



Schulich School of Law
Marine and Environmental Law Institute

Maritime Boundary Delimitation: Overview of Legal Principles

Prof. Phillip Saunders QC

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OUTLINE

- Selection of Issues Only
- Terminology
- Baseline Issues
- Delimitation Principles and Common Issues



Terminology

- **Delineation** of limits – eg. territorial sea, EEZ
- **Determination** of outer limits of continental shelf
- **Delimitation** – process of setting boundary or boundaries where overlap in claims between and among states
- **Opposite and Adjacent Coasts**
- **Entitlement vs Allocation**

Jurisdictional Zones

- Internal Waters

- Territorial Sea

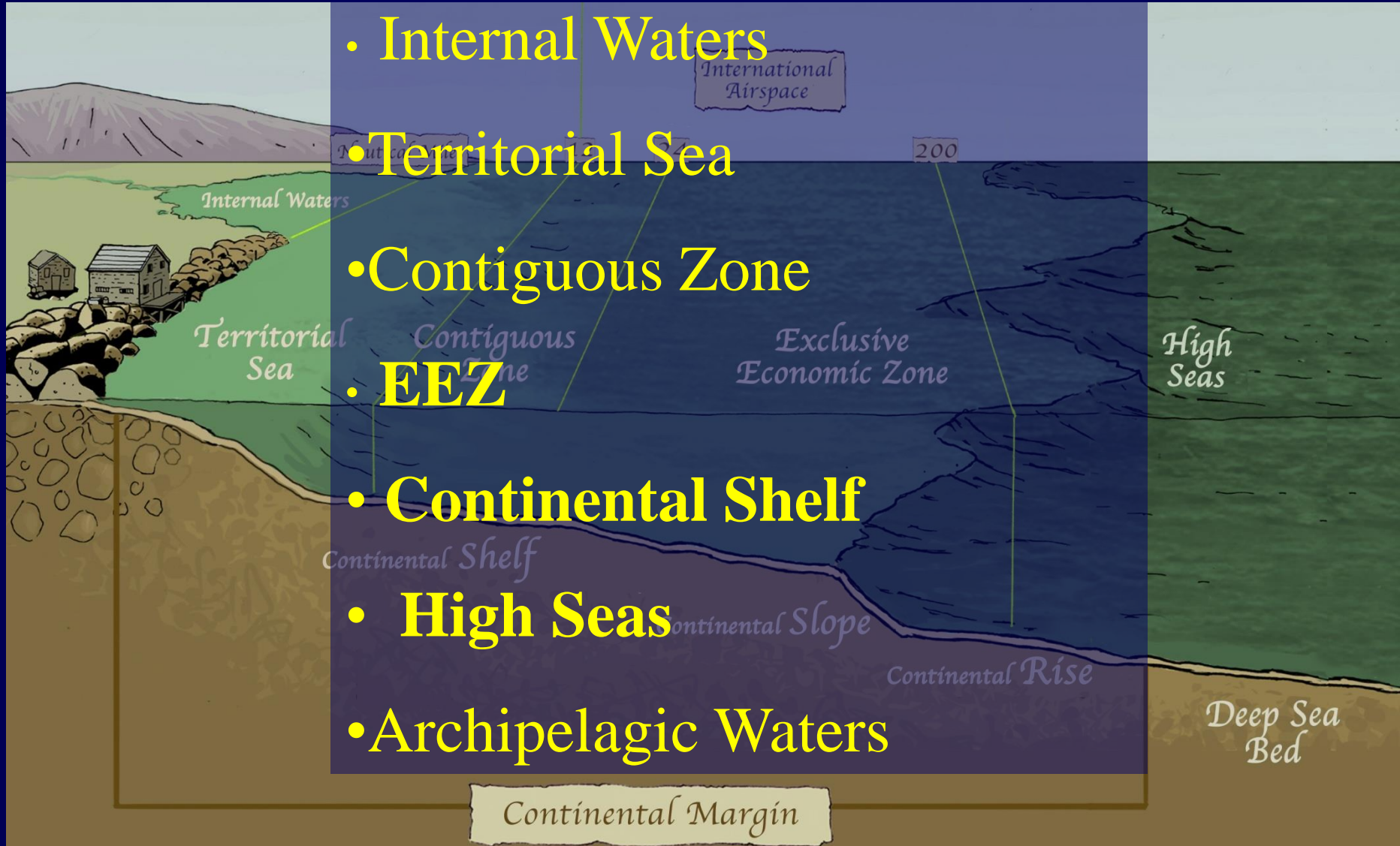
- Contiguous Zone

- EEZ

- Continental Shelf

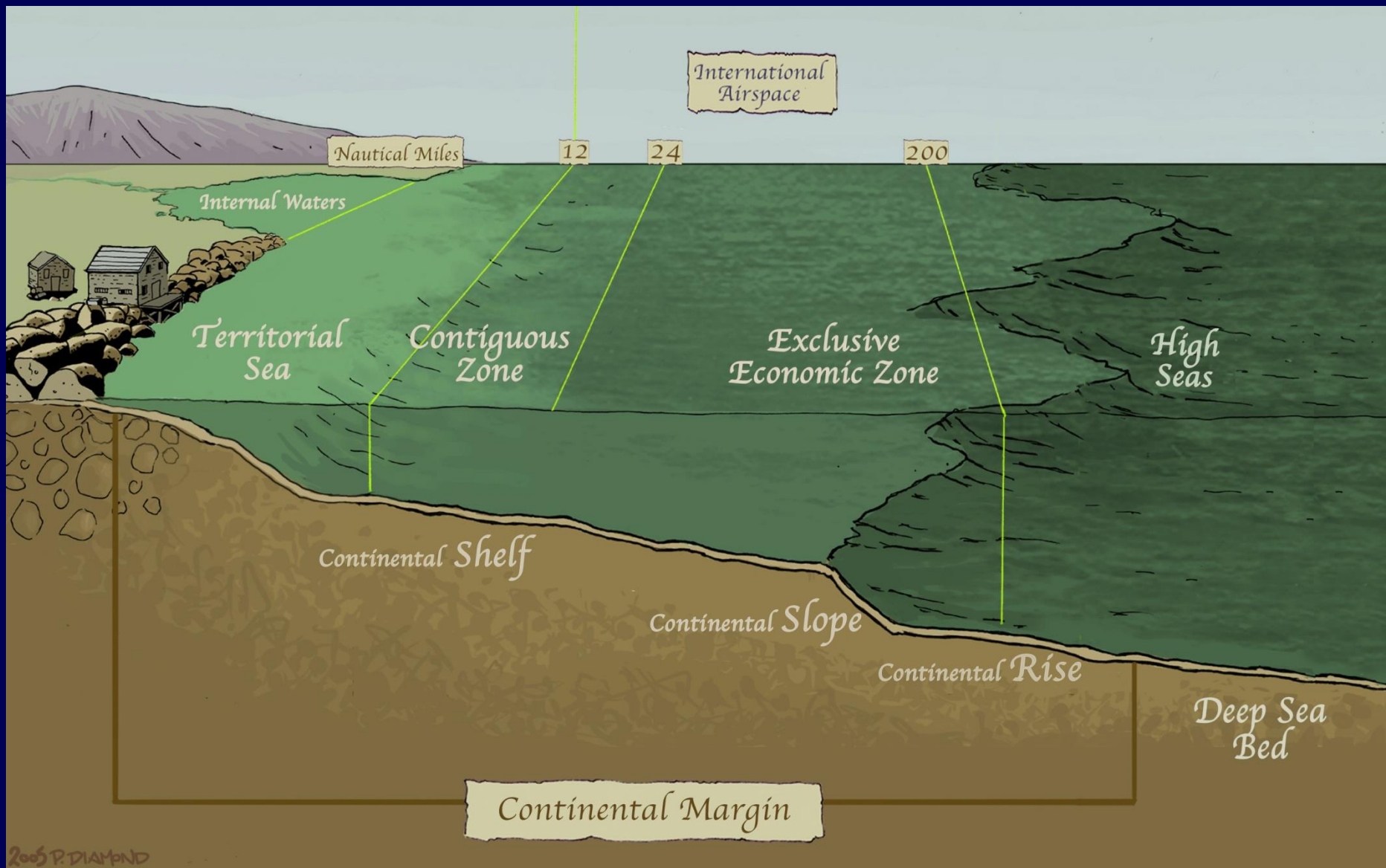
- High Seas

- Archipelagic Waters



Continental Margin

Jurisdictional Zones





Coastal Baselines

- Purpose – measure other zones from here
 - Inside – internal waters
 - **NOT** necessarily applied in delimitation
- LOS 1982 made real progress
 - Technical rules in Arts. 5-14: bays, rivers, harbour works etc
 - Default position is low water line on coast

- Common Problems
 - Small rocks, islets used as basepoints
 - Tendency to ignore, discount **in delimitation** even if valid basepoint (eg Libya/Malta, Qatar/Bahrain)
 - Straight baselines
 - LOS 1982 sets out some “rules”
 - Bays, harbours etc
 - Valid for Indented coastlines and fringing islands (Anglo/Norwegian Case)
 - Note archipelagic baselines special case

Archipelagic Baselines Waters Bahamas

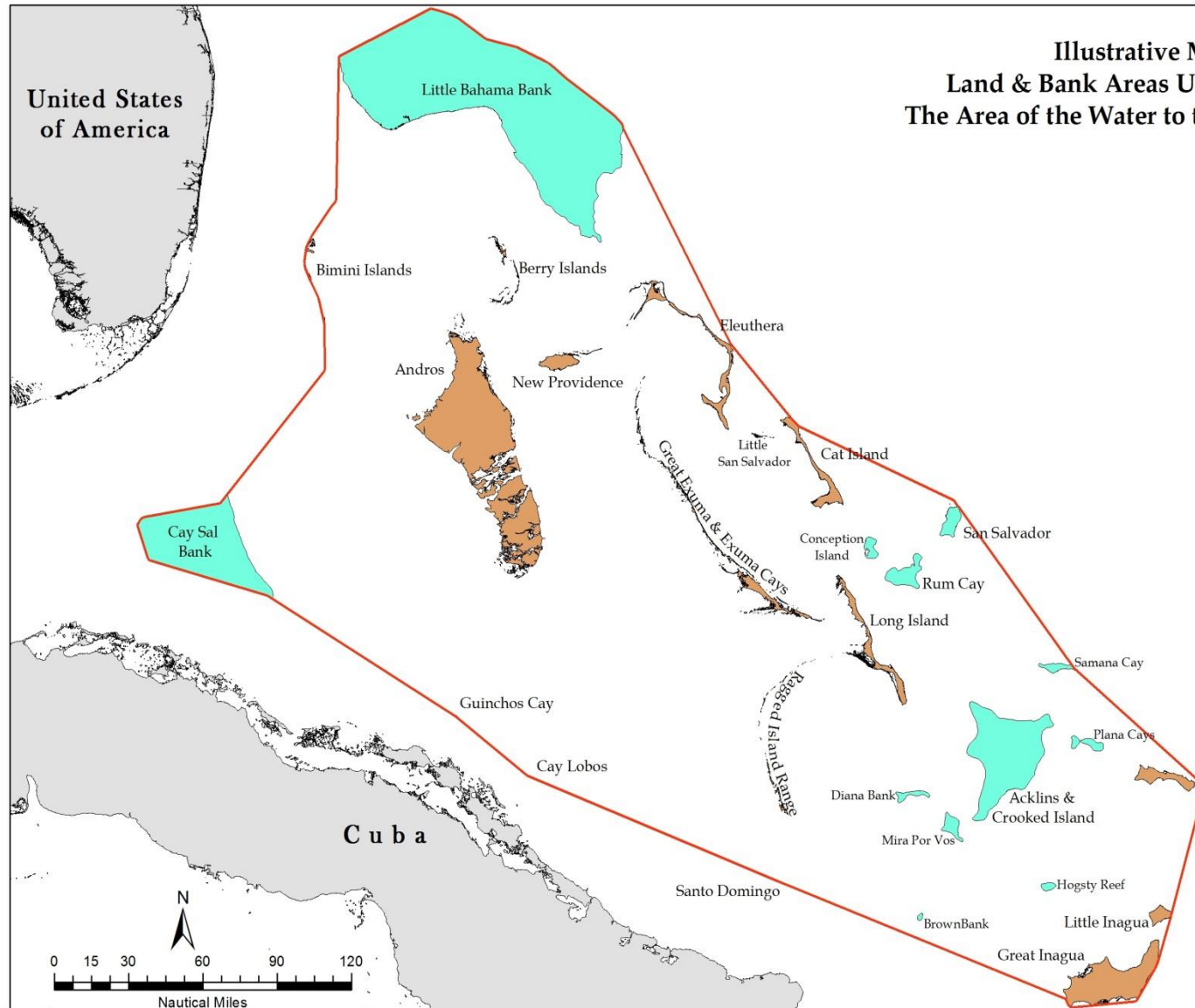
Land and Bank Areas Used In Calculations

Illustrative Map of
Land & Bank Areas Used To Calculate
The Area of the Water to the Area of the Land

Item No.	Area Description	Sq. Nautical Miles
1	Little Bahama Bank*	4,188.1338
2	Andros**	1,597.0842
3	Cay Sal Bank**	1,059.6434
4	Acklins & Crooked Island*	800.6404
5	Great Inagua*	436.8136
6	Eleuthera**	129.8194
7	Long Island**	118.8807
8	Cat Island**	102.7646
9	Exuma**	98.8038
10	Rum Cay**	94.7354
11	Mayaguana**	83.1092
12	San Salvador**	58.7908
13	New Providence**	64.6728
14	Mira Pos Vos*	42.6421
15	Little Inagua**	38.1154
16	Plana Cays*	36.4040
17	Conception Island*	31.4930
18	Samana Cay*	28.7779
19	Diana Bank**	25.3041
20	Berry Islands**	14.1676
21	Hogsty Reef*	13.6101
22	Ragged Island Range**	10.0683
23	Bimini**	5.8037
24	Brown Bank***	4.2357
25	Little San Salvador**	2.1112
26	Guinchos Cay**	0.0123
27	Cay Lobos**	0.0067
28	Cay Santo Domingo**	0.0060
	Total land and Bank	9,086.6504

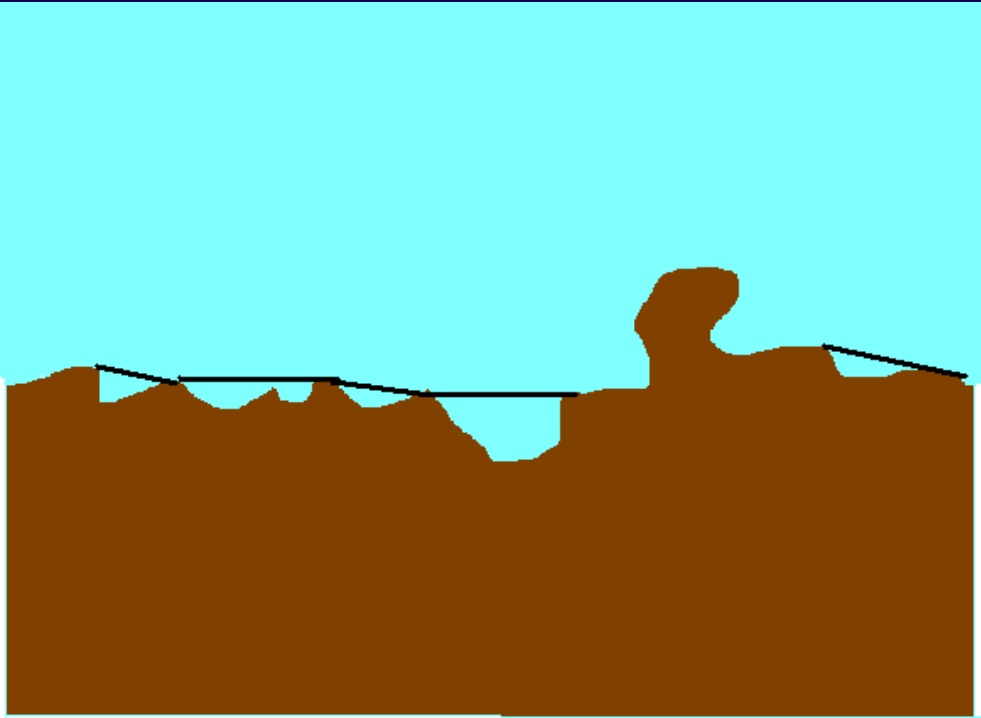
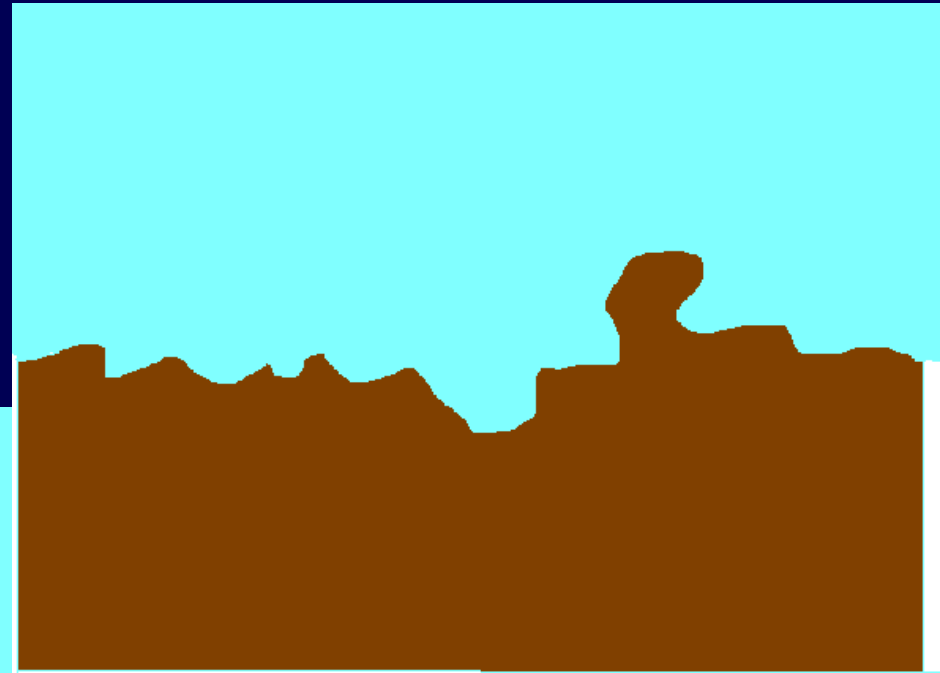
Area Calculations Sq. NM	
Total Area Enclosed in baseline	72,787.69
Land & bank	9,086.6504
Water	63,701.04
Water : Land Ratio	63,701.04 : 9,086.6504
Final Ratio	7.01 : 1

