

# Effects of Sea Level Rise on Baselines and Outer Limits of Maritime Zones

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# Outline

- Introductory remarks
- The baseline
- Consequence of sea level rise
- The interests involved
- Measures of prevention and adaptation
- Options for maintaining entitlements to maritime zones
- Recommendations of ILA Committee
- Concluding remarks

# Causes and consequences of sea level rise

- Global warming: sea level is rising and will continue to rise; estimates vary but for this century at least one meter is now expected
- The main consequence obviously is loss of land, depending on the height of coastal areas, with serious consequences for the coastal populations (and even the continuity of the State – another presentation)
- This presentation will focus on the potential loss of entitlement to maritime jurisdictional zones

# Effects of sea level rise on the baseline

- The ‘baseline’ constitutes the starting point for measuring the breadth of maritime jurisdictional zones (territorial sea, contiguous zone, exclusive economic zone and continental shelf)
- The normal baseline is the low-water line along the coast: my presentation will focus on this baseline
- In particular circumstances coastal States may establish ‘straight baselines’, and archipelagic States may establish ‘archipelagic baselines’: will not be dealt with in this presentation, but similar issues involved

## Normal baseline: low-water line (I)

- Since the baseline is defined in Art. 5 LOSC as “the low-water line along the coast as marked on large-scale charts officially recognized by the coastal State”, the baseline is ambulatory: it has always been seen as a line changing according to the natural conditions of the coastline
- As a result, the outer limits of maritime zones measured from this baseline are also ambulatory, in principle defined by the latest chart
- I will not deal with the consequences for the outer limits of maritime zones where these have been determined by agreement with neighboring States or by a decision of an international court or tribunal: topic of next presentation

## Normal baseline: low-water line (II)

- Also islands generate maritime zones measured from their baseline. An island is defined as “a naturally formed area of land, surrounded by water, which is above water at high tide” (Art. 121(1) LOSC)
- And low-tide elevations (“a naturally formed area of land which is surrounded by and above water at low tide but submerged at high tide”) may be used as a baseline if situated at a distance of not more than 12 nautical miles from the mainland or an island (Art. 13 LOSC)

# Consequence of sea level rise (I)

- When the low-water line (the baseline) recedes as a result of sea level rise, the outer limits of maritime zones recede accordingly
- The distance of this recession can differ significantly, according to the gradient of the coastal area
- The result of this recession in principle is that the outer limits recede, but the breadth of the zones remain the same
- However, in many instances the situation is much more complicated, in particular because of the presence of low-tide elevations and low-lying islands

## Consequence of sea level rise (II)

- There is one exception to this rule of ambulatory limits in the LOSC: Art. 76(9) on continental shelf limits
- “The coastal State shall deposit with the Secretary-General of the UN charts and relevant information, including geodetic data, permanently describing the outer limits of its continental shelf”.
- This seems to imply that, notwithstanding later changes to the baseline, coastal States may permanently fix the outer limits of their continental shelf (and thus the boundary with the international seabed area)



## Consequence of sea level rise (III)

- The consequences have the greatest impact for low-lying island States, in particular in the Indian and Pacific Oceans, but also elsewhere where low-tide elevations and very low-lying islands are present further offshore.
- Example: if such offshore islet located at 24M from a remaining baseline would become submerged, the area of territorial sea may decrease by approx. 1500 square kilometers (and EEZ of 8000 km<sup>2</sup>)

## Consequence of sea level rise (IV)

- If the islet was situated at a distance of 200M from the remaining baseline, the loss of EEZ area may amount to 215.000 square kilometers
- Another potential consequence of sea-level rise could be that a feature becomes a “rock”: an island no longer generating a 200M EEZ, but only a territorial sea

