

University of Wollongong-Lecture in Boundaries, November 2005

Indonesia's Internal Maritime Boundaries



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Indonesia's Internal Boundary Issues



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Indonesia's Internal Boundary Issues

Lecture Outline

- **Indonesia's internal maritime boundaries**
 - Law no. 22/1999 --> Law no. 32/2004
 - Technical guidance for maritime boundary delimitation

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Indonesia's Internal Boundary Issues

Law No. 22/1999

- Regional Governance -> 1 January 2001
- The first since Law No. 5/1974
- The Realization of decentralization and regional autonomy concept
- The local level (*kabupaten/kota*) is the level of government having broad and wide-ranging autonomy.

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Law No. 22/1999 & Marine Area

Article 10 (2): Regional authority:

- exploration, exploitation & management
- administrative interests administration;
- spatial administration;
- law enforcement of regulations; and
- assistance for the enforcement of state security and sovereignty.

Article 10 (3):
The authority of Regency Regions & Municipal Regions = one-third of Provincial Regions

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Law No. 32/2004

- Successor and purification of Law No. 22/1999
- Clearer articles governing the head of region election.



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Law No. 32/2004 & Marine Area

- Governed in article 18
- Similar to Law No. 22/1999
- Not to divide the territory but to regulate the authority between central and regional government



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Law No. 22/1999 vs. 32/2004

- Clearness and explicitness of marine area
- Method in marine boundary delimitation between provinces and regencies
- Traditional fishing activities



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Indonesia's Internal Boundary Issues

Maritime boundary delimitation: a Technical guidance

- Based on Permendagri No. 1/2006
- Outlines
 - Introduction
 - UNCLOS
 - Indonesian Maritime Regime after UNCLOS III
 - Authority limit of Province and Regency over maritime area
 - Basepoints, Reference Points, Border Points
 - Adjacent and Opposite Provinces (Median/Equidistance line)
 - Vertical datum
 - Definition of Bay and baseline configuration
 - Normal baseline application
 - Comparison between straight and normal baseline
 - The case of island and fringing islands
 - Choosing Map, Basepoints and baselines
 - Mapping concept in Indonesia
 - Marine Cadastre

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Introduction

- Indonesia Land Territory



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Introduction

- Territorial sea and Maritime Environment Ordinance 1939 → 3 M Territorial sea



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Introduction

- Djoeanda Declaration 1957 – Wawasan Nusantara

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UNCLOS

- Territorial sea and Exclusive Economic Zone

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Indonesia's Internal Boundary Issues

UNCLOS Visualization

State A Main land
Archipelagic State B
Fringing islands
Island
Low Tide Elevation
Baselines
Internal Waters
Judicial bay
Territorial sea Limit
Contiguous zone Limit
Continental margin
EEZ Limit
Overlapping claim
Maritime boundary

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Indonesian Maritime Regime after UNCLOS III

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Basepoints, Reference Points, Border Points

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Boundary between adjacent provinces - equidistance line

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Boundary between opposite provinces - median line

Province A

Province B

Equidistance line

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Vertical Datum

Reference point

Coast line during high tide

Coast line on a topographic map

Coast line - Law No. 22/1999

High Water Line

Mean Sea Level

Basepoint
Law No. 22/1999

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Defining a Judicial Bay (UNCLOS III)

LWL

Entrance points

Bay

Sea

Land

Judicial bay

Not a judicial bay

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Defining a Judicial Bay (Law NO 22/1999)

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Straight baseline configuration

Configuration 1

Configuration 2

Configuration 3

Configuration 4

Configuration 5

Constraint: One segment of straight line ≤ 12 NM

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Normal baseline

Normal baseline (LWL)

Limit of marine area

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Normal baseline → UNCLOS III

a : island
b : low-tide elevation that creates its own territorial sea
c : low-tide elevation that does not create its own territorial sea

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Comparison between straight and normal baseline

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Combining straight and normal baseline

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The case of island

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The case of fringing islands

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Choosing Charts, Basepoints and Baselines

- National Sea Environmental Chart for design
- Chart of 1:250000 for survey and boundary definition
- Boundary chart contains coordinate of boundary points, reference points and basepoints
- Official chart: autographed by the head of technical team (central government), official in dept. of home affairs, DKP, governors and finally minister of home affairs.
- Reference points are surveyed using geodetic GPS, dual frequency and to be referenced in the national geodetic control network.
- Using National Geodetic Datum 1985 (DGN85), ellipsoid 1984

