

CENTRE FOR INTERNATIONAL LAW

Arranging for Dispersant Internationally based on international law

Registration Arrangements of Dispersants For Oil Spill Response at Sea
Bali – 23 November 2011

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Outline

Part I - Arranging for dispersants: parameters

Part II - International legal framework

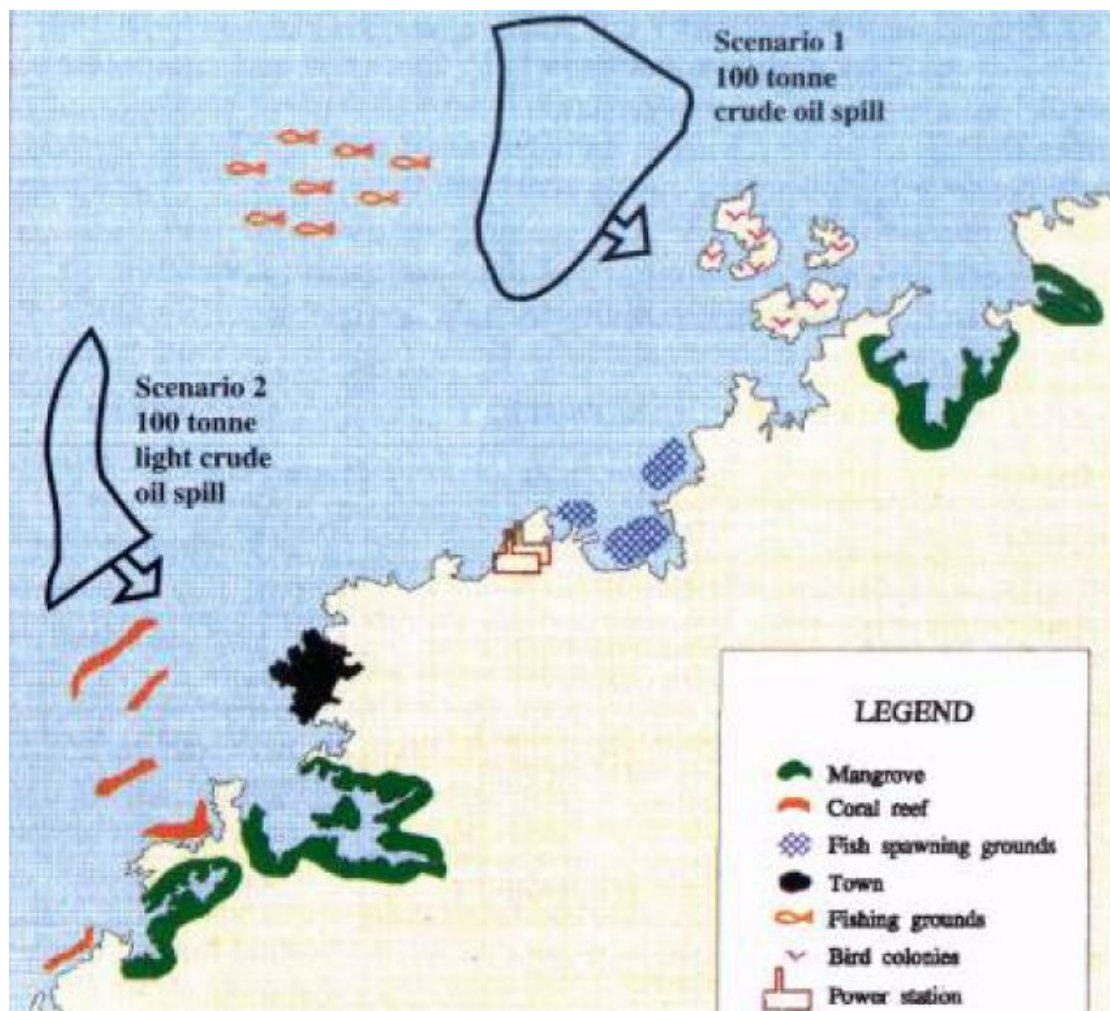
Part III - Regional Programs

Conclusion

Part I - Arranging for dispersants: parameters

- 1. Exposed resources**
- 2. Oil-spill treating agents**
- 3. Sources of potential spills**
- 4. Oil properties**
- 5. Effect and effectiveness**

I-1/ Exposed resources



Sensitivity map : NOWPAP Guidelines p.73 (based on mapping by the World Conservation Monitoring Center)

