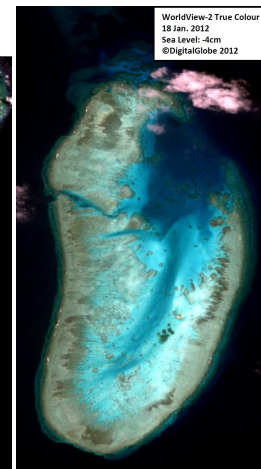
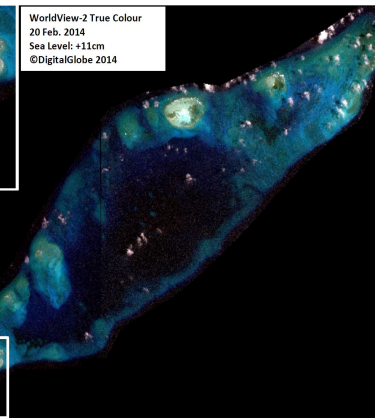
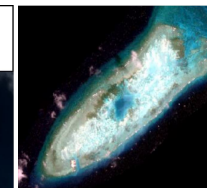
1. Scarborough Reef



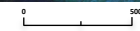
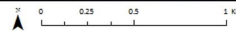
Above-water rocks, up to 3-3.5m above high tide, i.e. higher than the tidal range

2. Cuarteron Reef, Fiery Cross Reef and Johnson South Reef

Above-water rocks in some records that are 1 to 1.5m high at the most, i.e. smaller than the tidal range



3. Mc Kennan Reef and Gaven Reef North



Above-water reef formations mentioned in some records ('reef boulders' according to the Tribunal) - They appear to be dynamic sand formations in satellite imagery

I. The Award

The Tribunal's Reasoning

- No rule on any particular high-water vertical datum
- States are free under the Convention to claim a high-tide feature or island on the basis of any high-water datum that reasonably corresponds to the ordinary meaning of the term “high tide”
- Either Mean Higher High Water or Mean High Water Springs would be an appropriate approximation of ‘high tide’
- The tidal range in the SCS is comparatively small and the selection of a vertical datum makes no substantial difference regarding the status of the feature
- Most convincing evidence concerning the status of the SCS features is to be found in nautical charts, records of surveys and sailing directions

I. The Award

The Tribunal's Reasoning

- Rocks and large coral boulders cemented to the platform of a reef have a high degree of permanence and can reasonably be expected to remain largely unchanged, even over centuries. Older direct observations are thus not per se less valuable, provided they are clear in content and obtained from a reliable source
- Ephemeral features such as sand cays pose a greater challenge but can also be consistent over time and will often reform in the same location if dispersed by a storm
- In the context of this case, as for all sensitive determinations, the depiction of features on published maps is often not sufficient and it is beneficial to have recourse to original survey data, prepared by individuals with direct experience and knowledge of the area in question.

I. The Award

Two Issues of Permanence Above the Sea

Permanence over time

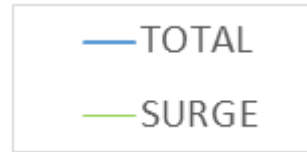
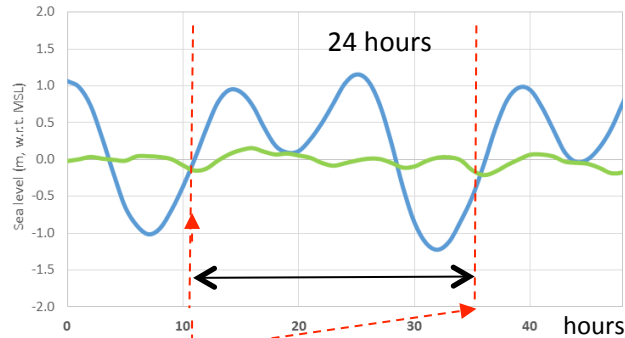
- **High tide level: How many times a month can it be submerged whilst still qualifying as above water at high tide?**
- **Can it be temporary? E.g. ephemeral sand formations, effect of sea level rise (20cm in the last century), active erosion/traces of seawater infiltrations**

Permanence in same location

- **Dynamic sand banks: appear, disappear, re-appear in different locations, with different shapes and sizes**

