# FIG WORKING WEEK 2019

## 22–26 April, Hanoi, Vietnam



"Geospatial Information for a Smarter Life and Environmental Resilience"




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22–26 April, Hanoi, Vietnam
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# Confirming Sovereignty in Internal Waters:

## Legal and Geospatial Aspects of Juridical Bay Definition in Indonesia

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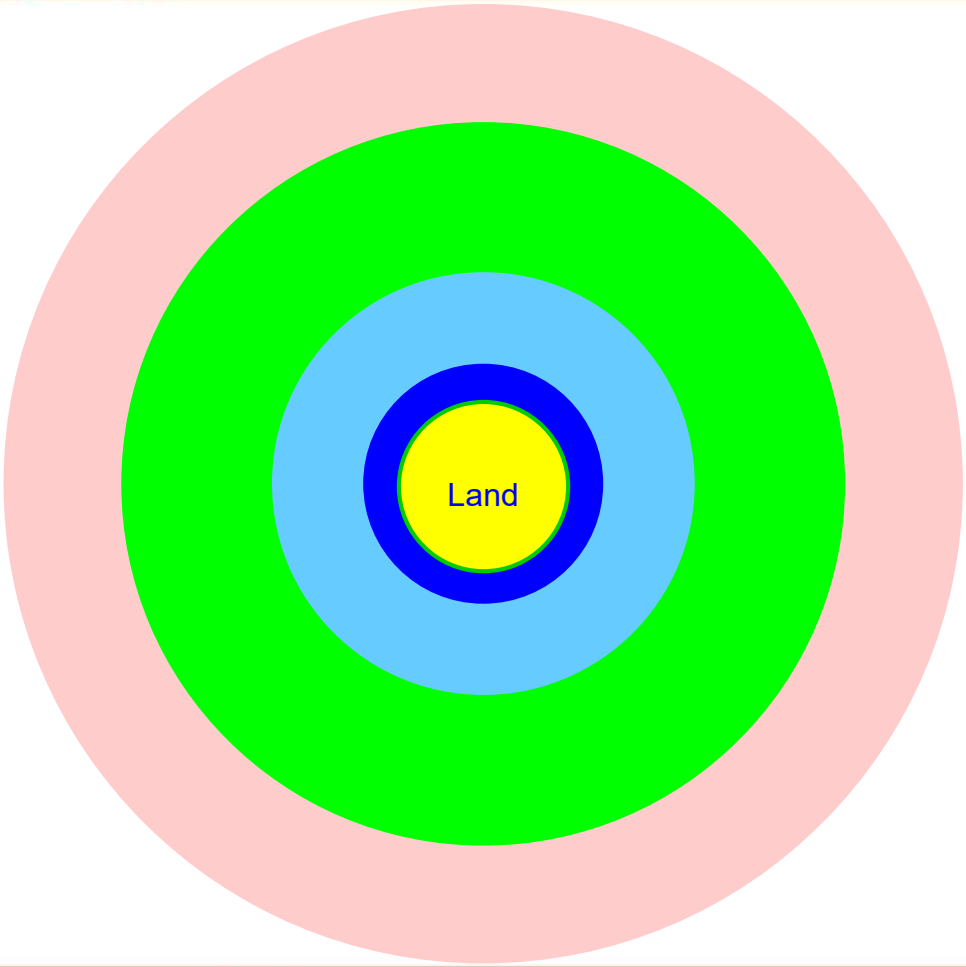
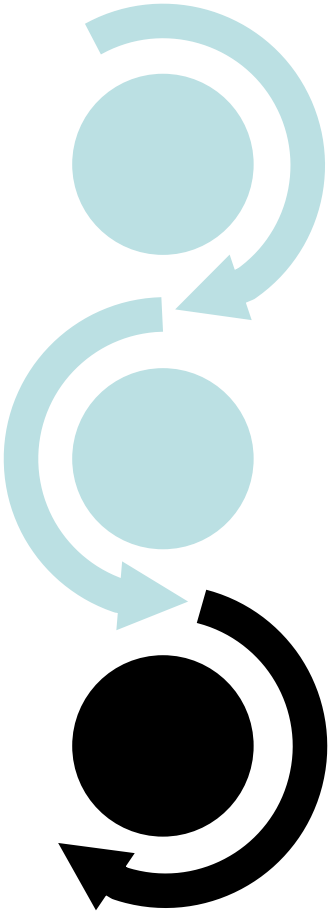
## Principle: Land dominates the Sea



