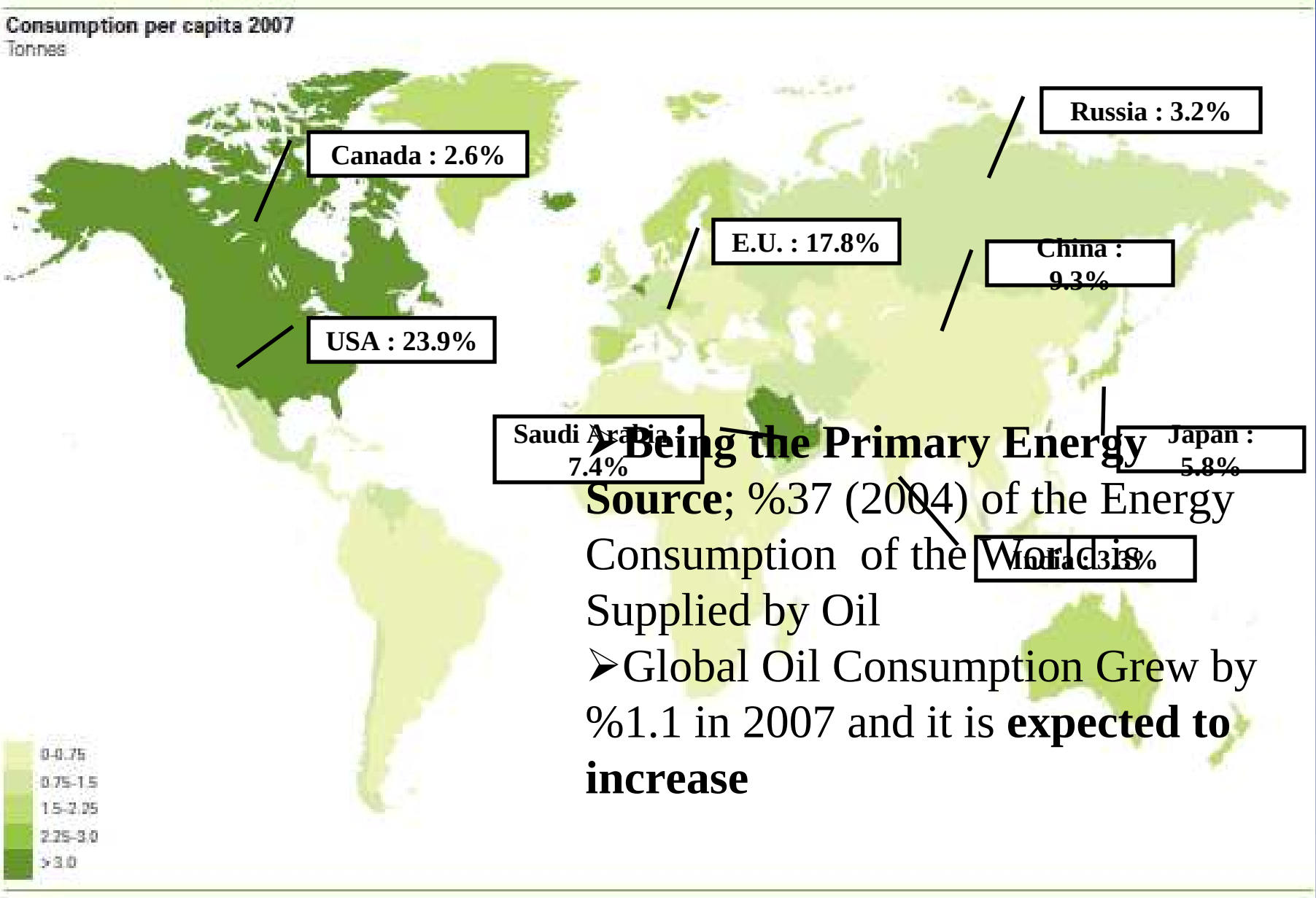
TURKEY OIL SPILL RESPONSE POLICY: INFLUENCES AND IMPLEMENTATION

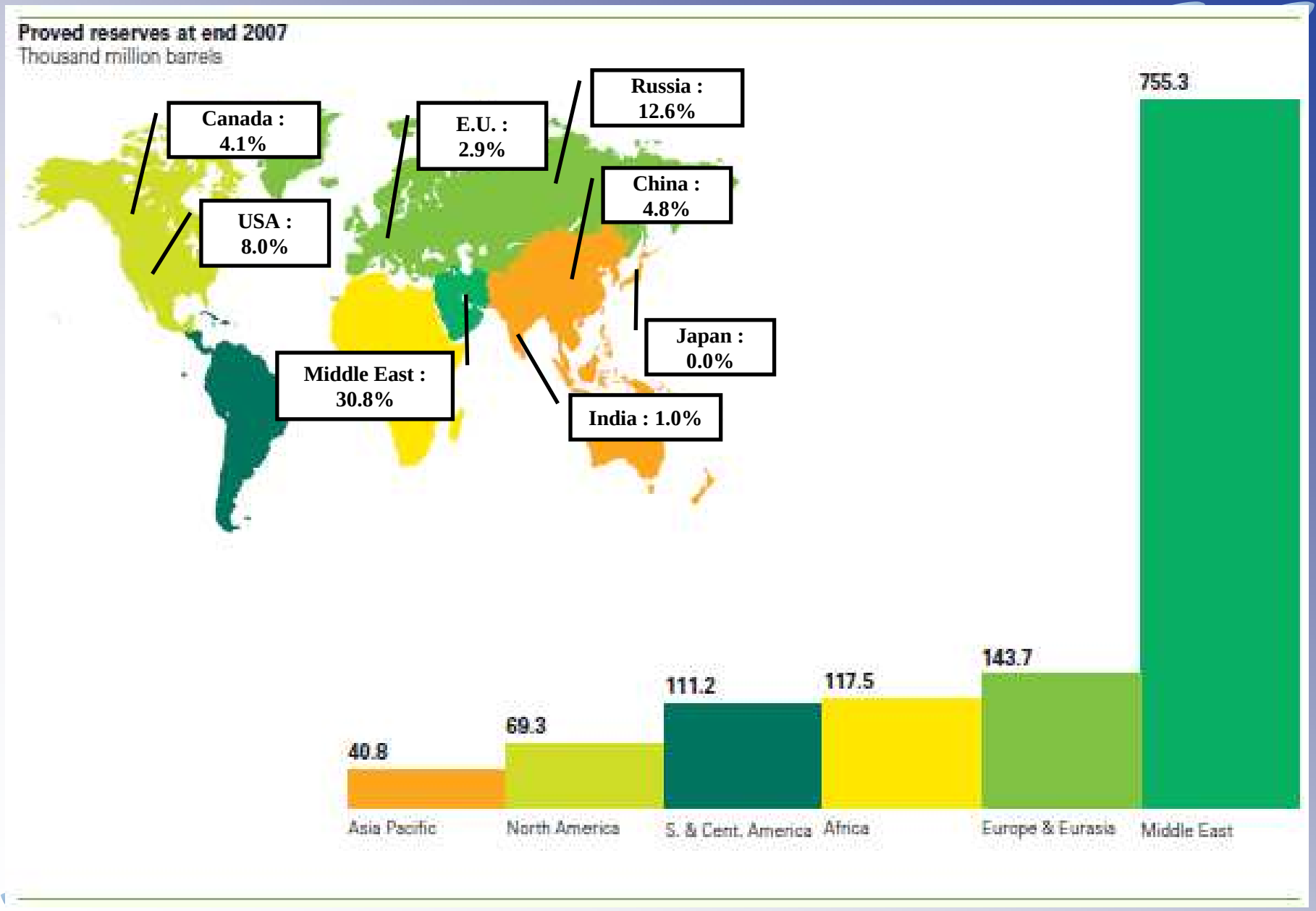
Murat Turan

Oil Consumption

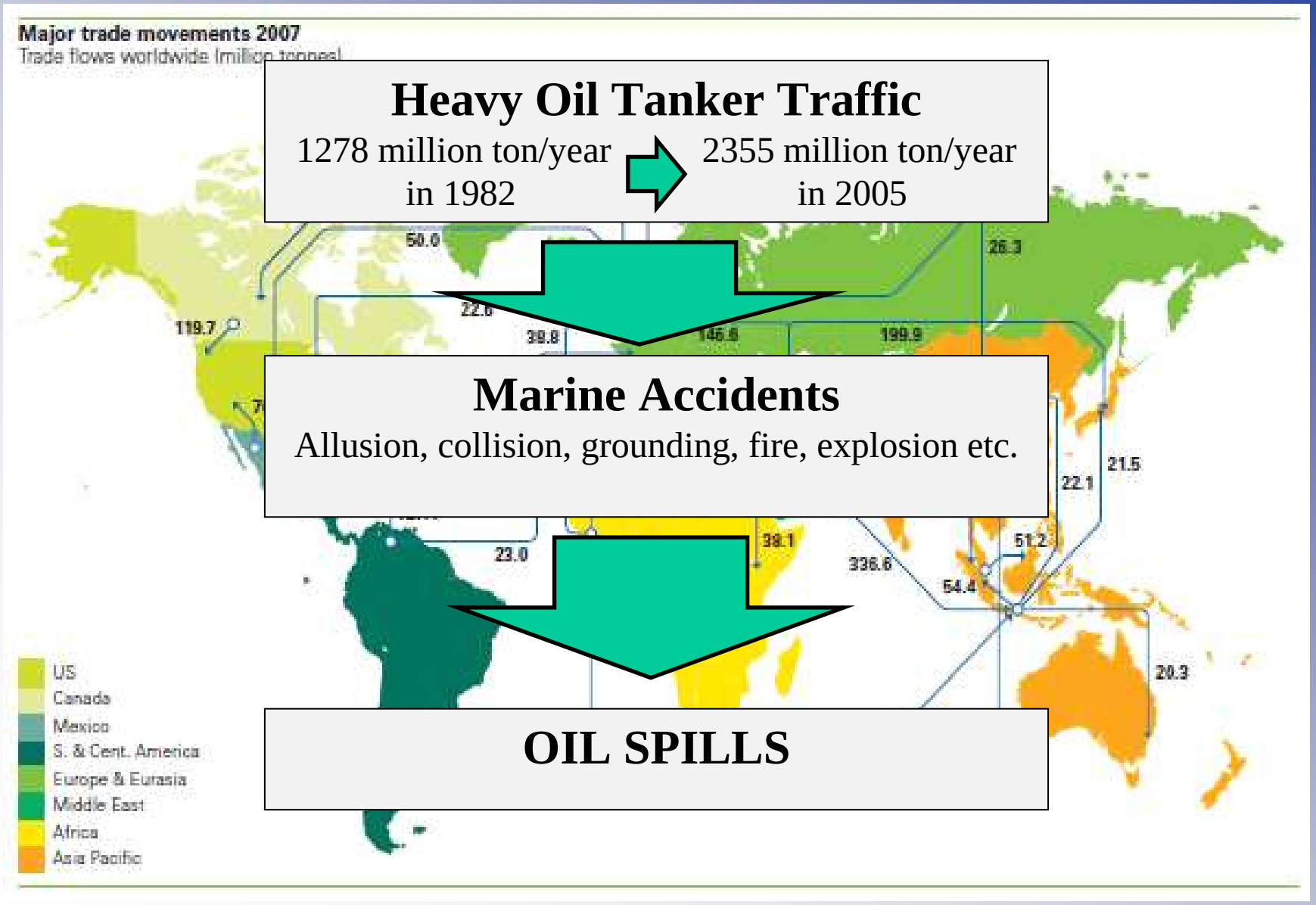


- **Being the Primary Energy Source**; %37 (2004) of the Energy Consumption of the World is Supplied by Oil
- Global Oil Consumption Grew by %1.1 in 2007 and it is **expected to increase**

Oil Production



Oil Trade in the World – **Most of the Oil Being Transported by Sea**



Heavy Oil Tanker Traffic

1278 million ton/year in 1982 → 2355 million ton/year in 2005

Marine Accidents

Allusion, collision, grounding, fire, explosion etc.