II. Which High Tide?

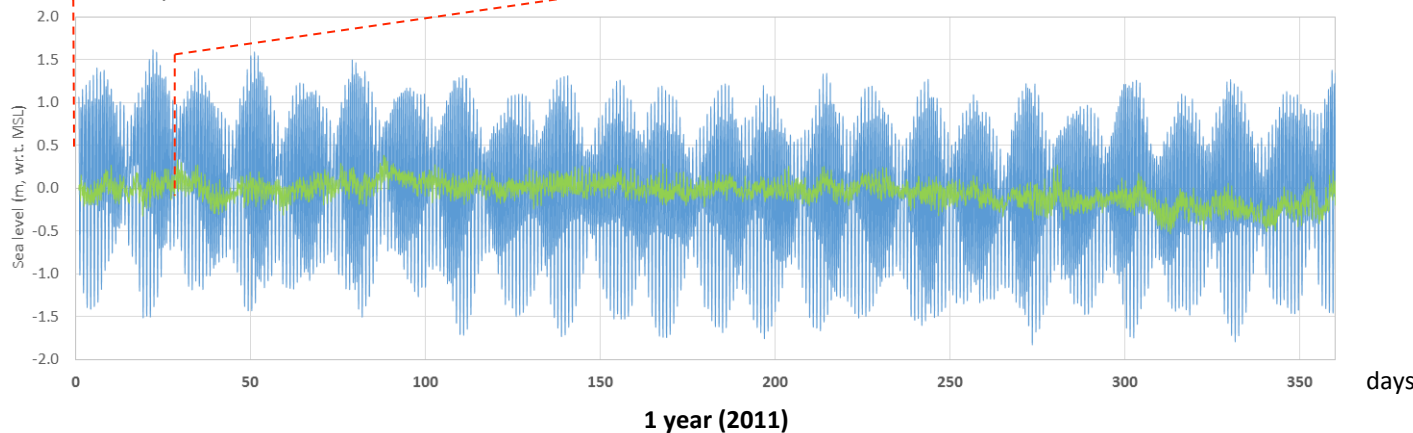
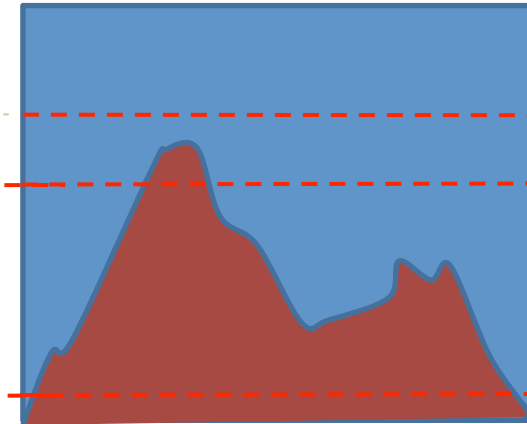
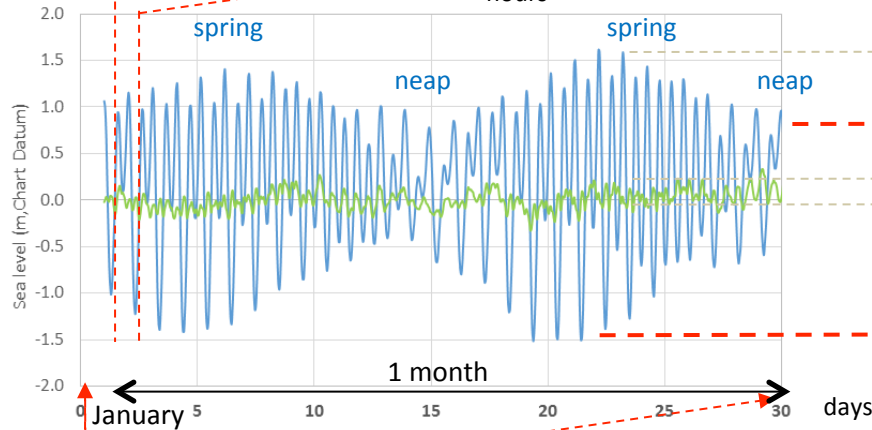
Tide and Sea Level Variation



TIDE ≡ Astronomic Tide

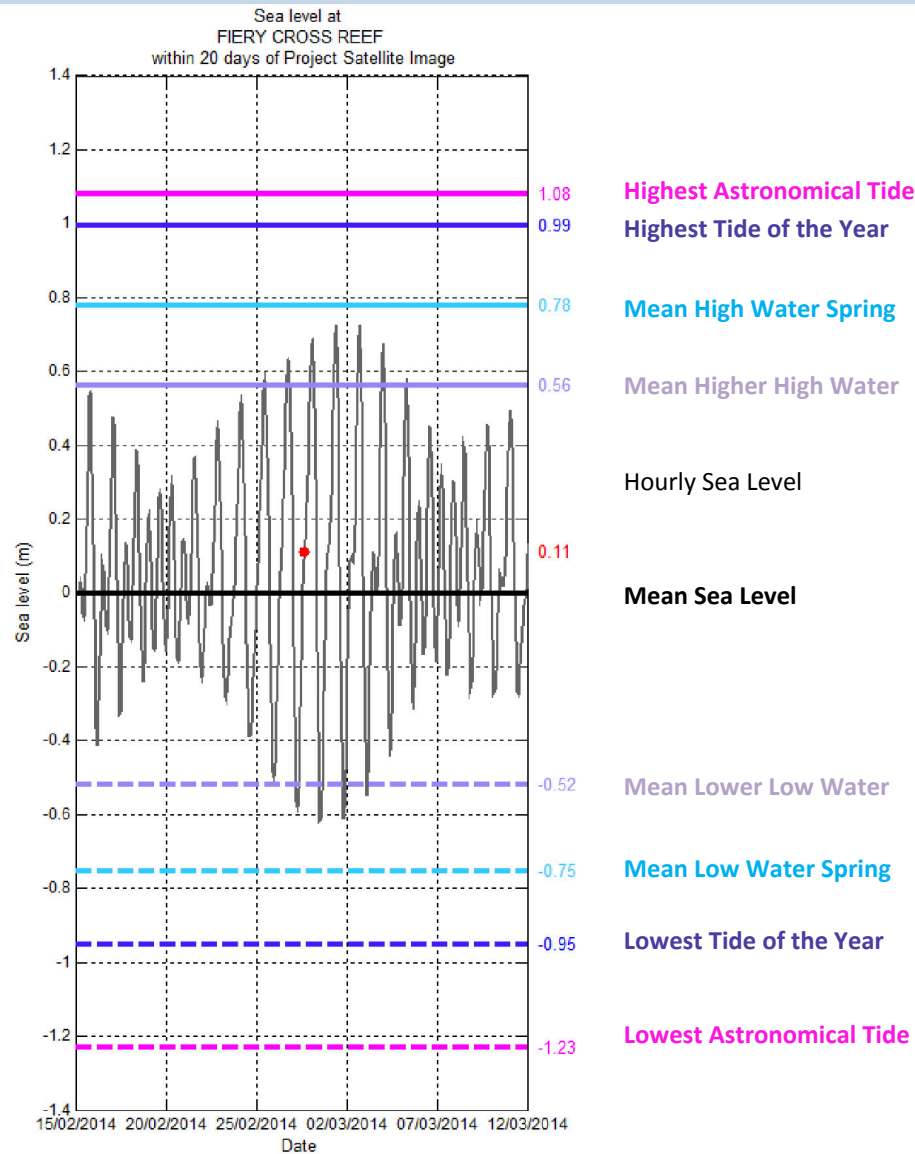
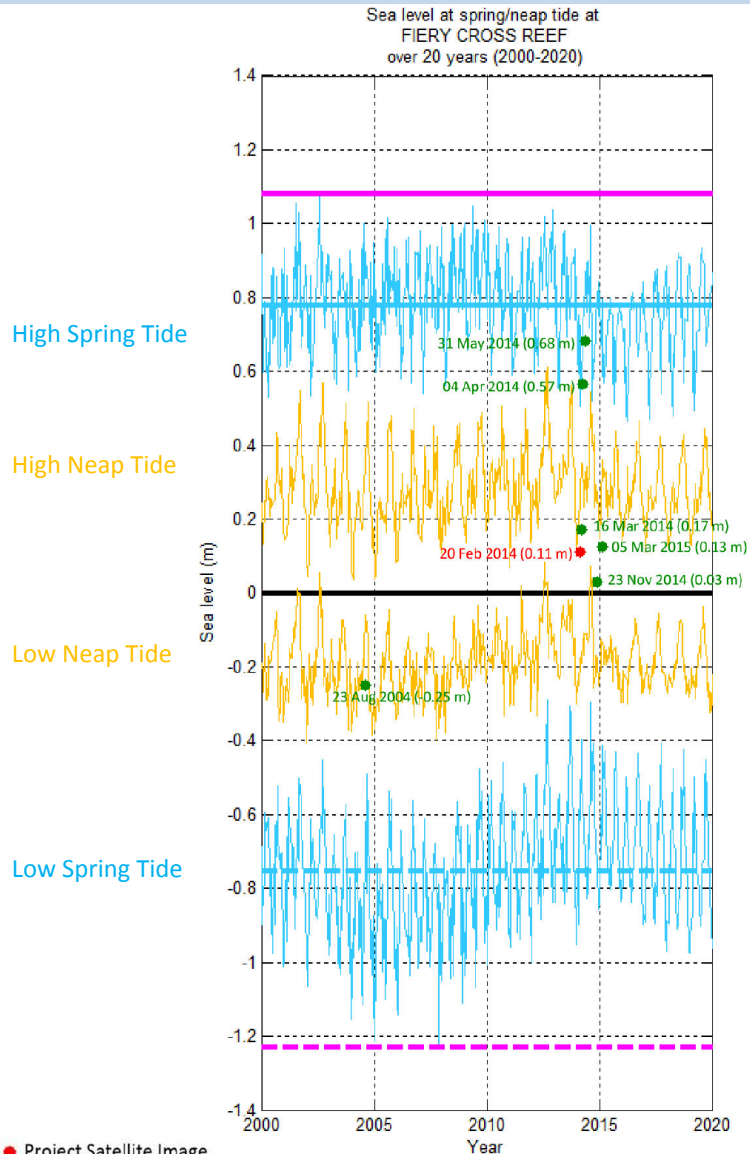
SURGE ≡ Wind-induced Surge