Fish spawning ground/
juveniles

Fish farms or mariculture

Fishing ground

Beach for marine tourism

Mangrove

Seabird nesting site

MPA

Coastal industries

I-2/ Oil spill treating agents

Dispersants are only one type: used to enhance dispersion of the oil throughout the top layer

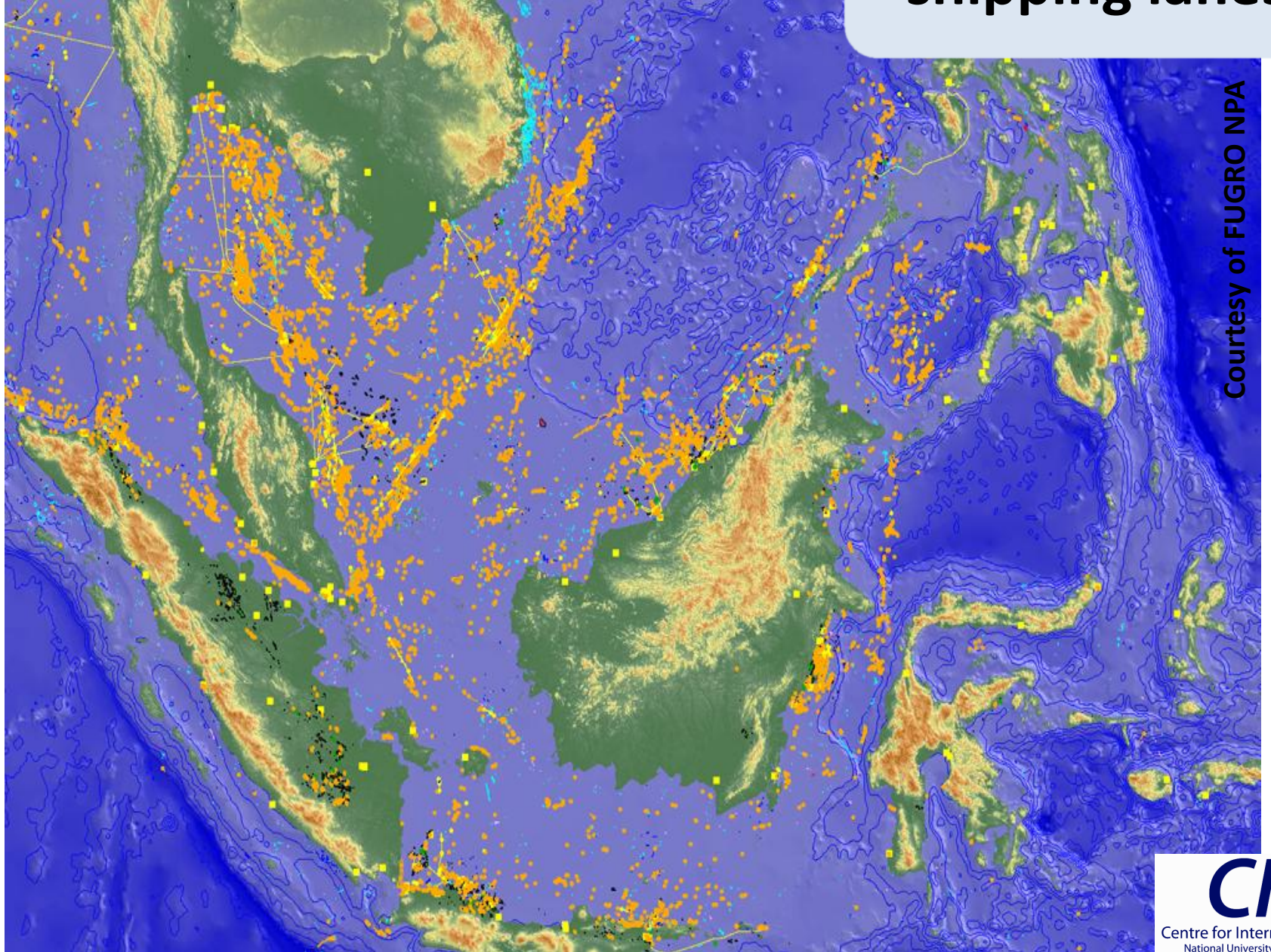
Include

**beach cleaners,
emulsion breakers,
recovery enhancers,