OIL SPILLS

Major Oil Spills Around the World / **Torrey Canyon-1967**

On 18 March, 1967 the “Torrey Canyon” carrying 120,000 tons of oil struck Pollard's Rock in the Seven Stones reef between the Scilly Isles and Land's End, England. The oil leaked from the ship (31,000,000 gallons) and spread along the sea between England and France, killing most of the marine life it touched along the whole of the south coast of Britain and the Normandy shores of France, and blighting the region for many years thereafter.

Major Oil Spills Around the World / **Independenta-1979**

The Independenta, carrying 94,000 tons of crude oil from Libya collided with the Greek cargo ship M/V Evriali at the southern entrance of the Istanbul Strait. The collision was followed by a big explosion and both vessels began to burn. The Independenta ran aground 43 crewmembers of the tanker lost their lives. It was estimated that 30,000 tons of crude oil burned and that the remaining 64,000 tons spilled into the sea. Heavy oil contamination formed on the surface of the sea and on the heavily built shores and the recreational beaches of Marmara Sea and the Istanbul Strait.

Major Oil Spills Around the World / **Exxon Valdez-1989**

In March 1989, the tanker Exxon Valdez, en route from Valdez, Alaska to Los Angeles, California grounded on Bligh Reef in Alaska's Prince William Sound. The vessel was traveling outside normal shipping lanes in an attempt to avoid ice. Within six hours of the grounding, the Exxon Valdez spilled approximately 10.9 million gallons of its 53 million gallon cargo of crude oil in a very remote, scenic, and biologically diverse and productive area.

Major Oil Spills Around the World / **Erika-1999**

Tanker Erika, laden with 31,000 tons of heavy fuel, en route from Dunkirk (France) to Livorno (Italy) in very rough sea conditions was faced with structural problems off the Bay of Biscay. The Erika split in two and it sank the following day . Quantity spilled is between 19,000 and 20,000 tons.

Major Oil Spills Around the World / **Prestige-2002**

The Prestige tanker started leaking fuel off coast of Galicia, Spain when it encountered a violent storm about 150 miles off Spain's Atlantic coast. During several days, it was pulled far from the shore, but the crippled tanker carrying more than 77,000 tons of oil split in half off the northwest coast of Spain on Tuesday threatening one of the worst environmental disasters in history. The rear section of the Prestige sunk early in the day, taking many of the oil tanks with it. Amount of oil spilled is expected more than 30,000 tons.

Oil Spills and Their Effects

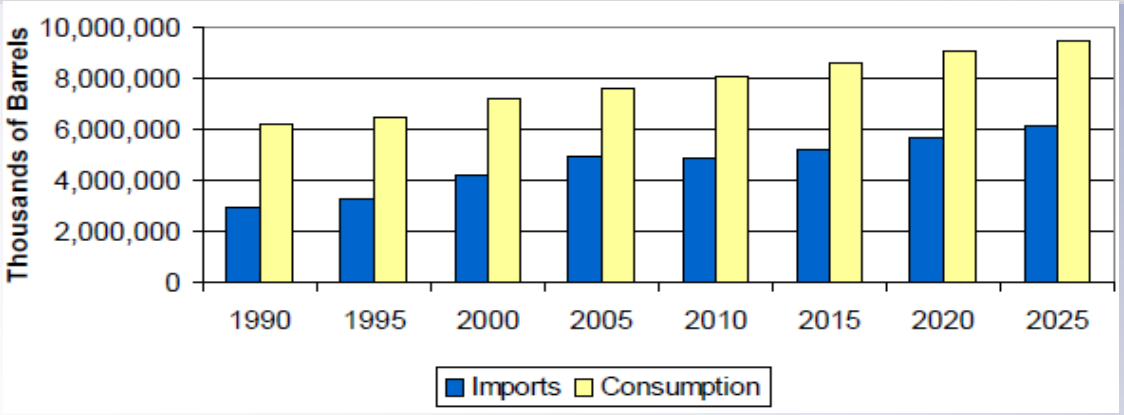
Oil Spills and Their Effects

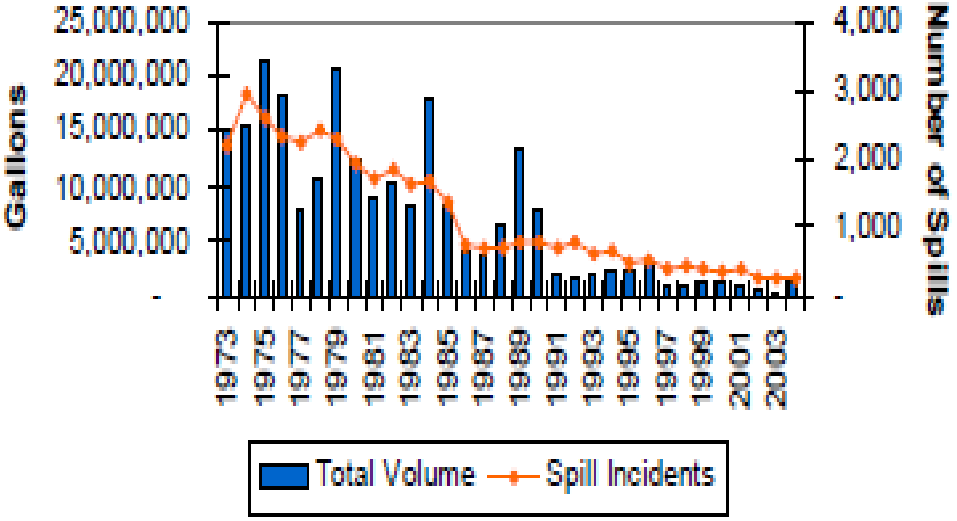
Oil Spills and Their Effects

- **US is supplying approximately 40% of its energy needs from oil and its products**

- **US is the largest oil producing nation after Saudi Arabia and Russia;**
  - ➡ **8% of the oil produced worldwide**

- **US is the largest oil consuming nation about one quarter of all world**
  - ➡ **23,9% of the oil consumed worldwide**





Domestic Production + Oil Import

Vast Majority of oil enter the country and transported to the destinations throughout the nation by marine transportation (16% of total US oil imports by pipeline from Canada)

Oil Spills


Legislative Change
Oil Pollution Act of 1990

USA Oil Spill Response Policy / **OPA 90 Regime**

Exxon Valdez highlighted the Inadequacy of existing coverage and generated public outrage

Oil Pollution Act of 1990

(First comprehensive law to specifically address oil pollution to waterways and coastlines of the United States consolidating the existing federal oil spill laws under one program)

Key OPA 1990 Provisions:

- Spill Response Authority;

OPA strengthened and clarified the federal government's role in oil spill response and cleanup

- National Contingency Plan;

OPA expanded the role and breath of the NCP and established a multi-layered planning and response system to improve preparedness and response to spills in the marine environment.

- Tank Vessel and Facility Response Plans;

OPA requires that U.S. tank vessels, offshore facilities and certain onshore facilities prepare and submit response plans

- Double Hull Design For Vessels

OPA requires new vessels carrying oil and operating in U.S. waters to have double hulls

- Liability

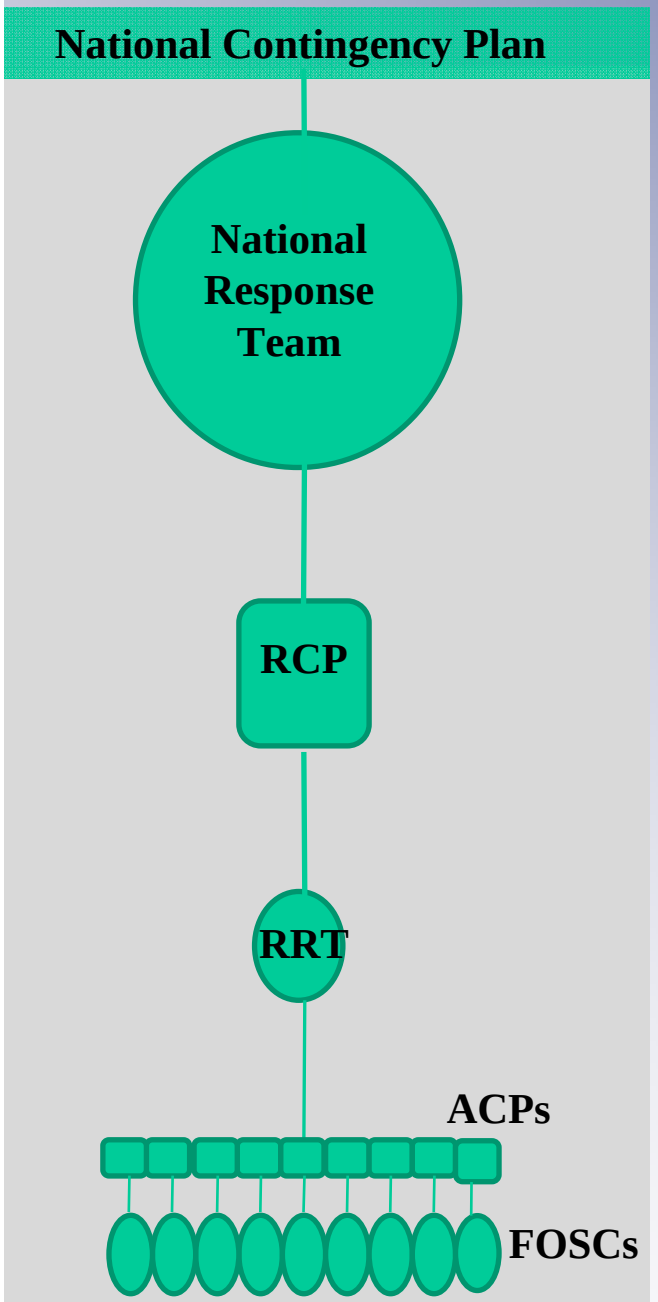
Unified the liability provisions, broadened the scope of damages,

