Uncertainties over the Starting Line?
Challenges in the Definition of Territorial Sea Baselines

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Baselines depend on sovereignty over coastal territory...

The land dominates the sea and it dominates it by the intermediary of the coastal front.

Prosper Weil, 1989.

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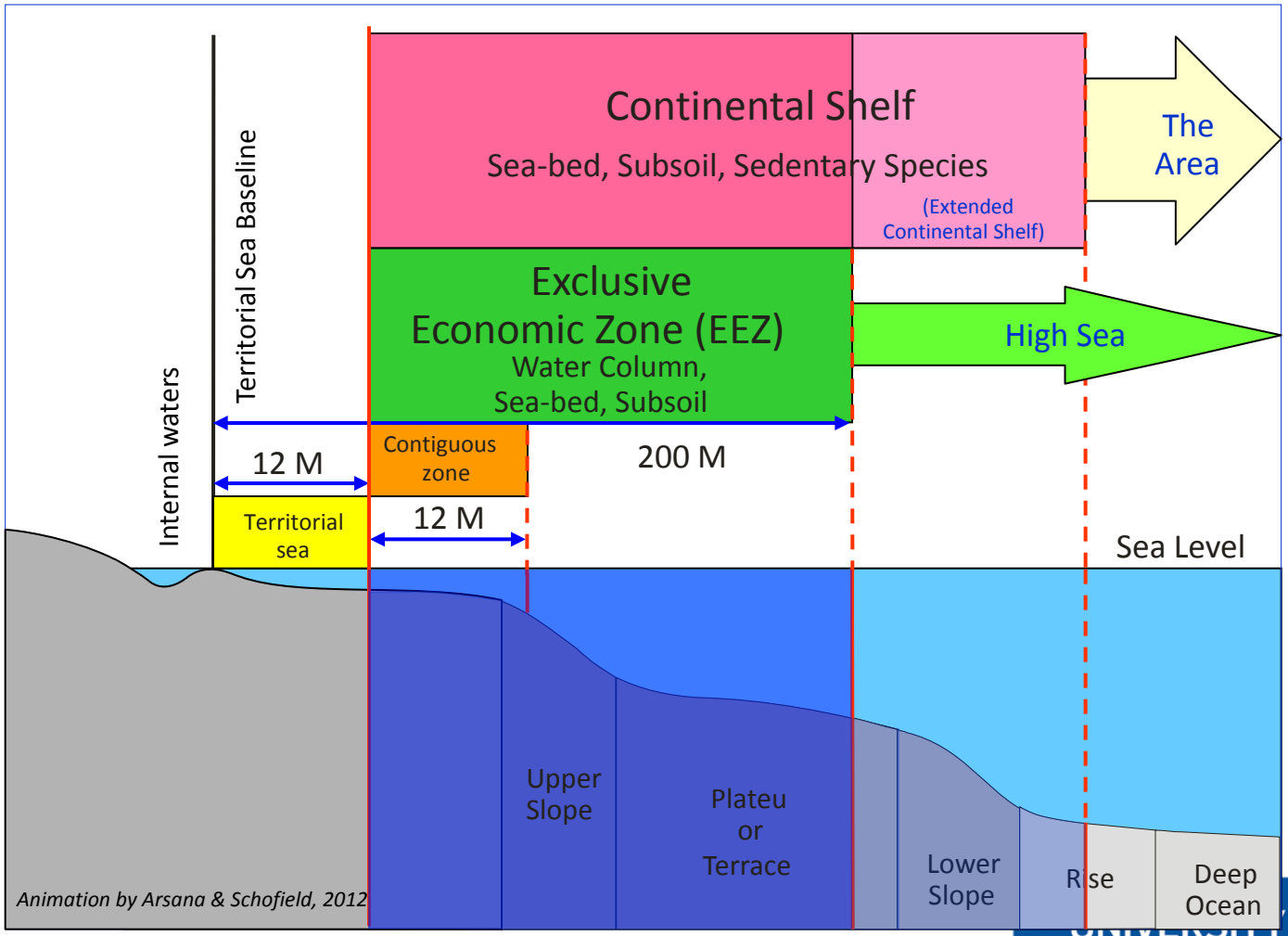
The Importance of Baselines