solidifiers,
sinking agent ,
biodegradation agents.**



I-3/ Sources of potential spills 1/2

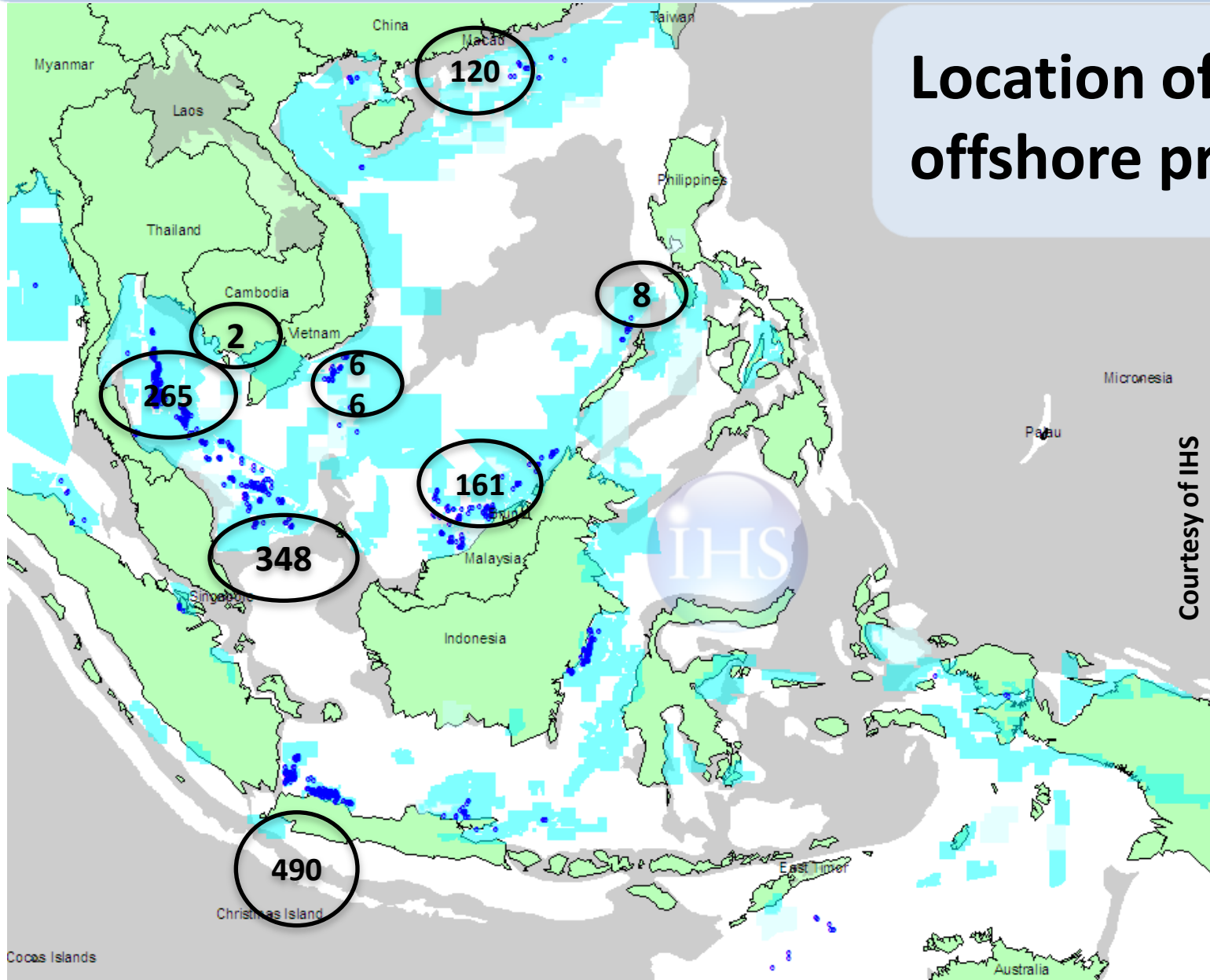
Location of shipping lanes



Courtesy of FUGRO NPA

I-3/ Sources of potential spills 2/2

Location of offshore production



Courtesy of IHS

I-4/ Oil properties 1/2

Viscosity? Pore point? Surface or submerged?

Bunker oil and refined oil lighter than crude oil.