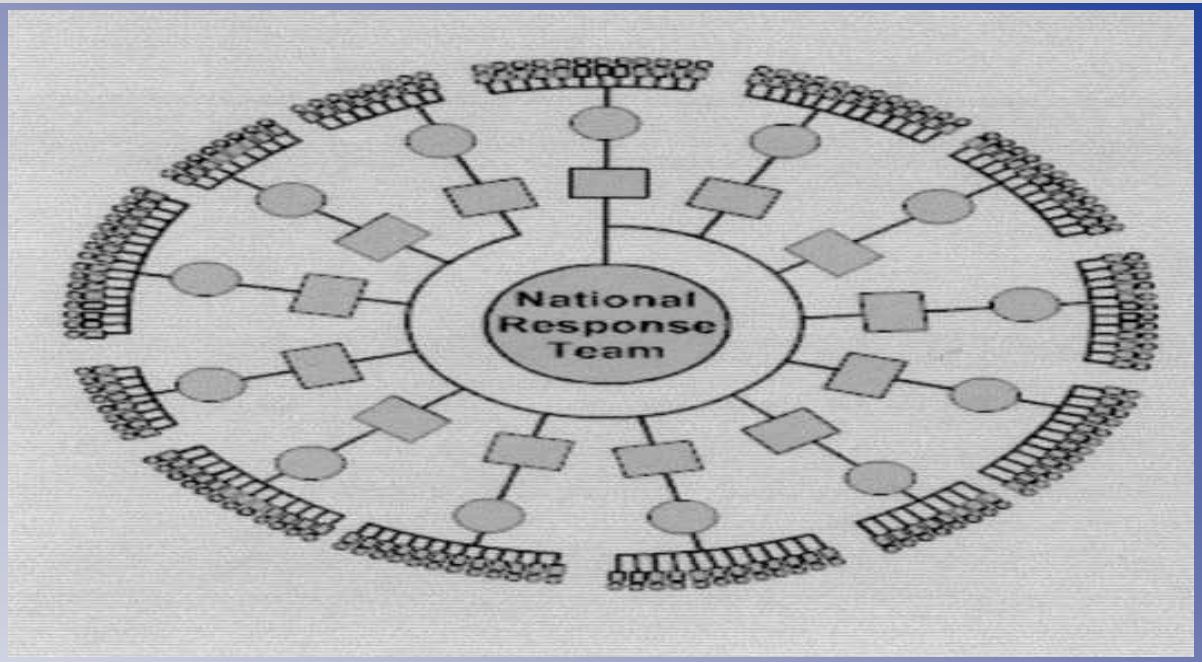
- The Oil spill Liability Trust Fund

OPA provided the statutory authorization necessary to put the fund in motion

- **Double hull requirement for tank vessels**
- **Requirement of escorts for certain tankers in special areas (Prince William Sound, Puget Sound)**
- **Requirement of some emergency lightering equipment**
- **Designation of lightering zones**
- **Review of alcohol and drug abuse and criminal record in issuing mariners documents**

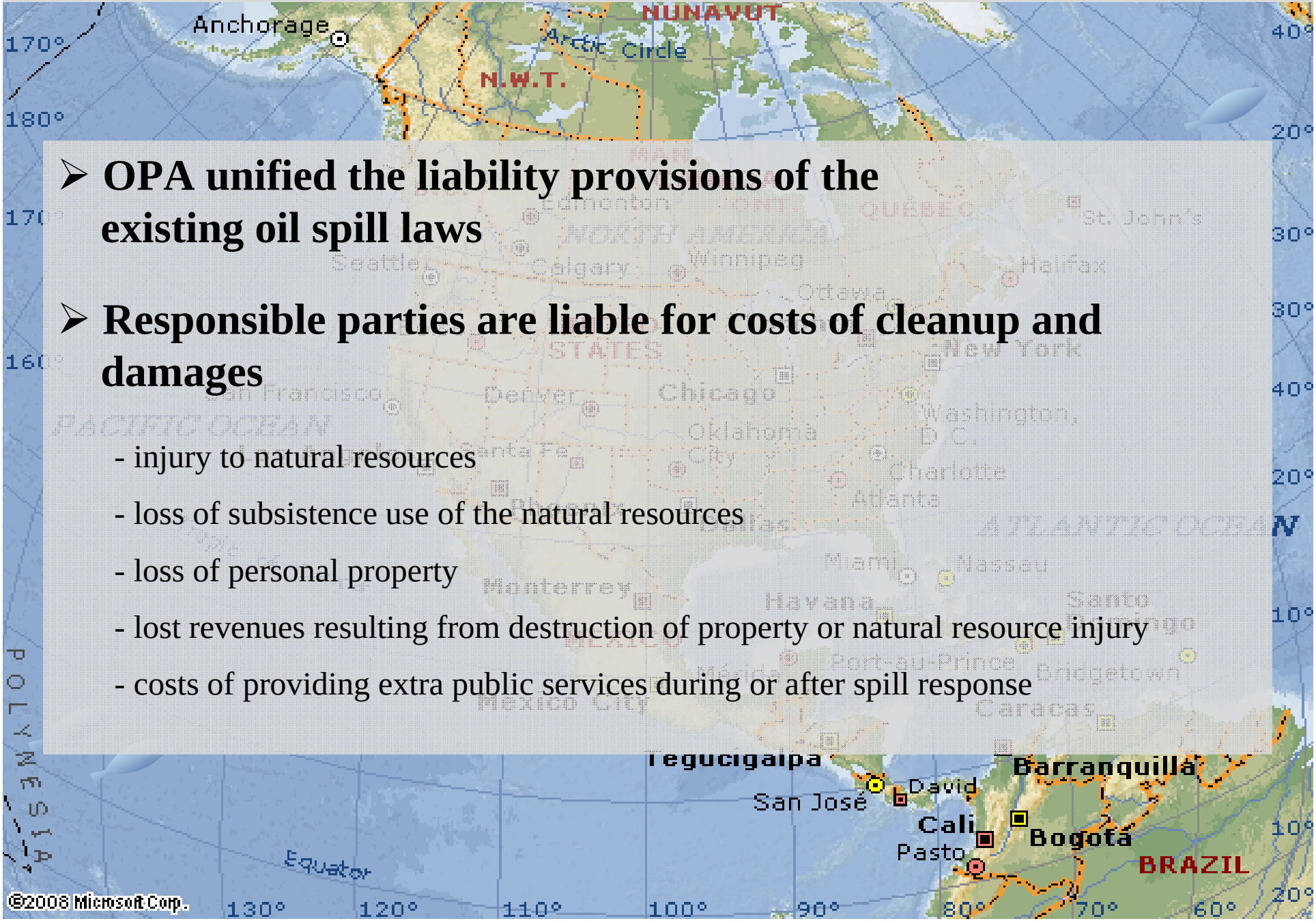
USA Oil Spill Response Policy / **OPA 90 / Preparedness and Response**





- **Preparedness and response framework consist of three levels of contingency planning:**
  - National Contingency Plan
  - Regional Contingency Plans (RCP)
  - Area Contingency Plans (ACP)
- **Coordination Teams**
  - National Response Team
  - Regional Response Team (RRT)
- **Federal on Scene Coordinator (FOSC)**
  - Responsible for the implementation of the response

USA Oil Spill Response Policy / **OPA 90 / Liability and Compensation**



- **OPA unified the liability provisions of the existing oil spill laws**
- **Responsible parties are liable for costs of cleanup and damages**
  - injury to natural resources
  - loss of subsistence use of the natural resources
  - loss of personal property
  - lost revenues resulting from destruction of property or natural resource injury
  - costs of providing extra public services during or after spill response

➢ Liability Limits

OPA sets liability limits for cleanup costs and other damages except for acts of gross negligence or willful misconduct

		Limits of Liability	
Vessel Type		**OPA 1990**	**The Coast Guard and Maritime Transportation Act of 2006**
Tank Vessels	**Single Hull**	• Vessels greater than 3000 gross tons; the greater of $1200 per gross ton or $10 million. • Vessels less than or equal to 3,000 tons; t he greater of $1200 per gross ton or $2 million	• Vessels greater than 3000 gross tons; the greater of $3000 per gross ton or $22 million. • Vessels less than or equal to 3,000 tons; the greater of $3000 per gross ton or $6 million
	Double Hull		• Vessels greater than 3000 gross tons; the greater of $1900 per gross ton or $16 million. • Vessels less than or equal to 3,000 tons; the greater of $1900 per gross ton or $4 million
Any Other Vessels		• The greater of $600 per gross ton or $500.000	• The greater of $950 per gross ton or $800.000

USA Oil Spill Response Policy-**OPA 90 – Liability and Compensation**

- **Oil Spill Liability Trust Fund (OSLTF)**

  OPA provided the statutory authorization necessary to put the fund motion and transferred the other federal liability funds supporting certain federal oil pollution laws into OSLTF

- **The OSLTF can be used for**

  - prompt payment of costs for responding to oil spills
  - excess amount of liability limits
  - uncompensated removal costs and damages

- **The source of income is 5-cent-per-barrel tax taken from oil industry**

- **Payment can be done within some limits**

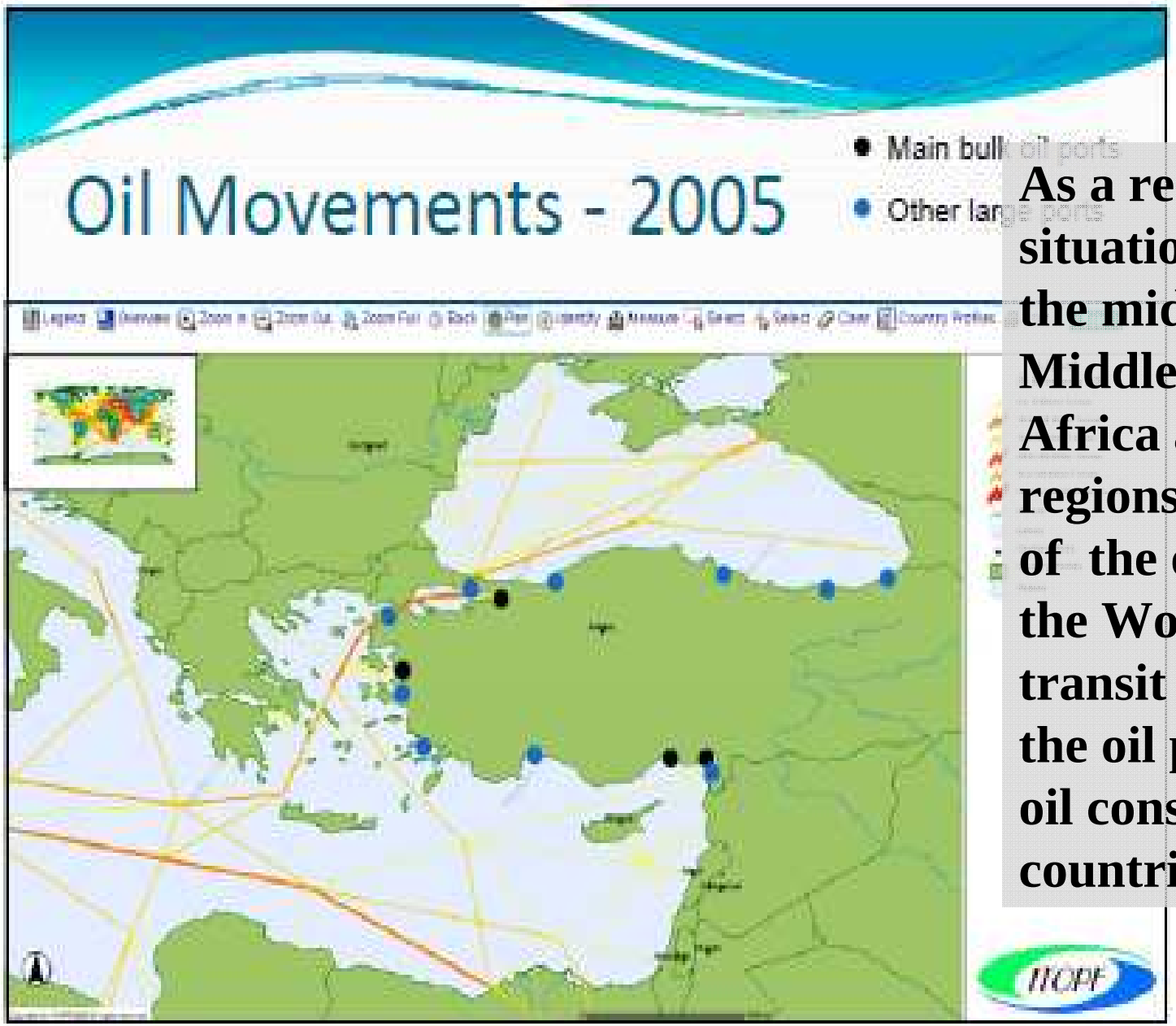
  - maximum amount that may be paid for any single incident shall not exceed 1 billion $ and natural damage claims in connection with any single incident shall not exceed 500 million $.