- Define the land/sea interface
  - The ‘boundary’ of territory at the coast
- Fundamental to maritime claims
  - Defines the land/sea interface
  - Provide the starting point for claiming maritime zones
  - Provide basepoints for generation of limits of national maritime claims

Baselines and Maritime Zones



Baselines are fundamental to maritime claims

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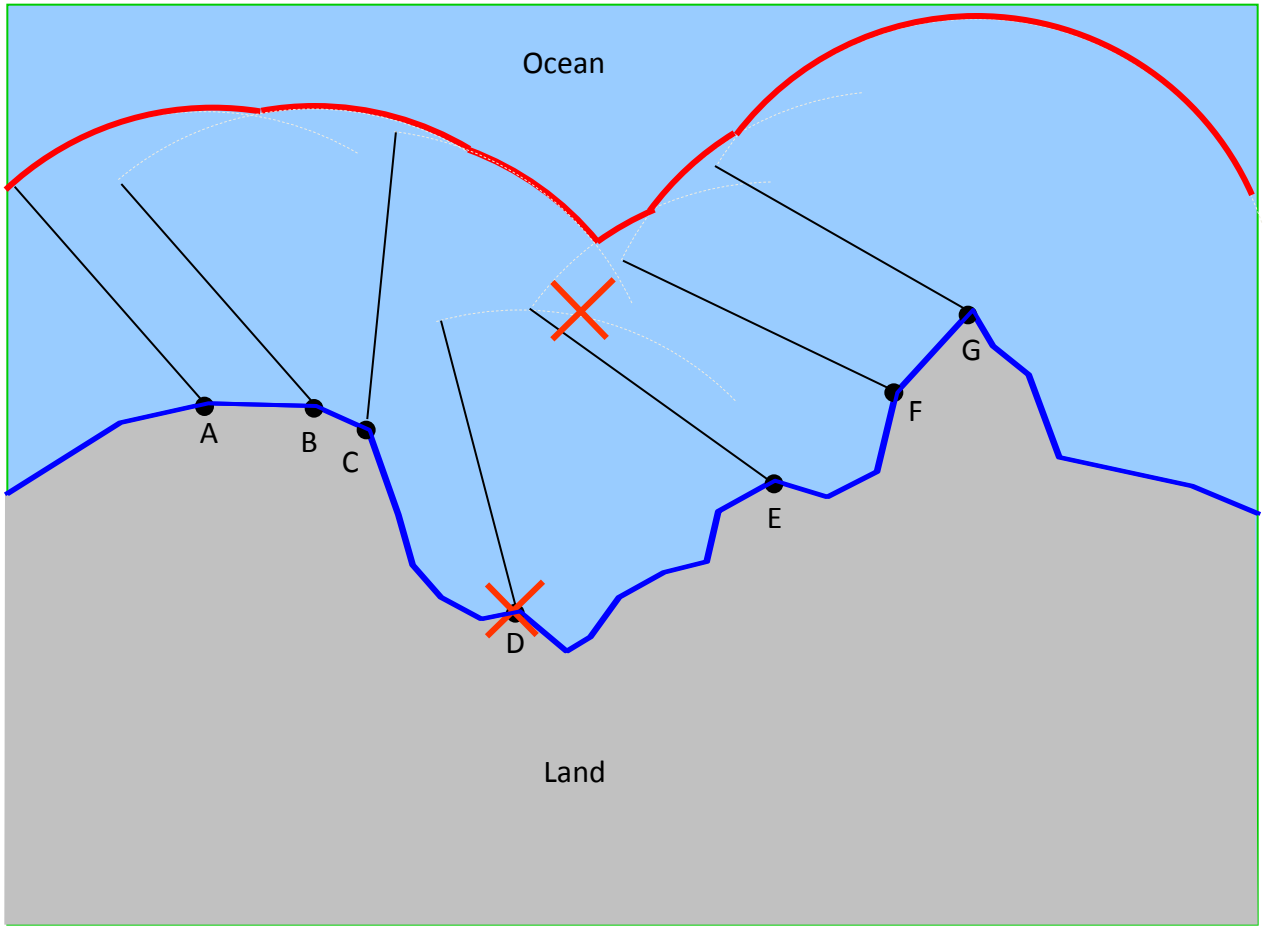
Defining Maritime Limits: The Envelope of Arcs