Dispersants are ineffective on very viscous oils and very volatile oil

Examples of crude oil offshore Southeast Asia

Field	Location	Pour point (in °C)	Viscosity cSt @15°C
Bach Ho	South Vietnam	35	S
Bintulu Neat	Sarawak	17	S
Lalang	Malacca Straits	33	S
Dai Hung	Vietnam (West Spratlys)	25	S
Duri	Sumatra	14	S
Widuri	North Java	46	S

Based on information from ITOPF Technical information paper on the Fate of Marine Oil Spills.

I-4/ Oil properties 2/2

Sea Surface Temperature

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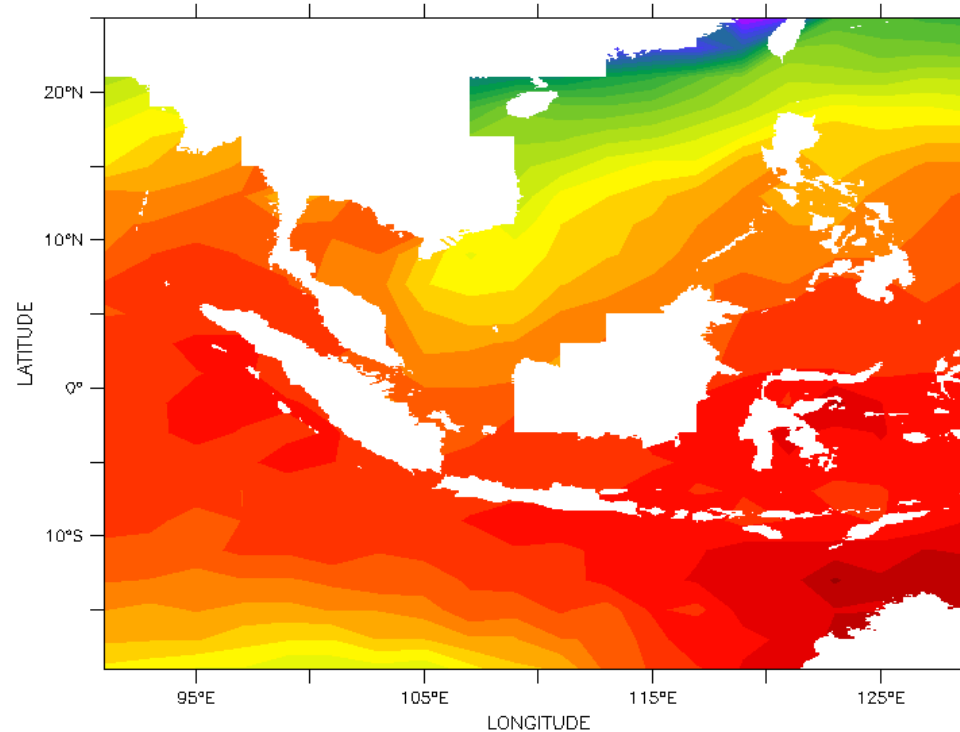
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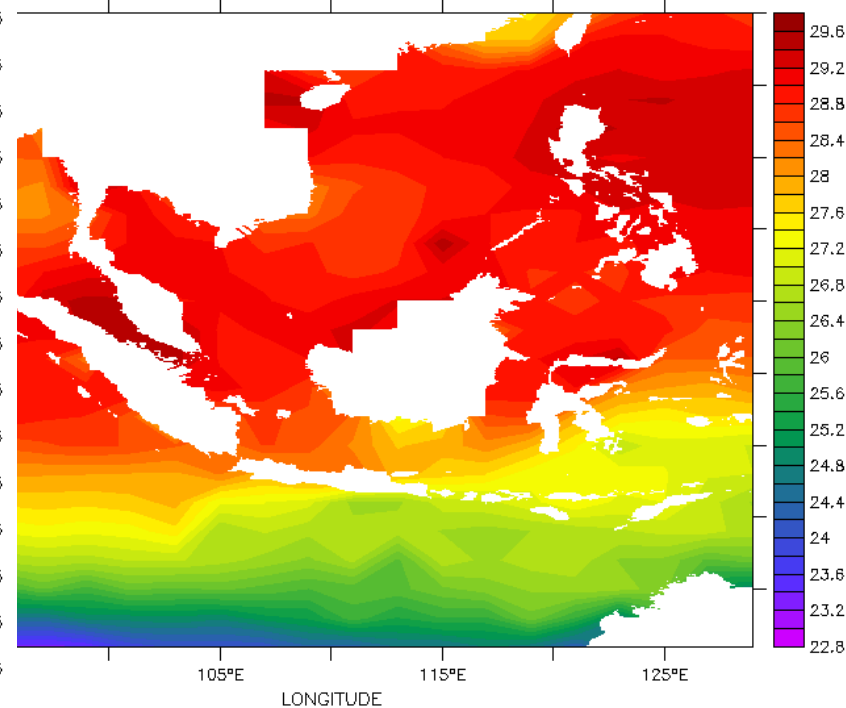
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SEA SURFACE TEMPERATURE (Deg C)