TOTAL ≡ TIDE + SURGE



II. Which High Tide?

Tide and Sea Level Variation



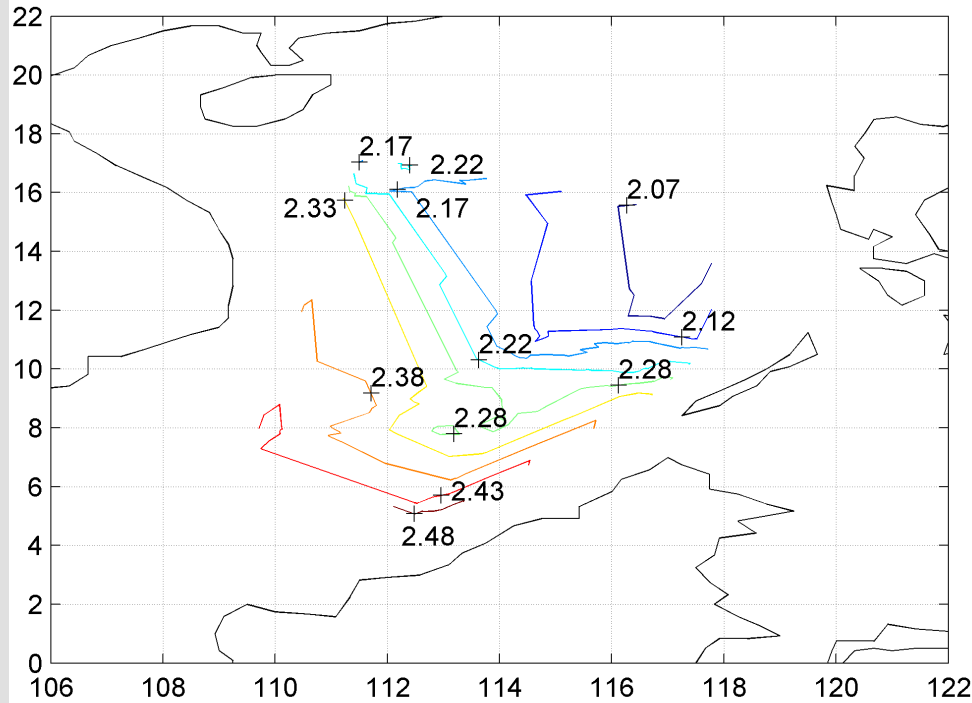
- Project Satellite Image
- Google Earth and Landsat satellite images