- Basepoints
- Distance from basepoints
- Envelope of arc
- Maritime zone limit
- Irrelevant basepoint

Baselines versus Basepoints:
Not all of the baseline contributes to defining the limits of maritime jurisdiction

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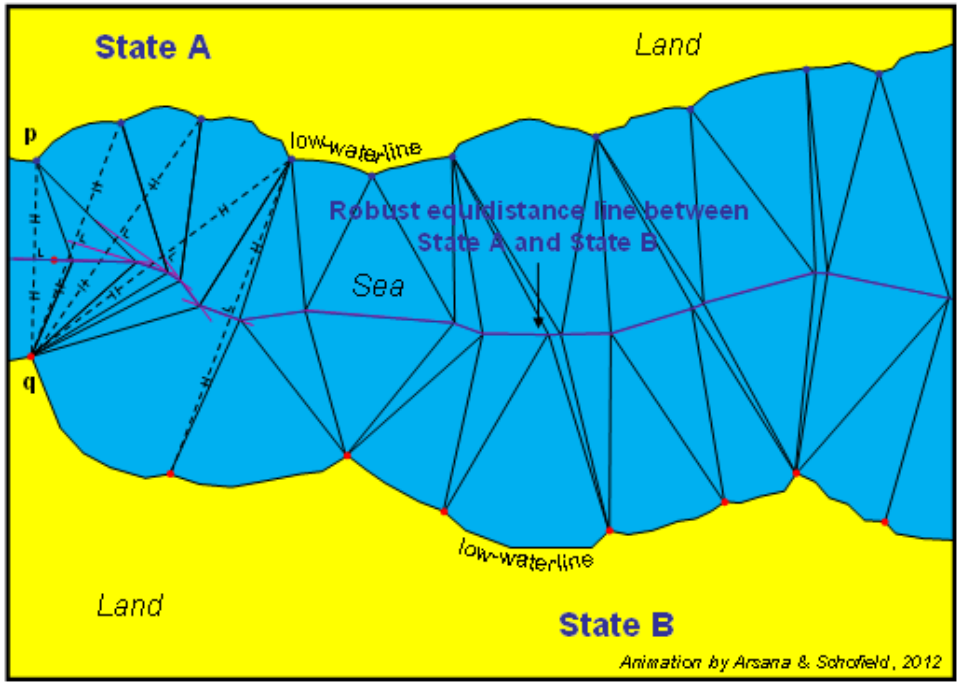
The Importance of Baselines

- Fundamental to maritime boundary delimitation
  - Determine basepoints for construction of equidistance lines
  - Equidistance lines often used at least as the starting point for maritime delimitation
  - Majority of maritime boundary agreements based on equidistance
  - **BUT**: selectivity over use of certain basepoints in recent cases



Source: TALOS Manual (5th edition, October 2012)

Where does the Land End and the Sea Begin?

"Normal" Baselines

1958 Convention on the Territorial Sea and the Contiguous Zone, Article 3

LOSC, Article 5

Article 5 of the LOSC states:

Except where otherwise provided in this Convention, the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast as marked on large-scale charts officially recognised by the coastal State.

- In effect a State's default baseline
- Key issue: what is meant by the term **"low-water line"**