SEA SURFACE TEMPERATURE (Deg C)

SST data - Extracted from Levitus Climatology (Levitus-98),
Courtesy of Dr Madhusoodanan M. Sukumarannair, TMSI, NUS

I-5/ Effect and effectiveness of dispersants 1/4

Simulation of an Oil spill on the surface



Courtesy of Professor Pavel Tklich, Tropical Marine Science Institute, NUS

I-5/ Effect of Dispersants 2/4

Simulation of an Oil spill at depth with dispersants



I-5/ Effect and effectiveness of dispersants 3/4

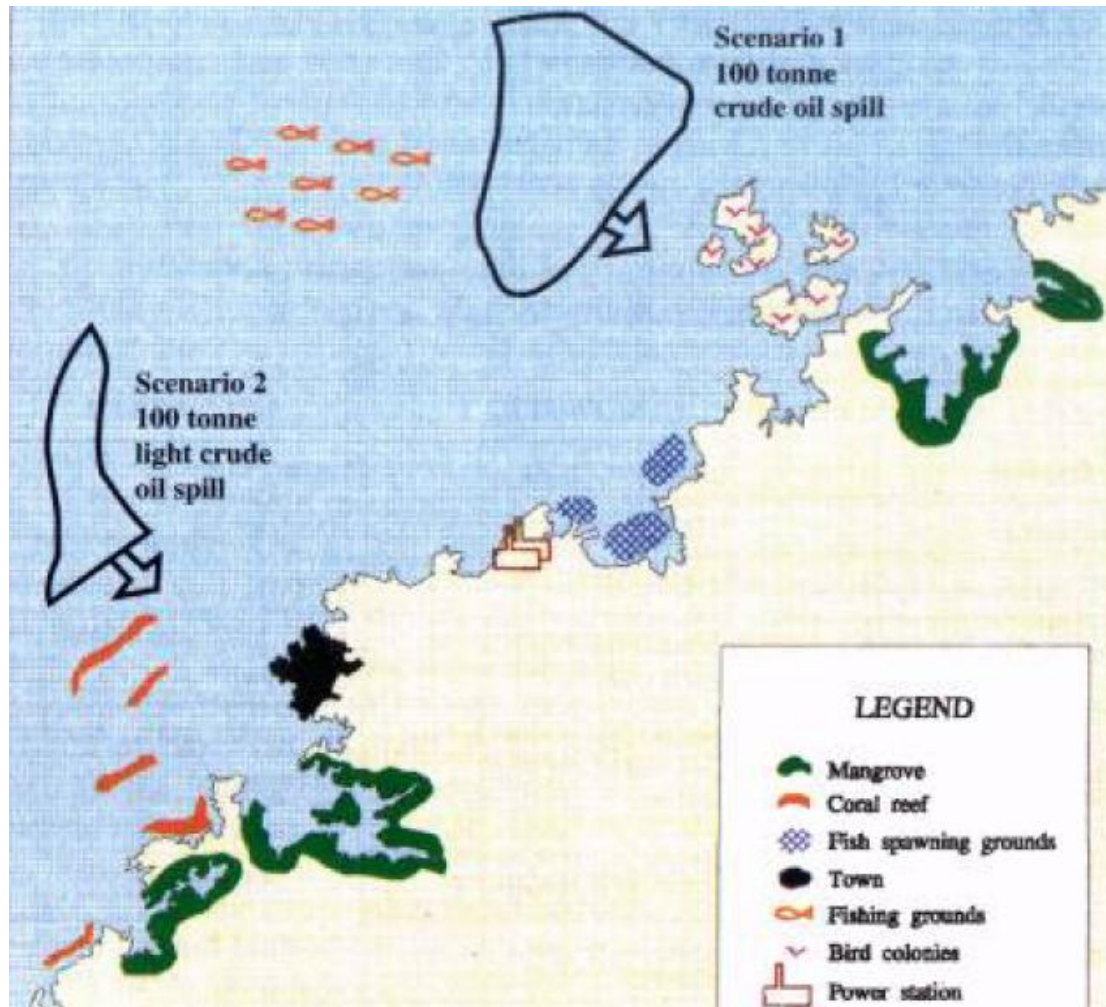
Effects must be scrutinized and balanced