# Law codification

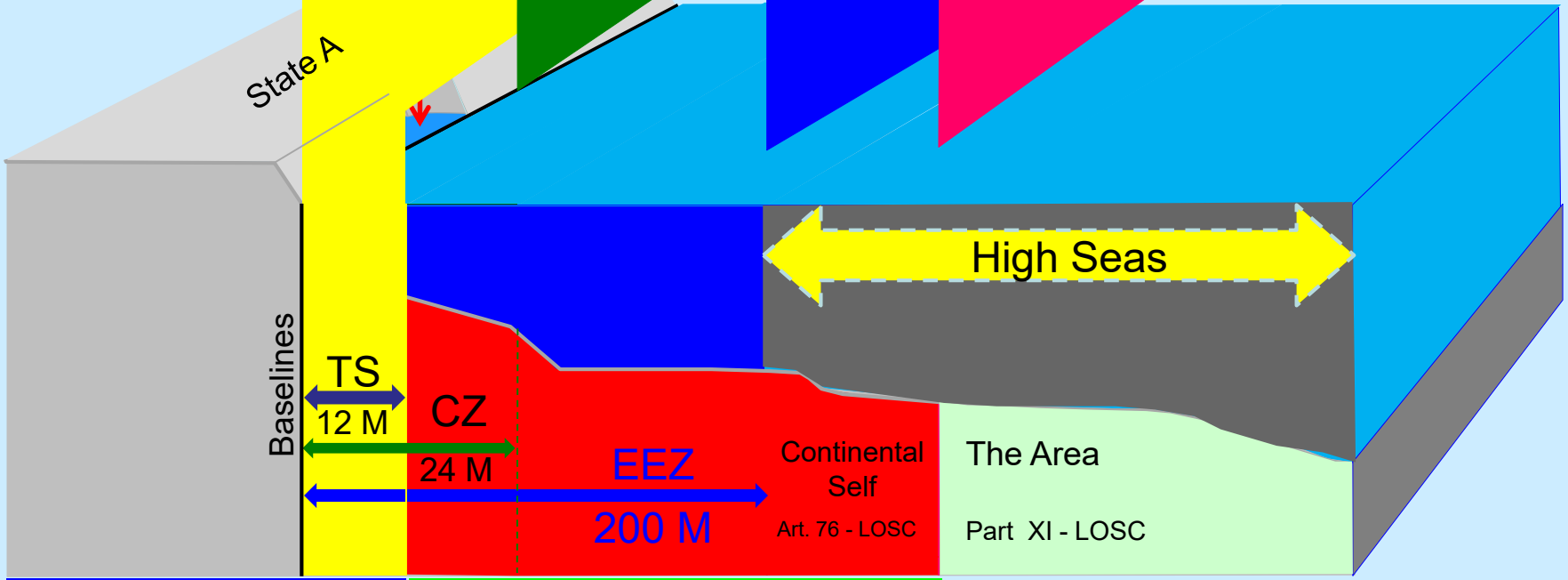


**1958**
UNCLOS I

**1960**
UNCLOS II

**1982**
UNCLOS III

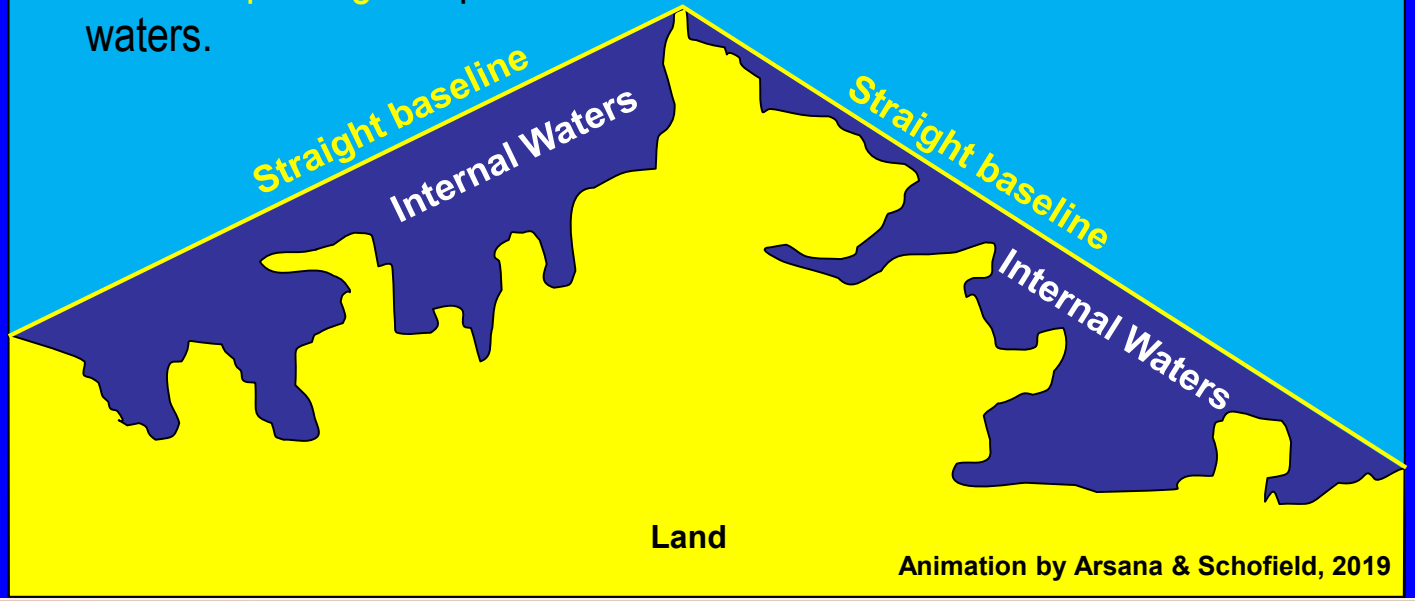
# Maritime Zones based on UNCLOS




I Made Andi Arsana (2019)

INTERNAL WATERS: ART. 8 UNCLOS

1. Except as provided in Part IV, waters on the landward side of the baseline of the territorial sea form part of the internal waters of the State.
2. Where the establishment of a straight baseline in accordance with the method set forth in article 7 has the effect of enclosing as internal waters areas which had not previously been considered as such, a right of innocent passage as provided in this Convention shall exist in those waters.



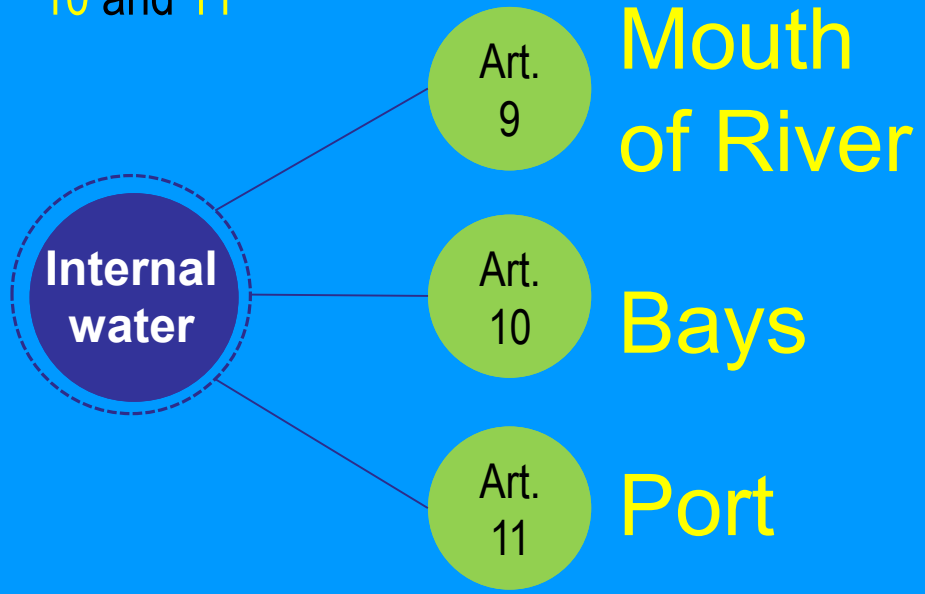

INTERNAL WATERS: ART. 8 UNCLOS

## INTERNAL WATERS of An Archipelagic State


*Animation by Arsana & Schofield, 2019*

Article 50:

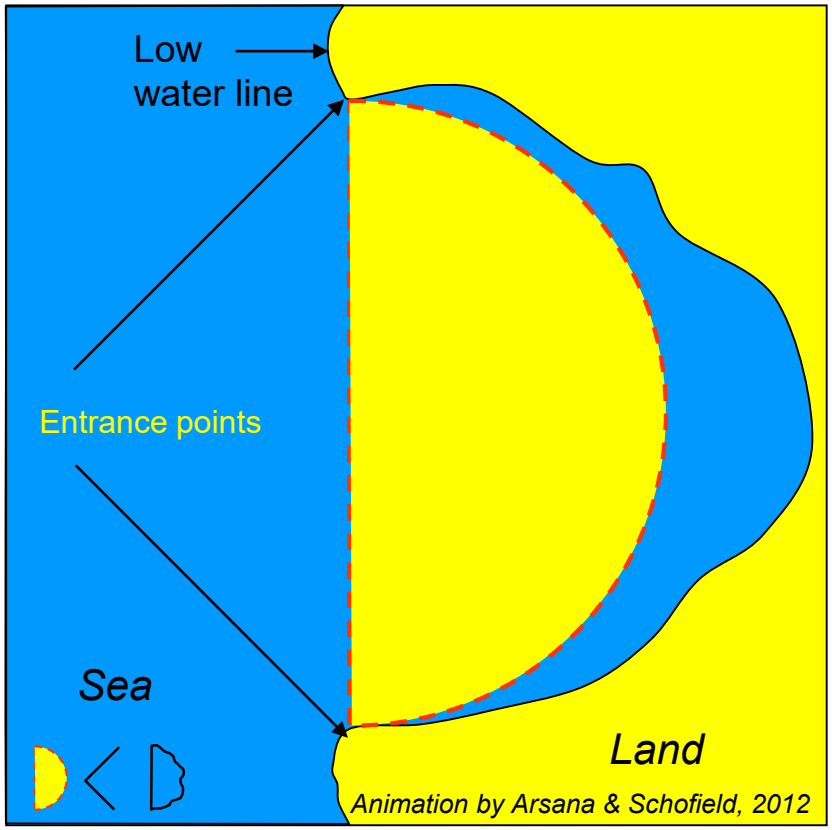
Delimitation of internal waters Within its archipelagic waters, the archipelagic State may draw closing lines for the delimitation of internal waters, in accordance with articles 9, 10 and 11



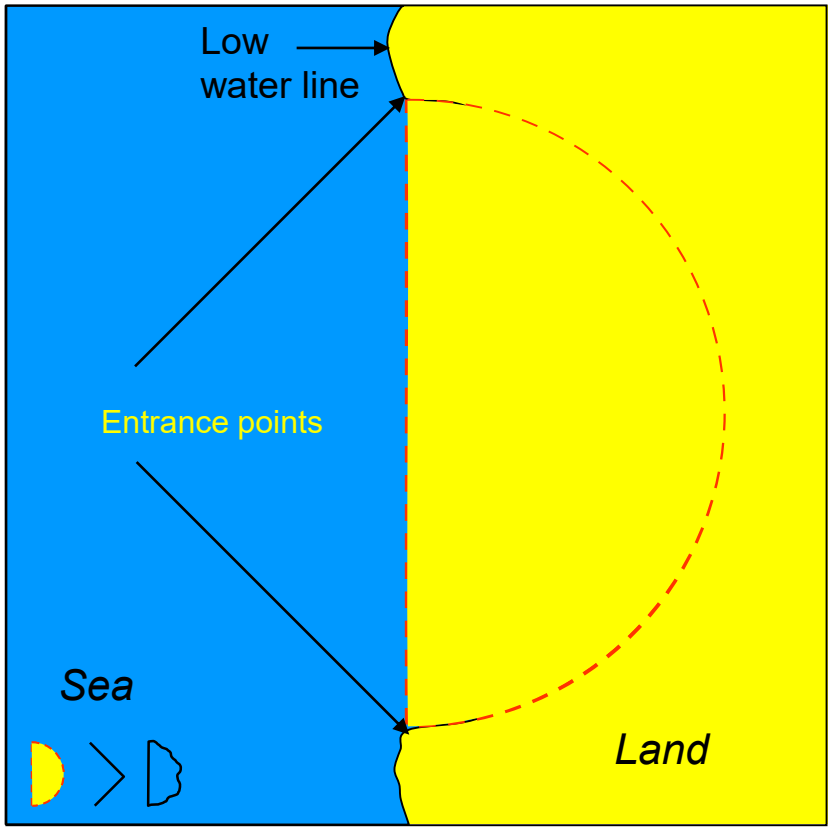
# FOCUS: Internal Waters in Bays (ART. 10 LOSC: Para 1-5)

1. This article relates only to bays the coasts of which belong to a single State.
2. For the purposes of this Convention, a bay is a well-marked indentation whose penetration is in such proportion to the width of its mouth as to contain land-locked waters and constitute more than a mere curvature of the coast. An indentation shall not, however, be regarded as a bay unless its area is as large as, or larger than, that of the semi-circle whose diameter is a line drawn across the mouth of that indentation.
3. For the purpose of measurement, the area of an indentation is that lying between the low-water mark around the shore of the indentation and a line joining the low-water mark of its natural entrance points. Where, because of the presence of islands, an indentation has more than one mouth, the semi-circle shall be drawn on a line as long as the sum total of the lengths of the lines across the different mouths. Islands within an indentation shall be included as if they were part of the water area of the indentation.
4. If the distance between the low-water marks of the natural entrance points of a bay does not exceed 24 nautical miles, a closing line may be drawn between these two low-water marks, and the waters enclosed thereby shall be considered as internal waters.
5. Where the distance between the low-water marks of the natural entrance points of a bay exceeds 24 nautical miles, a straight baseline of 24 nautical miles shall be drawn within the bay in such a manner as to enclose the maximum area of water that is possible with a line of that length.