II. Which High Tide?

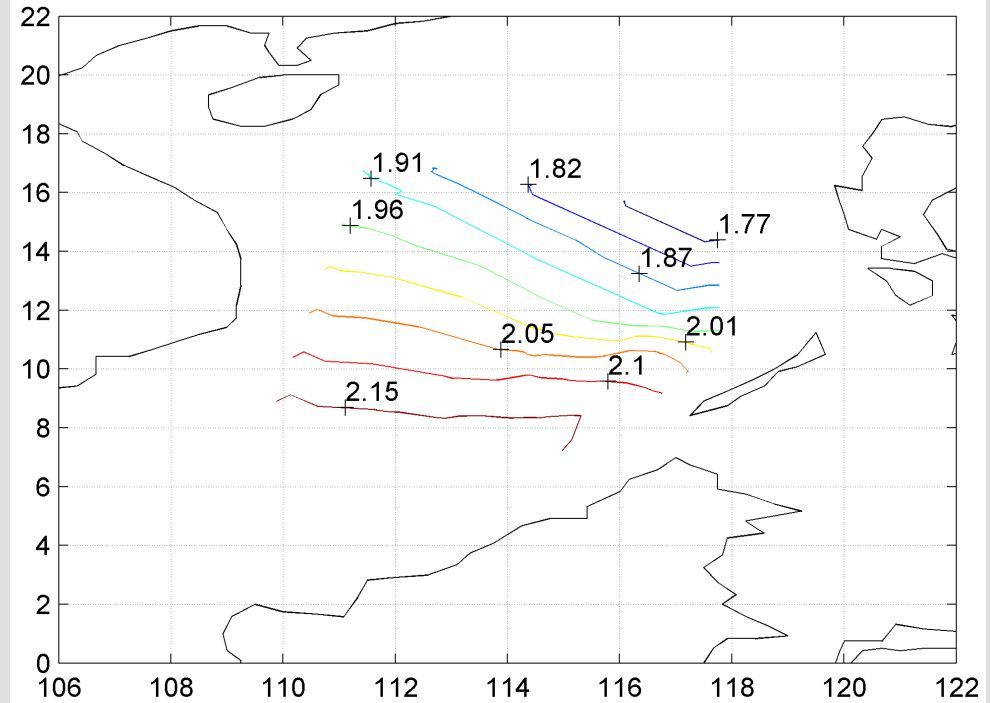
Sea Level Variation

Sea Level Variation across the South China Sea

SL range (=HAT-LAT) [m]



MHWS range (MAX) [m]



Prepared for this conference by Pavel Tklich and Luu Quang Hung, Physical Oceanography Lab of TMSI, National University of Singapore

II. Which High Tide?

Case Law

- The Tribunal decided to rely primarily on historical surveys and, in doing so, departed from the view of the Court in the Nicaragua vs Columbia case on the basis that it *'must be understood in the context of that case'*
- The Tribunal favoured any historical evidence that suggested that a feature would have been above high tide during the observation period, be it 2 weeks or less
- By contrast, in Nicaragua vs. Columbia, the court indicated to be taking a cautious view of what feature may qualify as a High Tide Feature as *'even the smallest island generates a 12-nautical-mile territorial sea'*; it *'has to make sure that it has before it evidence sufficient to satisfy that a maritime feature meets the test of being above water at high tide'*.

II. Which High Tide?

Case Law – Lessons Learned

- **The solution adopted in Nicaragua vs. Columbia and in the SCS Arbitration are so different that that they can only be explained by the facts of each case and the evidence presented to the judges**
- **In both cases, the judges were limited by available evidence; new scientific data on sea level variations in the South China Sea would therefore help the determination of the status of still undetermined features**

III. Permanency Above Sea Level

Over Time

Does a temporary above-water land formation qualify as an ‘island’ or ‘high tide feature’?

- **Fast sea level rise of around 20cm per century over low lying when not subsiding geographic formations**
- **Dynamic sand banks and cays which appear and disappear under the combined effects of astronomic tides, storm surges and wind-waves and rarely if ever reappear in the same location with the same shape and size**
- **Natural erosion of these low-lying formations as evidenced by seawater infiltration processes visible on several high resolution satellite images of the SCS above-water features.**

III. Permanency Above Sea Level

Over Time

- The SCS Award recalls that according to the *Travaux Préparatoires of Article 121(3)*, the word ‘island’ covers all portions of territory permanently above water in normal circumstances (and capable of use or habitation)
- However, the Tribunal refers to the ‘high degree of permanence’ of ‘rocks and large coral boulders cemented to the platform’ only to justify the reliability of old record of direct observations of such type of features; There is no discussion of permanence of High Tide Feature
- The Tribunal finds that ephemeral features ‘*can be consistent over time*’ (...) ‘*a sand cay may be dispersed by storm action and reform in the same location after a short while. The absence of a sand cay at a particular point in time is thus not conclusive evidence of the absence of a high-tide feature*’

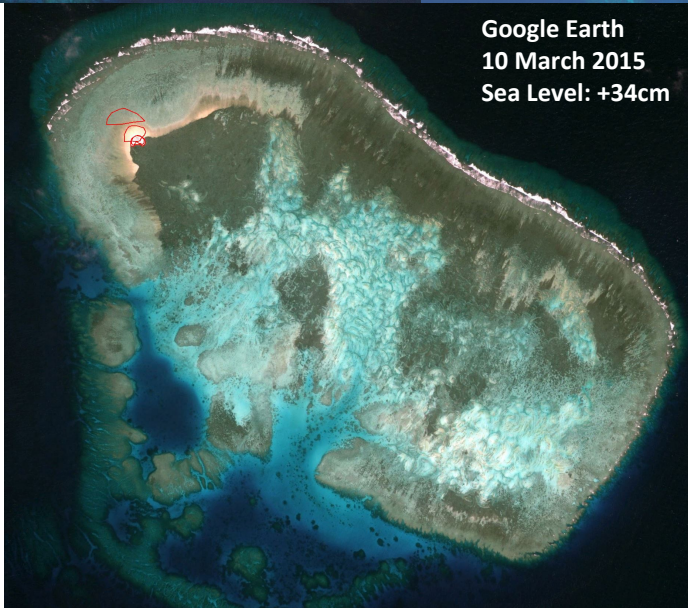
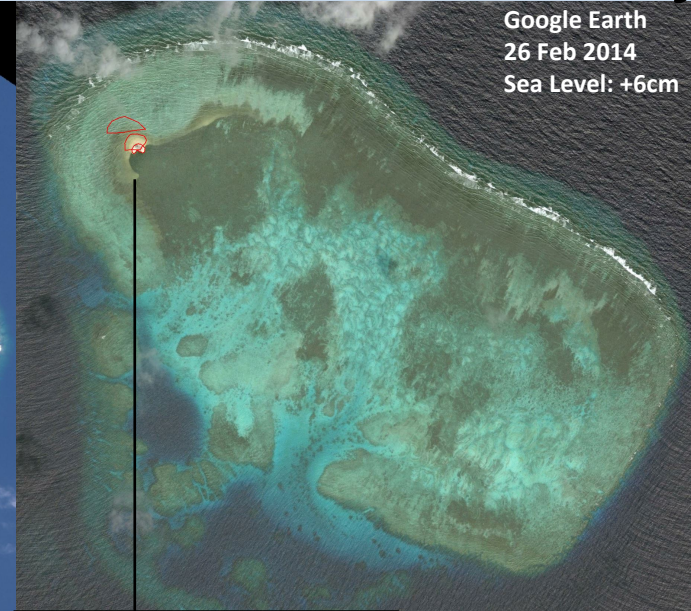
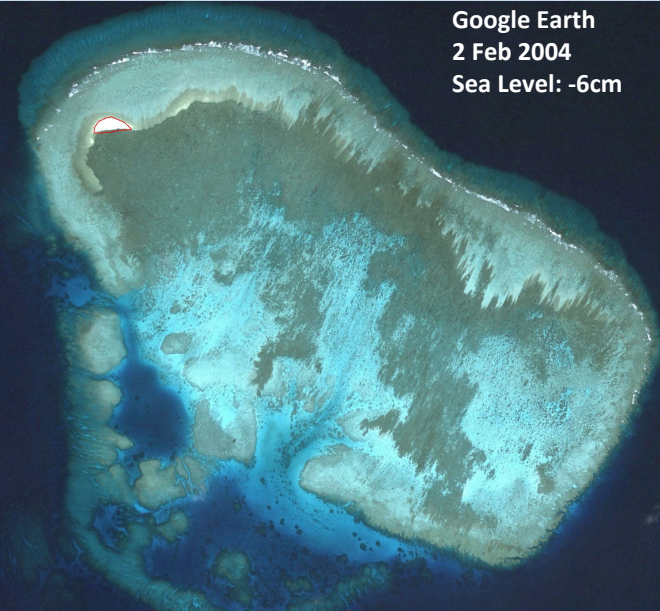
III. Permanency Above Sea Level