- Risk of prolonged tainting of food from caged fish, mariculture facilities or coral reefs (become unmarketable)
- Toxicity tests of preferred products needed on relevant resources (When: pre-approval vs. during oil spill response)

Effectiveness must be scrutinized and balanced

- Weather and oceanographic condition
- Oil properties
- Value of exposed ecological features and marine life
- Trade-offs needed
- Appropriate measure early in spill can become inappropriate

I-5/ Effect and effectiveness of dispersants 4/4



Sensitivity map : NOWPAP Guidelines p.73 (based on mapping by the World Conservation Monitoring Center)

Oil type

Time since spill

Distance to resource (3nm to coral reefs vs.5nm to bird colony)

Mechanical clean-up?

Dispersants?

In-situ burning?

Boom sensitive areas

Monitoring

Part II – International Legal Framework



- 1. General provisions**
- 2. Specialised regulations and guidelines**
- 3. Responsibilities**

II-1/ General Provisions 1/2

UNCLOS

- States have the obligation to protect and preserve the marine environment (Art. 192) i.e. prevent, reduce and control pollution
- Using the best practicable means at their disposal and in accordance with their capabilities (Art.194(1))
- All measures necessary to ensure that activities under their jurisdiction do not cause damage by pollution to other States and their environment (Art.194(2))
- Pollution includes the release of toxic, harmful or noxious substances (Art.194(3)(a))
- Measures needed include those necessary to protect and preserve rare and fragile ecosystems as well as the habitat of depleted, threatened or endangered species (Art.194(5))

II-1/ General Provisions 2/2

UNCLOS – Cont'd

- Contingency plans to eliminate the effects of pollution and prevent or minimize the damage (Art.199)
- Scientific and technical assistance and preferential treatment for developing States (Art.202 and 203)
- Monitoring of the risks or effects of pollution (Art.204)
- Pollution from seabed activities: national measures must be no less effective than international rules, standard and recommended practices and procedure (Art.208)
- Pollution from vessel: Coastal States' measures may give effect to generally accepted international rules and standards in EEZ (Art.211(6)(a))
- Proportionality to the extent of the risk and duty to avoid adverse consequences in the response to pollution (Art. 221 and 225)

II-2/ Specialised int'l regulation 1/4

Applicable rules

- **Always follows the occurrence of an oil spill: The discharge of toxic dispersants cannot be separated from the oil spill**
- **MARPOL Revised Annex I (2004) on oil pollution not applicable**
- **Aimed at reducing ecological damage from the oil spill**
- **1990 OPRC and 2000 OPRC-HNS most relevant**
- **Detailed guidance in guidelines, not in treaties**

II-2/ Specialised int'l regulation 2/4

The OPRC Convention

Oil Pollution Preparedness, Response and Cooperation

- National system for responding promptly and effectively to oil pollution incidents
- National contingency plan for preparedness and response incl. establishment of

Oil spill combating equipment commensurate with the risk involved

- Programme of exercise for oil pollution response
 - Detailed plans and communication capabilities
 - Mechanism or arrangement to coordinate the response
-
- Planned development by IMO or other of standards for compatible oil pollution combating techniques and equipment (Art.8(4))
 - IMO endeavours to strengthen the ability of developing States to combat oil pollution incidents (Art.12(2))

II-2/ Specialised int'l regulation 3/4

Guidelines: IMO Manual on Oil Pollution

- I- Prevention
- II- Contingency planning : Guidance on establishment of response organisation and contingency planning (1995)
- III- Salvage For Administrations and officials. To assist with mitigation of effects from oil spill (1997)
- IV - Combating Oil Spills : Practical measures incl. fate of oil spills, effects on marine resources, containment and recovery of oil, shore-line clean-up, disposal of oil and oily debris, practical training, clean-up cost
- V- Administrative Aspects of Oil Pollution Response (1998)
- VI- IMO Guidelines for Sampling and identification of Oil Spills (1998)