# FOCUS: Internal Waters in Bays (ART. 10 LOSC: Para 1-5)

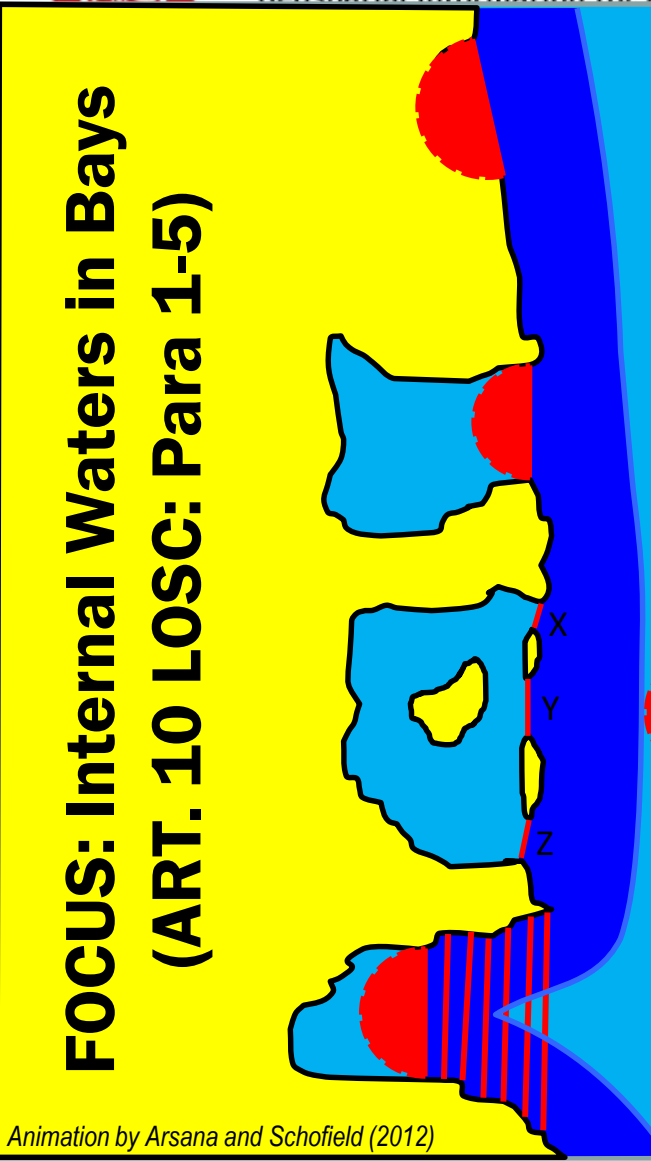



A Juridical Bay




Not a Juridical Bay

# FOCUS: Internal Waters in Bays (ART. 10 LOSC: Para 1-5)




*Animation by Arsana and Schofield (2012)*

**Since the area of the bay is less than the area of the semi-circle, the bay cannot be closed**

**Since the area of the bay is larger than the area of the semi-circles, the bay can be closed**

**The diameter of the semi-circle equals the total width of mouths X, Y, Z, islands in the bay count as par of the area of the bay**

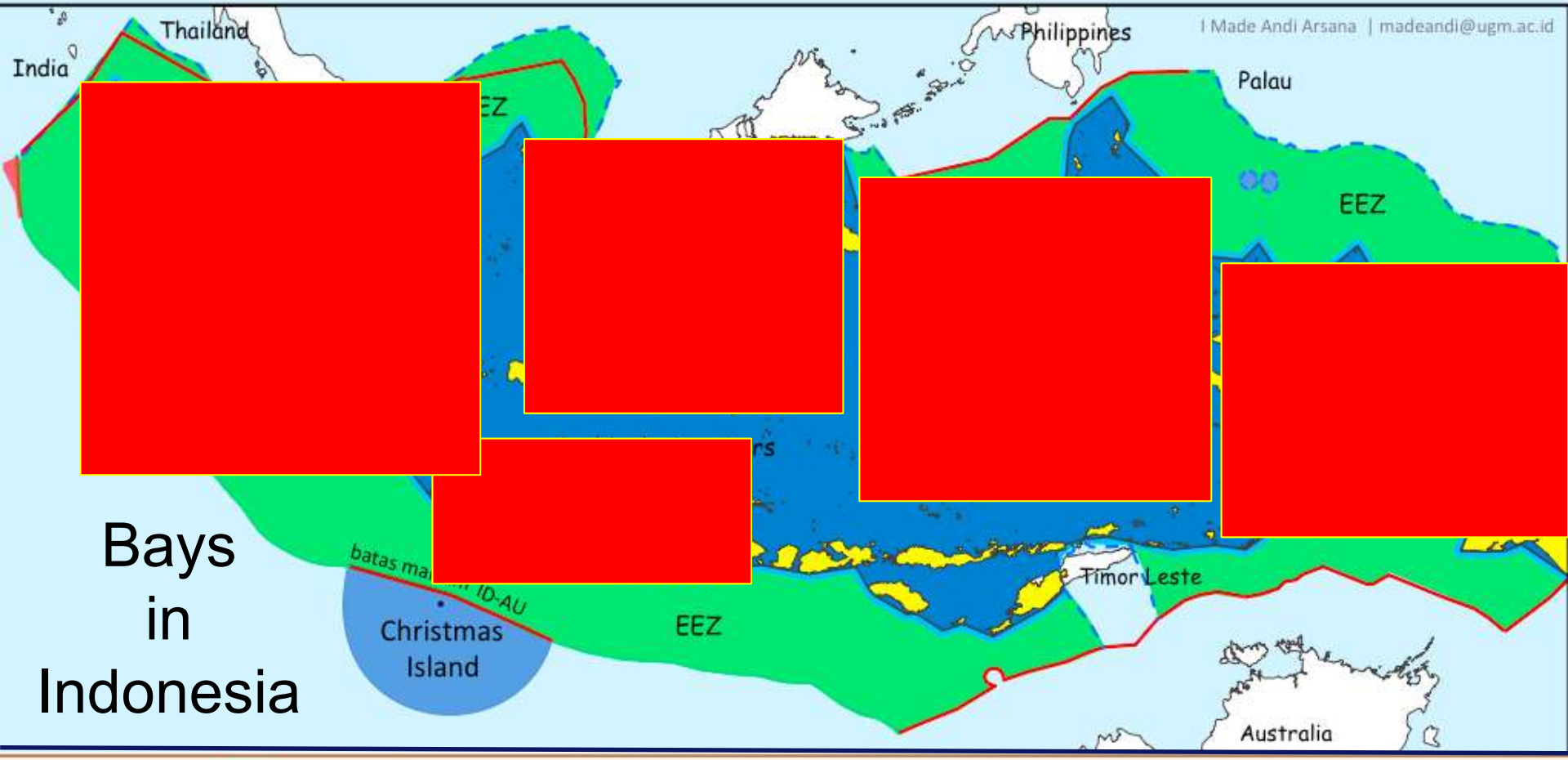
**If the mouth of the bay is wider than 24 nautical miles, a line can be drawn where the bay narrows to 24 nautical miles, provided the semi-circle test is satisfied**

# FOCUS: Internal Waters in Bays (ART. 10 LOSC: Para 6)

6. The foregoing provisions do not apply to so-called "**historic**" bays, or in any case where the system of straight baselines provided for in article 7 is applied.