	Baseline
	Bank Areas
	Land Areas
	Neighbouring Countries



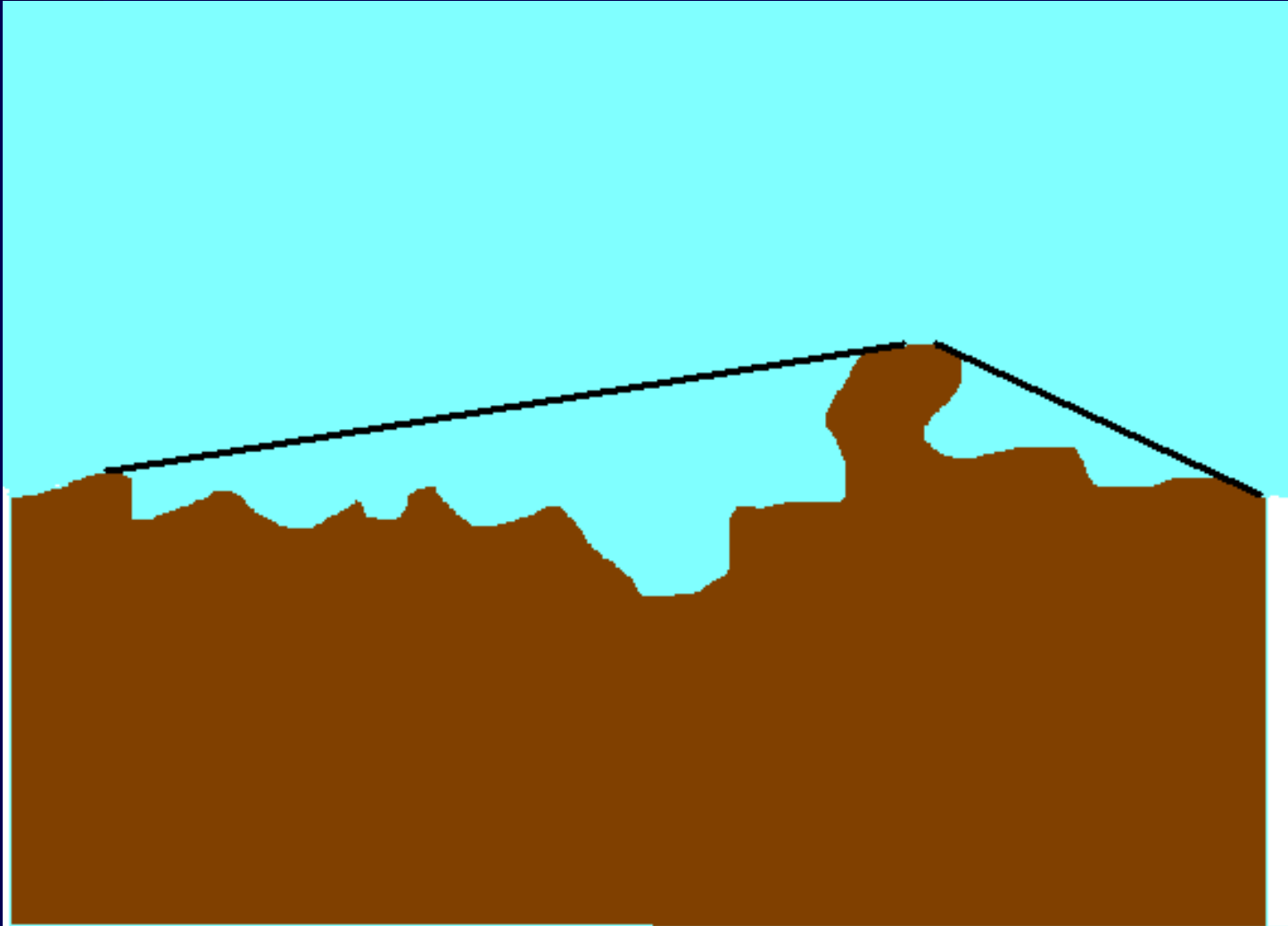


Baseline Problems 1



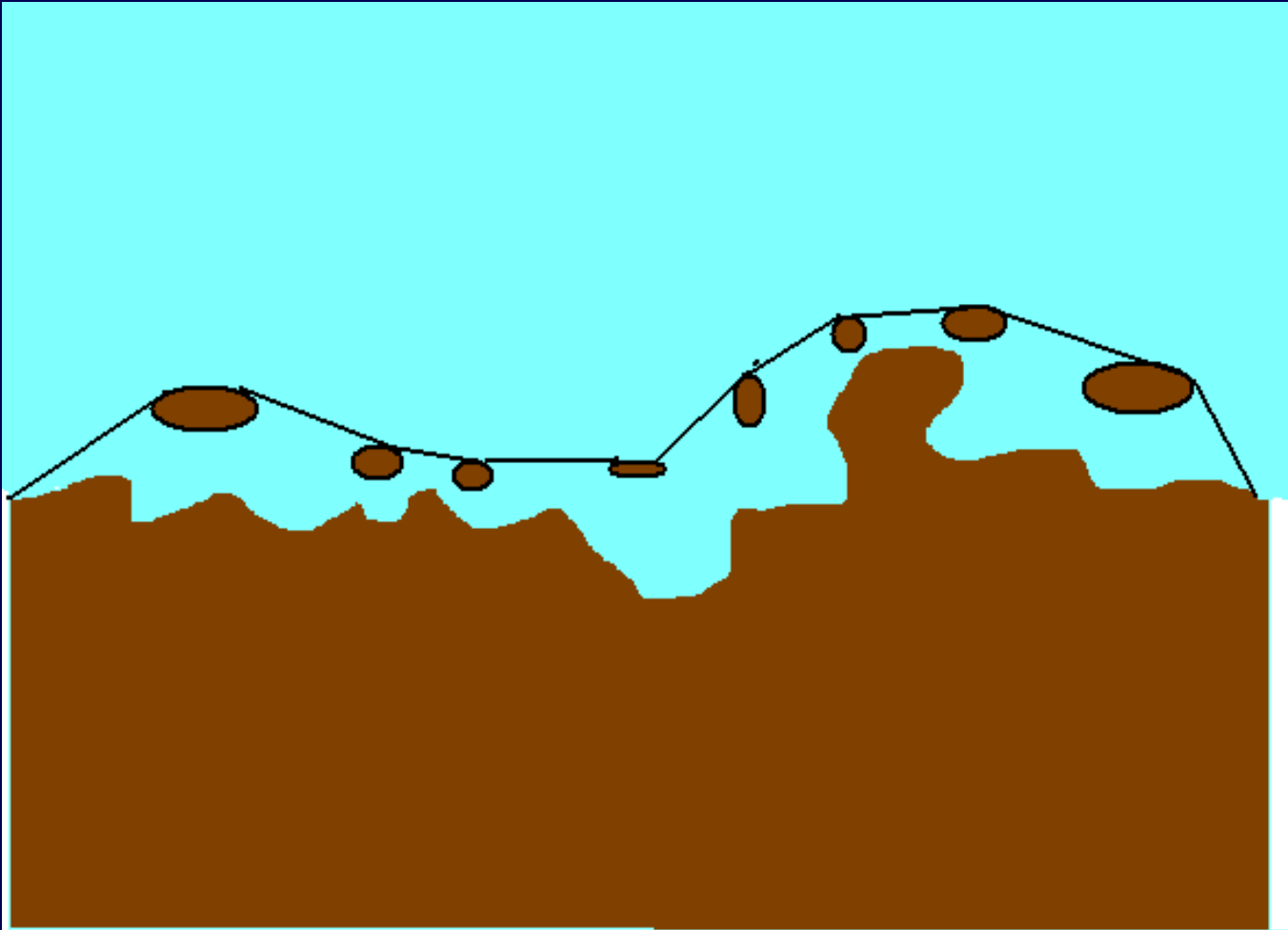


Baseline Problems 2



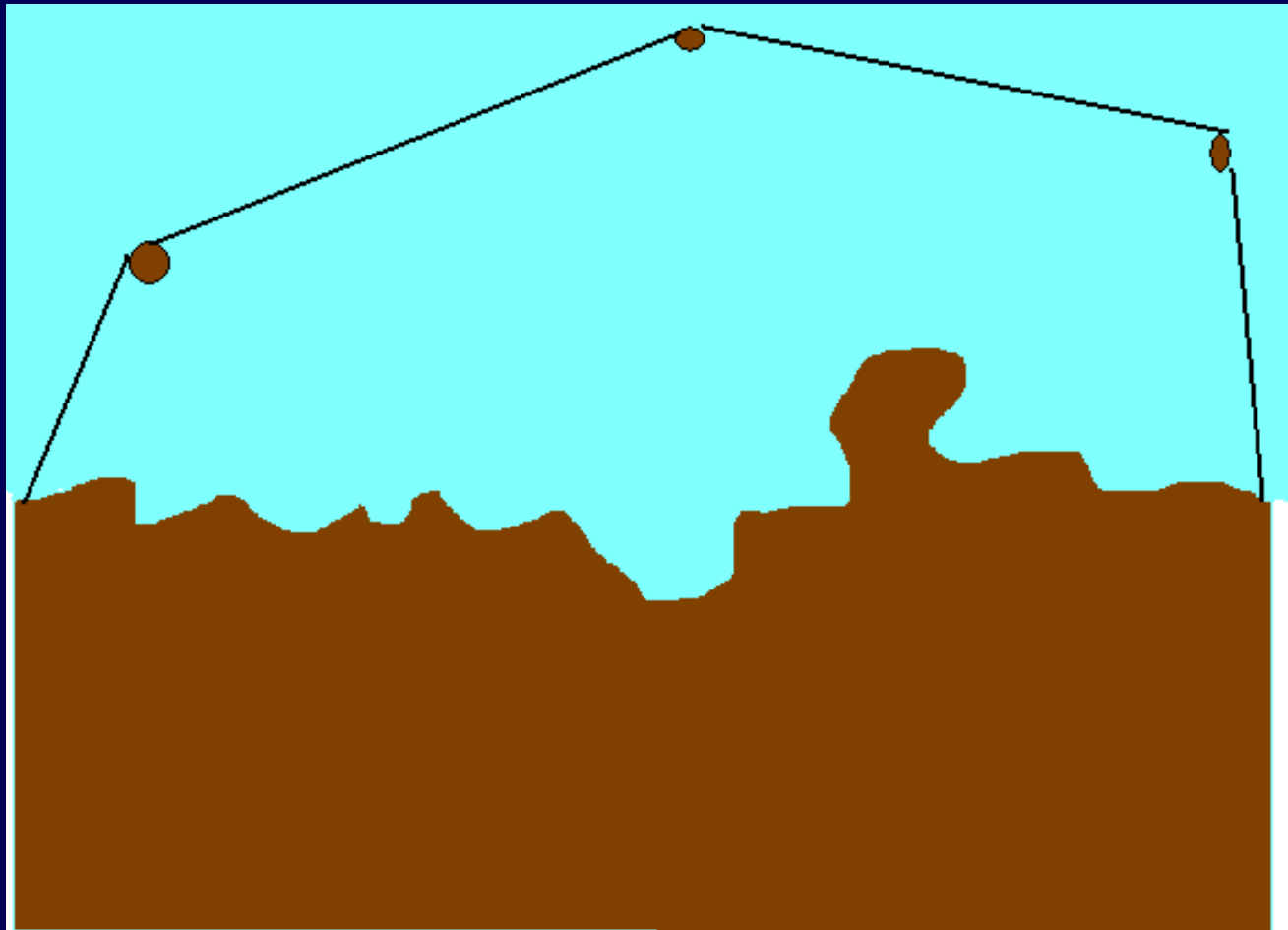


Baseline Problems 3



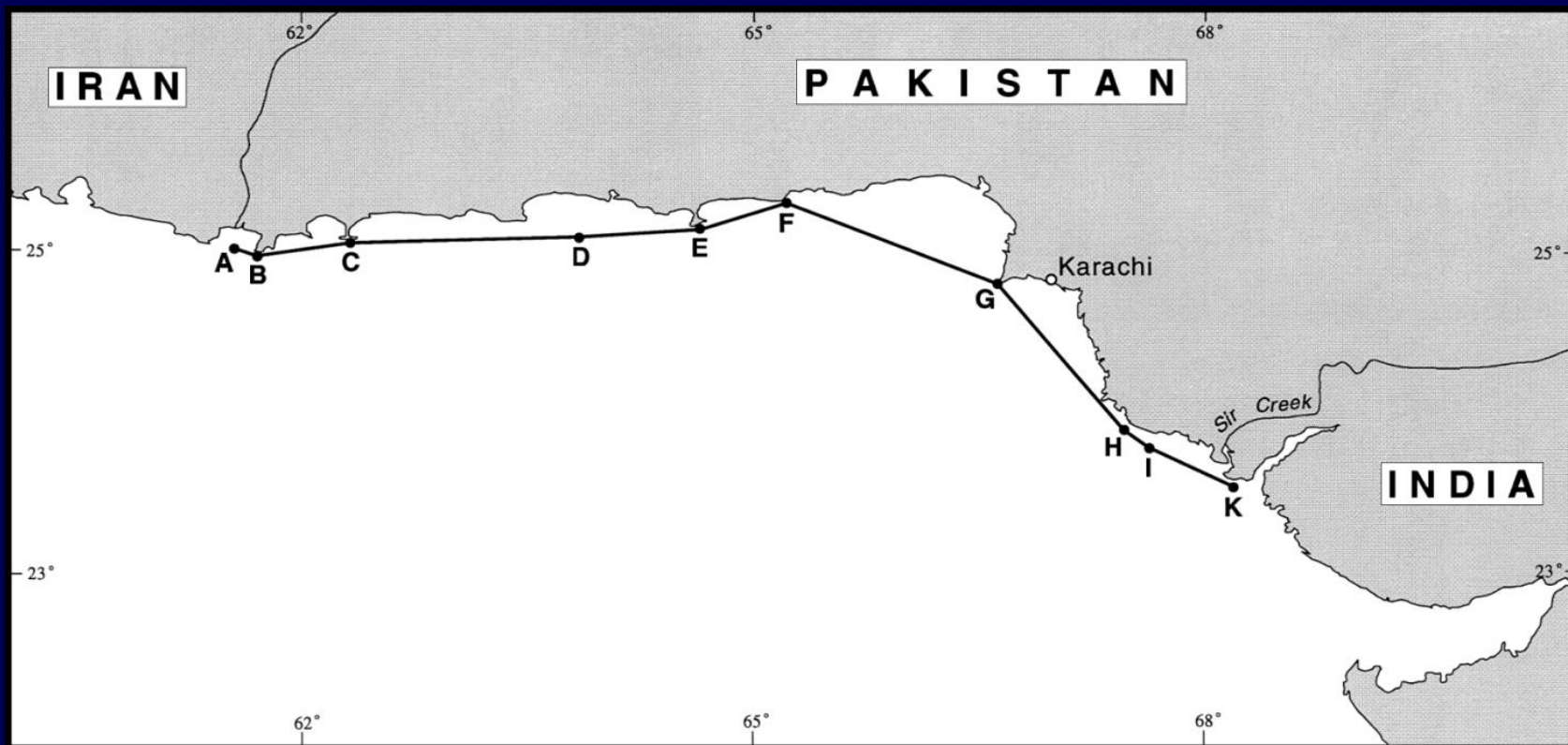


Baseline Problems 4





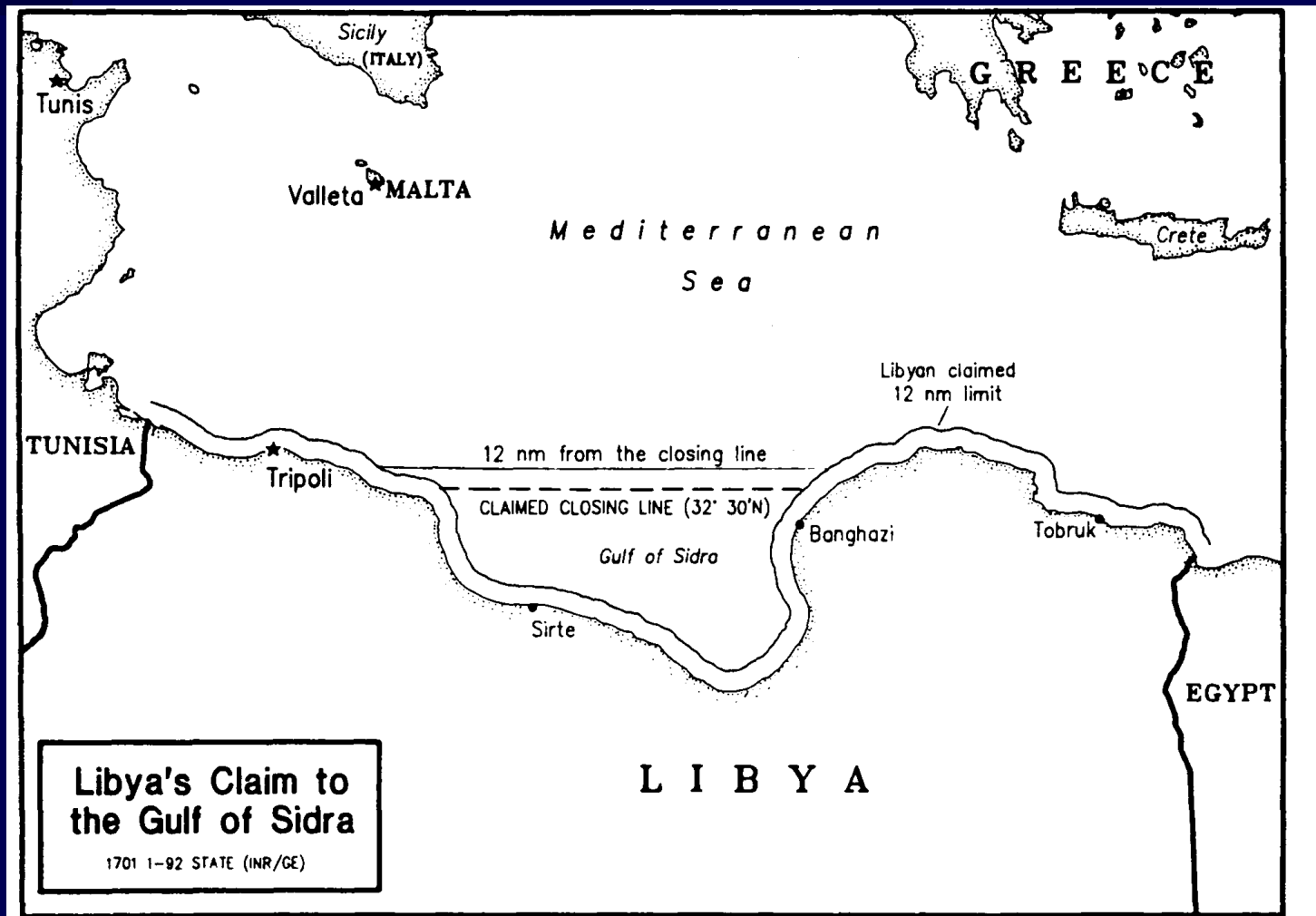
Pakistan Baseline



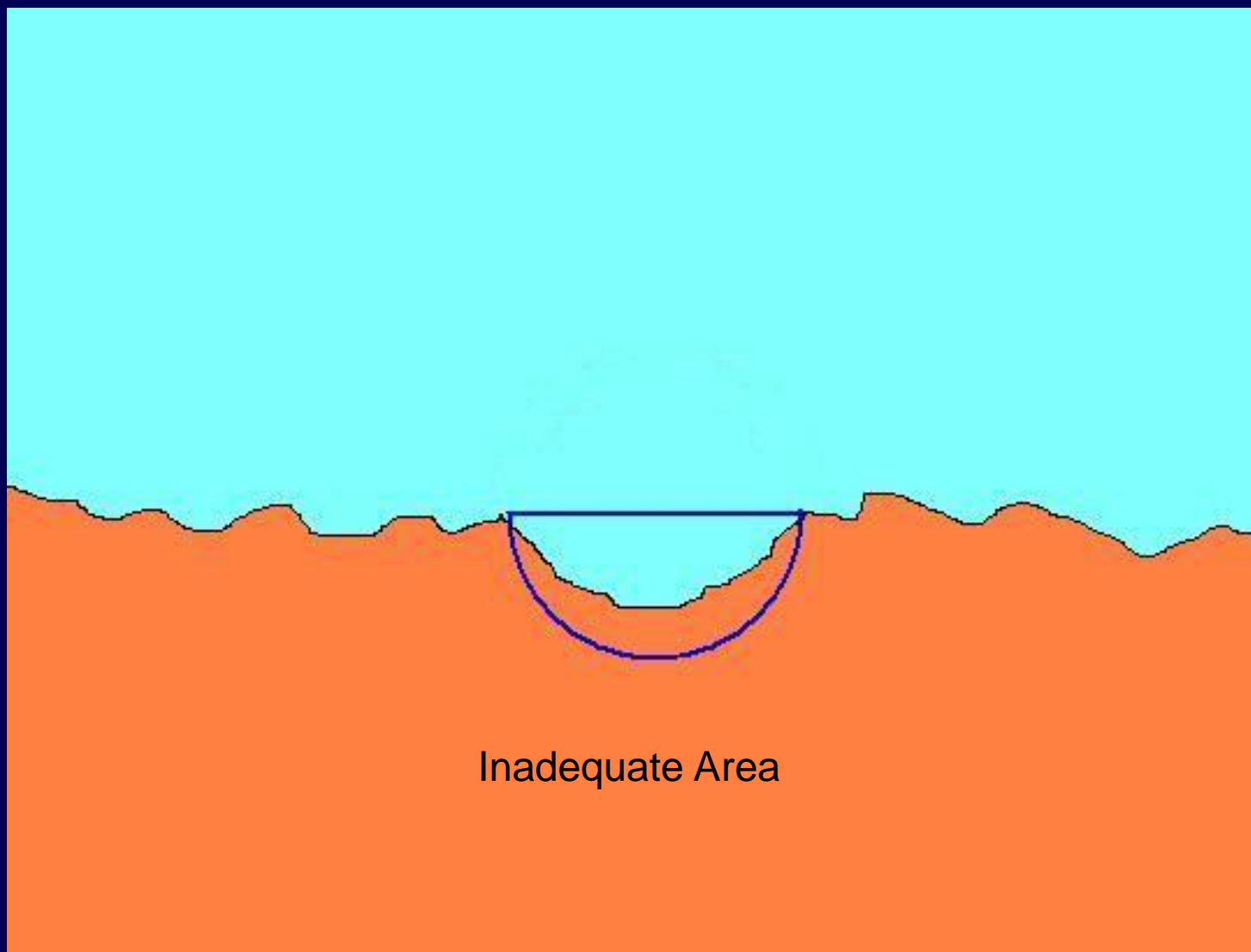


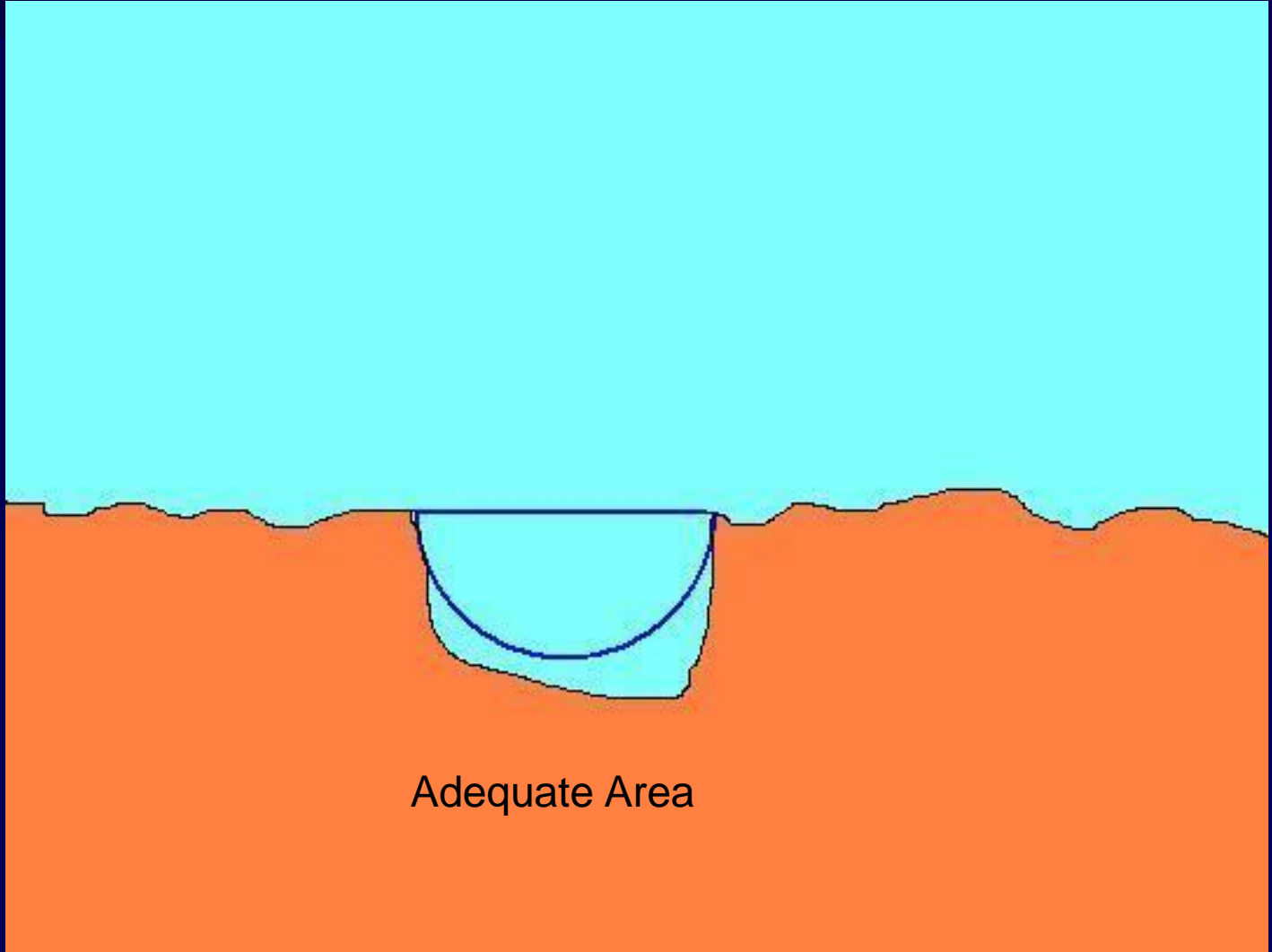
Particular Rules

- Bays – Article 10
 - “Well-marked” indentations in coast – not “mere curvature”
- Gulf of Sidra example
 - Non-Compliant *Unless* Accepted As “Historic” Bay