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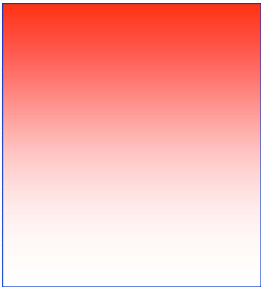
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Boundary Delimitation → Cartometric Method

- National Sea environment Map (Peta LLN)
- By Bakosurtanal & Dishidros (1:500,000)
- Small scale → depicted coast line = low water line
- Basepoints selection
- Employing Median/equidistance line




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Boundary Demarcation → In Situ Survey

- Geodetic GPS receiver, dual frequency, at least 2 units for differential positioning system
- Handheld GPS receiver for reconnaissance
- Theodolite for low water line observation
- Material for building reference points (RP)
- Camping equipment (base camp)
- Other equipments including flash light, camera, rain coat, umbrella, communication devices, etc




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Who do the Surveys?

- Operationally conducted by and under budget scheme of regional government
- Central government (Dept . Home affairs and DKP) act as the facilitator and technical assistance provider
- Survey could be done by "outsourcing" procedure (Bakosurtanal, Dishidros, a university) but paid by the regional government
- Joint survey team between the regions in questions



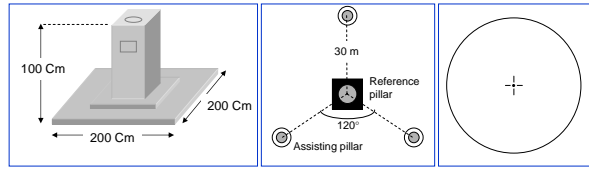
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Reconnaissance step

- Defining the low water line in one day (or two days if needed)
- Defining the location of reference points (RP)



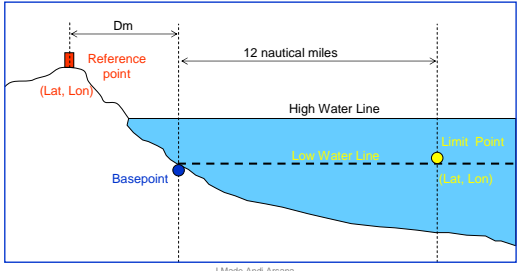
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Field Survey Step

- Distance and azimuth measurements using theodolite, total station, or GPS
- Precise positioning for reference point (RP) and tight to a nearest national GPS network point
- Sketch map depicting reference point (RP) and assisting points with contour lines



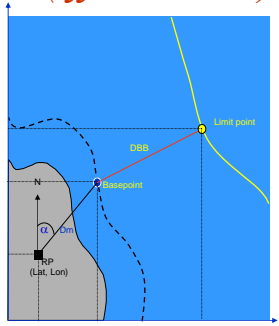
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Coordinates computation (office treatment)

- Data: coordinate of RP (Lat, Lon), Distance in meter (Dm) and azimuth of RP and Basepoint (α), distance Basepoint-Limit point (DBB) = 12 NM = 22,224 m as 1 NM = 1825 m
- Computing coordinate of border point
- No physical pillar for border point but depicted on a large-scale map (1:10000)






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Socialization

- Reference point is NOT a border point

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Mapping Concept in Indonesia

- Principles of mapping
- Basic map and derived map
- Topographic map and thematic map
- Geographic Information Systems
- National Standard Coordinate System
 - Datum
 - Map Projection

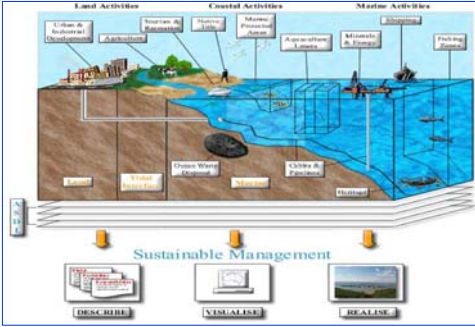
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Marine Cadastre: an illustration



http://www.geom.unimelb.edu.au/maritime/diagram.htm

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Further Reading

- Positioning System (coordinates) on earth
- GPS: A satellite-based positioning system



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Thank You ☺

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