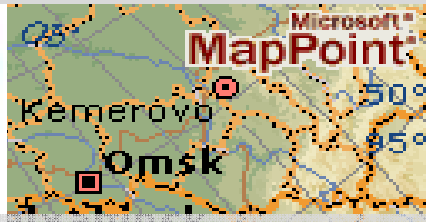
USA Oil Spill Response Policy / **OPA 90 / Effectiveness**

- **OPA Improved the oil spill prevention, preparedness and response policy of the United States**
  - OPA unified the federal system and clarified the federal government's role
  - OPA unified liability regime and increased the liability limits and scope of recoverable damages
  - Required new measurement as vessel construction, crew manning , licensing, contingency planning etc.
  - The number of oil spills and volume of oil spilled declined seriously after OPA implementation in spite of increasing oil transportation
- **Comparison with international regime**
  - Higher liability limits and a fund scheme with a higher maximum amount of compensation comparing to international regime
  - Option of imposing unlimited liability contrary to the international regime based on the limited liability
  - OPA 90 is far beyond the international regime in respect of natural resources damages (international regime has an ambiguous definition and scope of recoverable damages)
- **Shortcomings**
  - Some liability limits are insufficient to support the fundamental polluter pays principle
  - Viability of the OSLTF - especially after a major oil spill
  - Demand for some more stringent measures to prevent the oil spills
  - Inadequate responders at all levels of government and response companies having response operation experience
- **Criticism**
  - Transportation of oil into US more expensive (higher liability limits, more extensive scope of the recoverable damages, double hull requirement and some other domestic measures)
  - OPA 90 does not allow for alternatives of double hulls regardless of effectiveness.

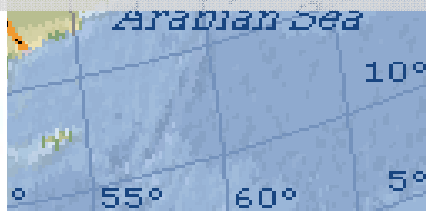
TURKEY Oil Spill Response Policy / **Geographical Location**

-Turkey having a coastline of approximately 8000 km is situated to the southeast of Europe, south of the former Soviet Union and Black sea, northwest of the Middle East and northeast of the Mediterranean Sea where the European and Asian continents meet across the Turkish straits.

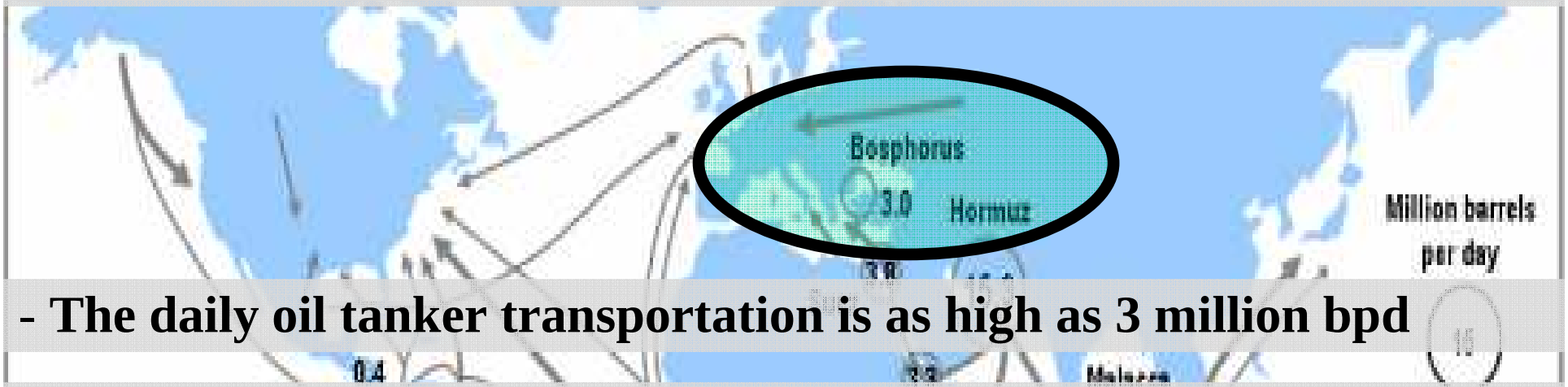




As a result of this situation, Turkey is at the middle of the Middle east, North Africa and Caspian regions having the 2/3 of the oil reserve of the World and is a transit country among the oil producing and oil consuming countries.



- The number of ships passing through the Straits was 4700 in 1936, today this figure is more than 50.000



- The daily oil tanker transportation is as high as 3 million bpd

Shipping Traffic in the Istanbul Straits and the main canals (2000);

Canal	*shippin traffic*
Panama Canal	**12755**
Suez Canal	**13552**
Kiel Canal	**23945**
Istanbul Strait	**48000**

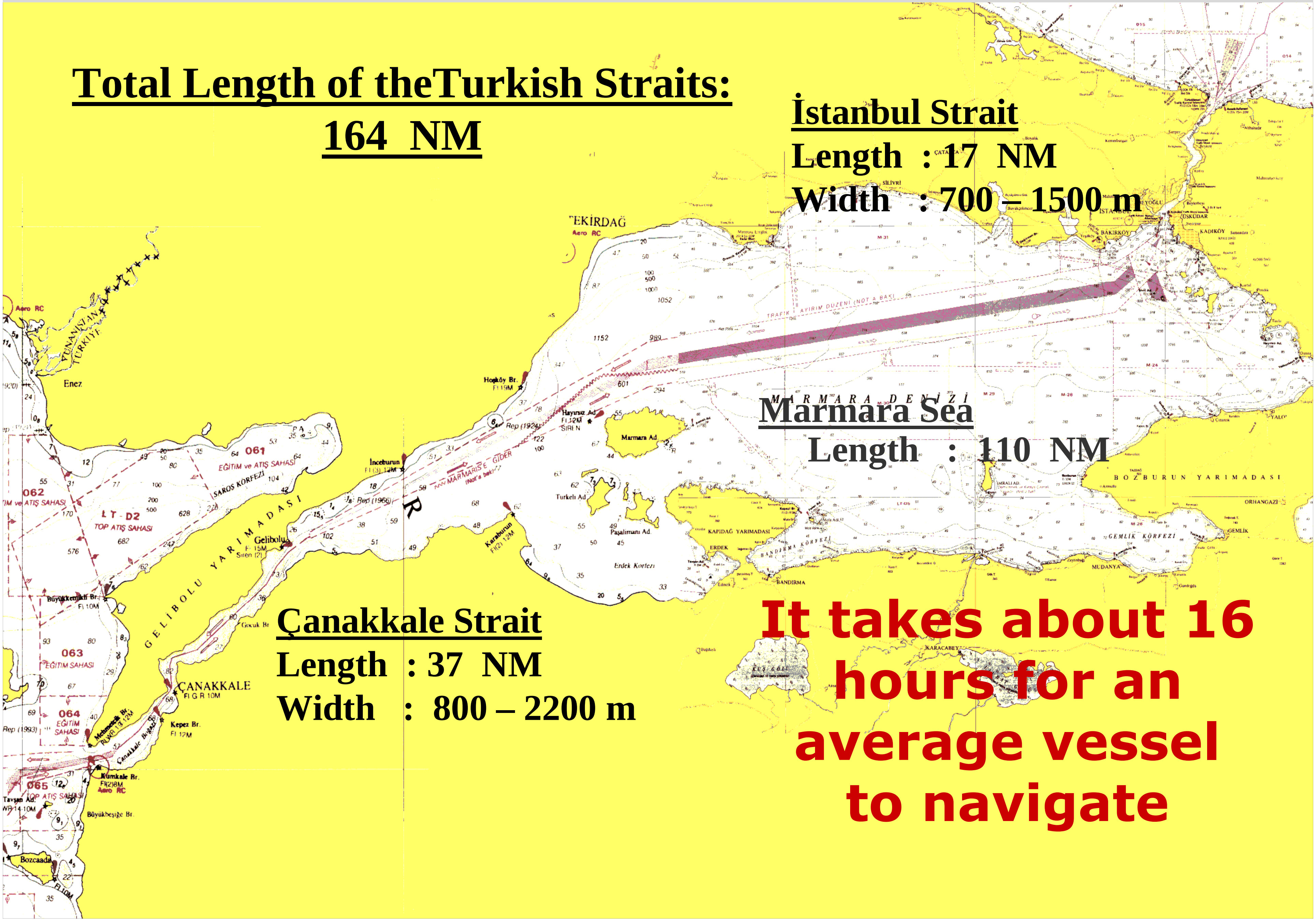
Total Length of theTurkish Straits: 164 NM