In any event: legal bay must have area equal to or greater than semi-circle drawn with mouth of bay as diameter (Art. 10(2))

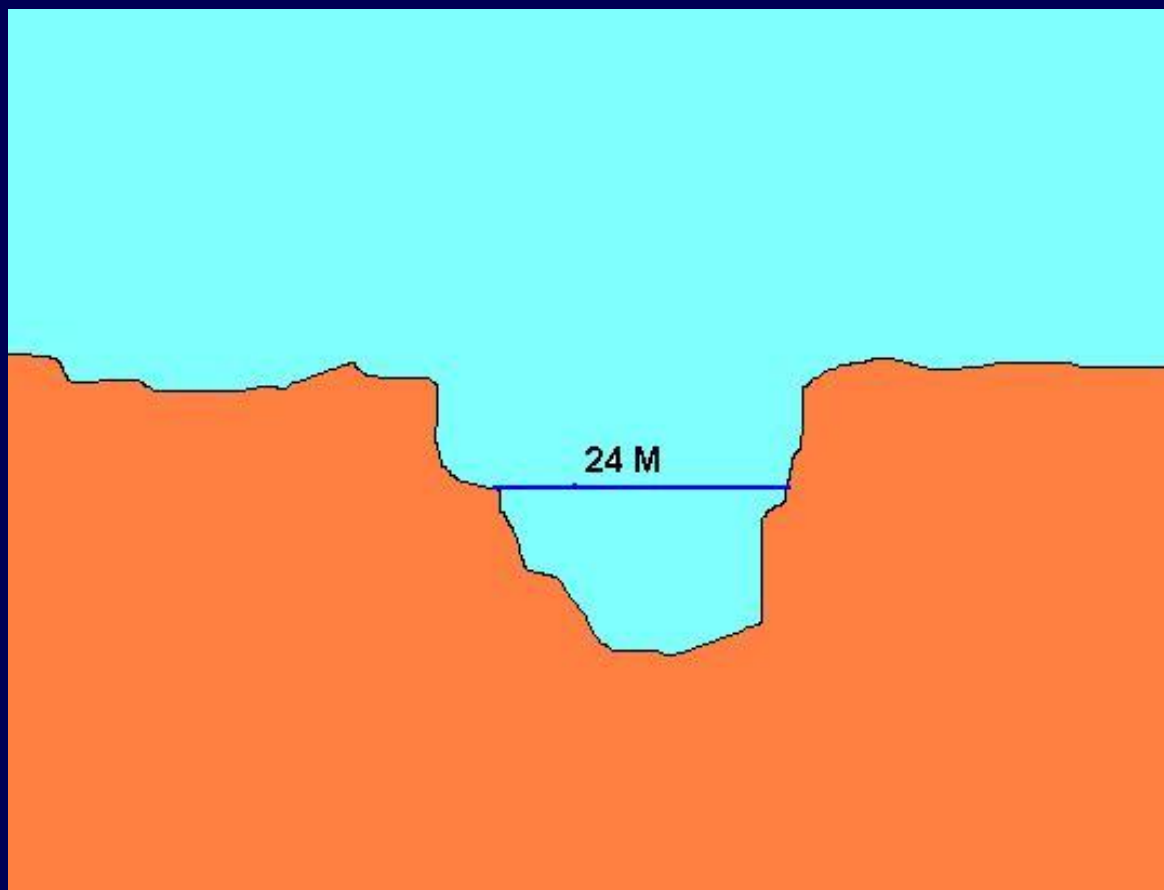






Bays cont'd

- Where mouth of bay is less than 24 M (minus any islands in mouth), draw closing line at first points where it meets this limit





Bays cont'd

- These restrictions do not apply to “so-called ‘historic’ bays” (Art. 10(6))
 - Rely on long practice, acceptance by international community
 - Eg – St. Peter the Great Bay, Hudson Bay
- Also – general rules on straight baselines may still permit bay closure

Maritime Boundary Delimitation: Treaty Law

1958 Geneva Convention on Continental Shelf: Article 6

- First: obligation to settle **by agreement**.
- If not:
 - “In the absence of agreement, and **unless another boundary line is justified by special circumstances**, the boundary is the median line, every point of which is equidistant from the nearest points of the baselines...”
- Shelf boundaries only

- So-called “Equidistance-Special Circumstances” Rule
 - **Seemed** to give primacy to equidistance (i.e. equidistance “unless justified by special circumstances”)
 - BUT Subsequent cases tended to discount this as rule of custom – or even treaty
 - Beginning with *North Sea Cases (1969)* and *Anglo-French Arbitration (1977)*

Territorial Sea

- 1958 Geneva Convention on Territorial Sea and Contiguous Zone

“Where the coasts of two States are opposite or adjacent to each other, **neither of the two States is entitled, failing agreement between them to the contrary, to extend its territorial sea beyond the median line every point of which is equidistant from the nearest points on the baselines** from which the breadth of the territorial seas of each of the two States is measured.”

- Does not apply where historic title or special circumstances requires otherwise

LOS 1982

EEZ Article 74

1. The delimitation of the exclusive economic zone between States with opposite or adjacent coasts shall be **effected by agreement on the basis of international law**, as referred to in Article 38 of the Statute of the International Court of Justice, **in order to achieve an equitable solution.**

Shelf – Article 83 – same wording

Territorial Sea – repeats 1958 – **median line dominates**

- Shelf & EEZ: Not much guidance – equity of **result** is key
- BUT: That is not all. To be effected on “basis of international law” – which includes *customary law*



Jurisprudence

- Widely litigated issue
 - Numerous tribunals: International Court of Justice and *ad hoc* tribunals
 - Note: important to remember that difficult cases tend to be litigated – otherwise negotiated: may skew the principles

Litigated Boundaries

North Sea Cases	Cont. Shelf	I.C.J.1969
Anglo -French	Cont. Shelf	Arbitration 1977
Tunisia-Libya	Cont. Shelf	I.C.J. 1982
Canada- US (<i>Gulf of Maine</i>)	“Single” Maritime Boundary (SMB) to 200 M	I.C.J. Chamber 1984
Guinea – Guinea Bissau	Cont. Shelf and TS	Arbitration 1985
El Salvador-Honduras (Nicaragua Intervening)	Land Boundary, Islands, “Status of Waters”	I.C.J. 1992
Libya-Malta	Cont. Shelf.	I.C.J. 1986
Canada-France (<i>St. Pierre and Miguelon</i>)	“Single” Maritime Boundary – to 200 M	Arbitration 1992

Denmark-Norway (<i>Jan Mayen</i>)	SMB	I.C.J. 1993
Qatar-Bahrain	SMB – in sectors Sovereignty	I.C.J. 2001
Cameroon-Nigeria	Land and SMB	I.C.J. 2002
Eritrea-Yemen	Islands and SMB	Arbitration 1998, 1999
Barbados-Trinidad & Tobago	SMB	LOS Annex VII Arbitration 2006
Guyana-Suriname	SMB	LOS Annex VII 2006
Nicaragua – Colombia	Territory & SMB	I.C.J. 2007
Romania v Ukraine	SMB	I.C.J. 2009

Bangladesh v Myanmar	SMB (outer shelf)	ITLOS 2012
Nicaragua v Honduras	SMB (outer shelf?)	I.C.J. 2012
Bay of Bengal (India/Bangladesh)	SMB	Annex VII 2014
Croatia/Slovenia	SMB and land	Arbitration 2017, (Withdrawal & protests of Croatia)
Ghana/Cote D'Ivoire	SMB, Preliminary Measures	Annex VII to ITLOS Chamber , 2017
Costa Rica/Nicaragua	SMB plus land boundary	I.C.J. 2018
Delimitation in Indian Ocean, Kenya/Somalia	SMB	I.C.J. Pending
Nicaragua/Colombia	Cont. Shelf beyond 200	I.C.J. Pending

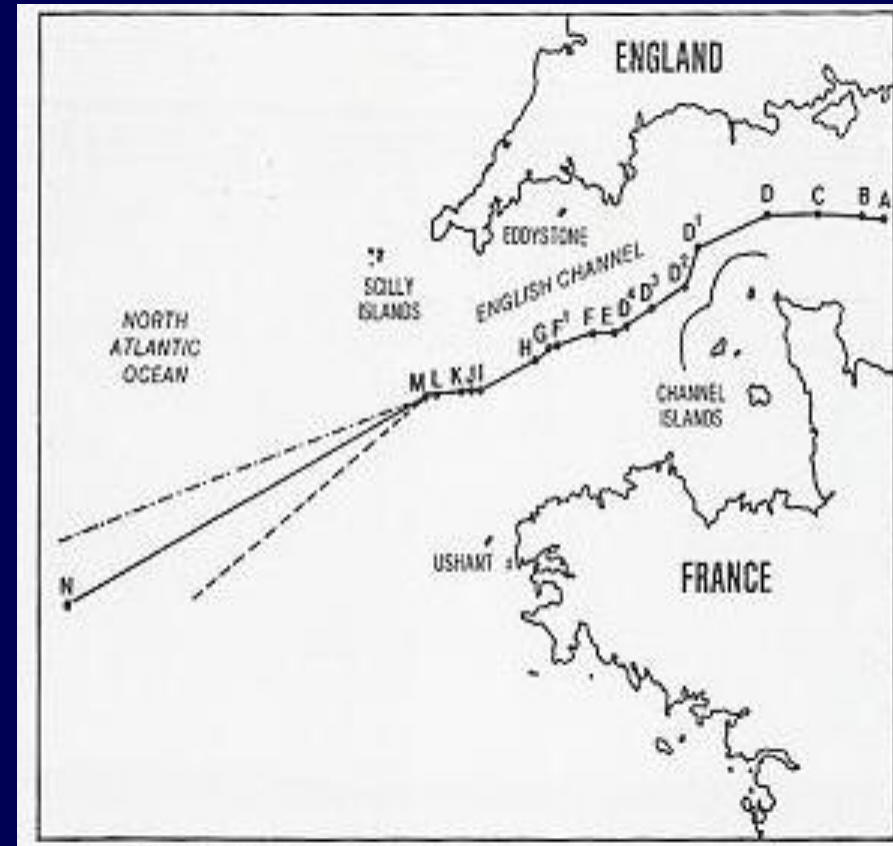


- **North Seas Cases (1969)**
- Fundamental approach: delimit **in accordance with equitable principles and taking account of relevant circumstances** to leave each party as much of **natural prolongation** as possible (was shelf boundary)
- 1958 Convention not applied





- **Anglo-French Arbitration 1978**
 - Merger of equidistance-special circles and equitable principles/relevant circles.
 - 1958 applicable
 - **Equity of result dominates (formally)**



Gulf of Maine: 1984

- First litigated “**Single**” boundary (seabed, water – but only to 200)
- Stressed process:
 - **Define relevant area** and coasts
 - Determine **equitable principles** (eg. no “cut-off, zone blocking, proportionality)
 - Set **equitable criteria** (eg. equal division of maritime area)
 - Choose **practical method**
 - Check equity of result

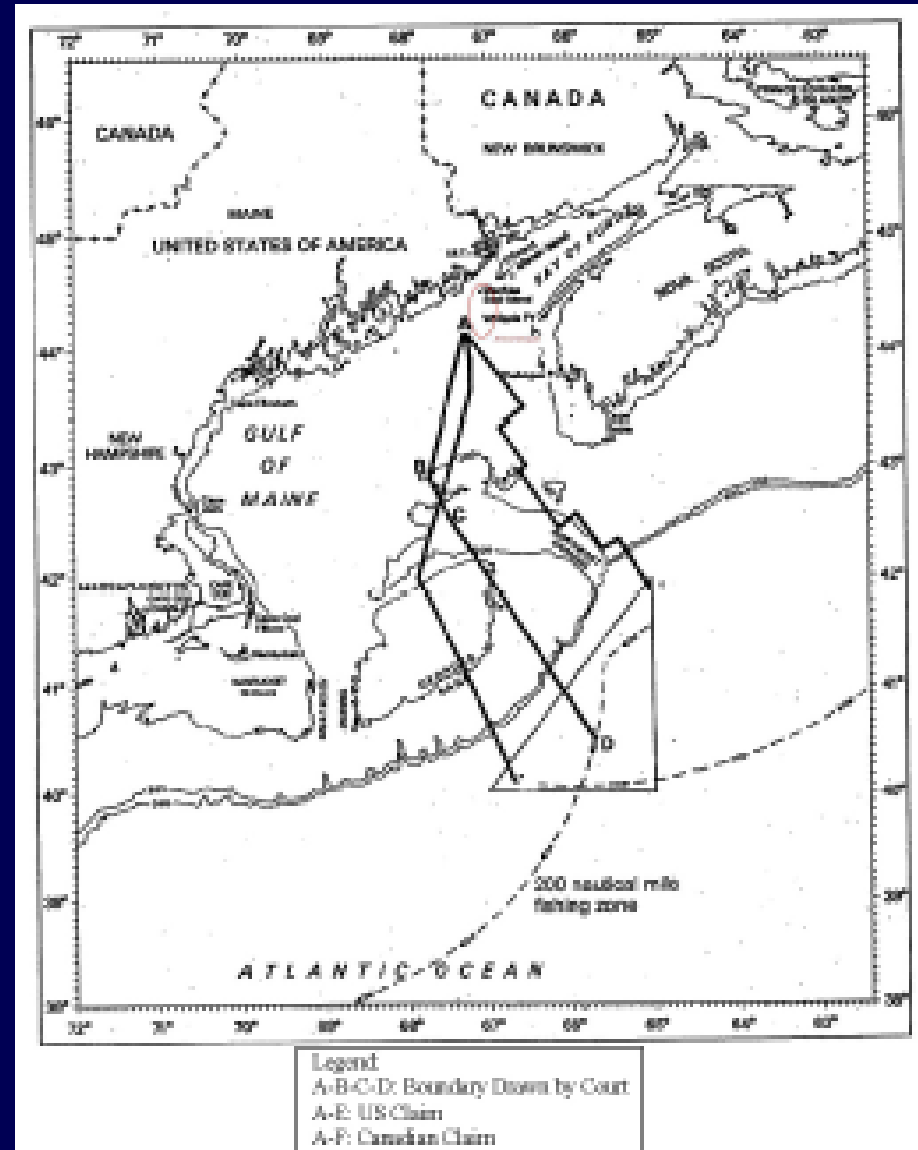
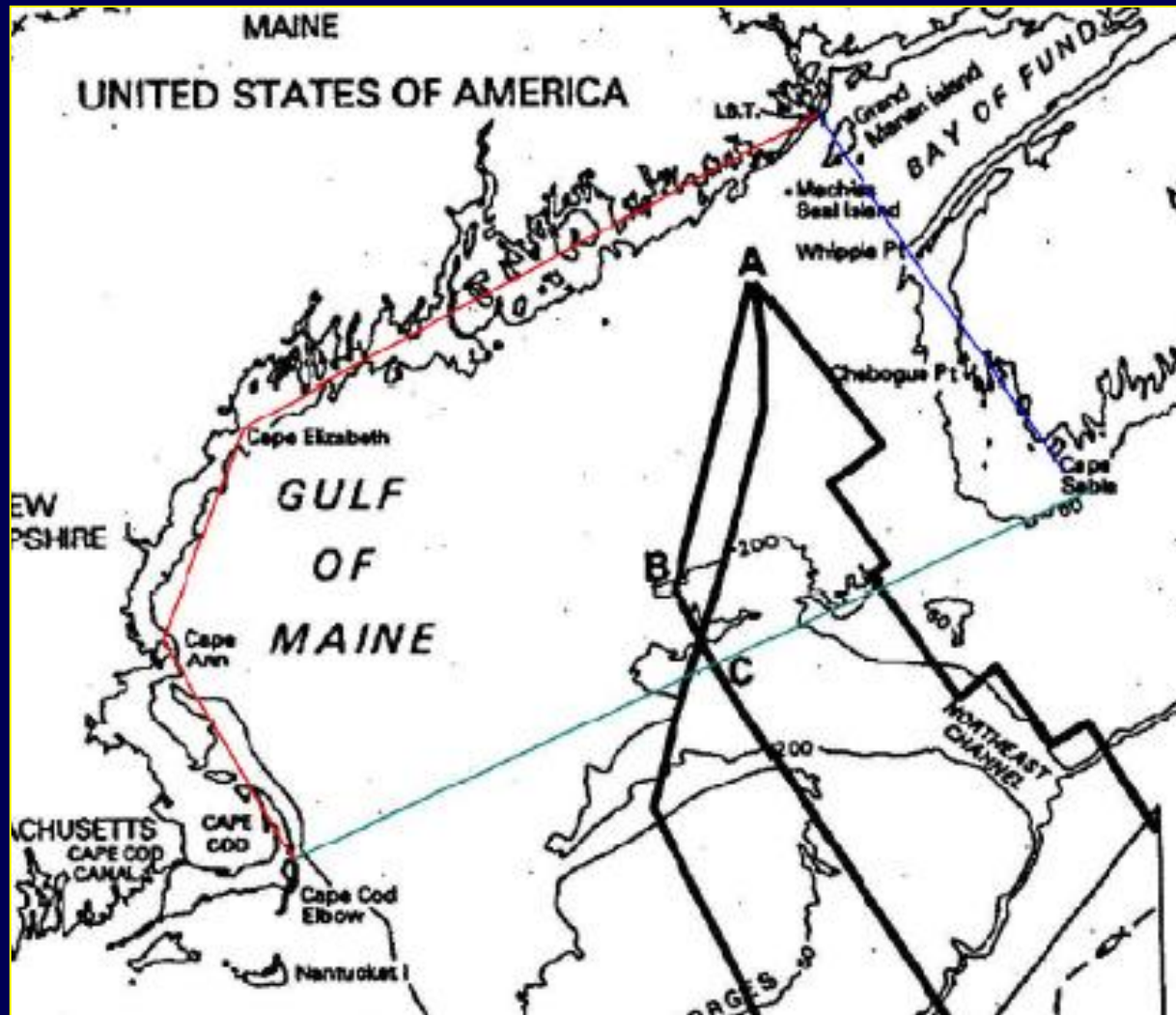
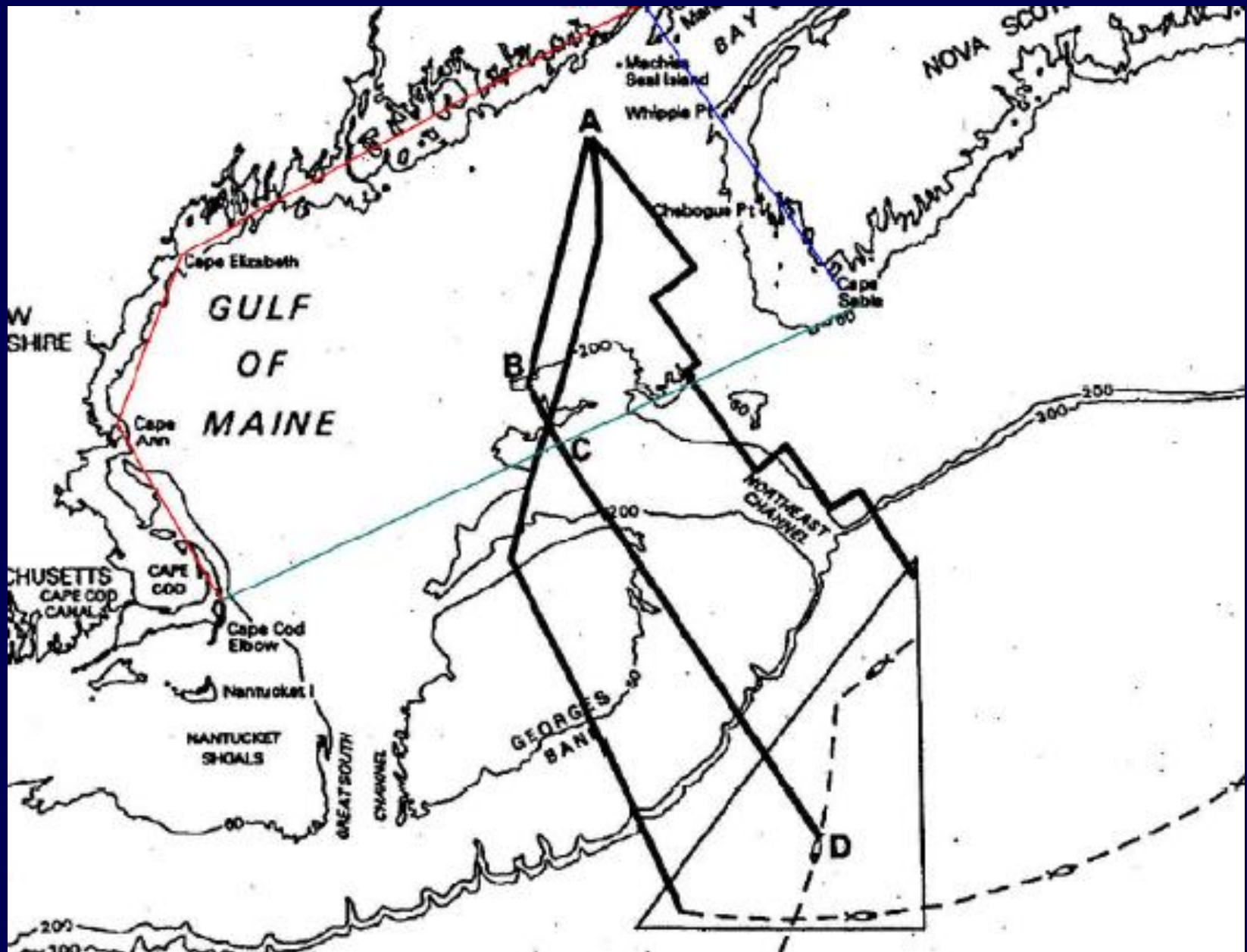


Figure 2. Gulf of Maine Boundary: Chamber of the ICJ (1984)