***No specific guidelines on how to define historic bays***

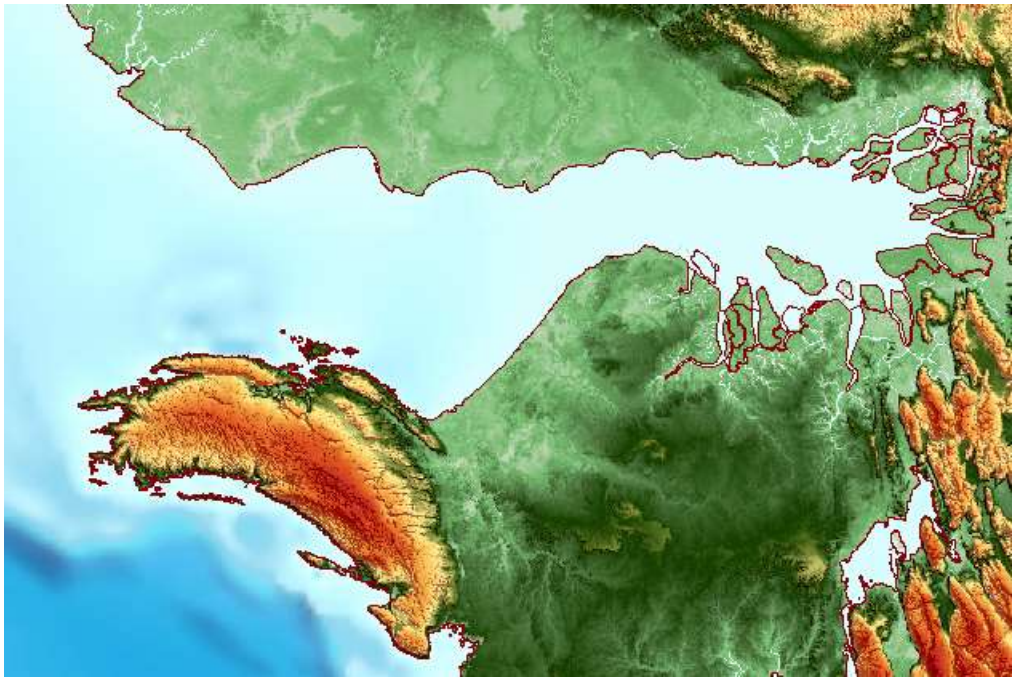
# Bays in Indonesia




Around 400 with toponymy of bays

# Steps of defining a bay

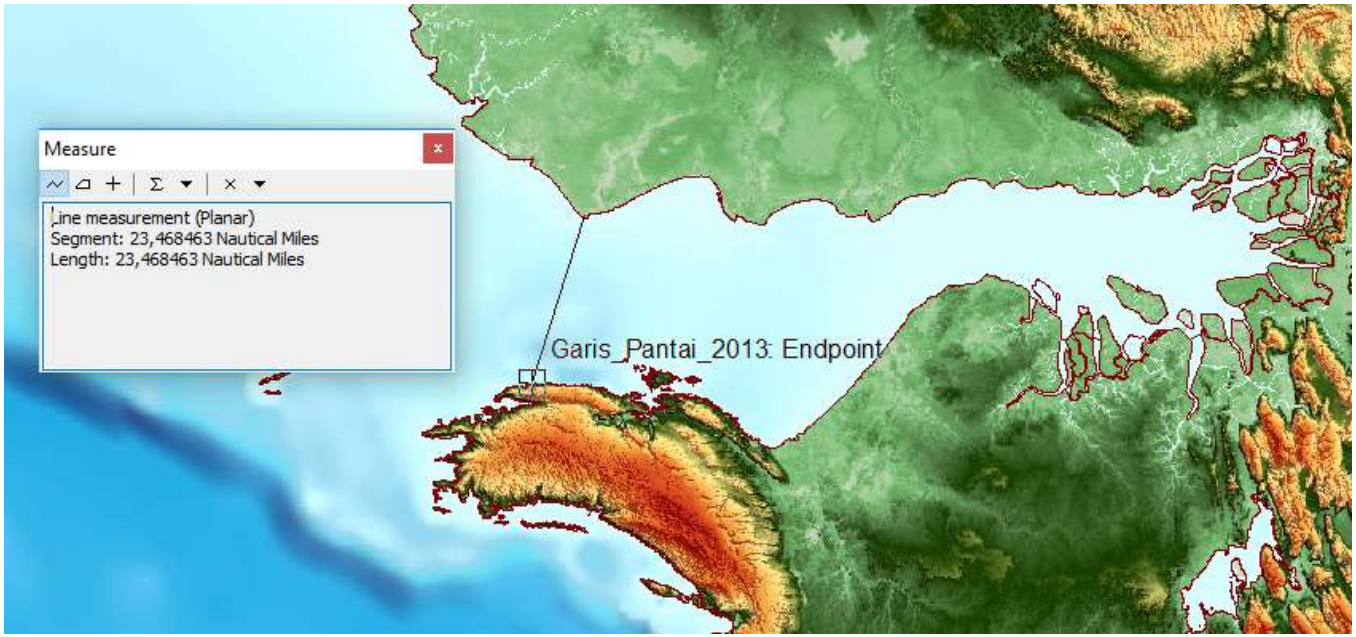
- Identify the mouth of bays where closing line is about to draw