İstanbul Strait
Length : 17 NM
Width : 700 – 1500 m

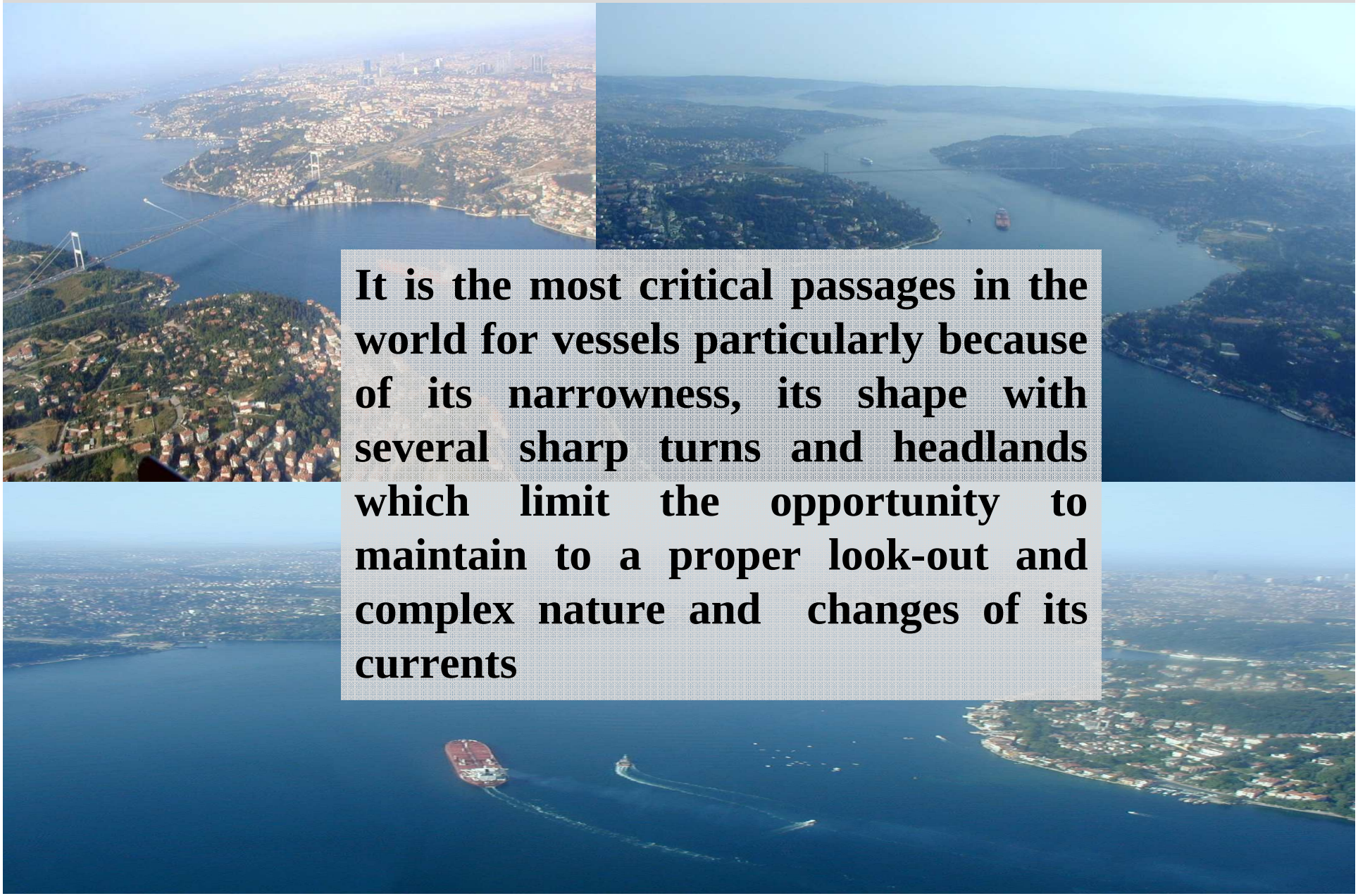
Marmara Sea
Length : 110 NM

Çanakkale Strait
Length : 37 NM
Width : 800 – 2200 m

It takes about 16 hours for an average vessel to navigate



The daily intense maritime traffic in Istanbul (about 2500 shuttle boats), inter-city ferries, leisure crafts and fishing boats. More than 2.5 million people are involved every day in Istanbul alone in the maritime traffic for transport and other purposes.



It is the most critical passages in the world for vessels particularly because of its narrowness, its shape with several sharp turns and headlands which limit the opportunity to maintain to a proper look-out and complex nature and changes of its currents

- **2.275 million ton oil production in 2004**

Tablo-36(a): Petrol/Doğalgaz Üretim Tahmini (milyon varil/ milyon Sm3)

Sıra No.	Ana Mallar	YILLAR							
		2006	2007	2008	2009	2010	2011	2012	2013
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Petrol	15,014	13,951	12,949	12,036	11,190	10,498	9,820	9,133
2	Doğalgaz	1024	1434	1584	1054	984	934	974	1014

- **23.83 million ton oil consumption**

Tablo-33(a): Petrol ve Doğalgaz Yurtiçi Talep Projeksiyonu (Miktar Olarak)

(Petrol: Mton / Doğalgaz : Milyon Sm3)

Sıra No.	Ana Mallar	YILLAR							
		2006	2007	2008	2009	2010	2011	2012	2013
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Petrol	24.94	26.89	27.15	27.02	26.90	26.80	26.70	26.60

- **Coverage ratio of produced oil is %8.87 of the oil consumed**

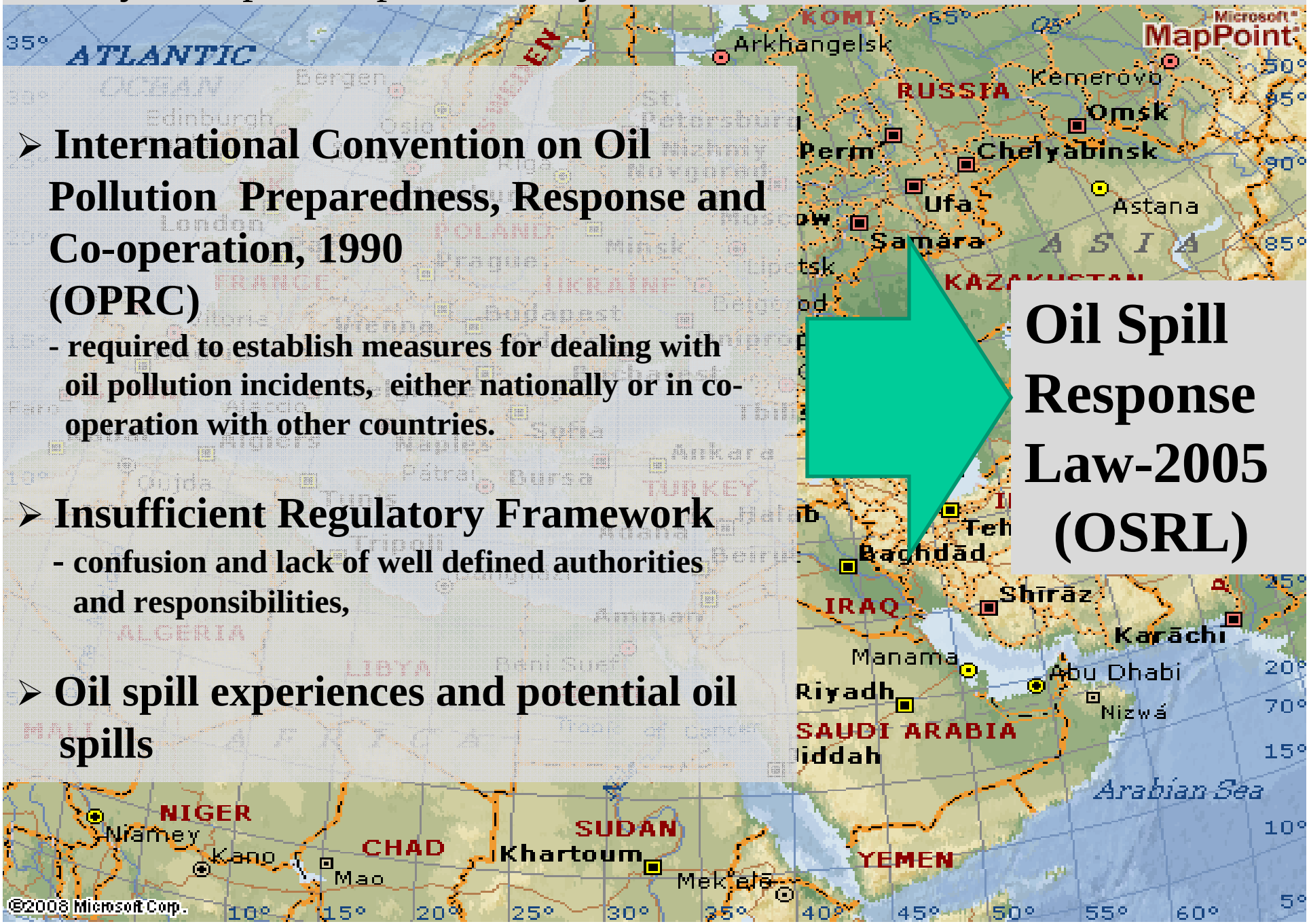
Date	Vessel name and flag	Accident area	Accident type and oil spilt
14.12.1960	World Harmony (Greek) v. Peter Zoranic (Yugoslav)	Kanlica	Collision and fire: 18.000 tons oil spilled
15.09.1964	Norborn (Norwegian) v. wreck of Peter Zoranic	Kanlica	Contact: fire and oil spilled
01.05.1966	Lutsk(USSR) v.Kranskiy Oktiabr (USSR)	Kınalıada	Collision and fire: 1.830 tons oil spilled
15.11.1979	Independentza (Romania) v.Evrıali (Greek)	Haydarpaşa	Collision and fire:94.600 tons oil spilled
09.11.1980	Nordic Faith(British) v.Stavroula (Greek)	-	Collision and fire
29.10.1988	Bloostar (Malta) Gaziantep (Turkish)	Ahırkapı	Contacted m.t. Gaziantep; 1000 tons ammonia spill
25.03.1990	Jambur(Iraqi) v. De Tung Shan(Chinese)	Sarıyer	Collision : 2.600 tons oil spilled
14.11.1991	Madonna Lily (Philippines) Rabunion 18 (Lebanese)	Kanlica	Collision: 20.000 live animals drowned
13.03.1994	Nassia (Philippines)v.		Collision and fire : 9.000 tons oil spilled; 20.000 tons oil fired
07.10.2002	Gotia (Greek)	Bebek	Collision and stranding : 22 tons oil spilled

Transit Country + Turkish Straits+ Oil Import

Vast Majority of oil Transported Using Turkish Seas Passing Through the Turkish Straits (%88 of foreign trade made by marine transportation)

Oil Spills

Turkey Oil Spill Response Policy



- **International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 (OPRC)**
  - **required to establish measures for dealing with oil pollution incidents, either nationally or in co-operation with other countries.**
- **Insufficient Regulatory Framework**
  - **confusion and lack of well defined authorities and responsibilities,**
- **Oil spill experiences and potential oil spills**

Turkey Oil Spill Response Policy / **Pre-OSRL 2005**

- **Environmental Law-2872**
  - general provisions
- **Decree Law On The Organization And Duties Of The Ministry of Environment - 1991**
  - One of the duties of the ministry is describes as to protect the environmental pollution make the contingency plans and provide the necessary coordination of the related institutions
- **Water Pollution Control Regulation**
  - obligation to have response organization and oil spill equipment in case of accidental oil discharges for the facilities storing, transporting and producing oil products
- **Other loads of indirectly related laws and regulations**
  - Law of Ports-618, General Sanitation Law-1593, Special Provincial Administration Law 3360, Law on the Protection of Life and Property at Sea-4922, Municipal Law 1580 etc.

- **Emergency Response Plans**

-14 of the 21 coastal city have the emergency response plan

-Simple and not adequate, no risk assessment and no coordination and compliance with other cities' plans

- **Limited Response Capacity and equipment**

-There is some government-owned equipment operated by Coastal Safety and Ship Salvage Administration, a government run salvage company in Istanbul. A limited amount of oil spill clean-up equipment is owned by the oil companies operating in Turkey located at the main oil terminals. Oil companies. Some refineries.