Relevance: Geographical Relationship





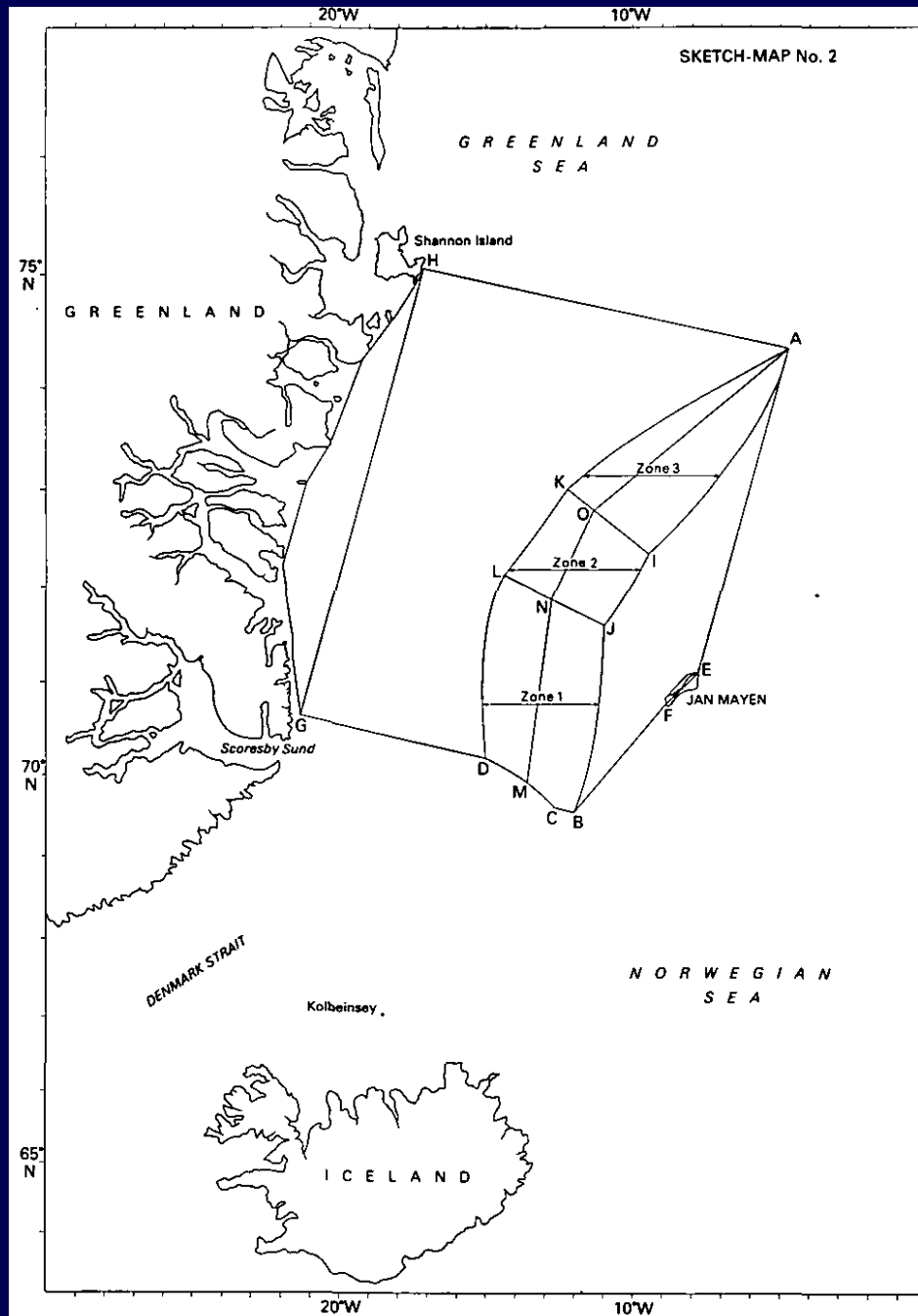
Outside Gulf – No real coastal relationship

Summary of Impact Up to 1990s

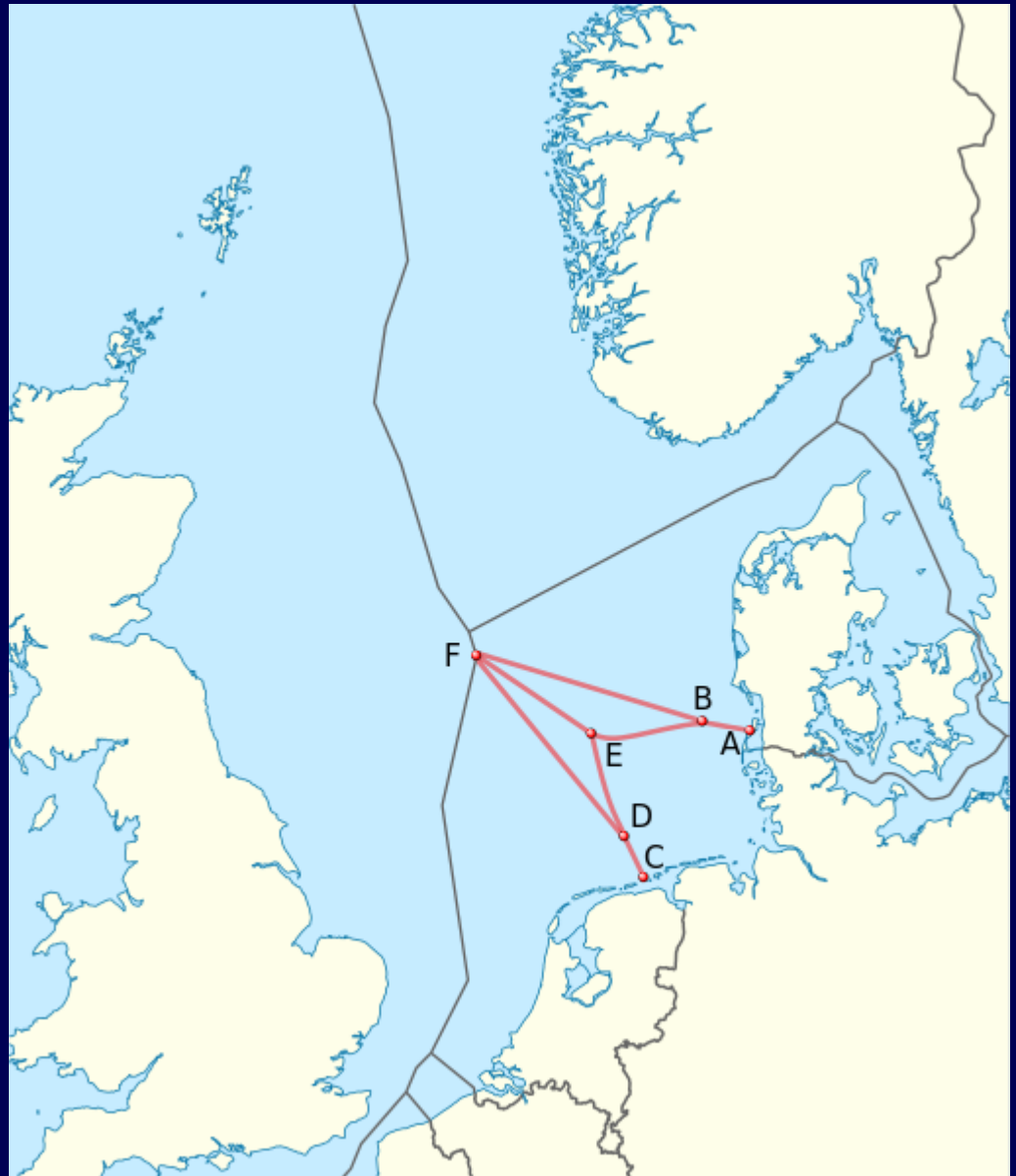
Definition of equitable principles (determined with “relevant circumstances”):

- Highly dependent upon **geography (subjective)**
 - **Proportionality** of coasts to maritime area (but – sometimes principle, sometimes “check”. Not necessarily mathematical exercise)
 - “Cut-Off”
 - **Zone blocking** – eg.
 - Relationship of coasts to each other is central circumstance – especially where **other boundaries**
- Mostly rejected factors such as land-mass, fisheries, population, economic impact etc.

Jan Mayen Case – Proportionality of Coastlines to maritime Area



North Sea – Classic
Case of Zone Blocking

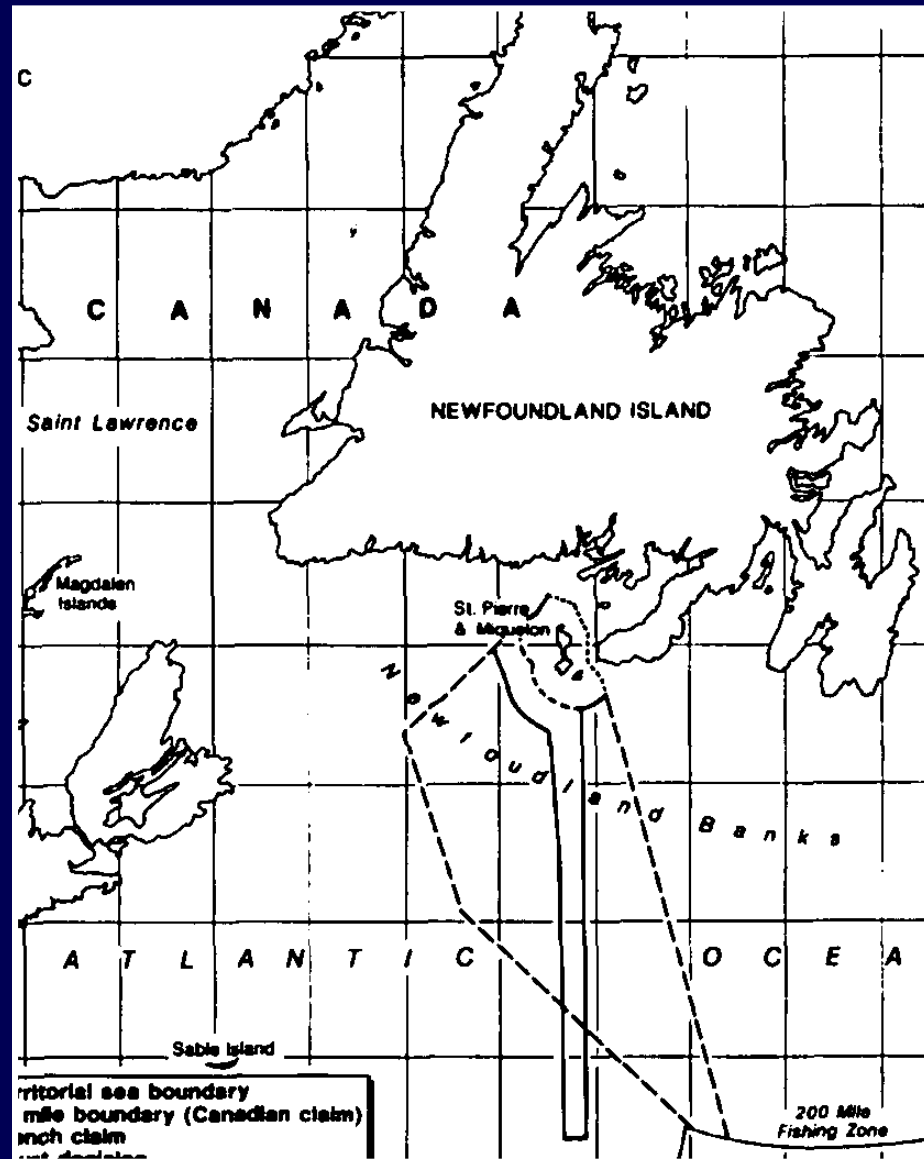


- List of relevant circumstances, equitable **criteria not closed** – cases are unique
- **Corollary** to this approach:
 - No one “**practical method**” of delimitation given any priority
 - Main contender for this status was equidistance or median line
 - BUT other methods commonly applied:
 - Perpendiculars to direction of coast
 - Azimuth or directional lines



- Problems with “pure” equitable approach
 - Highly **subjective** in treatment of geography and “relevant” coastlines and maritime areas
 - Can be extremely **unpredictable**
 - In state practice - forms of equidistance much more common than in litigation
 - Litigation **has the “hard” cases** where diplomacy failed?

Canada – France – 1992: High point of Unpredictability



More Recent Cases

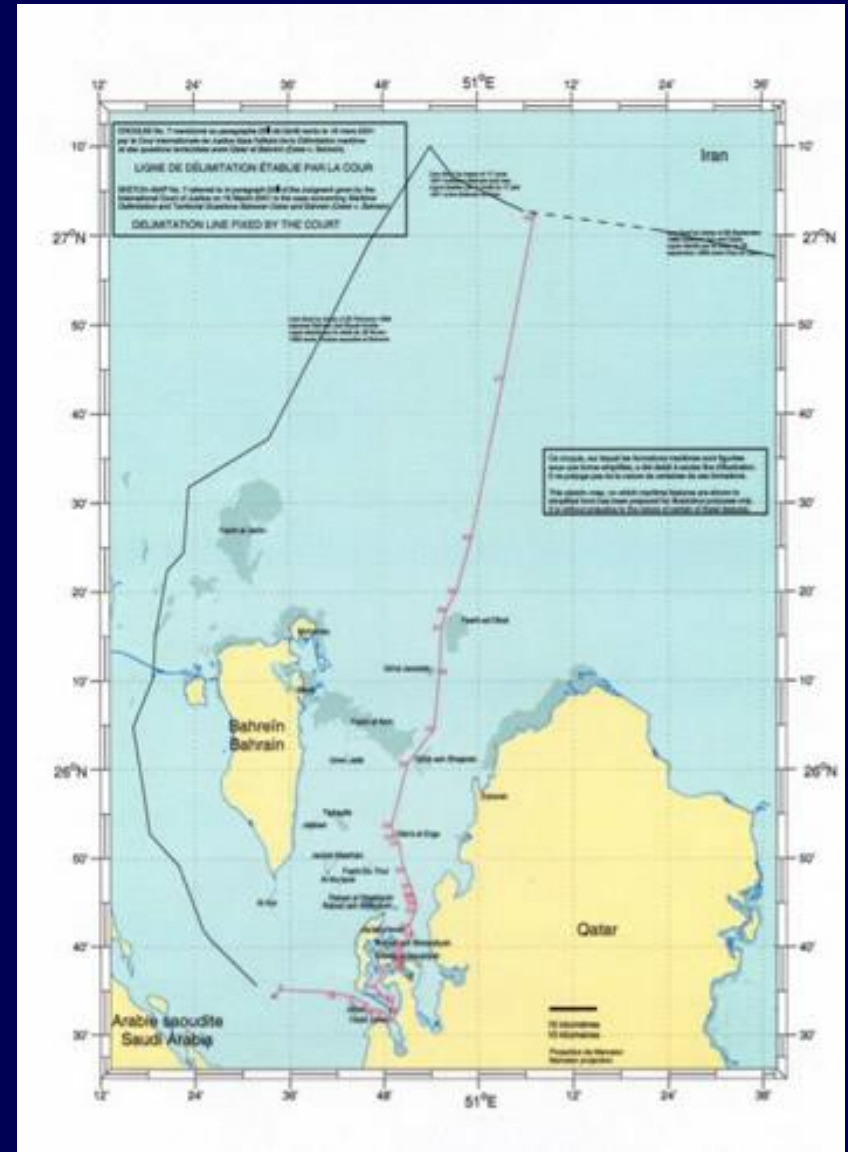
Eg. Jan Mayen, Qatar/Bahrain, Cameroon/Nigeria, Barbados/Trinidad and Tobago, Romania v Ukraine etc

- Increasing relevance of equidistance as **starting point**
 - Always true of “opposite” boundaries
- i.e. **presumption for equidistance** – in absence of special or relevant circumstances that would justify adjustment
- **HIGHLY** relevant in negotiation preparations

Qatar/Bahrain – ICJ (2001)



“The most logical and widely practised approach is first to draw **provisionally** an equidistance line and then to consider whether that line must be **adjusted in the light of the existence of special circumstances.**”





Application to EEZ?

Qatar/Bahrain was territorial sea for large part
– rules there favour equidistance anyway

- *BUT* – went on to say it was more broadly applicable approach
- Uses term “relevant circumstances” in relation to EEZ



Barbados – Trinidad and Tobago 2006

“The determination of the line of delimitation thus normally follows a **two-step approach**. First, a **provisional line of equidistance is posited as a hypothesis and a practical starting point**. While a convenient starting point, **equidistance alone will in many circumstances not ensure an equitable result** in the light of the specific peculiarities of each specific case.”

Similar approach in *Cameroon - Nigeria*



Summary

- Equitable principles **not** put aside
- BUT – in most cases – **starting point** will be equidistance or median line
- More predictable, as an initial consideration
- **Burden of proof** issues – Practically, need to find some way to justify moving away from equidistance

What is Unchanged

- Primary obligation of states is to delimit by agreement (arts. 74, 83, 15 of UNCLOS) on the basis of international law in order to achieve an equitable solution.

“No maritime delimitation between States with opposite or adjacent coasts may be effected unilaterally by one of those States.”

ICJ, *Gulf of Maine Case* [Canada/United States] (1984)
(para.112)

Current Delimitation Process

It is now accepted that the correct approach to maritime delimitation involves a **3 stage process** (see, eg.: *Cameroon v Nigeria* [ICJ 2002]; *Barbados v Trinidad & Tobago* 2006; *Romania v Ukraine (Black Sea Case)* [ICJ 2009]; *Bangladesh v Myanmar*, [ITLOS 2012], *Nicaragua v Colombia* [ICJ 2012])

1. Drawing of **provisional equidistance line**
2. Identification of **relevant (special) circumstances** which **may** require shifting or adjustment of provisional line to produce equitable result
3. **Assessment of line** to ensure no inequitable result by **disproportion** between ratio of coastal lengths and relevant maritime areas.

This process **provides guidance for delimitation negotiations**

The Use of Proportionality

Disproportion in ratio of coastal lengths and maritime area is *not* a method of delimitation

“If such use of proportionality were right, it is difficult to see what room would be left for any other consideration ... the use of proportionality as a method in its own right is wanting of support in the practice of States, in the public expression of their views or in the jurisprudence.” *Libya v. Malta* [ICJ 1993], (para. 45)

Proportionality serves to “*check the line of delimitation that might have been arrived at in consideration of other factors, so as to ensure that the end result is equitable...*” [*Barbados/Trinidad Award*, para. 240]

Proportionality at Stage 1 of Process

- Proportionality has no role to play in the drawing of the provisional equidistance line

*“The Court observes that the respective length of coasts **can play no role in identifying the equidistance line** which has been provisionally established. ... There is no principle of proportionality as such which bears on the initial establishment of the provisional equidistance line.” (Black Sea Case, para 163)*

- Only if “**compelling reasons**” make the provisional equidistance line “unfeasible” or inappropriate should another method be applied (*Nicaragua v Colombia*)

Proportionality at Stage 2 of the Process

- Proportionality may be a “relevant circumstance” at stage 2 of the process, but *only* where there is very “substantial” difference in the respective coastlines (*Cameroon v Nigeria*, para. 301, *Nicaragua v Colombia*)
- In the *Black Sea* case (para. 164), the ICJ held:

“Where disparities in the lengths of coasts are *particularly marked*, the Court may choose to treat that fact of geography as a relevant circumstance that would require some adjustments to the provisional equidistance line to be made.”

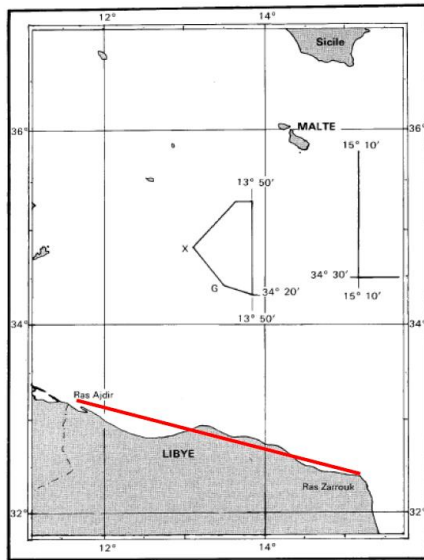
Relevant Circumstances: Disproportion

- Proportionality can only be considered as a “relevant circumstance” where the disproportion is **extreme**:

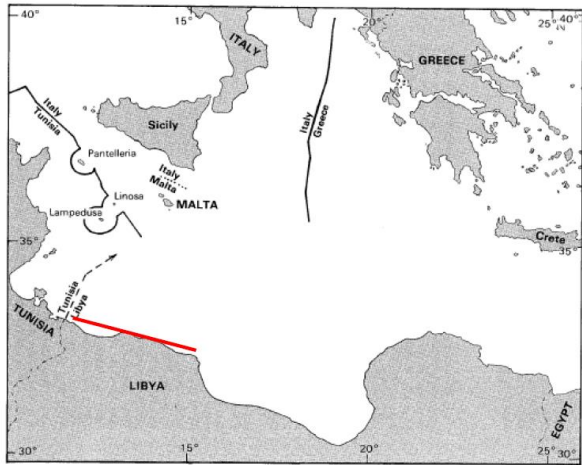
*“Where disparities in the lengths of coasts are **particularly marked**, the Court may choose to treat that fact of geography as a relevant circumstance that would require some adjustments to the provisional equidistance line to be made.” Black Sea Case, para 164*

- Applied only in cases of very significant coastal disparities :
 - *Libya/Malta*: 1 : 8
 - *Jan Mayen*: 1 : 9
 - *Barbados/Trinidad*: 1 : 8.2