Reefs

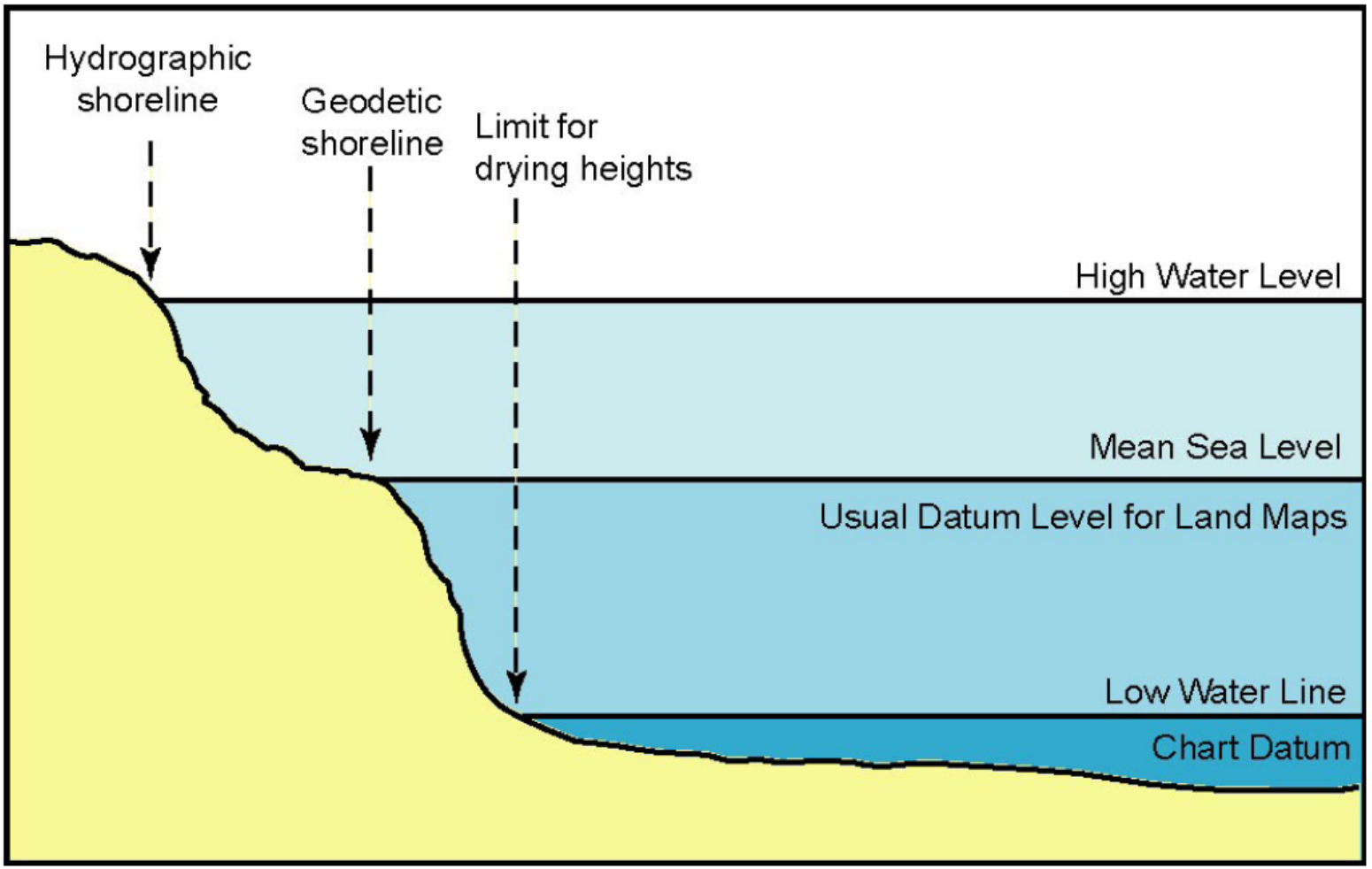
LOSC, Article 6

In the case of islands situated on atolls or of islands having fringing reefs, the baseline for measuring the breadth of the territorial sea is the seaward low-water line of the reef, as shown by the appropriate symbol on charts officially recognized by the coastal state.

The Meaning of "Low-water Line"

- Low-water line dependent on choice of vertical datum
- Vertical datum = level of reference for vertical measurements (depths, height of tide, elevations) – the 'zero' line
- Many options – Lowest Astronomical Tide (LAT) recommended for charts by the International Hydrographic Organization (IHO)

Vertical Datums



Source: TALOS Manual (4th edition, March 2006)

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Impact on Baselines, Basepoints and Maritime Claims