Bintuni Bay di Papua Barat

# Steps of defining a bay

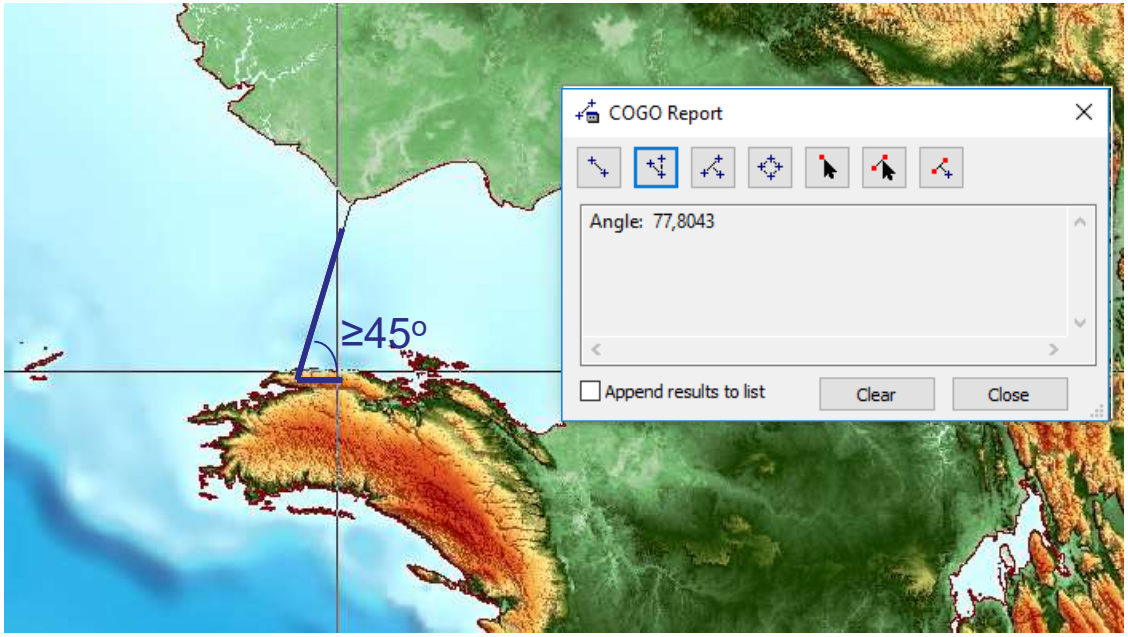
- Measure the distance using specific measurement tool in relevant software




Bintuni Bay di Papua Barat

# Steps of defining a bay

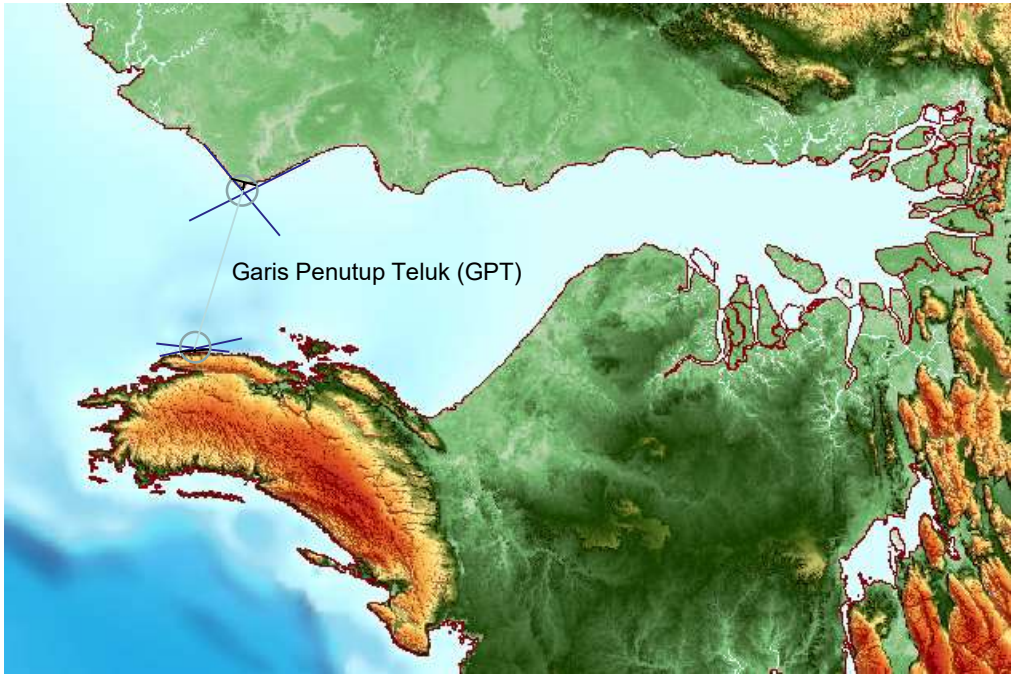
- Angel formed by the closing line and the general direction of the mouth of the bay is ≥45°




Bintuni Bay di Papua Barat

# Steps of defining a bay

- Technical process to define the points for bay closing lines




Bintuni Bay di Papua Barat

# Steps of defining a bay

Generate semi-circle with the diameter of the bay closing line

Bintuni Bay di Papua Barat

# Steps of defining a bay

- Results: semi circle is smaller that the bay
- It is a juridical bay

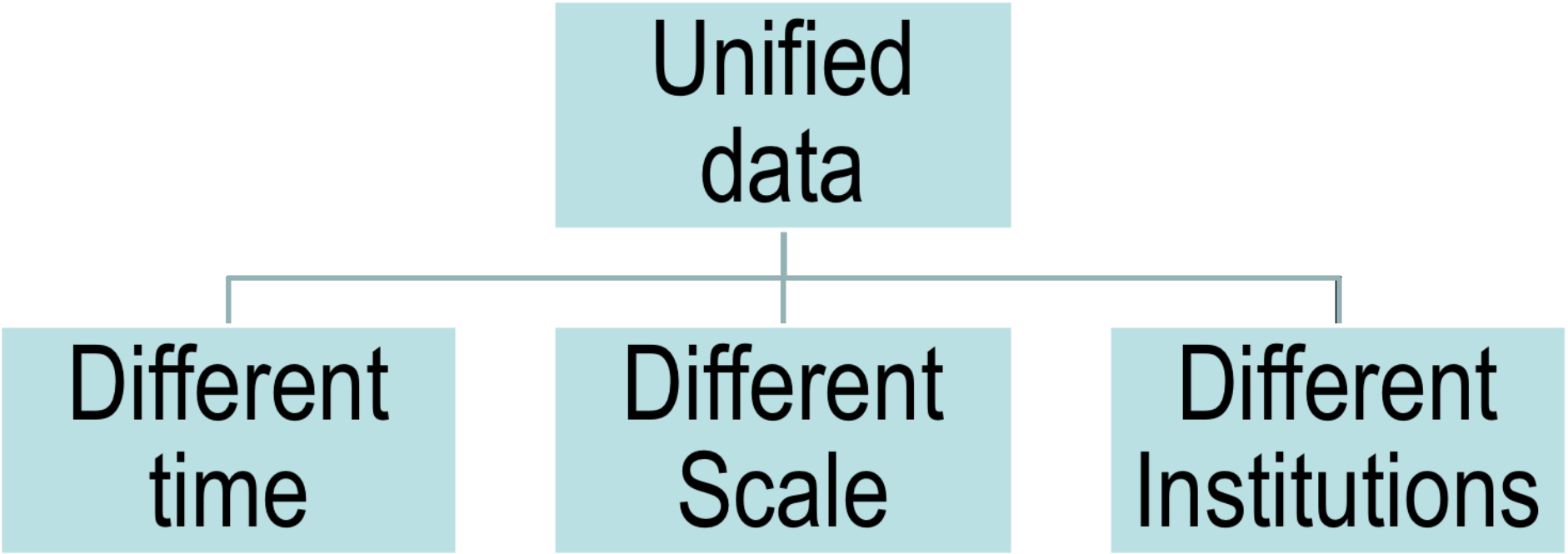

Bintuni Bay di Papua Barat


Bintuni Bay 23,7387 8156062332,1500 > 764514069,8100 → BAY!