Over Time

- However, none of the High Tide Features determined by the Tribunal is characterized as a ‘recurring’ sand cay. Each of them is characterized as a ‘rock’ or a ‘boulder’
- In *Nicaragua vs. Columbia*, the Court found that the fact that a High Tide Feature is composed of coral debris is irrelevant as *‘international law defines an island by reference to whether it is “naturally formed” and whether it is above water at high tide, not by reference to its geological composition’*. According to the Court, what mattered was the photographic evidence which showed that the feature was ‘composed of solid material, attached to the substrate, and not of loose debris.’
- Publicly available satellite imagery suggests that some ‘boulders’ may be ephemeral formations that are dynamic, under the combined effect of astronomic tides, storm surges and wind-waves and do not generally reform in the same location

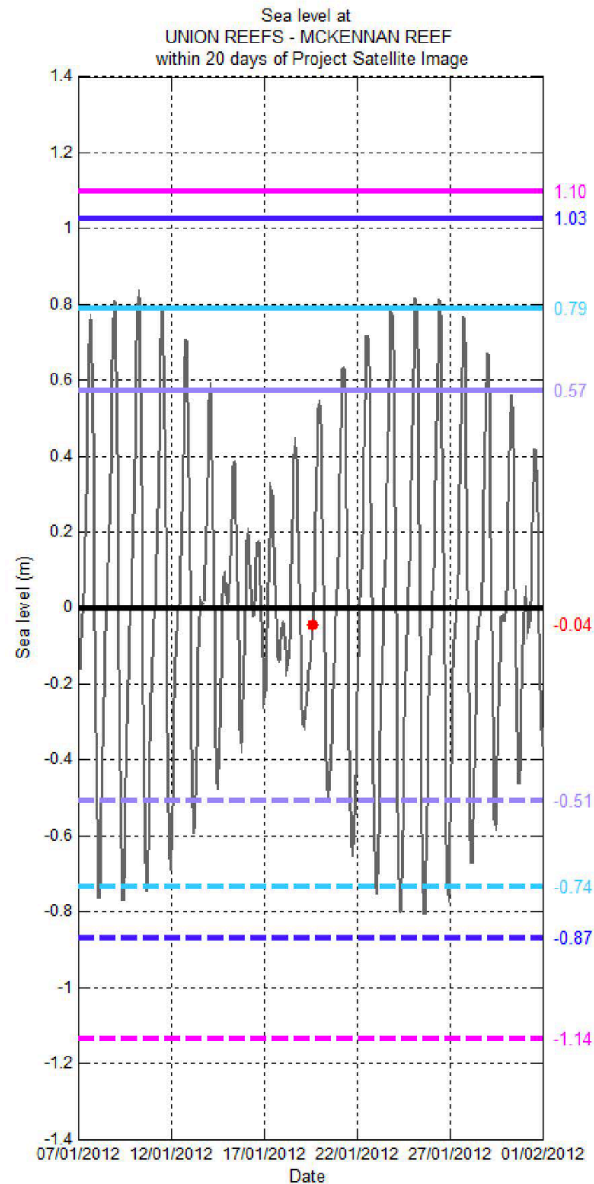
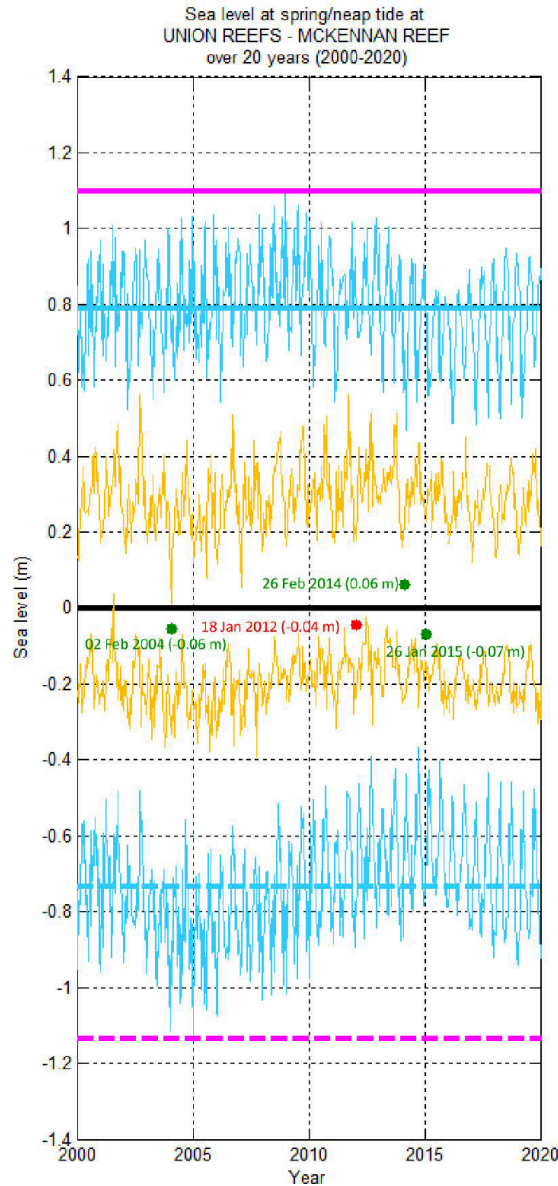
III. Permanency Above Sea Level