- States tend to prefer the lowest low-waterline possible
- If lower vertical datum/low-water line then:
  - normal baseline advanced further ‘down the beach’
  - land territory/internal waters increased
  - maritime zones potentially increased
  - potential impacts on islands and low-tide elevations
- BUT:
  - especially significant if the gradient of the shore is shallow
  - less significant further offshore
- Critically, conservative vertical datums favoured by chart-makers for the sake of safety of navigation

Dynamic Coasts

- It has long been understood that coastlines move over time
  - Deposition can lead to the coast extending further offshore
  - Erosion can lead to the shoreline retreating inland
    - especially where the coast is composed of soft sediments, shelves gently or the tidal range is great
- Charts only ever a ‘snapshot in time’
  - Position of the low-water line may in fact have changed by the time a resurveyed and updated chart is published
- A particularly “woolly” or ambiguous “boundary”

Ambulatory Baselines and Shifting Limits

- Maritime claims predominantly measured from "normal" low-water line baselines
- Such baselines can be "ambulatory" – unstable and subject to sometimes rapid change
- Implications for:
  - Extent and limits of maritime claims
    - Dramatic horizontal shifts to normal baselines possible from slight changes to sea level vertically
  - Enforcement issues
  - Delimitation of maritime boundaries
- Exacerbated by sea level rise?

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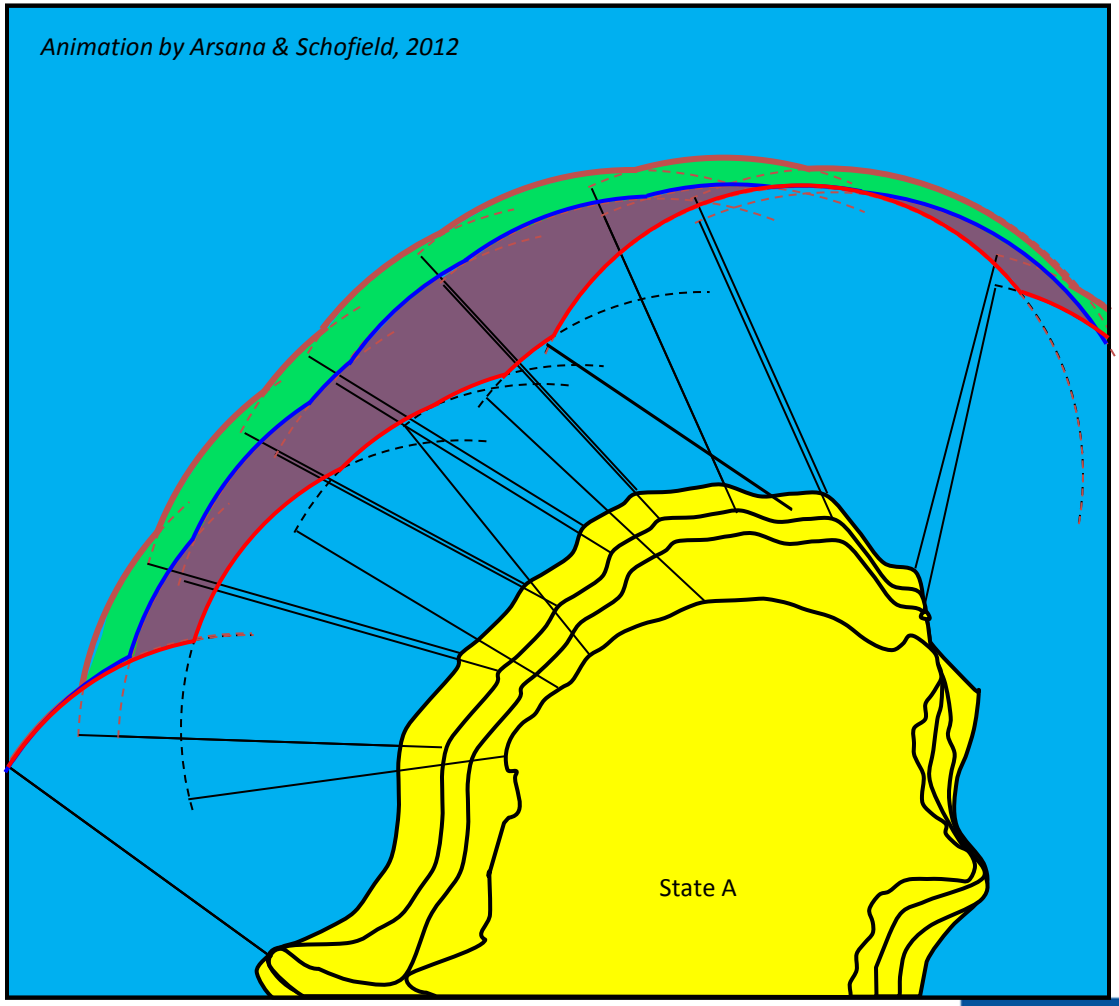
Potential Impacts of Sea Level Rise