- Data Unification
- Details of Work vs Spatial Scale
- Complexity of Geospatial Configuration
- Institutional Coordination

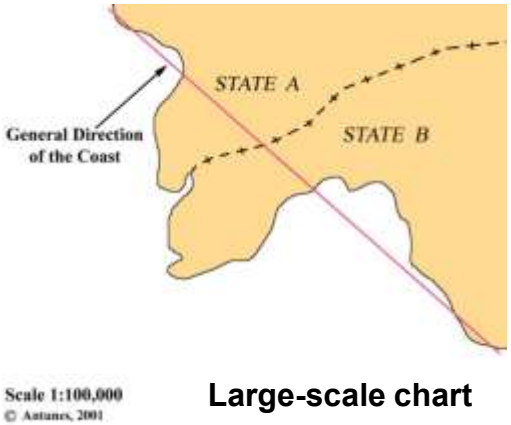
# Issues and Challenges

# A LONG ROAD TO UNIFIED DATA

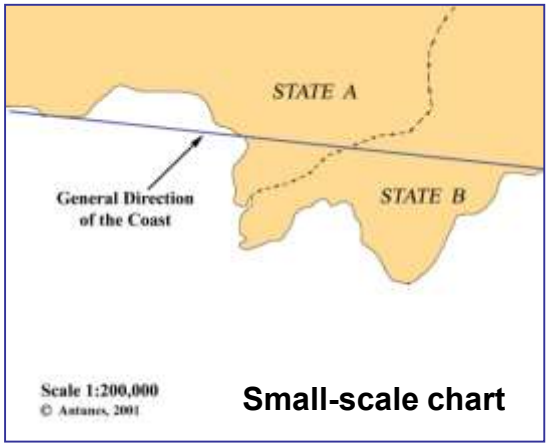


# Details of Work vs Spatial Scale


**But…**

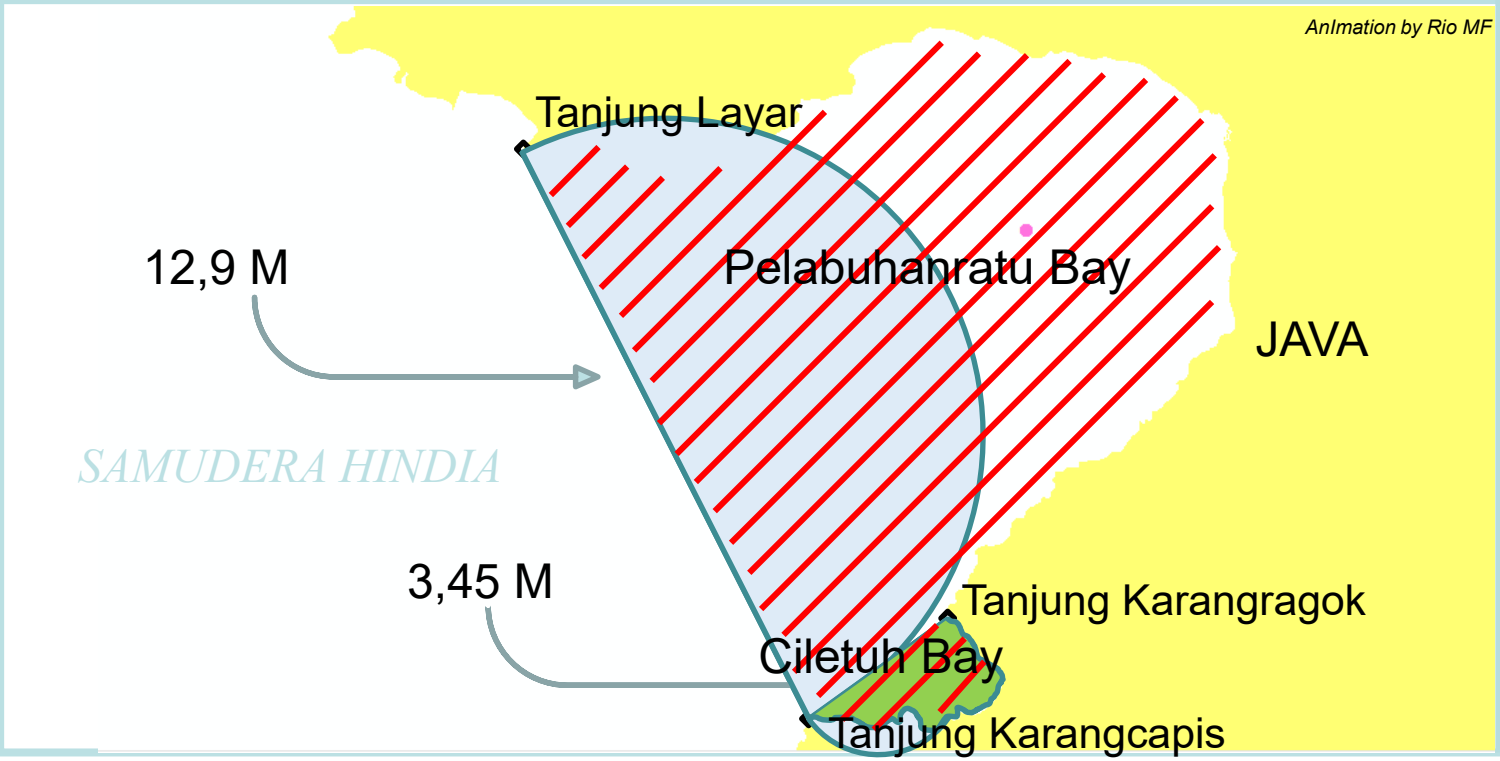



**Large-scale chart**




**Small-scale chart**

# Complexity of Geospatial Configuration




## PETA WILAYAH
### TELUK PELABUHANRATU DAN TELUK CILETUH

Skala Peta
1:200000

Pelabuhanratu Bay

OK

Closing line < 24 Mil Laut
Semi Circle = 224,32 km$^2$
Bay Area = 396,43 km$^2$

Ciletuh Bay

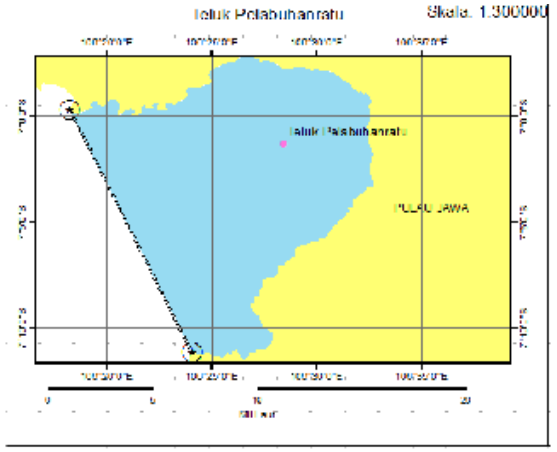
NOT OK

Closing line < 24 Mil Laut
Semi Circle = 16,05 km$^2$
Bau Area = 15,5 km$^2$

# Institutional Coordination

- Coordinating Ministry of Maritime Affairs
  - Geospatial information Agency
  - Hydro-Oceanographic Center of the Indonesian NAVY