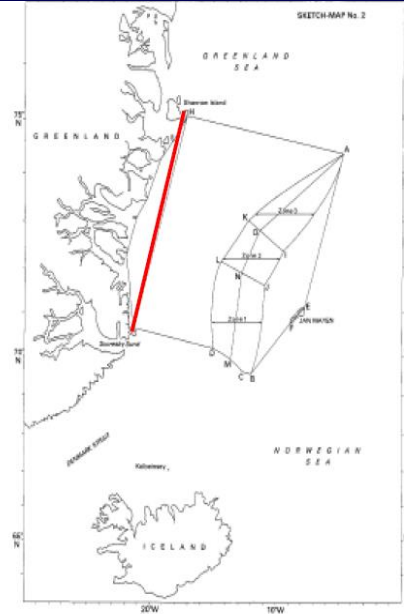
A. Relevant Coast of Libya – Per ICJ



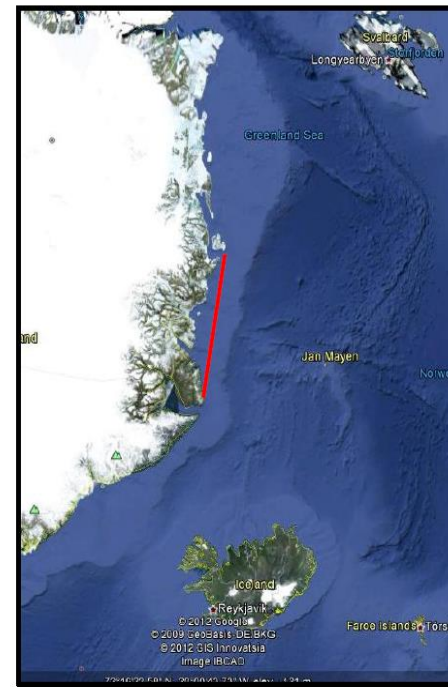
B. Relevant Coast in Regional Context



Libya/Malta
356 km



46



Jan Mayen:
504 km

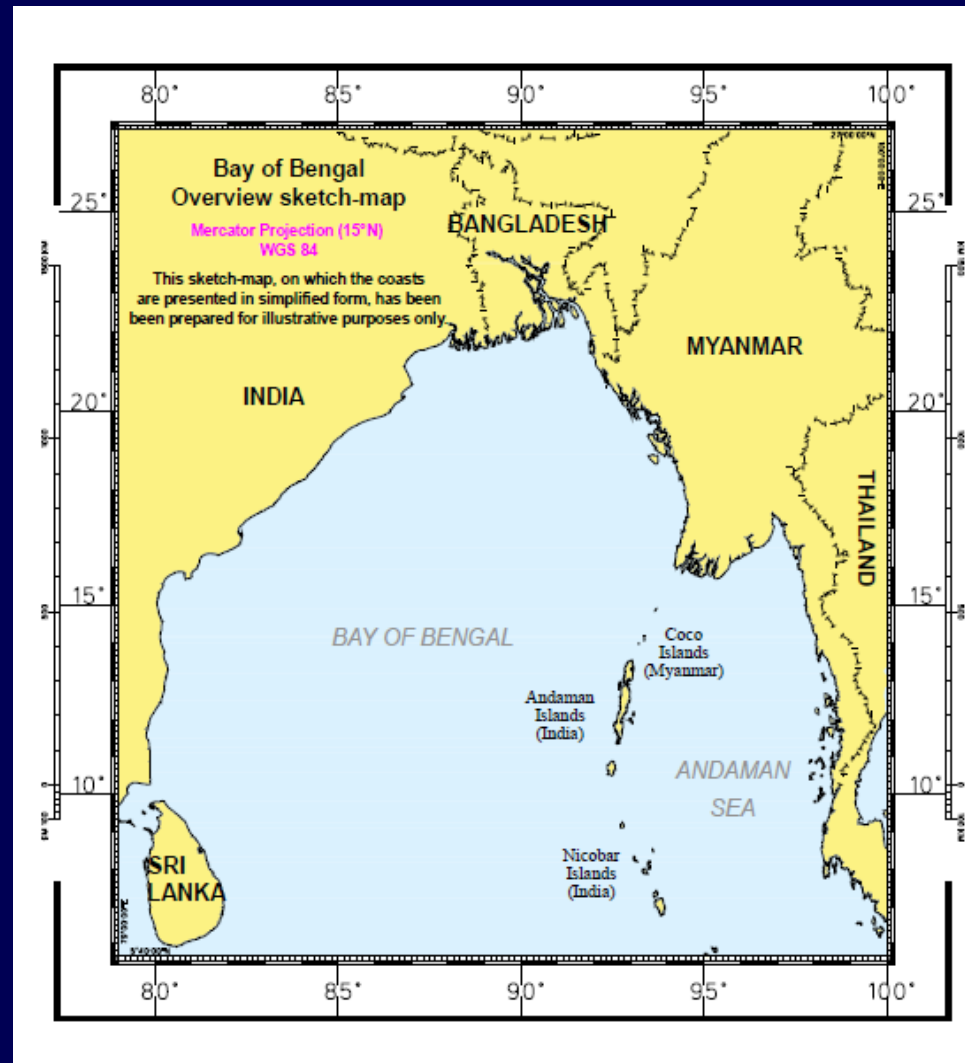
Proportionality at Stage 3 of the Process

- Proportionality is properly applied as a **test of the equity** of the result at stage 3 of the process
- As held by ITLOS in *Bangladesh v Myanmar* (para. 240) the test seeks “significant **disproportion**” before adjustment is required:

*“At the third and final stage in this process the Tribunal will check whether the line, as adjusted, results in any **significant disproportion** between the ratio of the respective coastal lengths and the ratio of the relevant maritime areas allocated to each Party”*

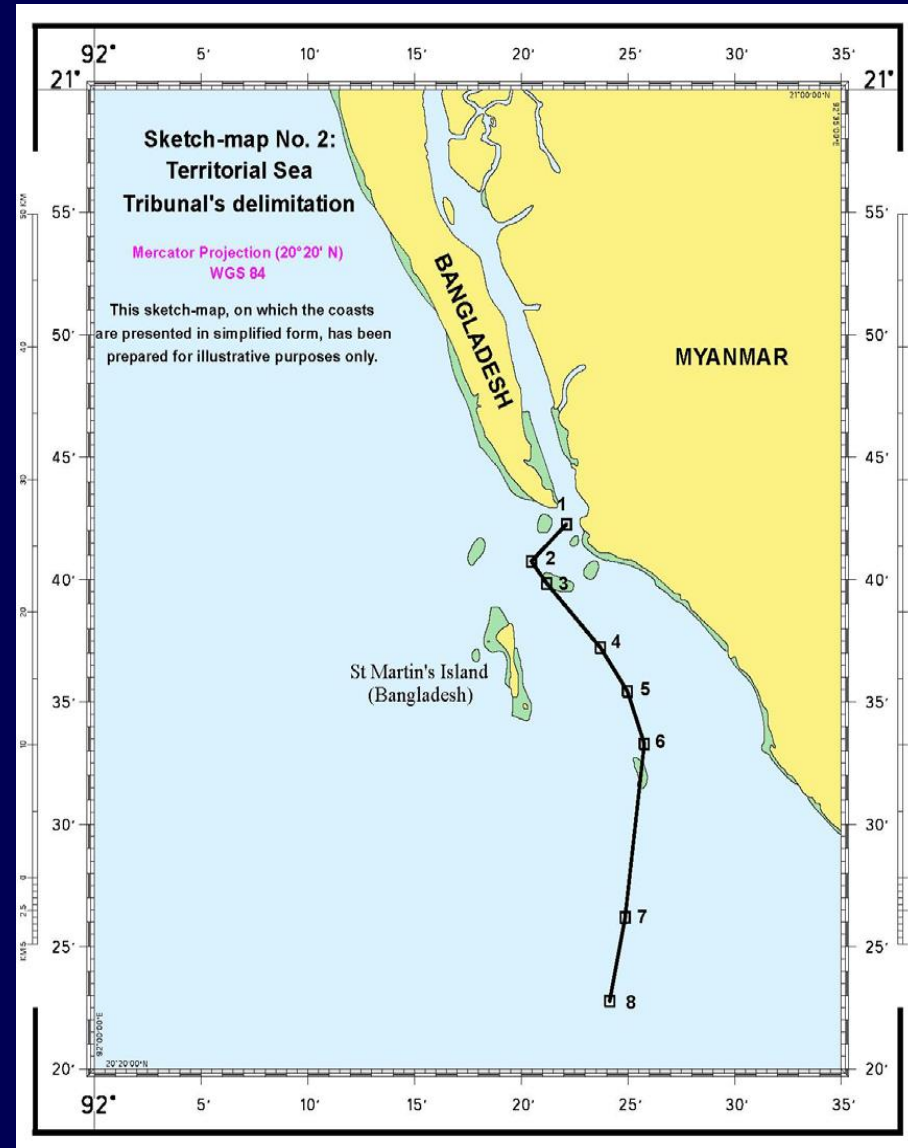
Application of Approach in *Bangladesh v Myanmar* ITLOS 2012

- Single Maritime Boundary
- Including outer shelf
- First ITLOS boundary decision
- Impact on India



Territorial Sea

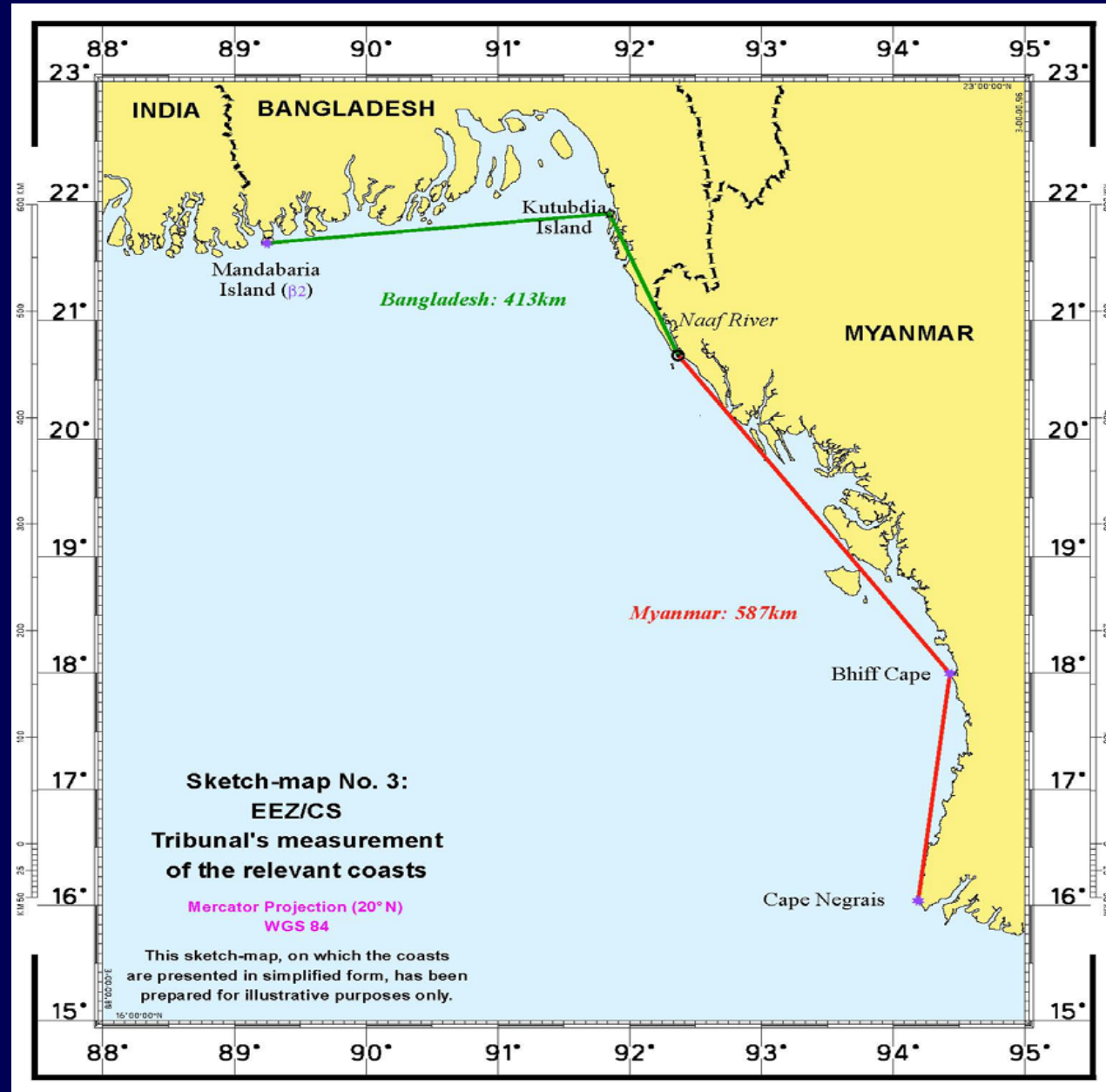
- Prior agreement and estoppel rejected
- UNCLOS Art 15 applied
- St. Martin's **not** special circumstance (as claimed by Myanmar)
- Equidistance line out to end of 12 nm overlap



Exclusive Economic Zone/Shelf to 200

- Applicable law: Arts. 74 & 83
 - “achieve an equitable solution”
 - But take into account customary law developments (i.e. equidistance/relevant circles)
- Definition of relevant coasts: essentially full coastal front of Bangladesh, Myanmar south to Cape Negrais

Myanmar: 587 km
Bangaldaesh: 413 km



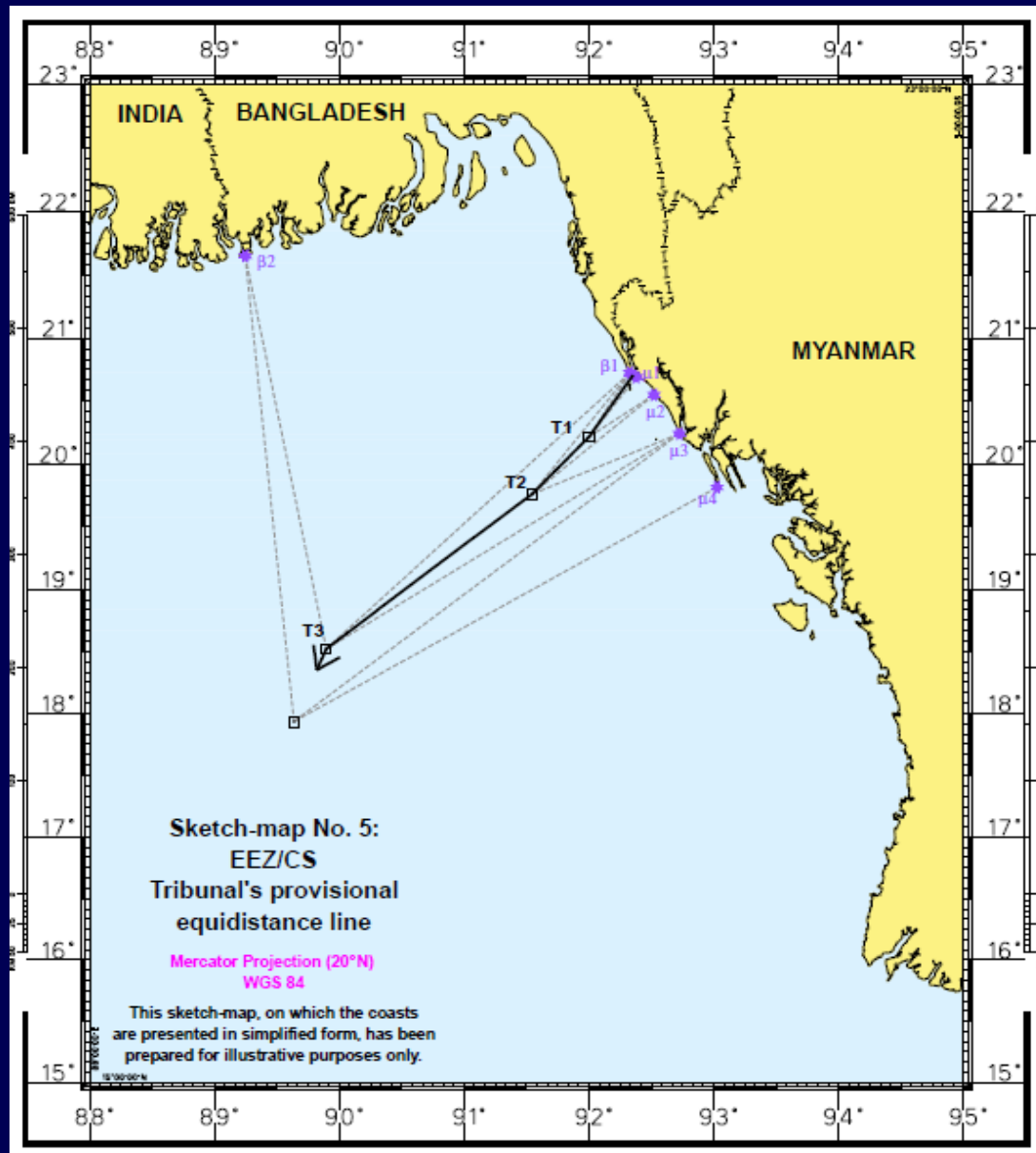
Approach to delimitation

- Adopted equidistance/relevant circles
- Following *Romania v Ukraine*, *Barbados v Trinidad & Tobago* etc
- Provisional equidist. line, adjust for relevant circles.

Anomalies

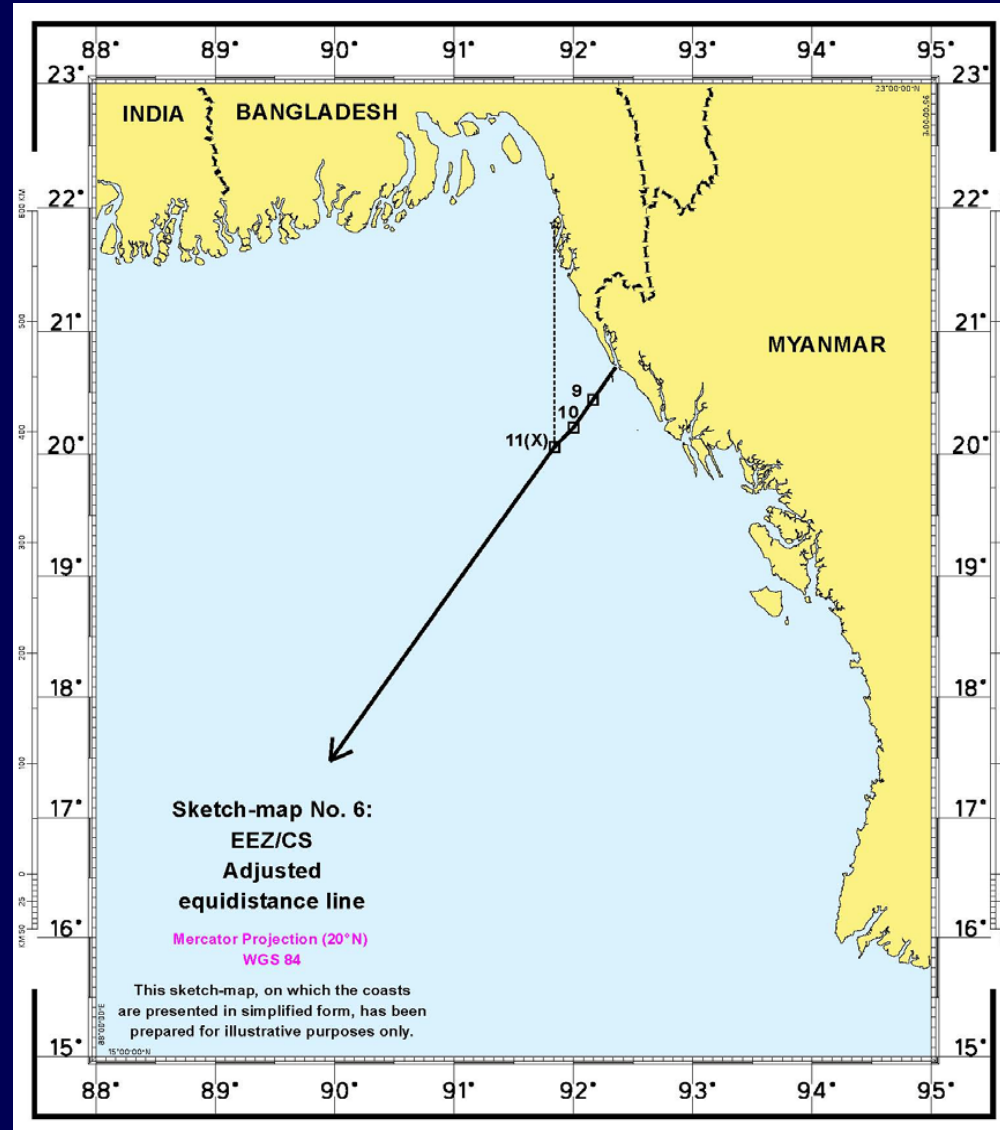
- Delimitation “method” vs ‘methodology’ or process?
- Removal of St Martin’s basepoints *before* drawing provisional line?