- **Undersecretariat for Maritime Affairs**

- Navigation, traffic monitoring, inspections, vessel design,

- **Legislative Framework**

- Decree Law On The Organization And Duties Of The Undersecretariat For Maritime Affairs-1993

- Law on the protection of life and property at sea-1946

- Regulation on measurements of tonnages of merchant ships-1966

- Regulations for preventing collisions at sea-1977

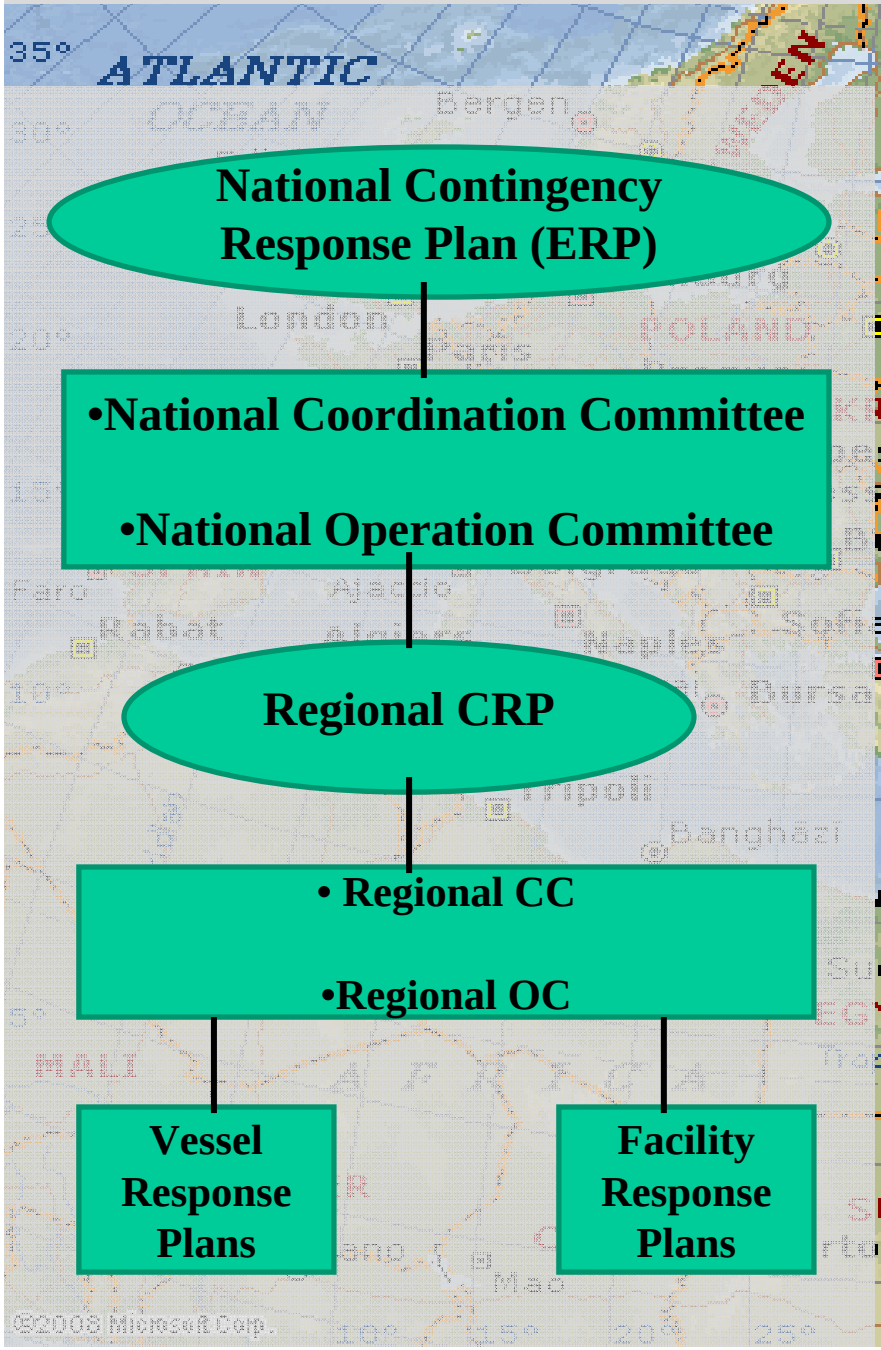
- Rules on the load lines of commercial vessels-1966

- Regulation for seaman's training, certification and labor shift

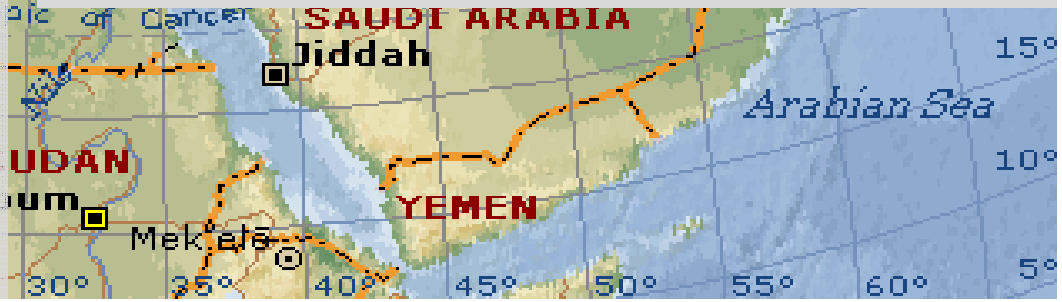
- Regulation for Turkish Straits Vessel Traffic Order-1998

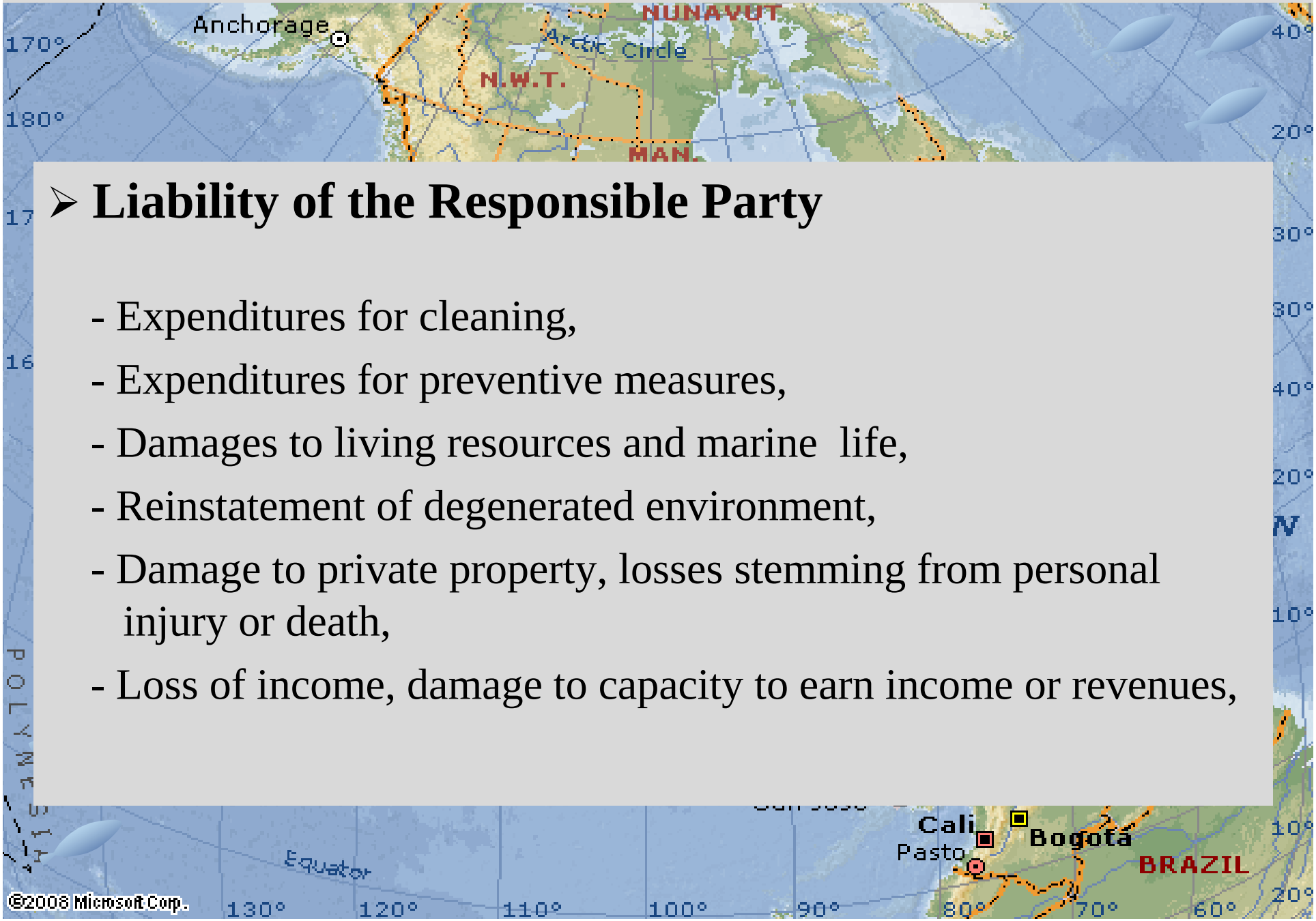
- **TURKISH STRAITS VESSEL TRAFFIC SERVICE (TSVTS)-2003**

For the time being with TSVTS along with the Istanbul Strait and Çanakkale Strait the **traffic of straits are monitored by using modern technology and it is given navigational assistance** (radars, cameras, Doppler current sensors, VHF/ direction finder stations, dVHF/ MF/ HF/ inmarsat -C communication equipments etc.)



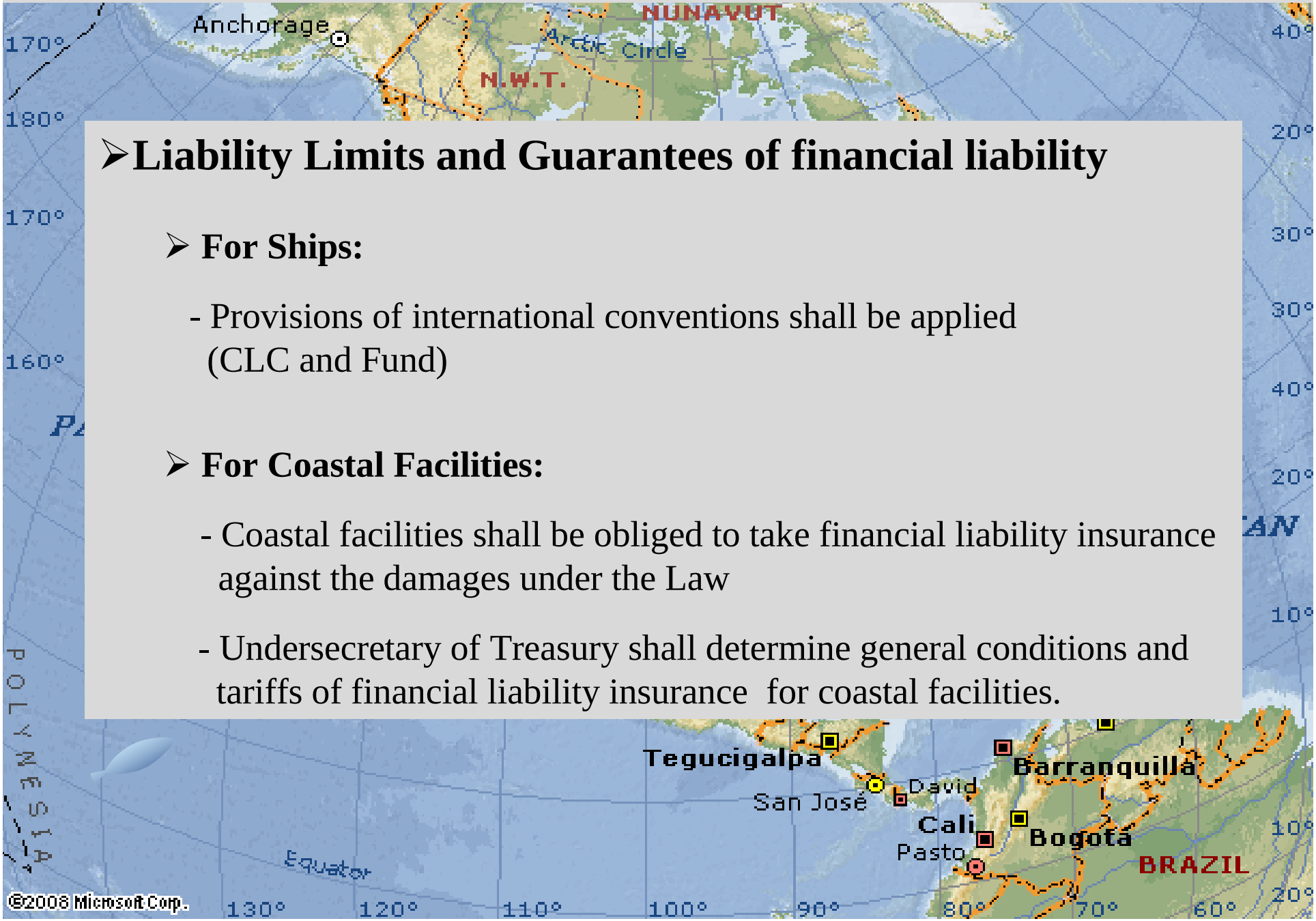
- **Preparedness and response framework consist of two levels of contingency planning:**
  - National Contingency Response Plan
  - Regional Contingency Response Plans (RCP)
- **Coordination Committees**
  - National Coordination Committee
  - Regional Coordination Committee
- **Implementation of the Response**
  - National Operation Committee
  - Regional operation Committee