  - Other Institutions

# Results




DESCRIPTION

*Teluk Pelabuhanratu berada pada garis pantai sisi selatan Pulau Jawa. Secara administratif, Teluk Pelabuhanratu berada di Kabupaten Sukabumi, Provinsi Jawa Barat. Sisi barat dan selatan Teluk Pelabuhanratu berbatasan dengan Samudera Hindia. Batas Teluk Pelabuhanratu ditutup pada garis pangkal penutup teluk yang bermula pada titik pangkal Tanjung Layar (106° 18' 15,3" BT ; 6° 59' 42,4" LS) menuju ke arah tenggara pada titik pangkal Tanjung Karangcapis (106° 24' 2,8" BT ; 7° 11' 11,6" LS).*

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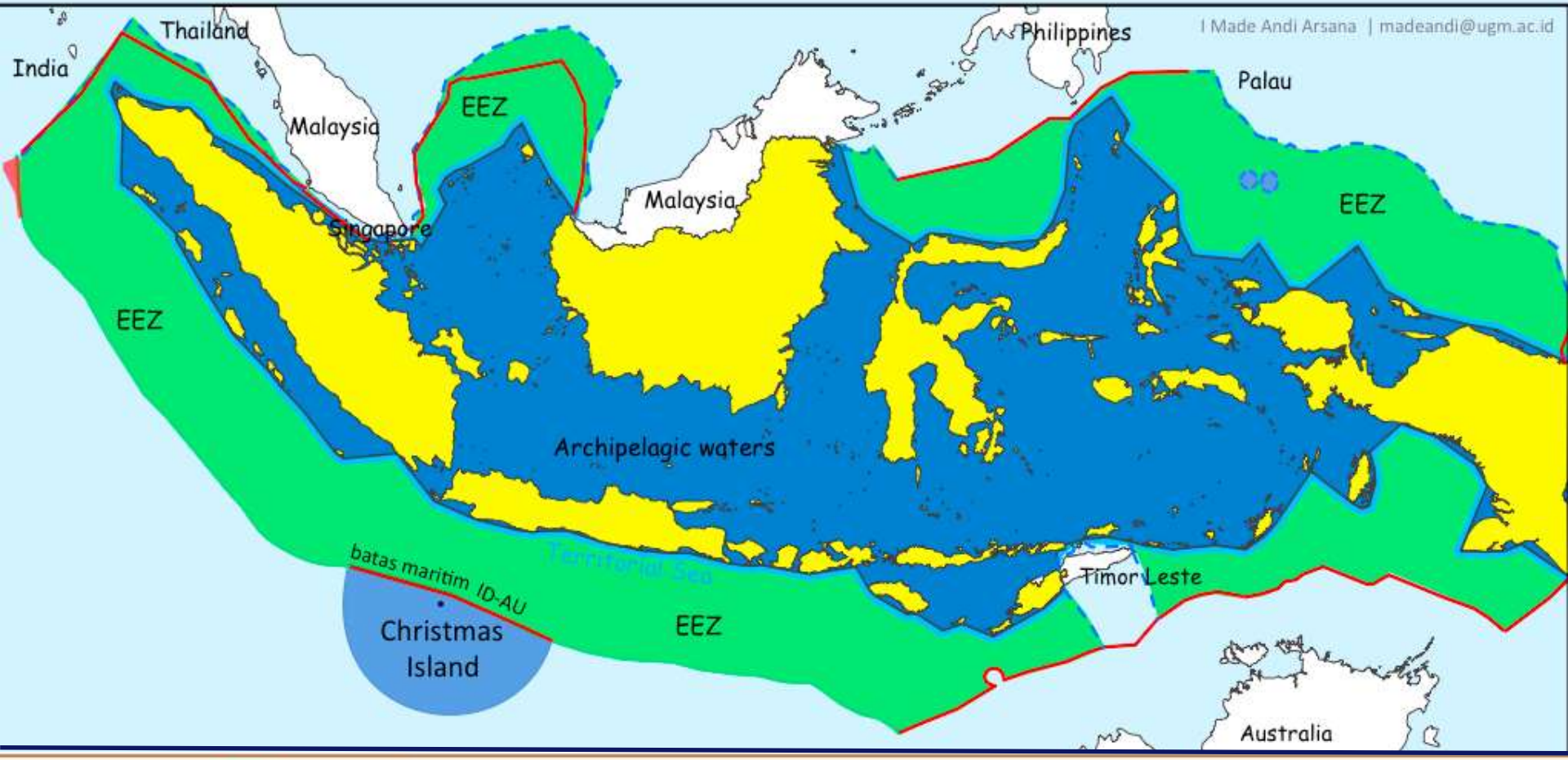


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## Concluding Remarks

- The need to define internal waters for Indonesia
- Mainly Juridical Bays
- Work in Progress
- No submission or due publicity has been done
- Better coordination and dedicated assignment are required

# Thank You!