Seaward impacts:
Changes to baselines and maritime limits
Dramatic horizontal shifts to normal baselines possible from slight changes to sea level vertically

Landward impacts:
Coastal areas less habitable

Shifting Maritime Limits



Implications for Islands

- Sea level rise may impact on insular status
- The Regime of Islands provides for two types of islands:
  - Islands capable of extended maritime claims
  - "Rocks" that "cannot sustain human habitation or economic life of their own" cannot
- Questions:
  - If sea level rises and an island is rendered uninhabitable should it be reclassified as a "rock"?
  - Impact on capacity to generate claims to maritime jurisdiction

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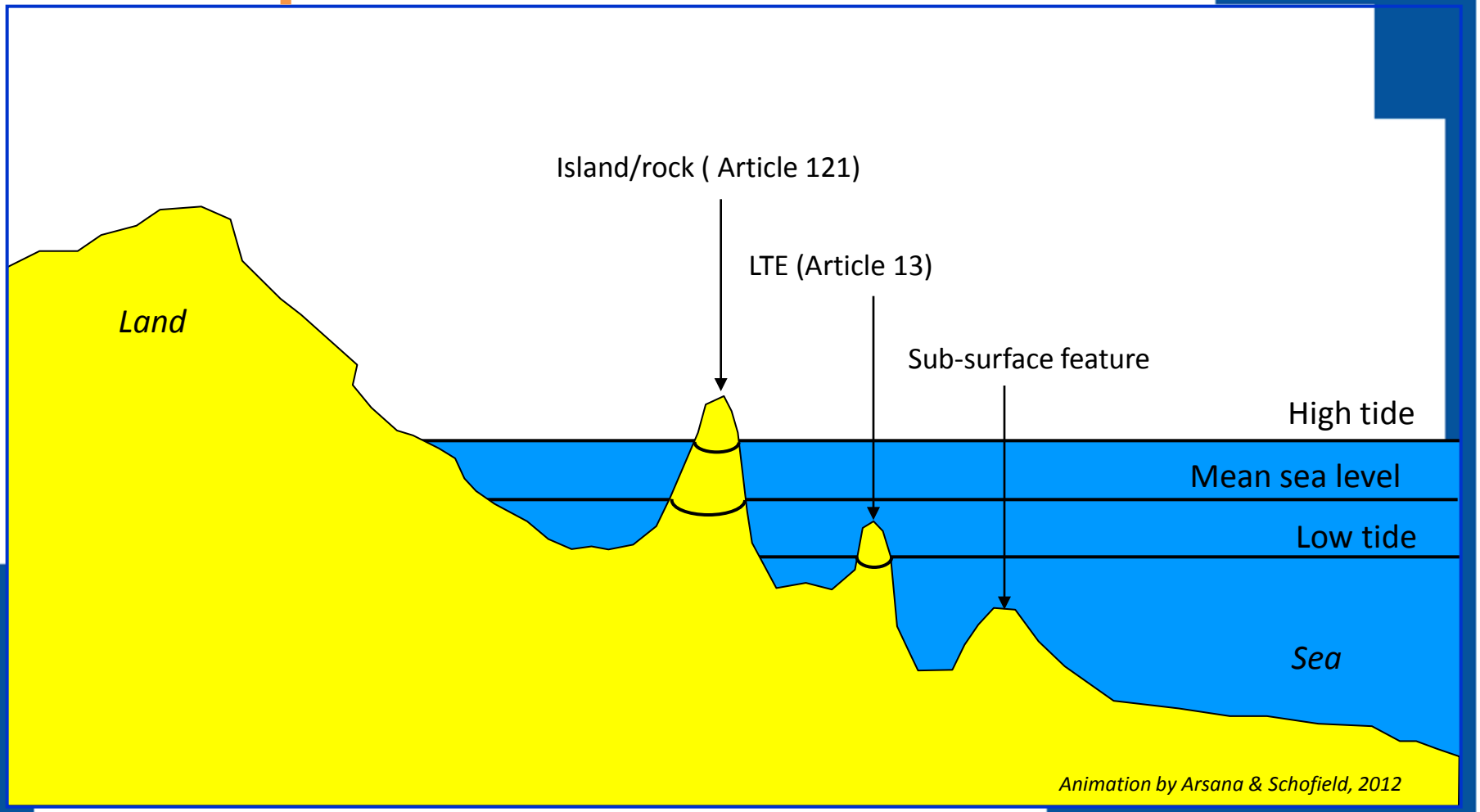
Impact on Insular Features