II-2/ Specialised int'l regulation 4/4

Additional Guidelines

- 1999 Guidelines for managing fishery resources during oil spills (implementation of OPRC)
- **IMO/UNEP Guidelines on oil spill dispersants application including environmental considerations (1995)**
- Technical Group of the MEPC on OPRC-HNS is working on updating IMO Dispersant Guidelines
- New IMO /UNEP Guidance Manual on the Assessment and Restoration of Environmental Damage following Marine Oil Spills is also in progress (Draft at MEPC/OPRC-HNS/TG 7/3/2, 2008)

II-2/ Specialised int'l regulation 5/5

NEBA (Net Environment Benefit Analysis), a key tool

- Relied on in IMO guidelines and Regional Programmes
- Methodology to analyse the pros and cons to using specific dispersants or other techniques against oil spills
- Performed in the preliminary analysis/pre-approval phase as well as to assist decision making in best oil spill response
- NEBA team = Multi-disciplinary team of experts
- Preliminary NEBA: list of valuable resources with priorities + seasonal variations + potential effect of oil spill (taking oil properties into account) + pros and cons of oil spill response techniques
- NEBA in the event of oil spills based on real time info

II-3/ Responsibilities

- **State liability to minimize the spill vs. liability to not cause damage to the environment**
- **Excess use in dispersant can exclude compensation under CLC 69/71/92 and 92 Fund Protocol**
- **State's residual responsibility vis-à-vis other States**
- **State responsibility to enact laws, policies and measures to ensure that contingency planning and oil spill response plans are in place**
- **National law determines entities in charge and process to be followed**

Part III - Regional programs 1/4

NOWPAP Guidelines on the use of oil spill dispersants

- Purpose, scope and general principles in usage of oil spill dispersants
- Behaviour of spilled oil on water surface
- Preliminary approval procedures of dispersants
- Dispersants application techniques and planning
- Decision-making in oil spill response
- List of dispersants approved in NOWPAP countries
- List of relevant NOWPAP countries laws and regulations

III- Regional programs 2/4

REMPEC Guidelines on the use of oil spill dispersants

- **REMPEC = Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea**
- **Guidelines**

Part I: regional guidelines on the use of dispersants

Part II: Basic Information on dispersants and their application

Part III: Outline and proposed template for a national policy on the use of dispersant (Template policy)

Part IV: Operational and technical sheets on operational issues

III- Regional programs 3/4

Gulf of Thailand (w. PEMSEA)

- **1996 Regional Workshop on Operational Oil Spill Modelling with Special Reference to the Malacca Straits (GEF/UNDP/IMO Regional Programme for the Prevention and Management of Marine Pollution in the East Asian Seas)**
- **2006 Joint Statement between Cambodia, Vietnam and Thailand on partnership in oil spill preparedness and response in the Gulf of Thailand**
- **Provincial level oil spill contingency plan between provinces in Thailand and Vietnam (PEMSEA) through ICM plan**
- **Involves local and national agencies of non-signatories of the OPRC Convention and 2000 HNS protocol**

III- Regional programs 4/4

ASEAN-OSPAR

- **Started in 1993: aimed at improving the marine oil spill combating capability e.g. oil booms, oil skimmers, oil dispersant, oil storage tanks, etc. and information network syst.**
- **Includes dispersants availability but not type**
- **New phase since 2002, extended to Hazardous and Noxious Substances**
- **Strategy and Action Program (SAP) drafted in Jakarta in 2009 in partnership with the IMO**
- **Now includes all ASEAN countries except Laos**
- **Regional guidelines can be the next step ...**

Conclusion 1/2

Required components for best practice in dispersant use

At Regional Level

- **Clear condition for an oil spill to require regional coordination**
- **Sharing of pre-approved dispersants**
- **Mechanism for joint administration/decision making in regional oil spill response**
- **Common understanding/guidelines of use**

Conclusion 2/2

Required components for best practice in dispersant use

At National level

- **Oil spill reporting obligation**
- **Contingency planning incl.: list of acceptable (tested and approved) dispersants, zoning for dispersant use, knowledge of sensitive resources, institutional responsibilities and resources for prompt reaction**
- **NEBA (Net Environment Benefit Analysis) to determine oil spill response strategy**
- **Clear legal and institutional responsibilities for logistics and decision making**
- **Monitoring and re-assessment**

Thank you.

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