Over Time: Mc Kennan Reef



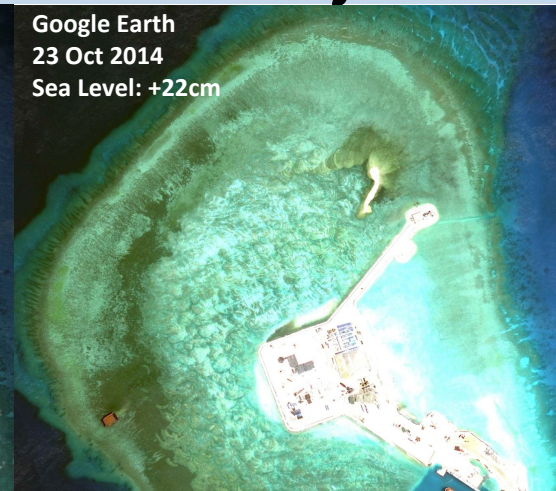
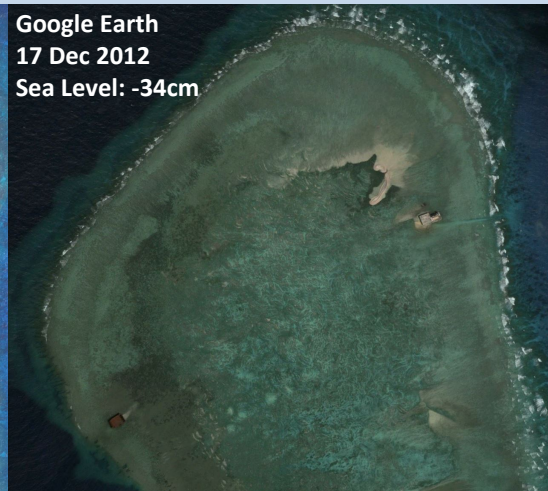
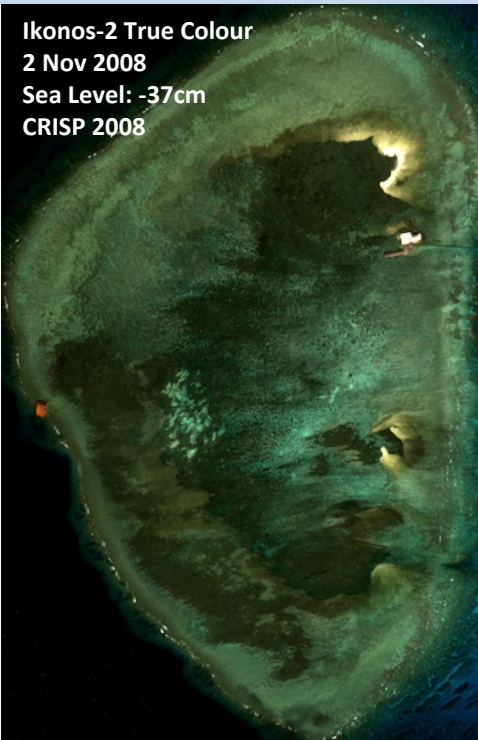
III. Permanency Above Sea Level