Source: TALOS Manual (5th edition, March 2013)

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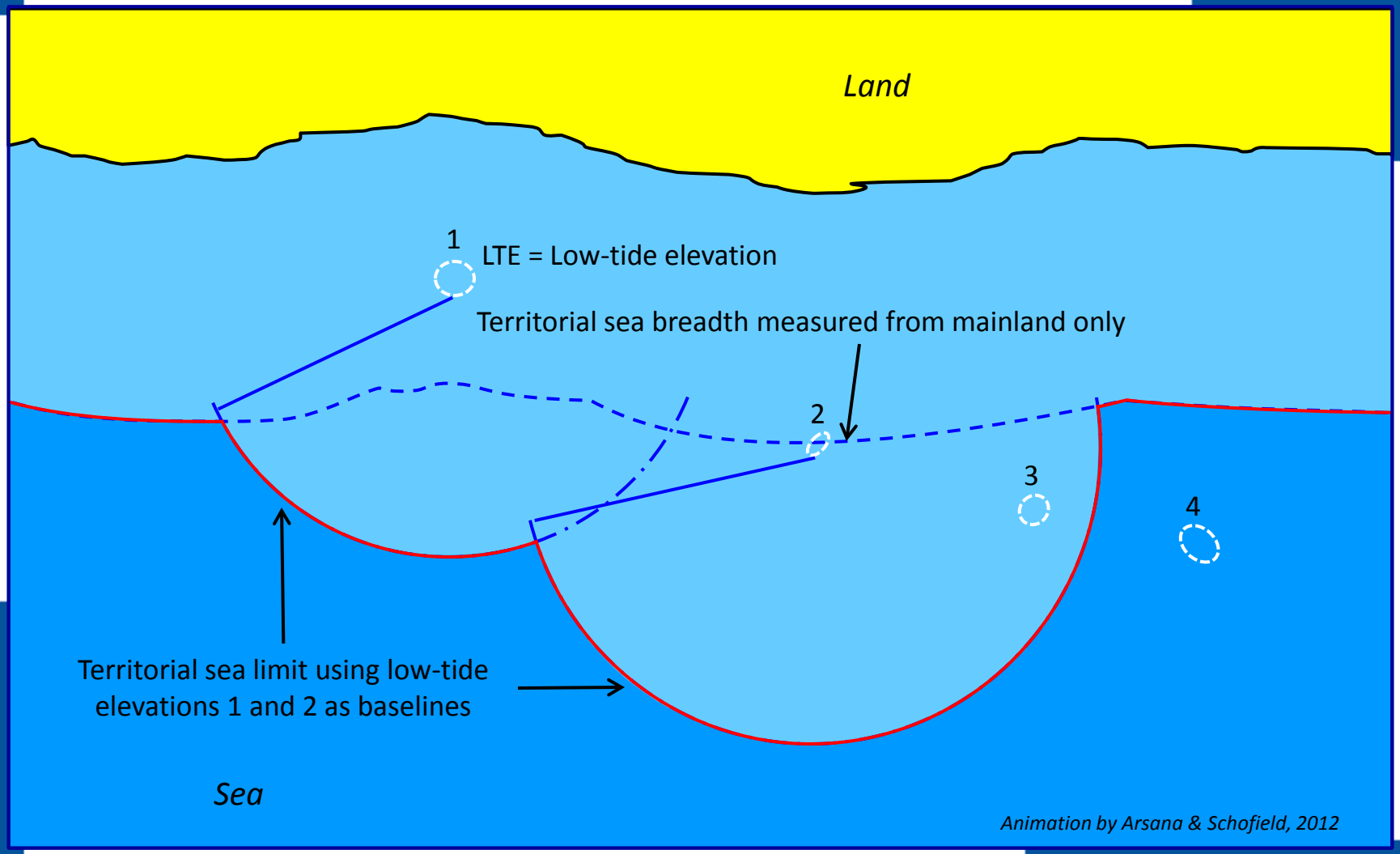
Low-tide Elevations (LTEs)