➢ Liability of the Responsible Party

- Expenditures for cleaning,
- Expenditures for preventive measures,
- Damages to living resources and marine life,
- Reinstatement of degenerated environment,
- Damage to private property, losses stemming from personal injury or death,
- Loss of income, damage to capacity to earn income or revenues,



➢Liability Limits and Guarantees of financial liability

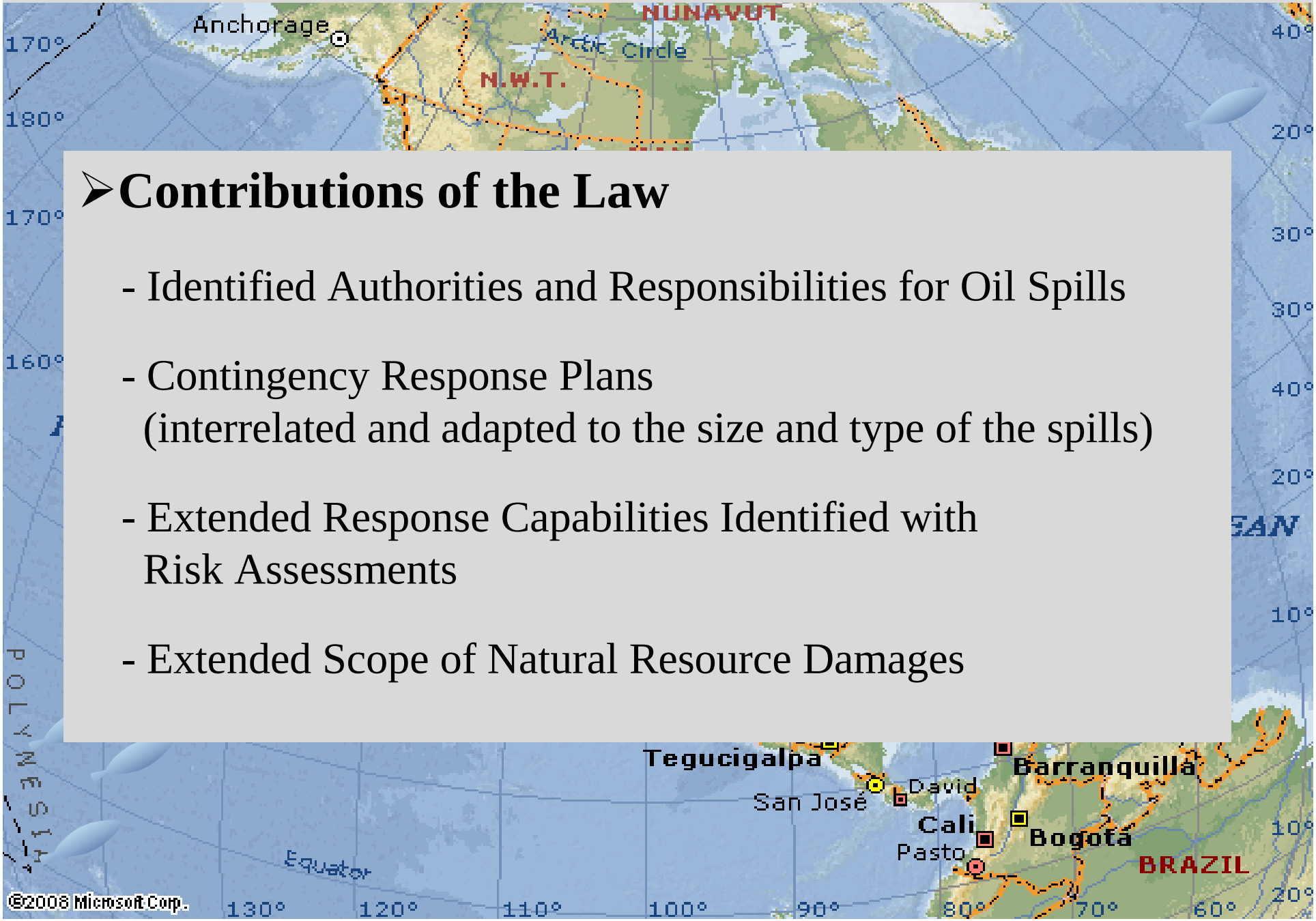
➢ **For Ships:**

- Provisions of international conventions shall be applied (CLC and Fund)

➢ **For Coastal Facilities:**

- Coastal facilities shall be obliged to take financial liability insurance against the damages under the Law

- Undersecretary of Treasury shall determine general conditions and tariffs of financial liability insurance for coastal facilities.



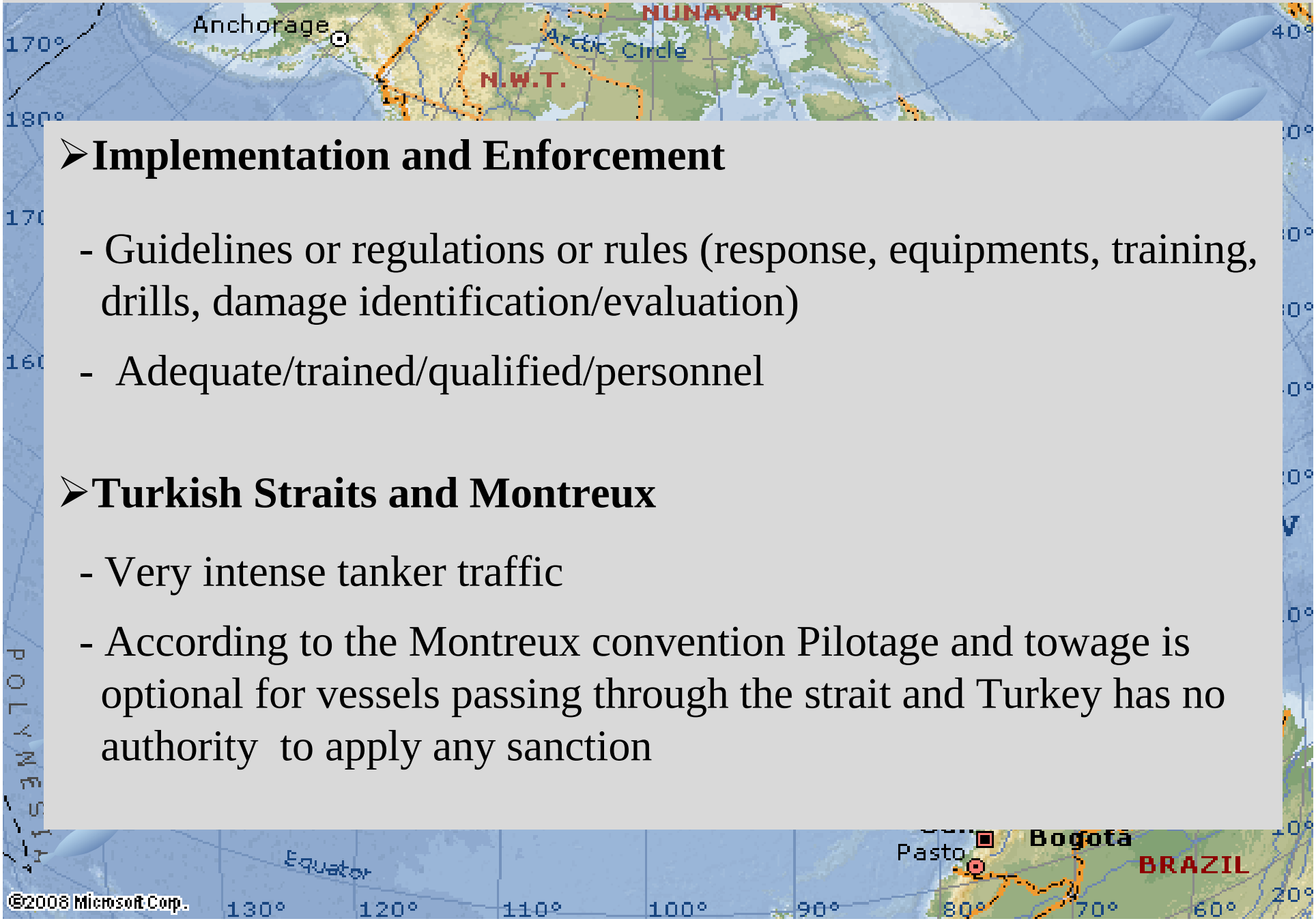
➢Contributions of the Law

- Identified Authorities and Responsibilities for Oil Spills

- Contingency Response Plans
  (interrelated and adapted to the size and type of the spills)