Provisional Equidistance Line



Relevant Circs. And Adjustment

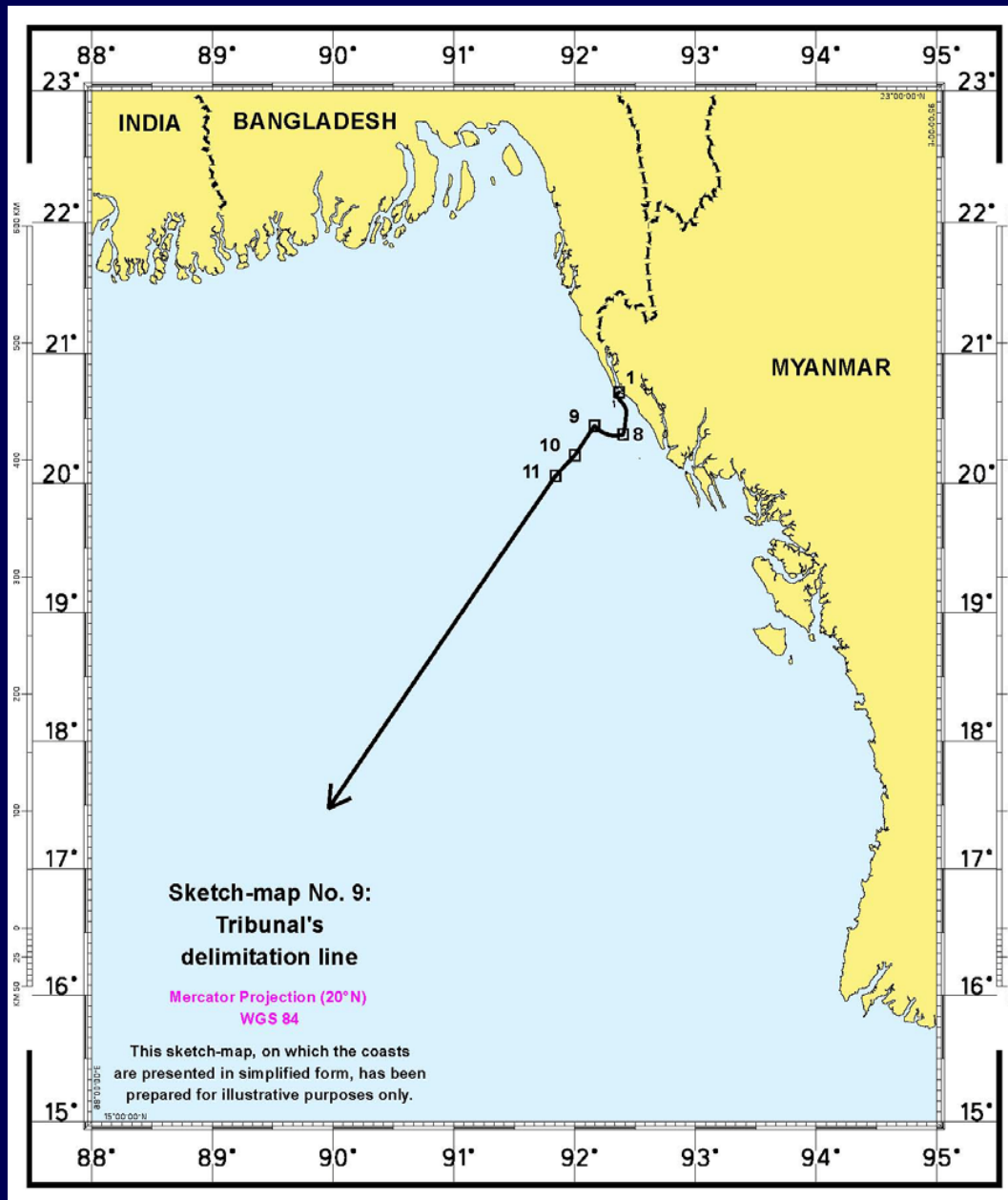
- Bangladesh: Bengal depositional system; St. Martin's, concavity and cutoff
- Tribunal: concavity, “pronounced “cut-off: effect
- Deflection of line to 215° from point x (where effect is marked)



Shelf Beyond 200 nm

Summary:

- Tribunal had jurisdiction to delimit and, if needed, rule on entitlement (was an issue)
- Both parties had entitlements throughout area
- Applied same approach as in EEZ: and found concavity & cut-off still had impact
- Continued 215 ° line **until areas where third party rights affected**
- **Contra ICJ approach??**



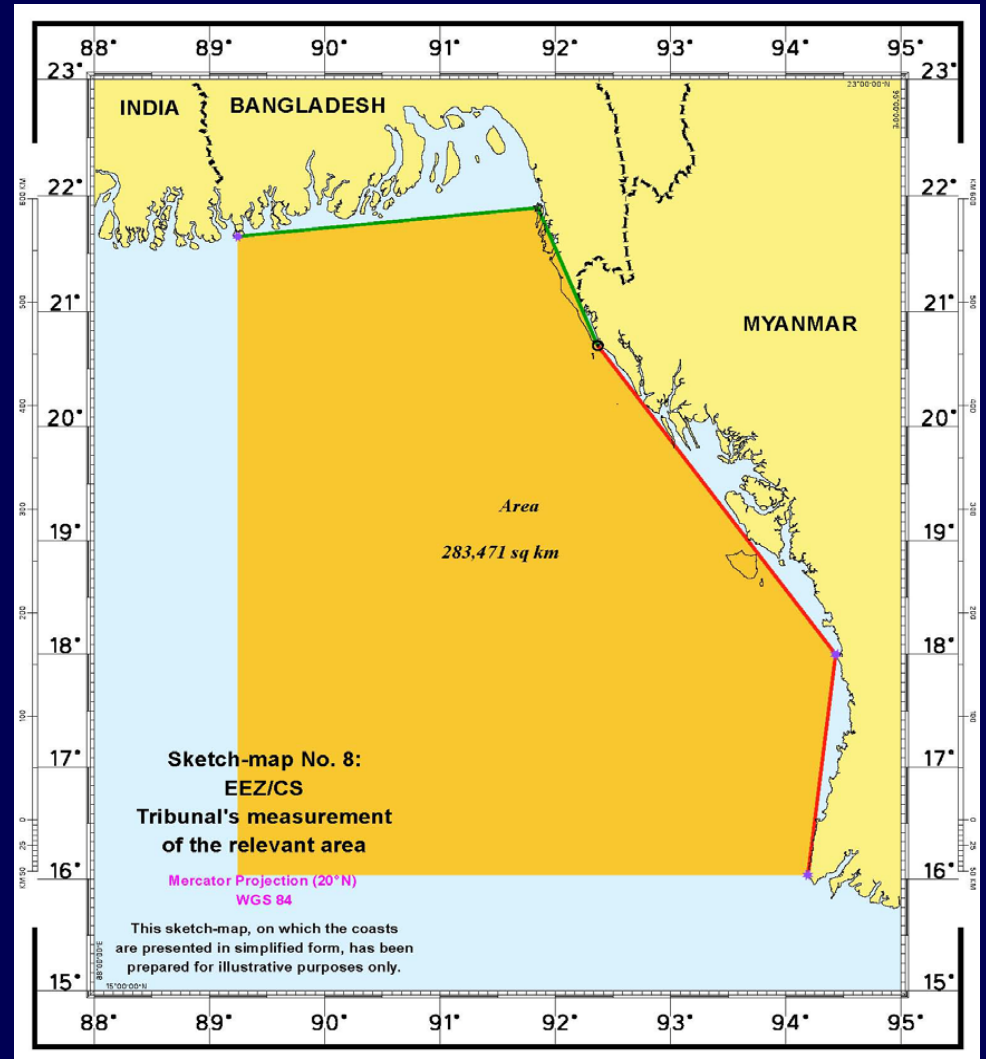
Test of Disproportionality

Coasts

1 : 1.42 favour of Myanmar

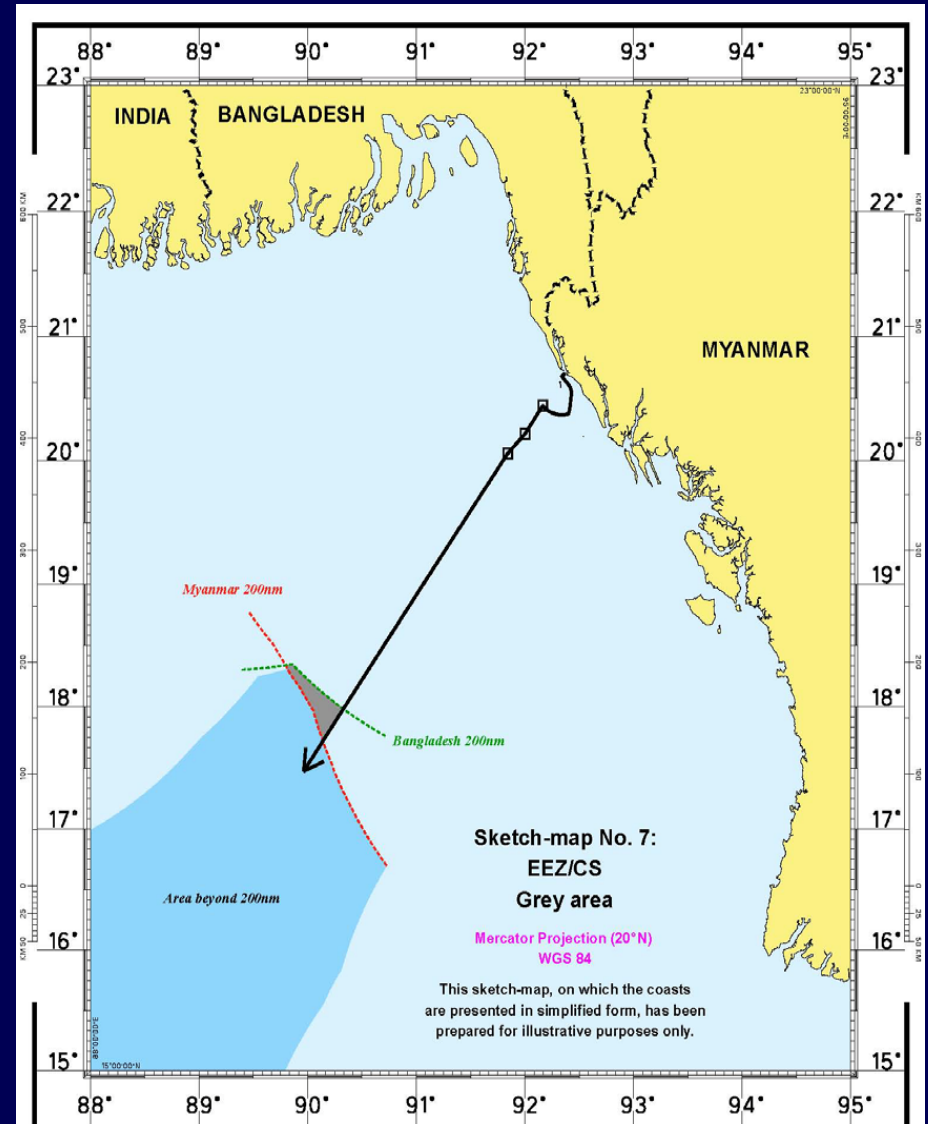
Area:

1 : 1.54 for Myanmar



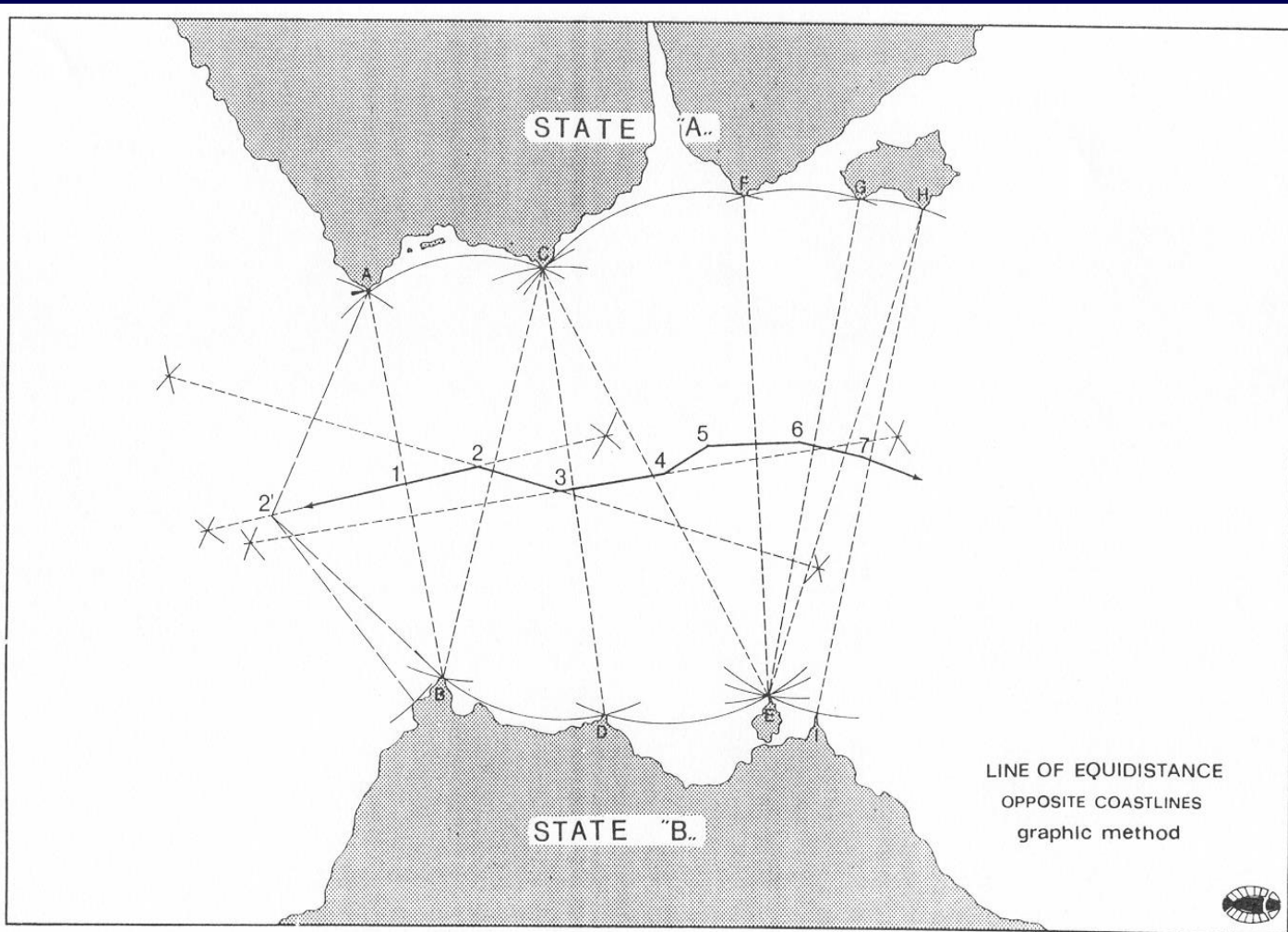
Entitlement Issues: Grey Area

- Grey Area created outside Bangladesh 200
- Neither zone “trumps” the other
- Consequence of delimitation
- Does not remove Myanmar’s entitlement to **water column**
- For parties to deal with difficulties – cooperative measures
- Does **not** delimit both: EEZ would be unilateral (due regard)

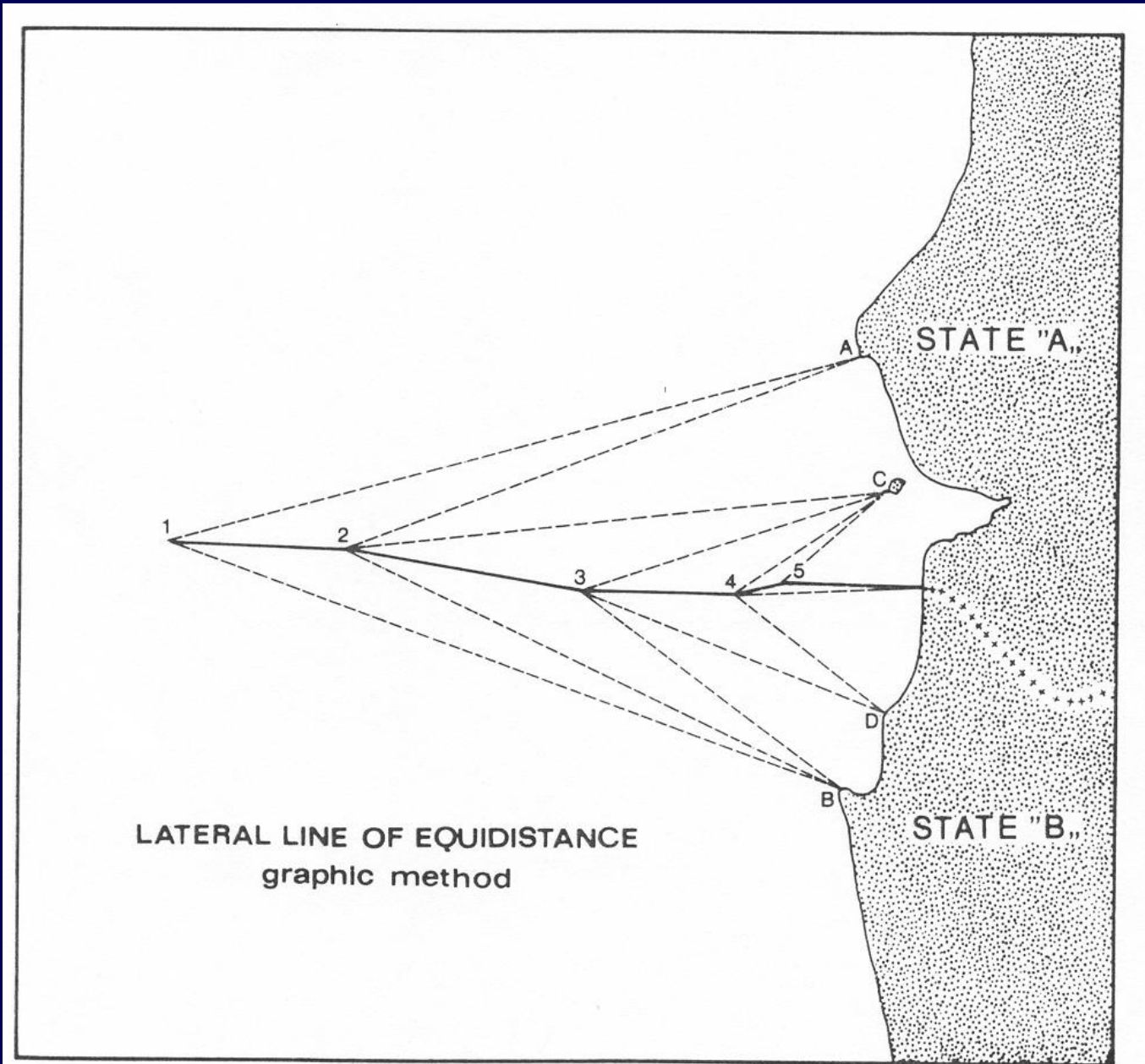


Common Methods

- **Rigorous Equidistance (opposite)**



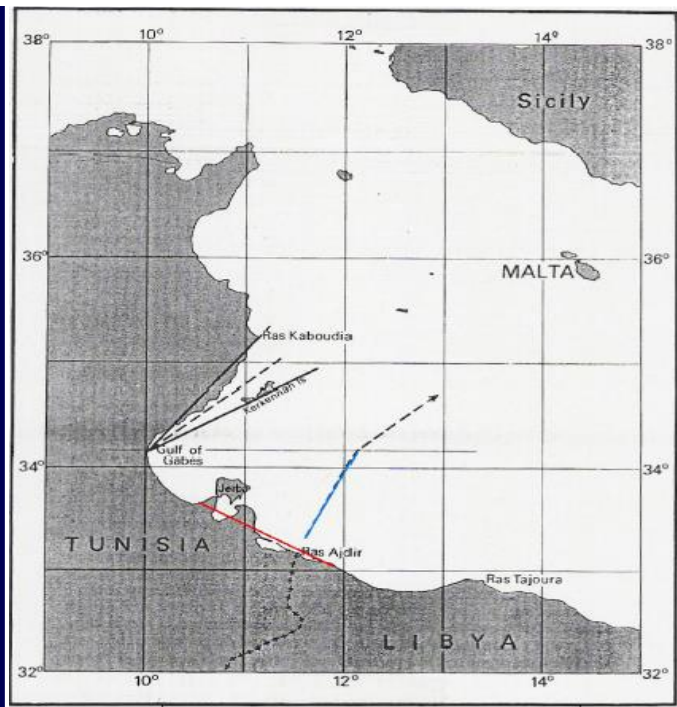
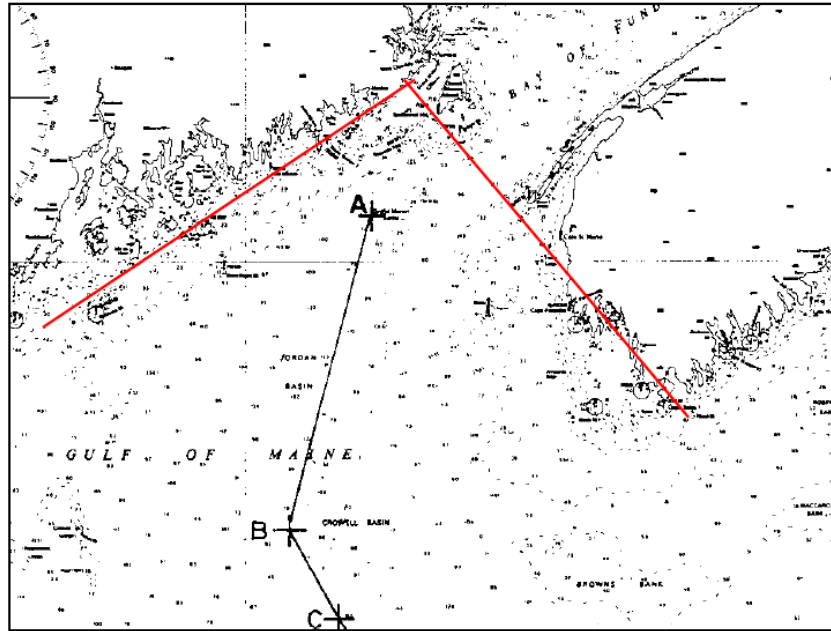
Adjacent



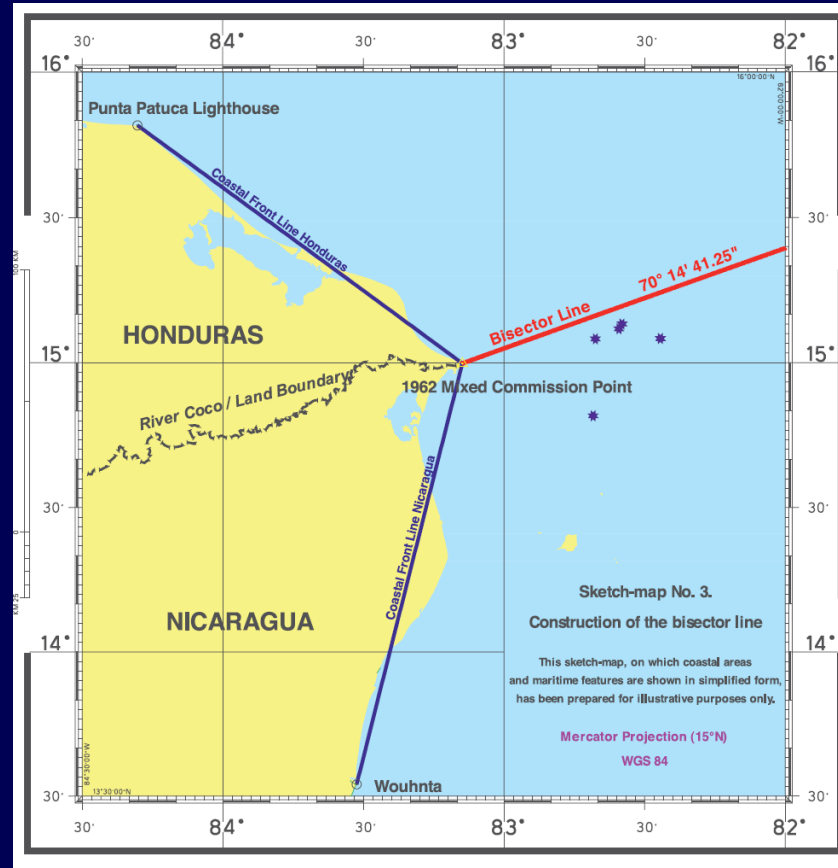


Perpendiculars and Bisectors

- Simply bisect angle formed by general direction of coastline(s)
 - Where unidirectional – perpendicular
 - If two directions – bisector
- Advantages:
 - Reflects basis of equidistance
 - Filters out distortions in equidistance caused by particular features (eg. peninsulas, concavities)
 - Effect of such features is eliminated