Article 13
Low-tide Elevations

1. A low-tide elevation is a naturally formed area of land which is surrounded by and above water at low tide but submerged at at high tide. Where a low-tide elevation is situated wholly or partly at a distance not exceeding the breadth of the territorial sea from the mainland or an island, the low-water line on that elevation may be used as the baseline for measuring the breadth of the territorial sea.
2. Where a low-tide elevation is situated at a distance exceeding the territorial sea from the mainland or an island, it has no territorial sea of its own.

- So-called "parasitic basepoints"
- Can be used as basepoints if wholly or partially within 12nm of an above high-tide feature
- Especially vulnerable to change

Influence of LTEs



Source: TALOS Manual (5th edition, March 2013)

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Response Options

- Do Nothing?
  - Planned retreat and relocation
  - Example: Cateret Islands, Papua New Guinea
  - Lohachara Island, India
  - South Talpatty/New Moore

Holding the Line

- The traditional response where coastal territories are under threat: Protect/stabilise the coast
- Sea defences and coastal engineering works
  - Sea walls, groynes, wave reduction structures
- Potential for unintended consequences
  - Altered flow regimes resulting in erosion/deposition
- Appropriate to protect critical basepoints?
- Unrealistic elsewhere?
- Fanafuti, Tuvalu: Physical defences unrealistic?
  - 54kms of sea defences required to protect 2.5km^2 of land
- What are the alternatives?

Alternative Physical Responses

- Reclamation works
  - Building up islands and coasts
- Soft engineering and ecological solutions
  - revegetation
  - dune stabilisation
  - artificial wetlands
  - “speed bumps” off the Louisiana coast

Legal and Policy Options

- Choice of chart
- Use of other types of baseline
- Baselines and unstable coasts
- Declaring and fixing normal baselines
- Fixing Maritime Limits
- Delimiting maritime boundaries

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Fixing the Normal Baseline: Choice of Chart

- The last part of Article 5 states that the normal baseline is the low water line as shown on: "…large-scale charts officially recognised by the coastal State"
- Choice of chart appears to be left up to the coastal State
- Can a coastal State therefore choose a chart that is advantageous to it?
- What if there is a difference between the low water line shown on the chart and reality?

Fixing Ambulatory Baselines on Unstable Coasts

- The drafters of the Convention did not anticipate sea level rise
- However, where faced with uncertainty over the stability of the coastline, they were not adverse to fixed baselines
  - Article 7(2) allows straight baselines to be used "Where because of the presence of a delta and or natural conditions the coastline is highly unstable
- **But**: Connection to the low water line still required

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Fixing Limits and Boundaries

- Once agreed maritime boundaries remain fixed even though the baselines used to construct them may regress
  - Only a partial fix – limits as well as boundaries required to define maritime zones
  - What if the territory in question disappears entirely?
- The outer limits of the continental shelf may also be fixed as "final and binding"

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Source: Government of Australia, Seas and Submerged Lands (Limits of Continental Shelf) Proclamation 2012

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Altering the Rule?

- Change or adapt the current regime:
  - Allow baselines/limits to be fixed
- Provides the advantage of certainty and the preservation of existing maritime claims
- But: Divergence between claimed baselines/limits and reality over time
- Unilateral action the most likely way forward?