- Extended Response Capabilities Identified with
  Risk Assessments

- Extended Scope of Natural Resource Damages

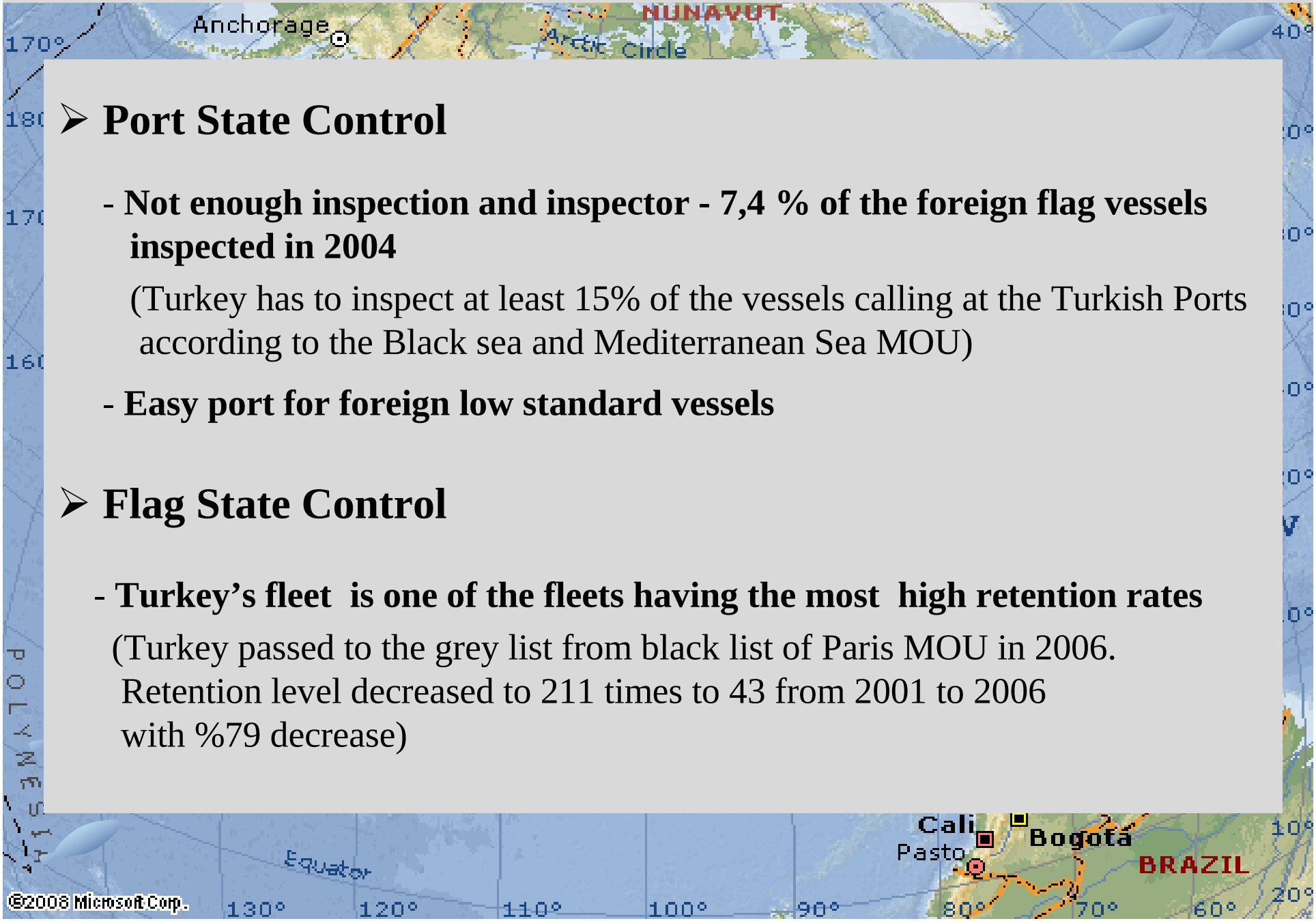


➢**Implementation and Enforcement**

- Guidelines or regulations or rules (response, equipments, training, drills, damage identification/evaluation)
- Adequate/trained/qualified/personnel

➢**Turkish Straits and Montreux**

- Very intense tanker traffic
- According to the Montreux convention Pilotage and towage is optional for vessels passing through the strait and Turkey has no authority to apply any sanction



➢ Port State Control

- Not enough inspection and inspector - 7,4 % of the foreign flag vessels inspected in 2004

(Turkey has to inspect at least 15% of the vessels calling at the Turkish Ports according to the Black sea and Mediterranean Sea MOU)

- Easy port for foreign low standard vessels

➢ Flag State Control

- Turkey's fleet is one of the fleets having the most high retention rates

(Turkey passed to the grey list from black list of Paris MOU in 2006. Retention level decreased to 211 times to 43 from 2001 to 2006 with %79 decrease)

U.S. and Turkey Oil Spill Response Policies / **Comparative Assessment**

	U.S.	Comments	Turkey	Comments
Influences	-Exxon Valdez -Environmental concerns -Insufficient regulatory framework	-It is a very good example to take the environment first ☺. -Economic power and ability to make some changes on oil industry	-International commitments -Very insufficient regulatory framework -Oil spill experiences and potential oil spills -Political willingness	-It is a very big progress to protect the environment
Legislative Framework	OPA -1990	-Comprehensive and specifically adressing oil spills -Prevention measures	OSRL -2005	-relatively comprehensive, and specifically adressing oil spills -- no-prevention measures
Prevention	- International and domestic measures	Exceeds comparing to international measures (additional prevention measures, first application to double hull etc.)	- Mostly International	-Bad picture of flag state control and port state control - Danger to be easy port region and under standard vessels

U.S. and Turkey Oil Spill Response Policies / **Comparative Assessment**

	U.S.	Comments	Turkey	Comments
Preparedness and Response	-Well defined, adaptable to the size and type of the spills	-	-Well defined, adaptable to the size and type of the spills	
Liability and Compensation	-Unified liability regime -High liability limits and fund scheme with a higher maximum amount of compensation in comparing to international system -High scope of recoverable damages -Option of imposing unlimited liability	-More effective to prevent oil spills and to protect the environment	-International system -Increased scope of damages (e.g. reinstatement of degenerated environment – not limited with reasonable measures of reinstatement)	- More effective to protect natural resources

U.S. and Turkey Oil Spill Response Policies / **Comparative Assessment**

	U.S.	Comments	Turkey	Comments
Implementation	-Insufficiency of liability limits -Viability of OSLTF -Demands for more stringent measures -Inadequate responders at all levels of government and response companies	-	-No direct implementation yet	-Delay on promulgation of some rules -Need loads of efforts to implement and enforce the regulatory framework (guidelines on response, response equipment, training, trained personnel, adequate staff, drills etc.)
Handicaps	- Expensive oil transportation	-Relatively expensive taking into consideration to the environmental benefits	-Turkish straits/Montreux and limited intervention right to the passing vessels	-Find some kind of international solutions before waiting a disastrous accident on the straits

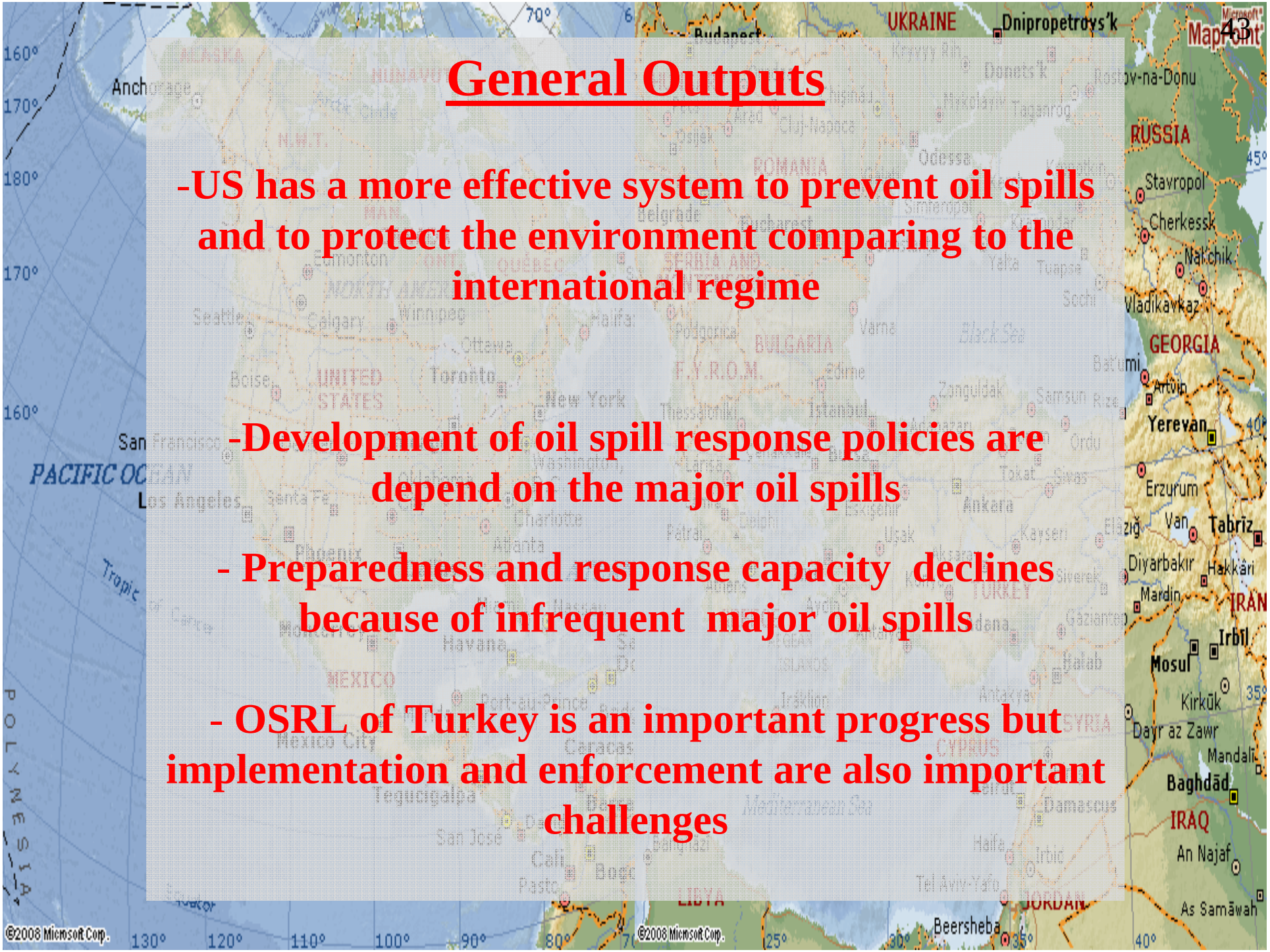
General Outputs

-US has a more effective system to prevent oil spills and to protect the environment comparing to the international regime

-Development of oil spill response policies are depend on the major oil spills

- Preparedness and response capacity declines because of infrequent major oil spills

- OSRL of Turkey is an important progress but implementation and enforcement are also important challenges



REFERENCES/Pictures/Figures/Maps

- **BP Web Site - http://www.bp.com/sectiongenericarticle.do?categoryId=9023809&contentId=7044537**
- **Ministry of Environment and Forestry - http://www.cevreorman.gov.tr/**
- **NOAA Web Site - http://www.noaa.gov/**
- **ITOPF (International Tanker Owners Pollution Federation Limited - http://www.itopf.com/**
- **General Directorate of Petroleum Affairs - http://www.pigm.gov.tr/english/index.php**
- **Earth Trends the Environmental Information Portal - http://earthtrends.wri.org/searchable_db/**
- **OECD Web Site - http://www.oecd.org/home/0,2987,en_2649_201185_1_1_1_1_1,00.html**
- **International Energy Agency - http://www.iea.org/index.asp**
- **API-American Petroleum Institute - http://www.api.org/ehs/water/spills/index.cfm**
- **U.S. Coast Guard Web Site - http://www.uscg.mil/**
- **EPA Web Site - http://www.epa.gov/**
- **IMO Web Site - http://www.imo.org/**
- **The National Academies Web Site - http://www.nationalacademies.org/**
- **Directorate General of Coastal Safety - http://www.dgcs.gov.tr/default.asp?id=0&lng=en**

Thanks…