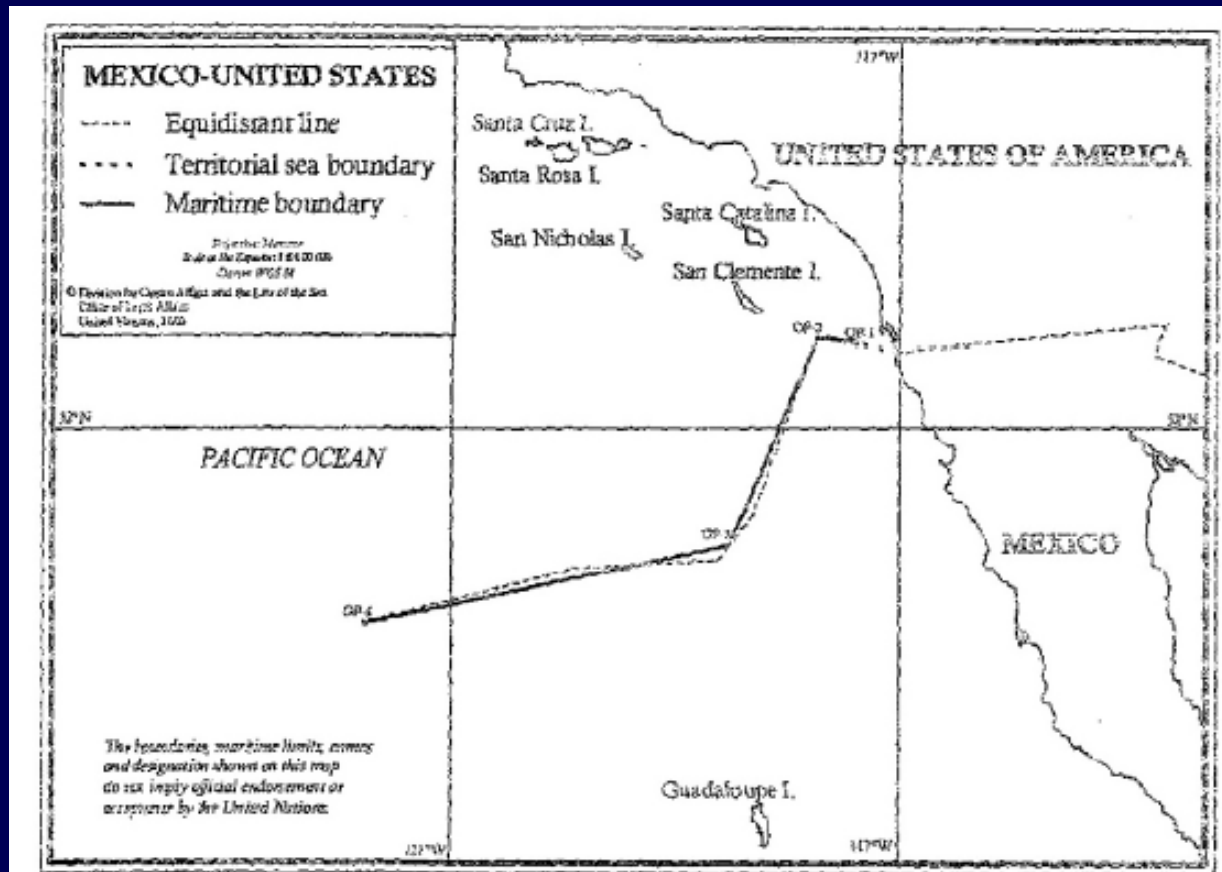
Legend.
 Blue Line: Segment Based on Practice and Perpendicular
 Red Line: Approximate Coastal Direction At Land Boundary



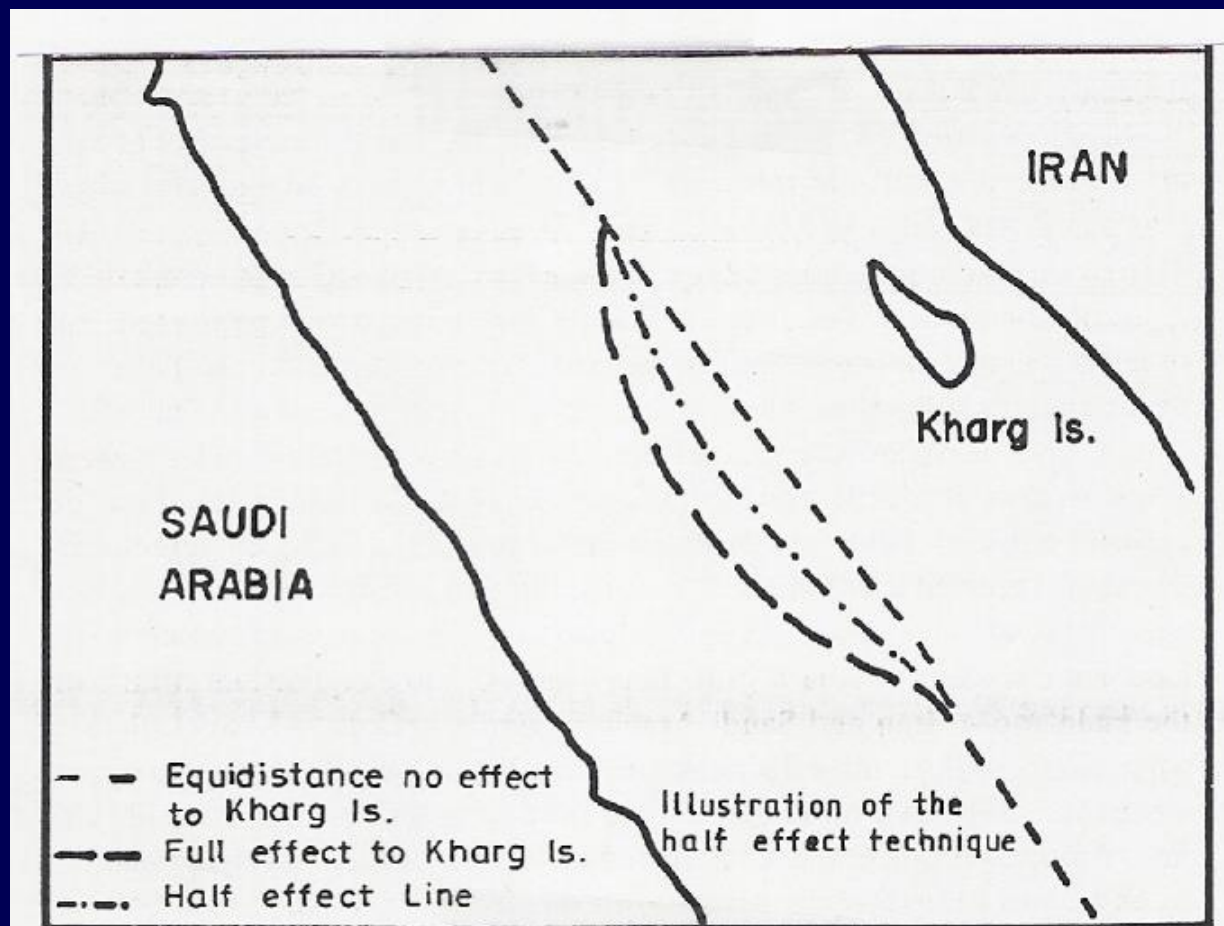


Sample of Issues Arising: Methods

- **Simplified Equidistance: US-Mexico**



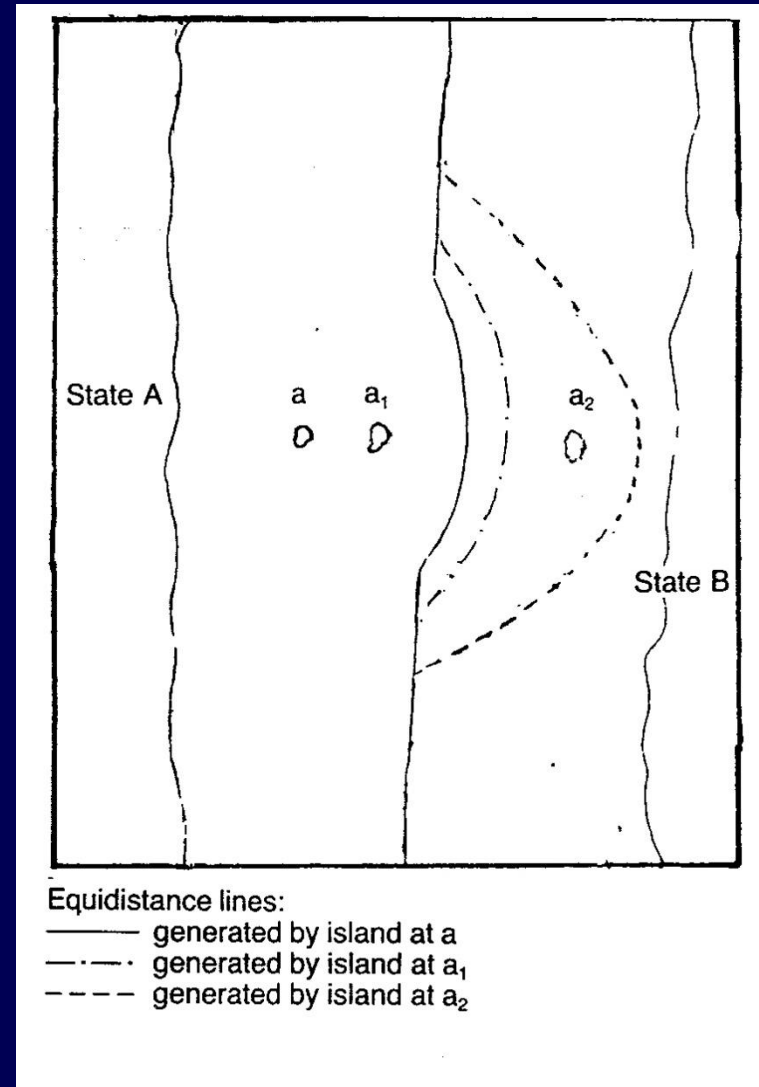
- **Modified Equidistance** – Saudi Arabia - Iran



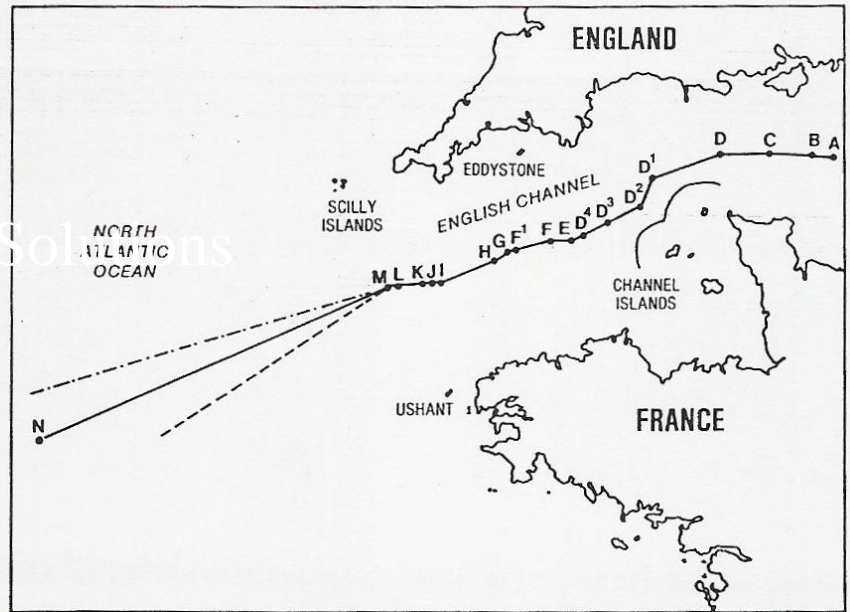
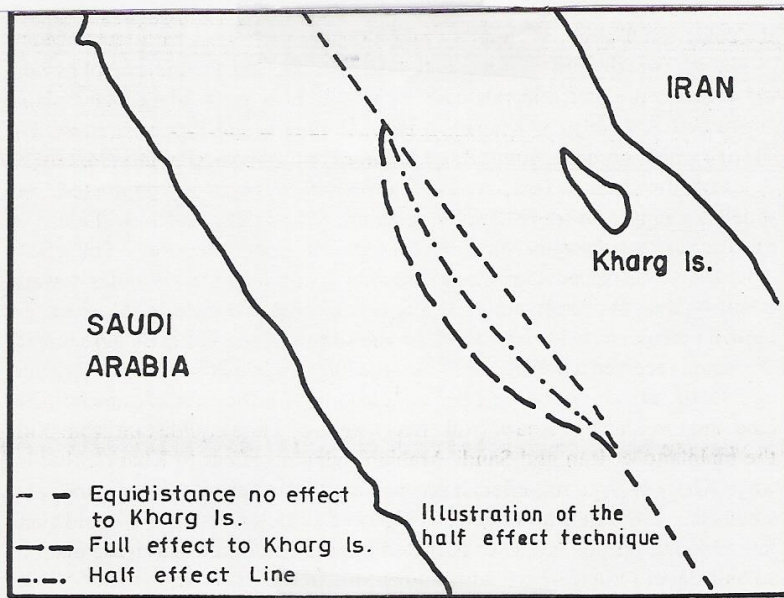


Common Special Circumstances

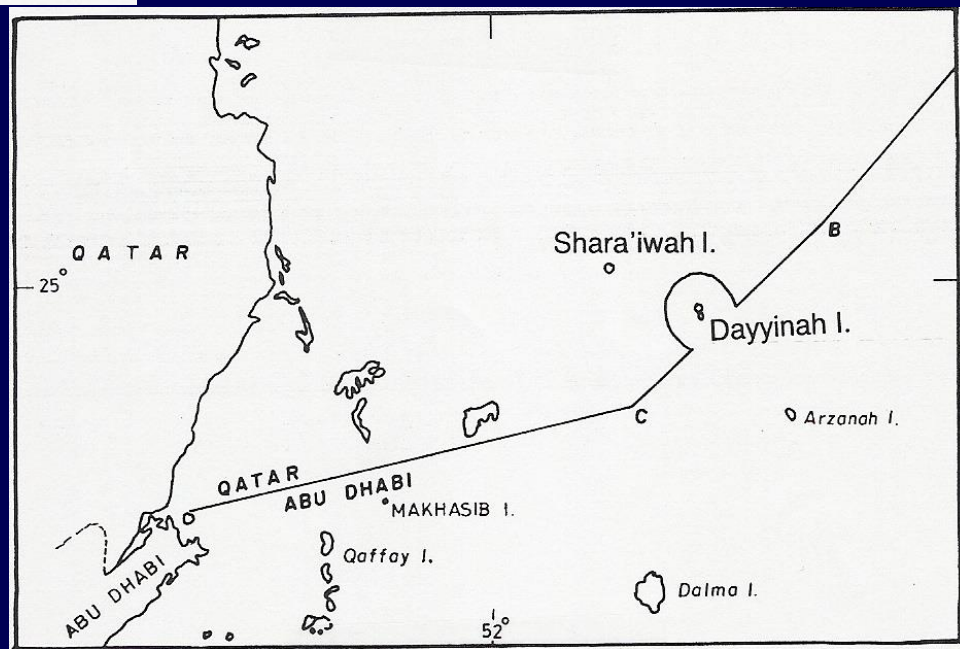
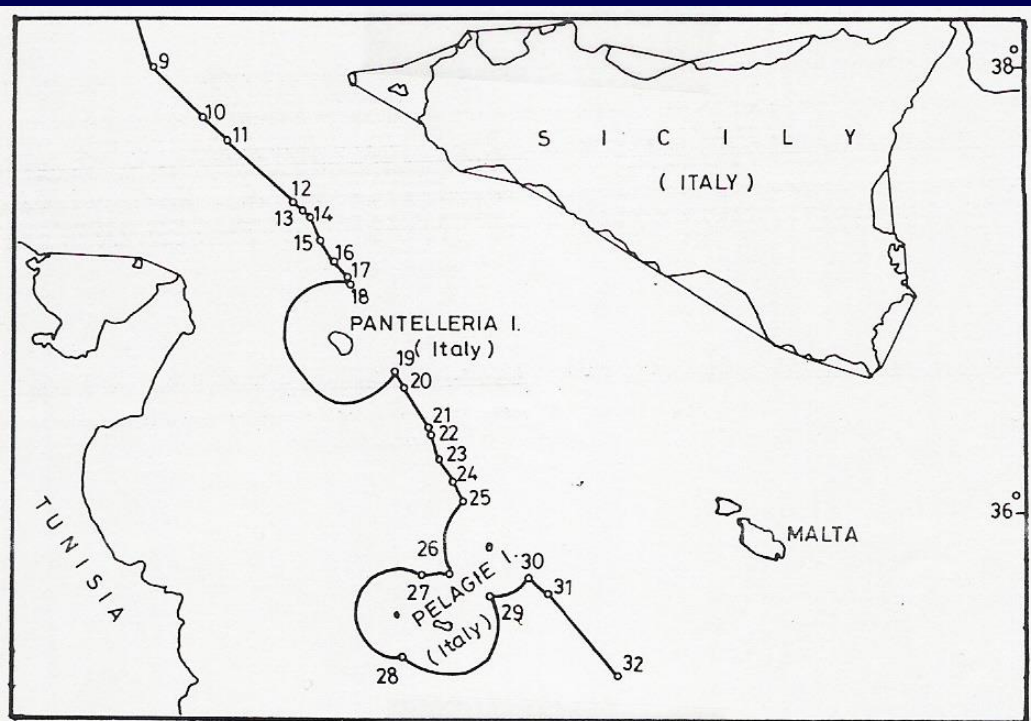
- Islands on “wrong” side of median line
- Distorting effect on boundary out of proportion with size, significance
- Same for peninsulas



Possible Solutions



- . . . - French claim in the Atlantic Region.
- - - - UK claim in the Atlantic Region.
- Boundary segments drawn by the Court of Arbitration, 1977.
- 12-nautical mile territorial sea enclaves for the Channel Islands established by the Court of Arbitration, 1977.



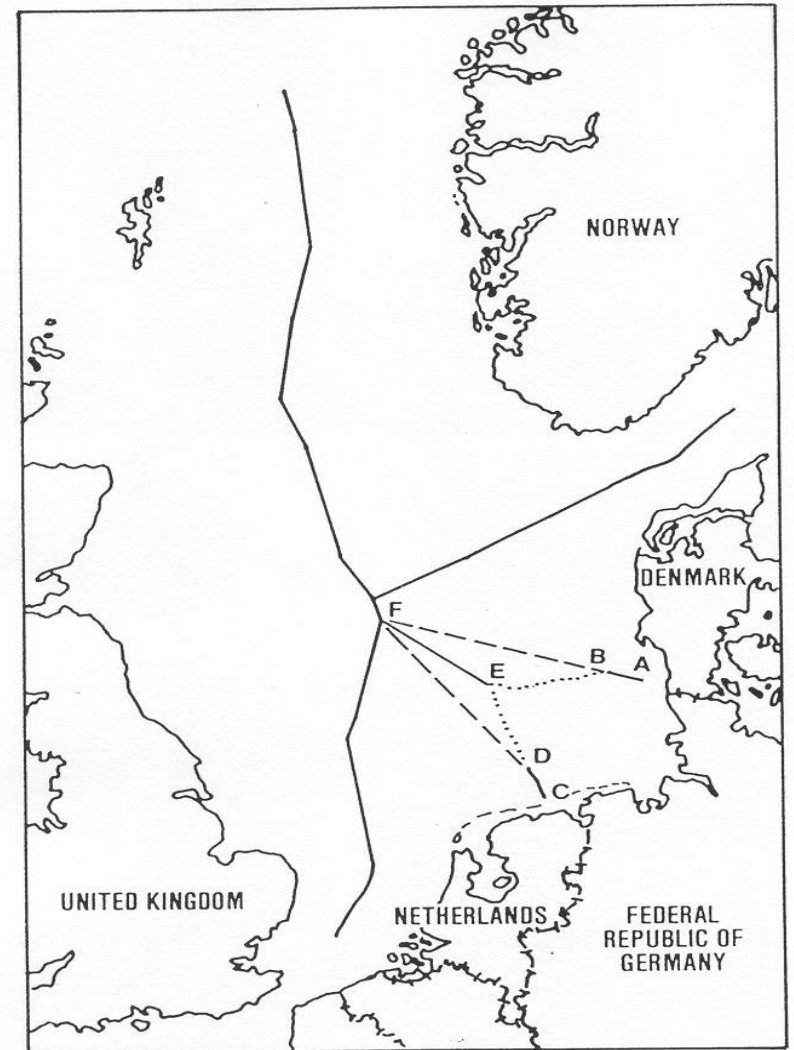


Other Options – Disregard as Basepoints

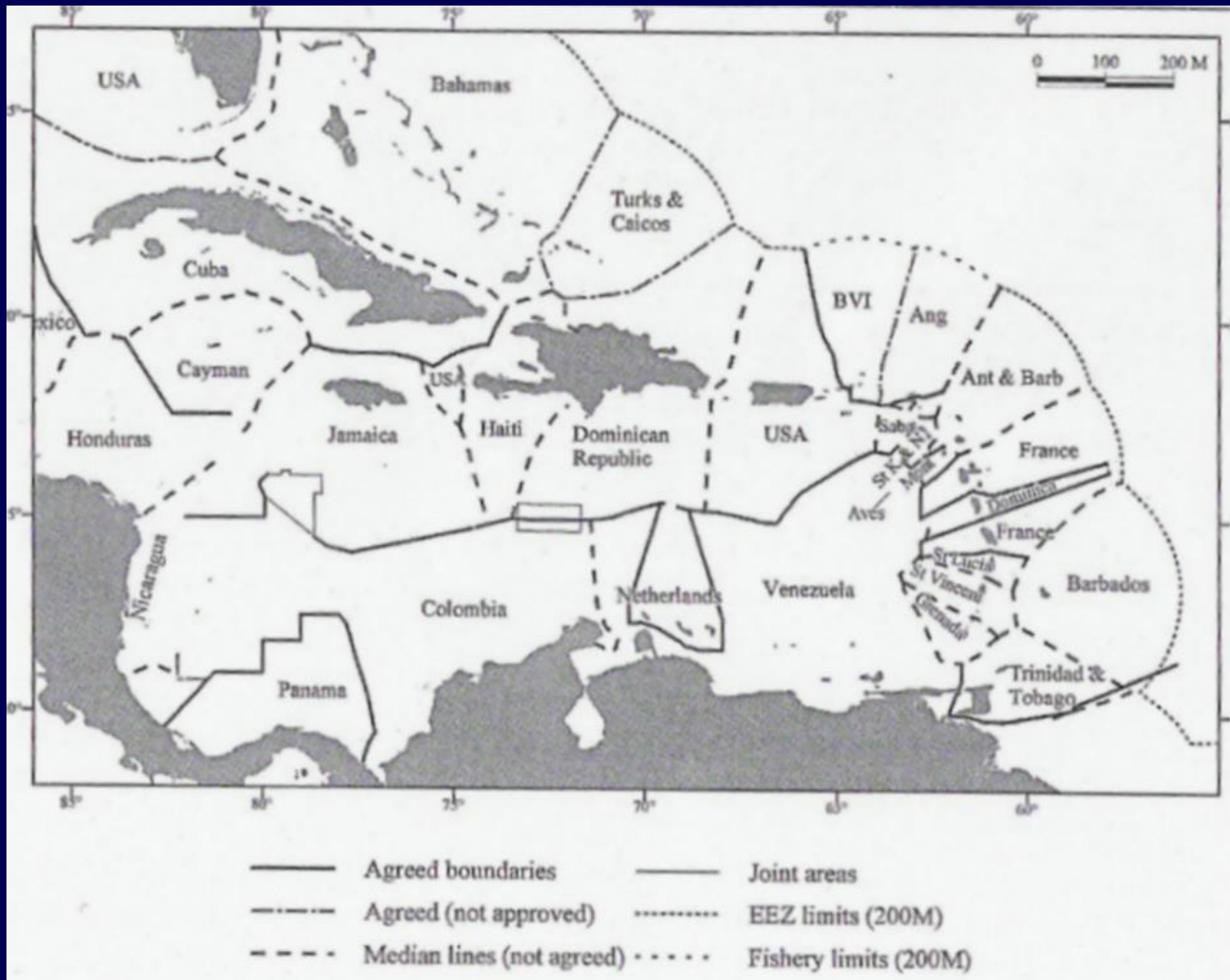
- Green Island in St. Pierre negotiated boundary
- Boundary runs along low-water mark of island
- See also Filfla Island – Libya-Malta – no effect



- Concavity of coastline



Geographic Disadvantage: Effect of Congested Areas and Semi-Enclosed Seas





Islands - Entitlement

- As discussed earlier – islands are common example of “special” or “relevant” circumstances justifying departure from strict equidistance
- Key issue: does location of Island result in inequity: is the *impact* that matters

BUT – there are further issues re – entitlement of “islands” to zones

Article 121: Regime of Islands

1. An island is a naturally formed area of land, surrounded by water, which is above water at high tide.
2. Except as provided for in paragraph 3, the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf of an island are determined in accordance with the provisions of this Convention applicable to other land territory.
3. Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf.