# The interests involved for the coastal States and other States

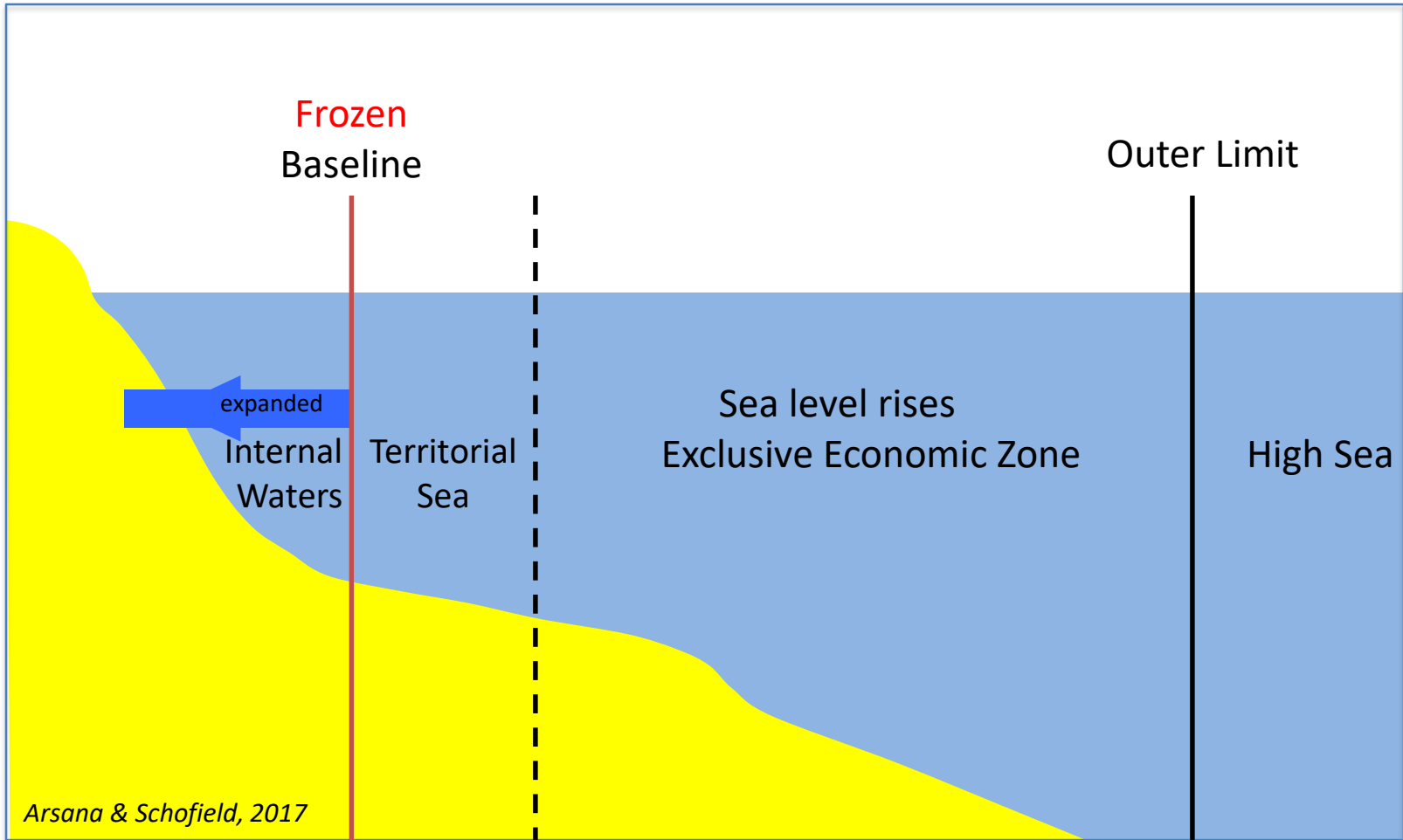
- Coastal States may lose sovereign rights over natural resources, (as well as jurisdiction over MSR, marine pollution, artificial islands and installations) in sizable areas
- Jurisdiction over archaeological and historical objects of coastal States may be limited
- The regime for navigation in certain areas may change from innocent passage to freedom of navigation