Mc Kennan Reef



III. Permanency Above Sea Level

In Same Location: Gaven Reef North



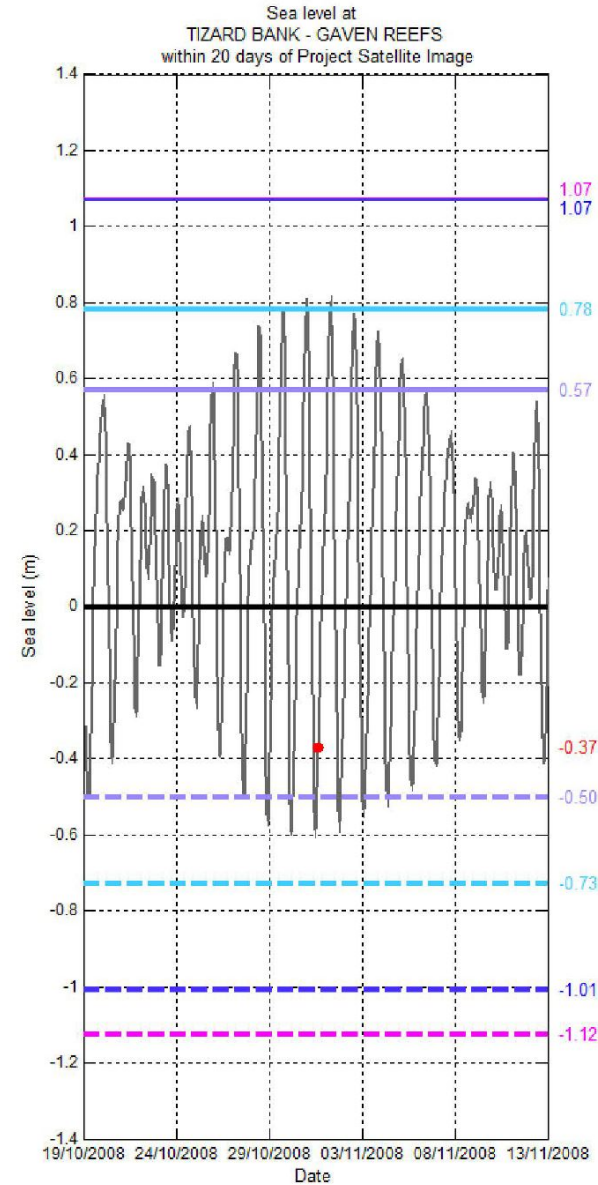
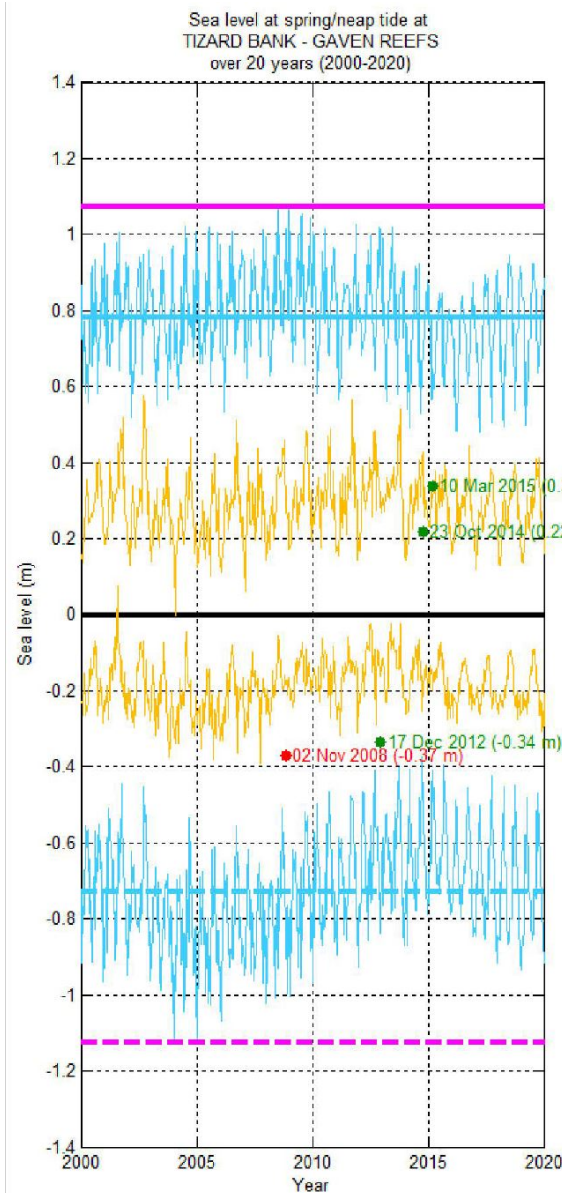
Survey by HMS Rifleman (1867)
(depicting no high-water feature)



Imperial Japanese Navy Chart No. 523
(depicting sand cay with height of 1.9 metres
above Mean Sea Level)