- First – is the relevant feature an “island” under para. 1 of Art. 121

“An island is a naturally formed area of land, surrounded by water, which is above water at high tide.”

- Is it really a low-tide elevation – not above water?
- Is it “naturally formed”
 - If so – end of question, unless used as basepoint in territorial sea

- If it is an “island” – is it also within the category of a “rock” (121(3)):
 - “Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf.”
- If it is a “rock” – only a territorial sea.
- But – how to define this? Habitation? Govt only? What resources?



Effect on Delimitation

- Assume for argument that islands “entitled” to generate all zones – this is *entitlement*
- Does not mean that they will be given full, or any, effect in a *delimitation*
- Recall that some clear “islands” – eg. Filfla, Sable, have been given no effect or partial effect in delimitations – even though they are entitled to generate zones



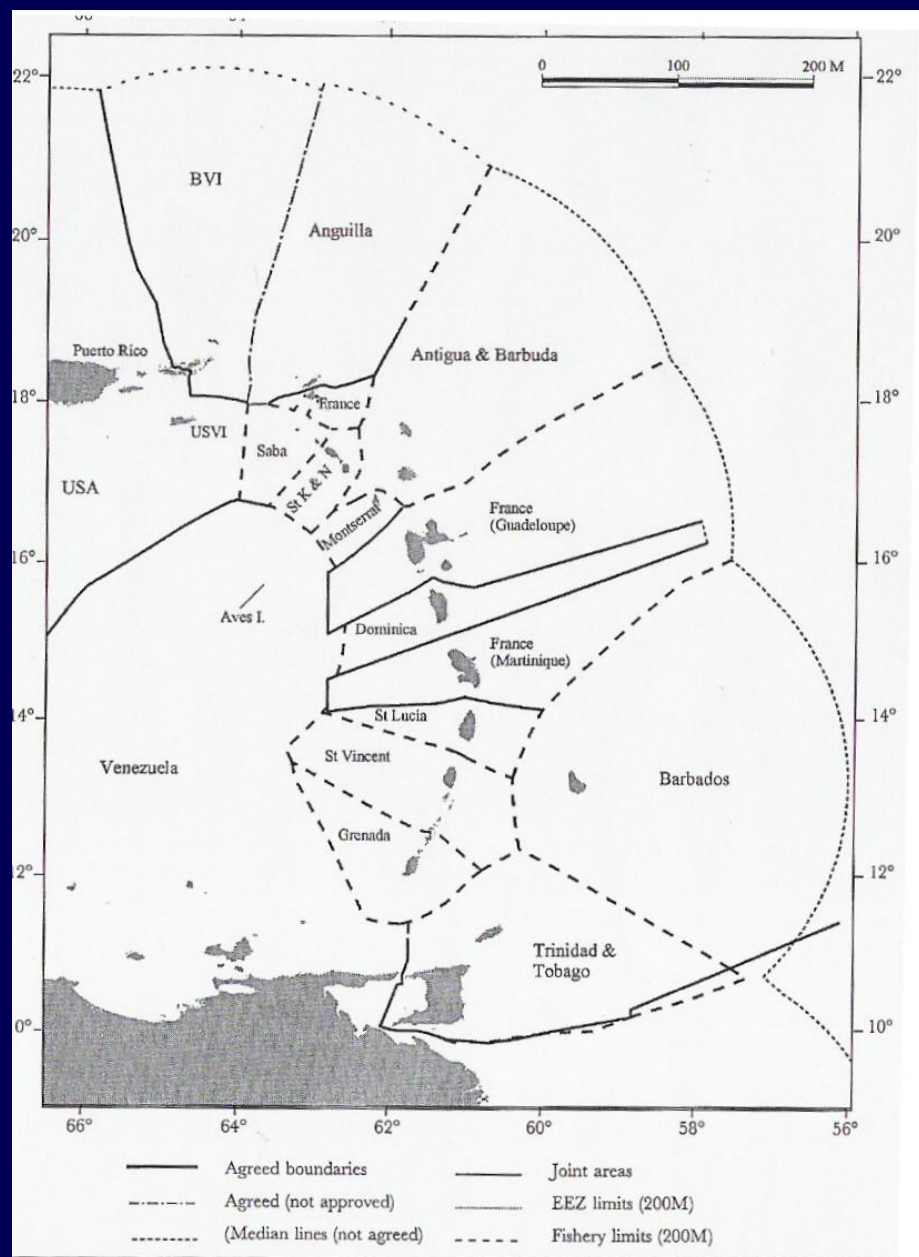




Aves Island / Bird Rock - Venezuela

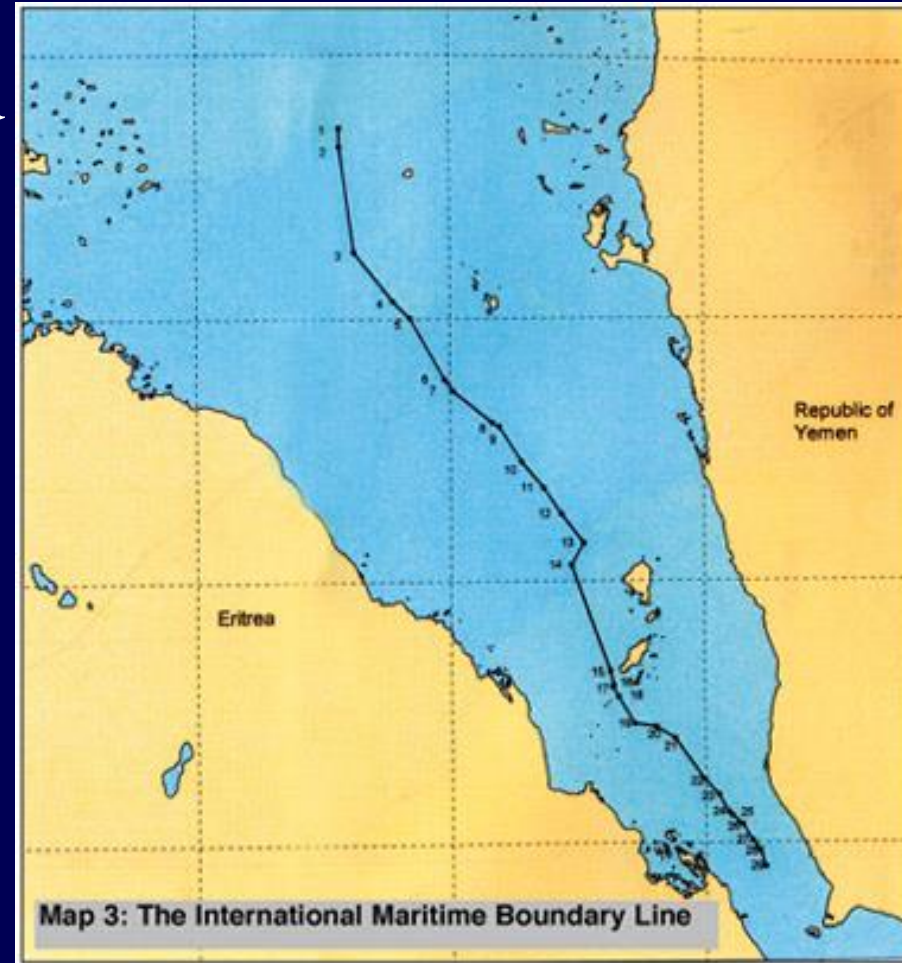




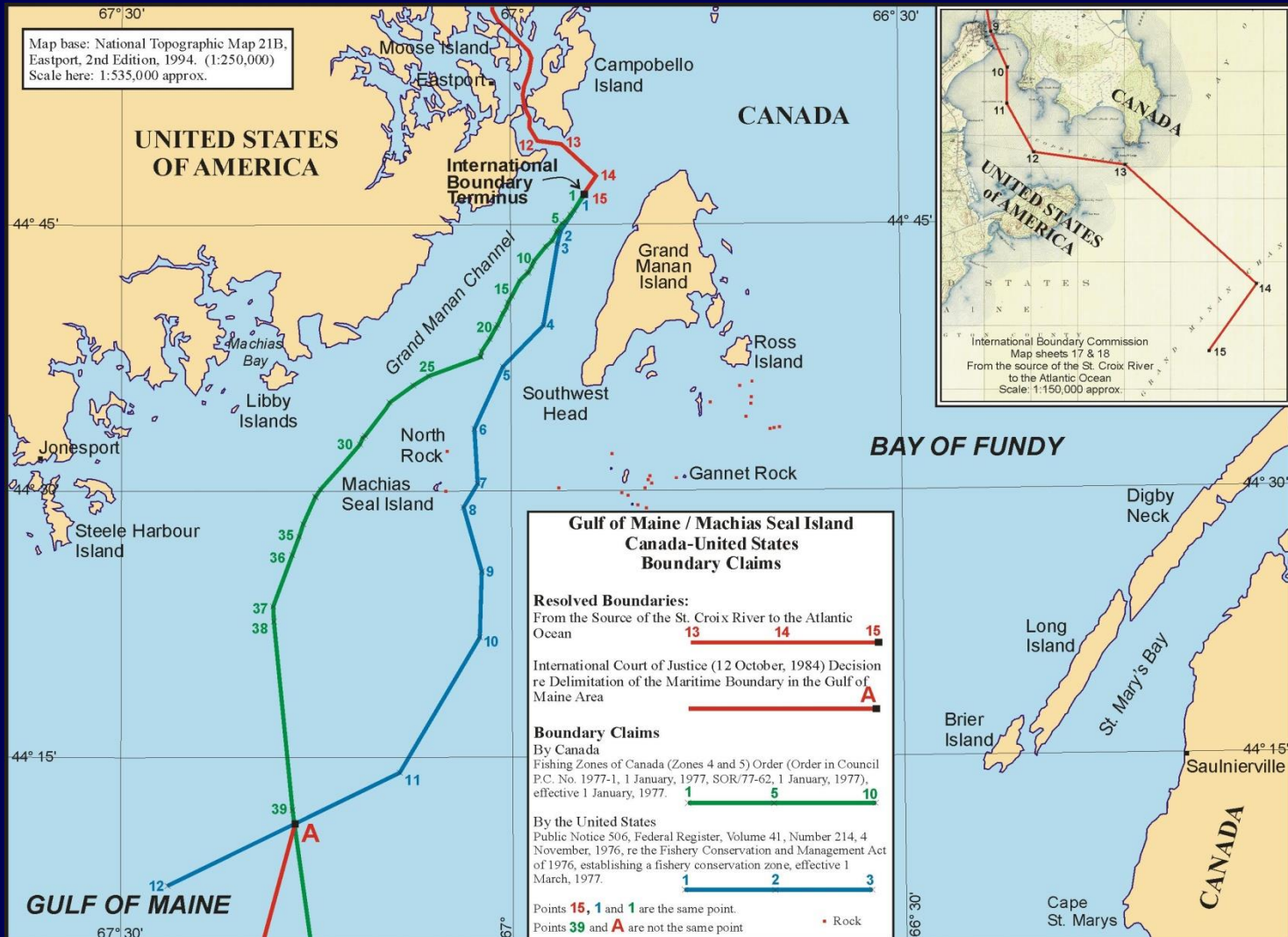


Residual Sovereignty Disputes

- How to put aside dispute over status of Island, land mass – and still proceed on boundary?
- Possible solutions: two stage arbitration (Eritrea-Yemen)
- “Set aside” Canada-US, Denmark



Machias Seal Island – Canada - US







Hans Island Sector – Denmark (Greenland) - Canada





“I can assure this House, this government will not surrender any sovereignty of any of Canada’s lands in the Arctic or anywhere else in the world.” Bill Graham MFA –

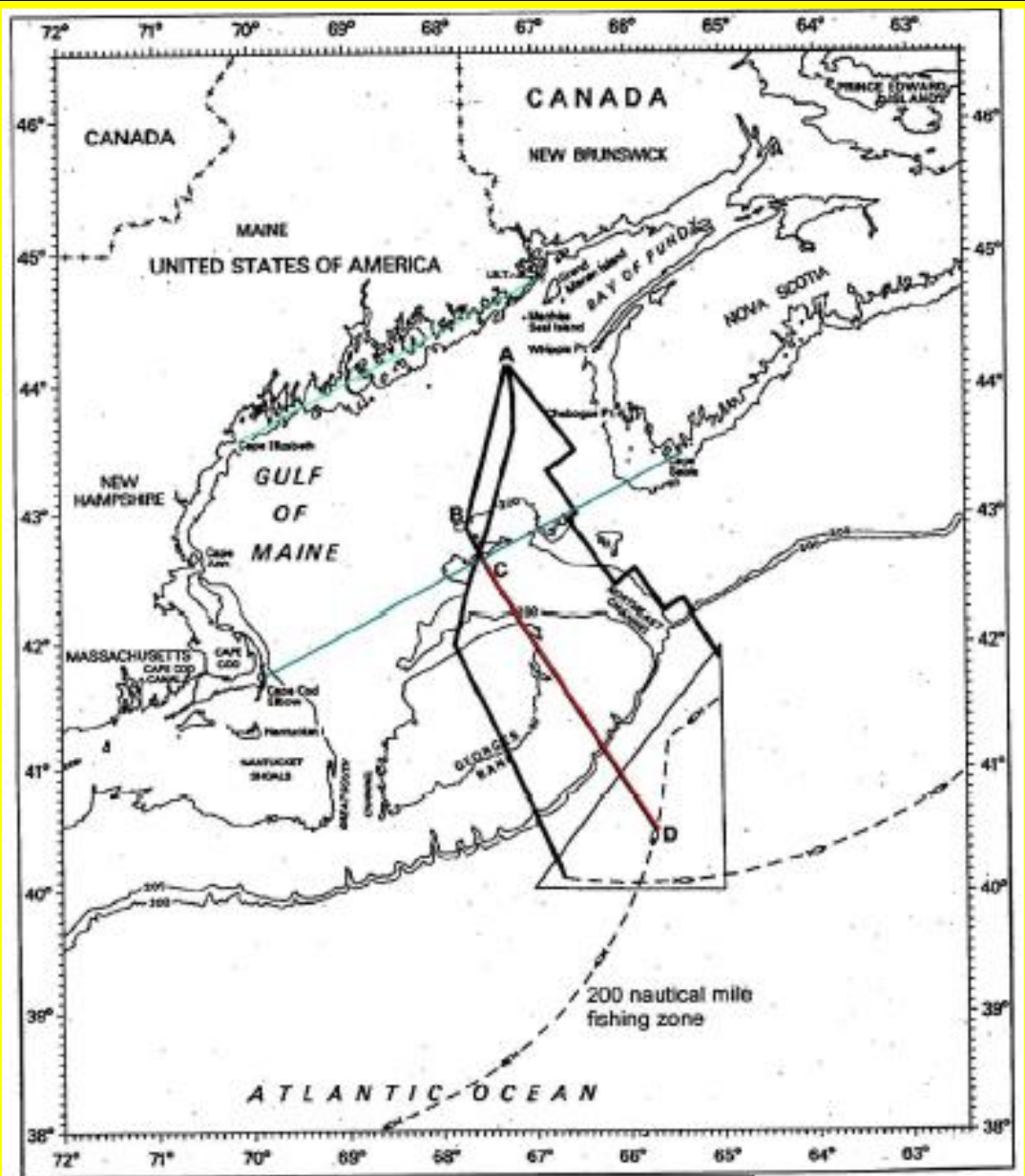
May 2018: Bilateral Task Force to resolve (and finalize agreement over a sector to the north)



Sector Approaches

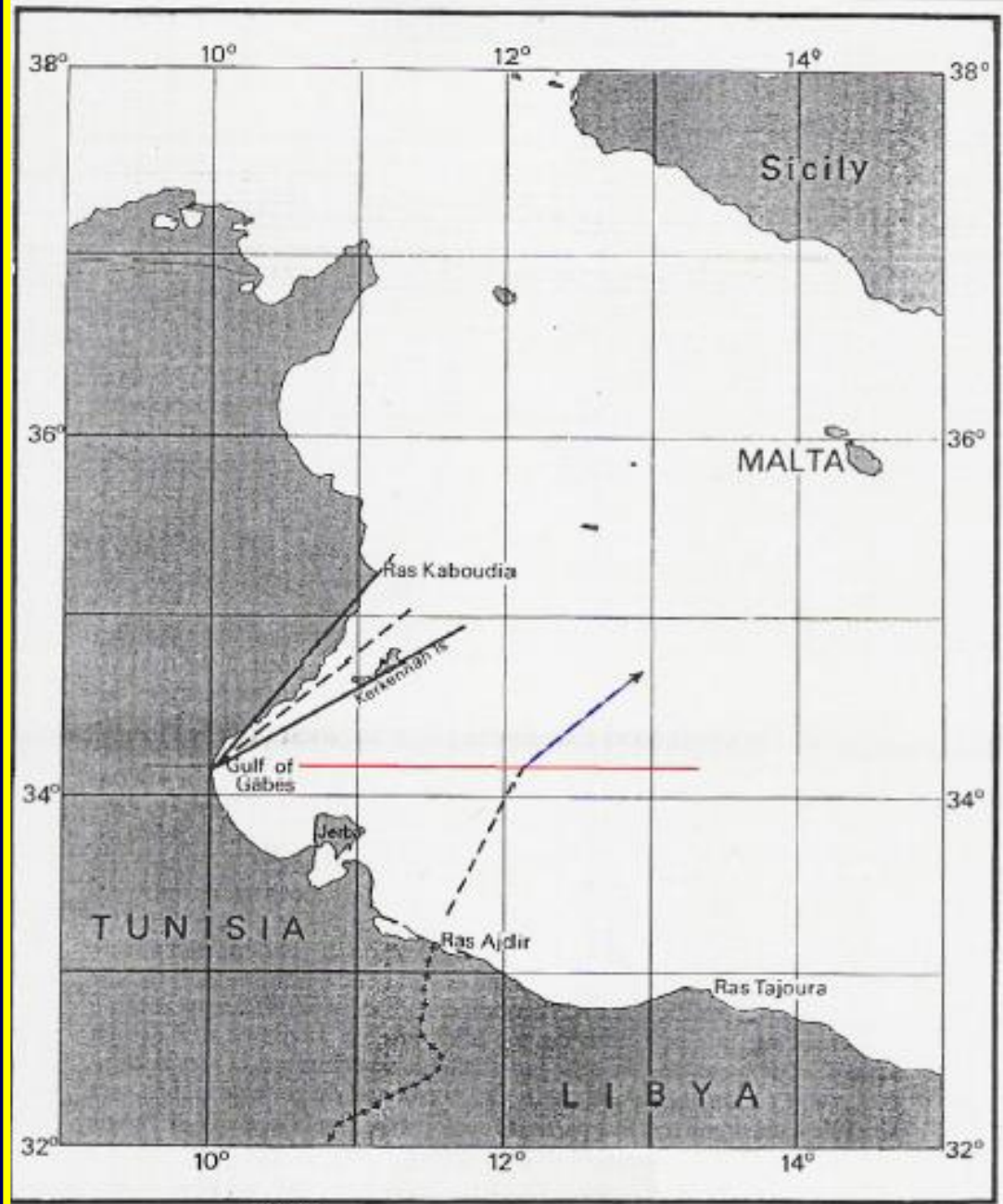
- Use of multiple methods appropriate where coastal relationship changes over course of boundary
- Common in practice, jurisprudence

Gulf of Maine



Legend:
Red Line: Perpendicular to Closing Line
Blue/Green Line: Closing Line
Green Line: Coastal Direction: Inner Coast

Libya-Tunisia



Legend:

Red Line: Parallel From Western End of Gulf of Gabes

Blue Line: Boundary in Outer Segment: Angular Adjustment

Remaining Issues?



- Delimitation of outer continental shelf – beyond 200: ICJ vs ITLOS
 - No need to wait for Commission on Limits of Cont. Shelf
- Gray Zone Issue?
- Do different principles apply?
 - Will natural prolongation re-emerge as a significant factor? (Probably no)

A map of the North Atlantic region showing the continental shelf and Exclusive Economic Zone (EEZ) boundaries. The landmasses of North America, Europe, and Greenland are shown in light green. The ocean floor topography is indicated by varying shades of blue. A solid brown line represents the continental shelf edge, and a dashed black line represents the EEZ boundary. A red circle highlights a specific area where the shelf and EEZ boundaries overlap. A blue text box in the upper right contains the text 'Shelf versus EEZ overlap?' and '1992 Boundary with SPM?'. A black arrow in the lower right points to the dashed line with the text 'Approximate Limits of Canadian Extended Continental Shelf Claim'.

Shelf versus EEZ overlap?
1992 Boundary with SPM?

Approximate Limits of Canadian
Extended Continental Shelf Claim