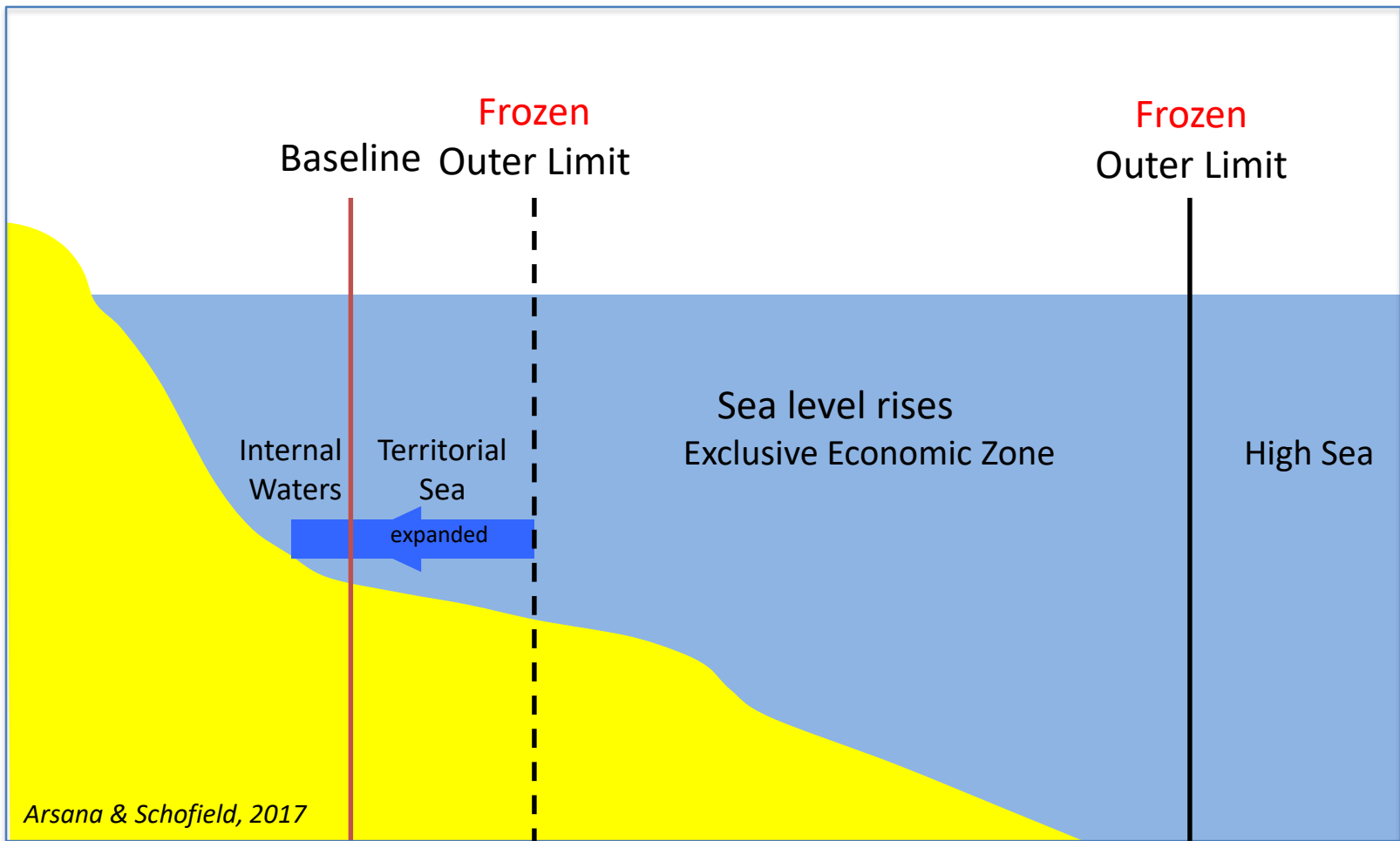
# Measures of prevention or adaptation

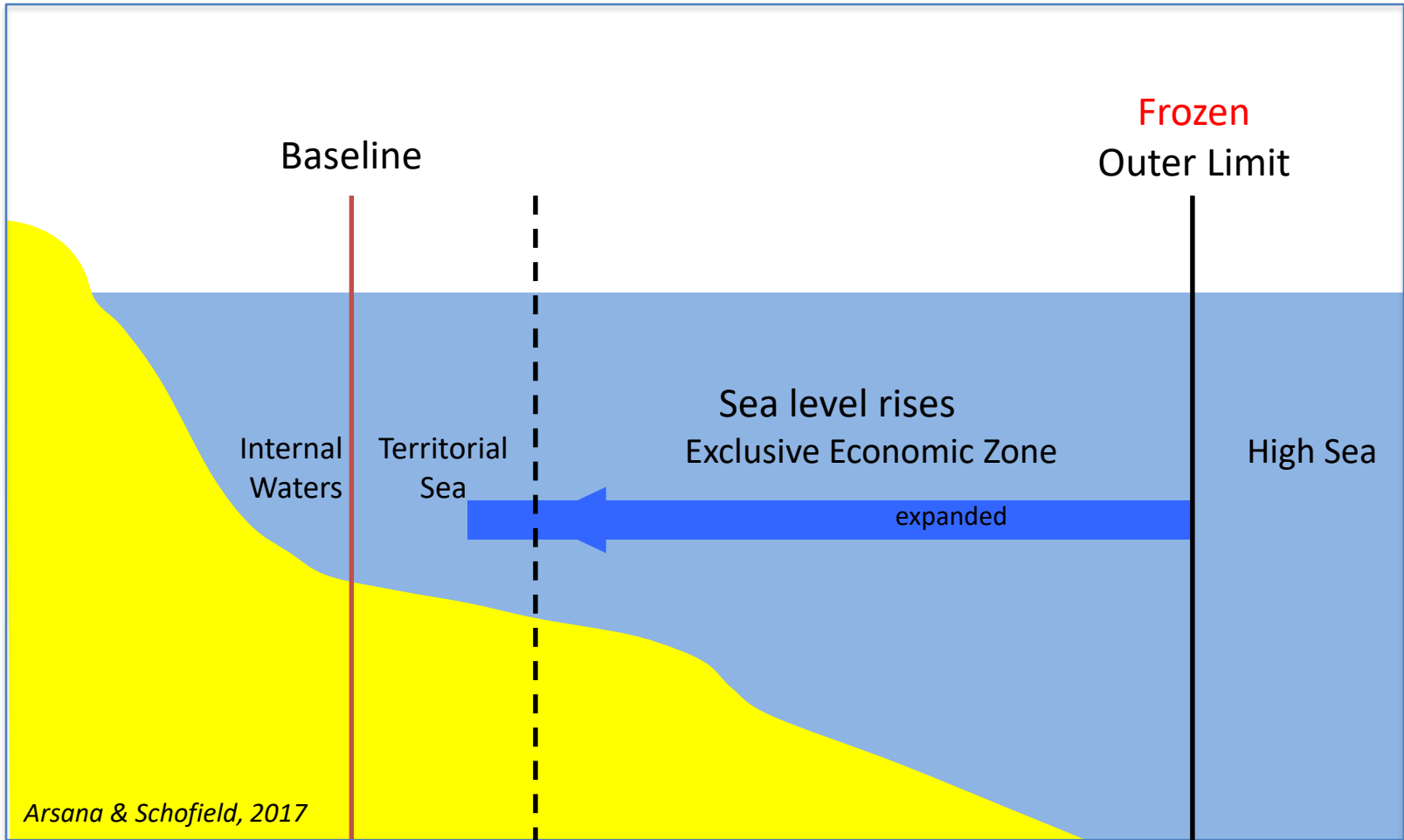
- Coastal States may prevent this loss of maritime zones by artificial conservation of the baseline (coastal engineering measures): this has been done for centuries and is generally accepted as allowed
- However, in many instances this is either impracticable or too expensive (unaffordable by the coastal State involved)
- These coastal States have generally not contributed to the causes of sea level rise

## Other options

- These have been discussed since the end of the 1980s
- ILA Committee on International Law and Sea Level Rise: 2018 Sydney Report recommendations
- Coastal States should be entitled to maintain the extent of their zones (cf. Art. 76(9) LOSC))
- There is already emerging State practice in South Pacific
- No formal amendment of LOSC or new agreement necessary (or politically feasible)
- Options of (permanently) fixing baselines and/or outer limits:



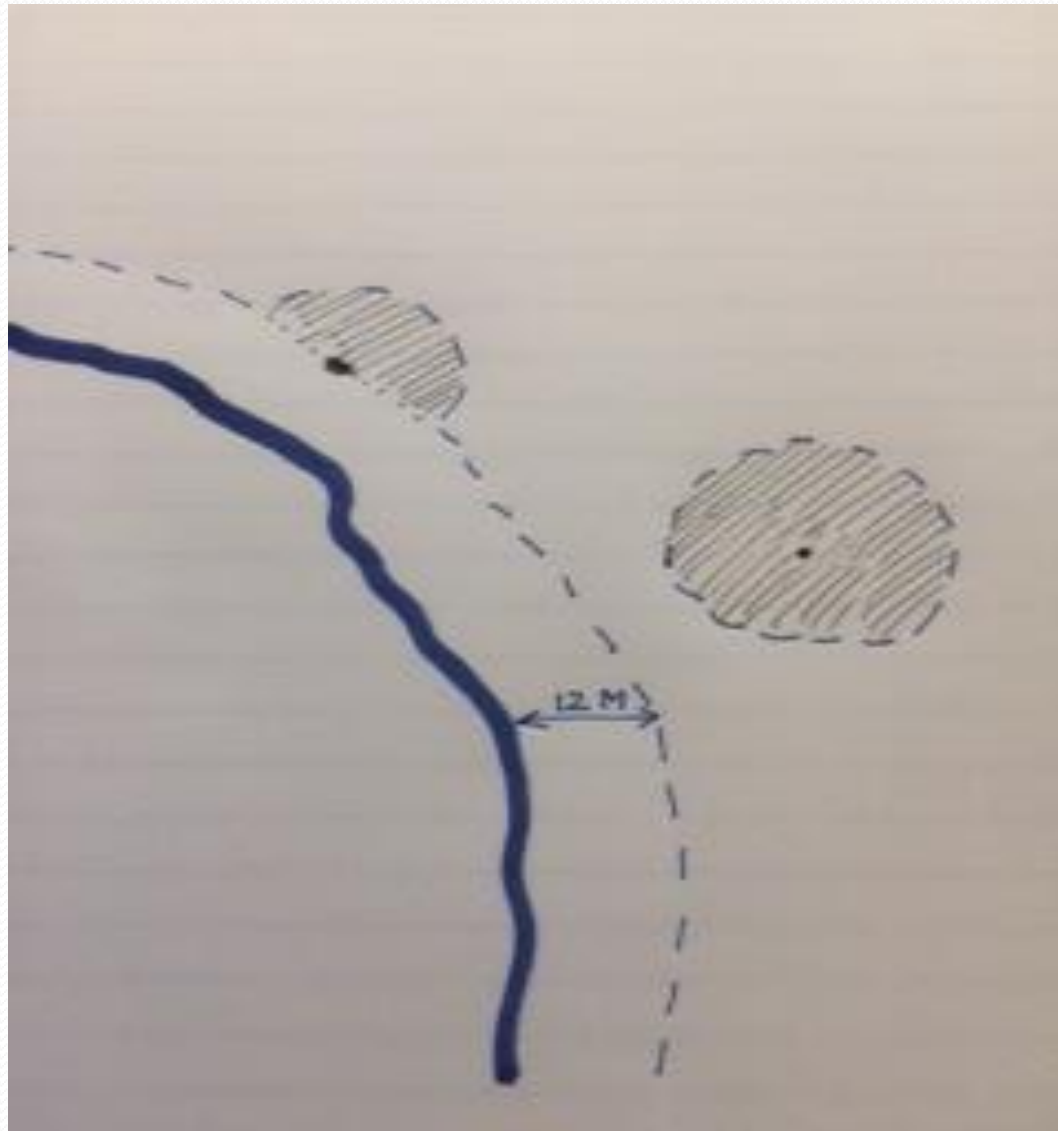






## Shortcomings of figures

- The preceding figures, however, do not adequately illustrate important situations that may arise:  
submerging LTEs and islets lying further offshore:
- Fixing baselines would result in situations where areas of territorial sea remain as enclaves while there is no high-tide feature left in the area



# ILA Committee Recommendations (I)

- **ENDORSES** the views of the Committee that:
  - its proposals should aim to facilitate orderly relations between States and, ultimately, the avoidance of conflicts, bearing in mind that one of the principal motivations of the United Nations Convention on the Law of the Sea is to contribute to the maintenance of international peace and security; and
  - in the formulation of proposals for the progressive development of international law, the dominant considerations of the Committee should be the need to avoid uncertainty in the extent and limits of maritime zones and location of boundaries, and incentives to artificially preserve baselines physically in order to keep the outer limits of maritime zones;
- **NOTES** that the Committee has presented evidence of the emergence of State practice, particularly in the South Pacific region, indicating that small island States intend to maintain the baselines and limits of their current maritime zones established in accordance with the 1982 Law of the Sea Convention for the future, notwithstanding physical coastline changes brought about by sea level rise;

## ILA Committee Recommendations (II)

- **ENDORSES** the proposal of the Committee that, on the grounds of legal certainty and stability, once the baselines and the outer limits of maritime zones of a coastal or an archipelagic State have been properly determined in accordance with the 1982 Law of the Sea Convention, these baselines and limits should not be required to be recalculated should sea level change affect the geographical reality of the coastline;
- **ENDORSES** also the Committee's proposal that the interpretation of the 1982 Law of the Sea Convention in relation to the ability of coastal and archipelagic States to maintain their existing lawful maritime entitlements should apply equally to maritime boundaries delimited by international agreement or by decisions of international courts or arbitral tribunals;

## Concluding remarks

- Example of adaptation of LOS to new knowledge?
- Debate as to option of maintaining baselines is necessary: maintaining outer limits could suffice for the purpose of protecting the (economic) interests of coastal States, and is also least intrusive on current legal regime of LOSC; avoids TS enclaves
- Is the interpretation of LOSC provisions suggested by ILA committee not rather a suggested tacit modification of the LOSC provisions?