III. Permanency Above Sea Level

Gaven Reef North



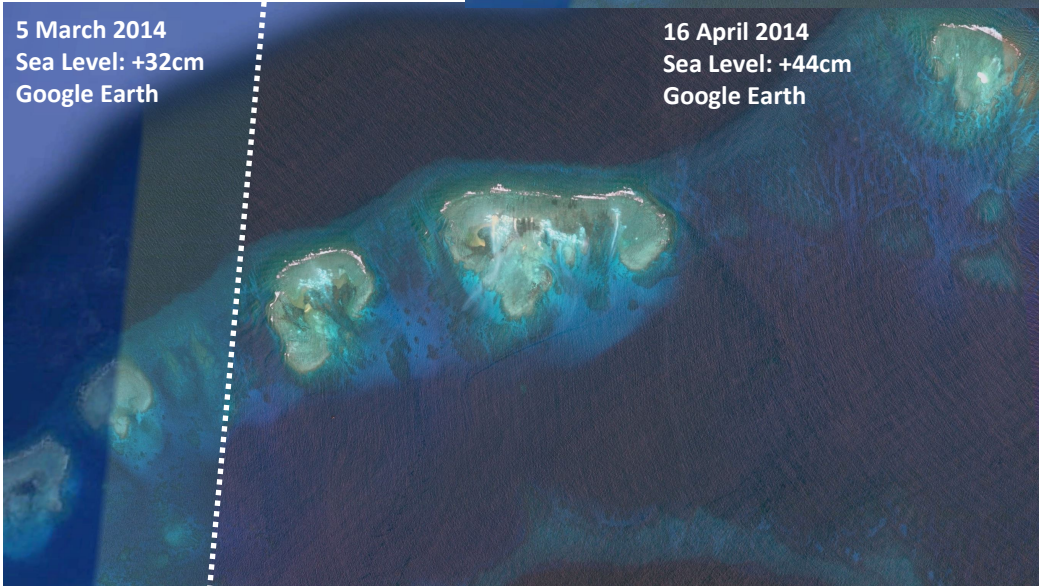
III. Permanency Above Sea Level

In the Same Location: Sandy Cay

22 April 2005
Sea Level: +12cm
Google Earth



5 March 2014
Sea Level: +32cm
Google Earth



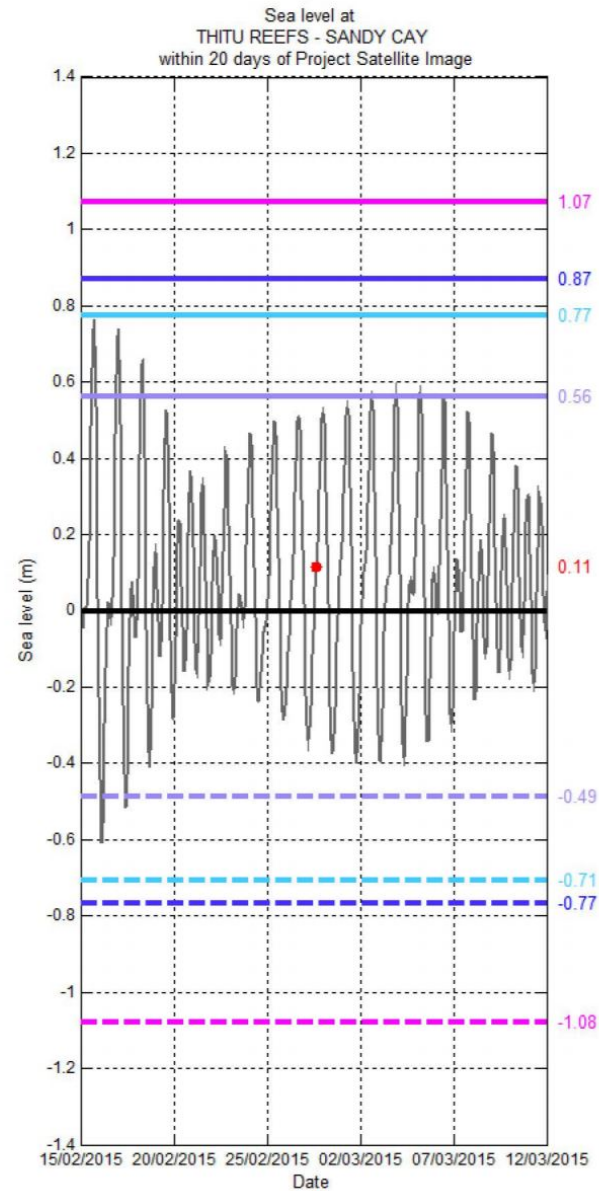
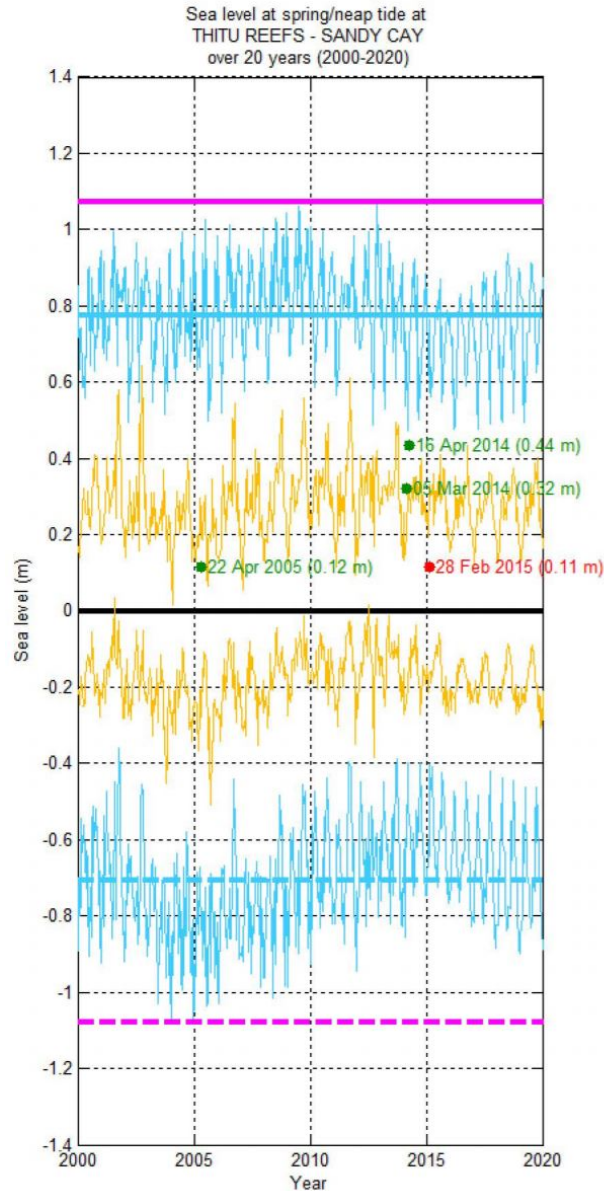
16 April 2014
Sea Level: +44cm
Google Earth



GeoEye-1 True Colour
28 Feb 2015
Sea Level: +11cm
DigitalGlobe 2015

III. Permanency Above Sea Level

Sandy Cay



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IV. Implication for Other Shallow

Features

Five Categories of Features

Out of around 120 disputed shallow geographic features in the SCS:

1. Eleven features determined by the Tribunal
2. Largest features covered by terrestrial vegetation (not just mangrove) such as Itu Aba, Thitu Island, Spratly Island, West York, Sand Cay, Sin Cowe, Northeast Cay, Southwest Cay and Nanshan island
3. Features consistently found to be fully submerged or exposed at low tide only, such as Macclesfield Bank, Most of Reed Bank, Most of Ardasier Bank, Lys and trident Shoals, Vanguard Bank, Alexandra Bank, Prince Consort and Prince of Wales Banks.
4. Features consistently found to have above water high tide parts in sailing directions and nautical charts (and not determined by the Tribunal)
5. Dubious cases, whether due to the non-conclusive nature of the sailing directions, the presence of dynamic sand banks, the absence of any terrestrial vegetation, evidence of seawater infiltrations, questionable above-water formations prior to island building constructions.

Conclusion

- **Over 100 shallow geographic features that are in dispute in the South China Sea have not been the subject of a status determination in the Award**
- **Methodology with respect to the identification of geographic features which are above water at high tide and therefore capable of appropriation is based on the evidence available to the Tribunal and cannot be transposed to new evidence and scientific facts**
- **If small above-water rocks cannot be determined with certainty solely on the basis of satellite imagery, historical observations can be placed back into historiography of sea level variations based on satellite altimetry data**
- **Sand Cays are dynamic in the South China Sea and their movement can be monitored with certainty in satellite imagery**

A map of Southeast Asia, including the Malay Peninsula, Sumatra, Java, and the Indonesian archipelago. The map is overlaid with a semi-transparent grey rectangle. Numerous red dots are scattered across the landmasses, and several blue circles are clustered in the eastern part of the region. A black line is drawn along the western coast of Sumatra and the Malay Peninsula.

Thank you!

Questions?

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Source: Census of Marine Life:

http://www.comlmaps.org/extra/ngs/Ocean_Life_Diversity_Distribution-300dpi.pdf

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