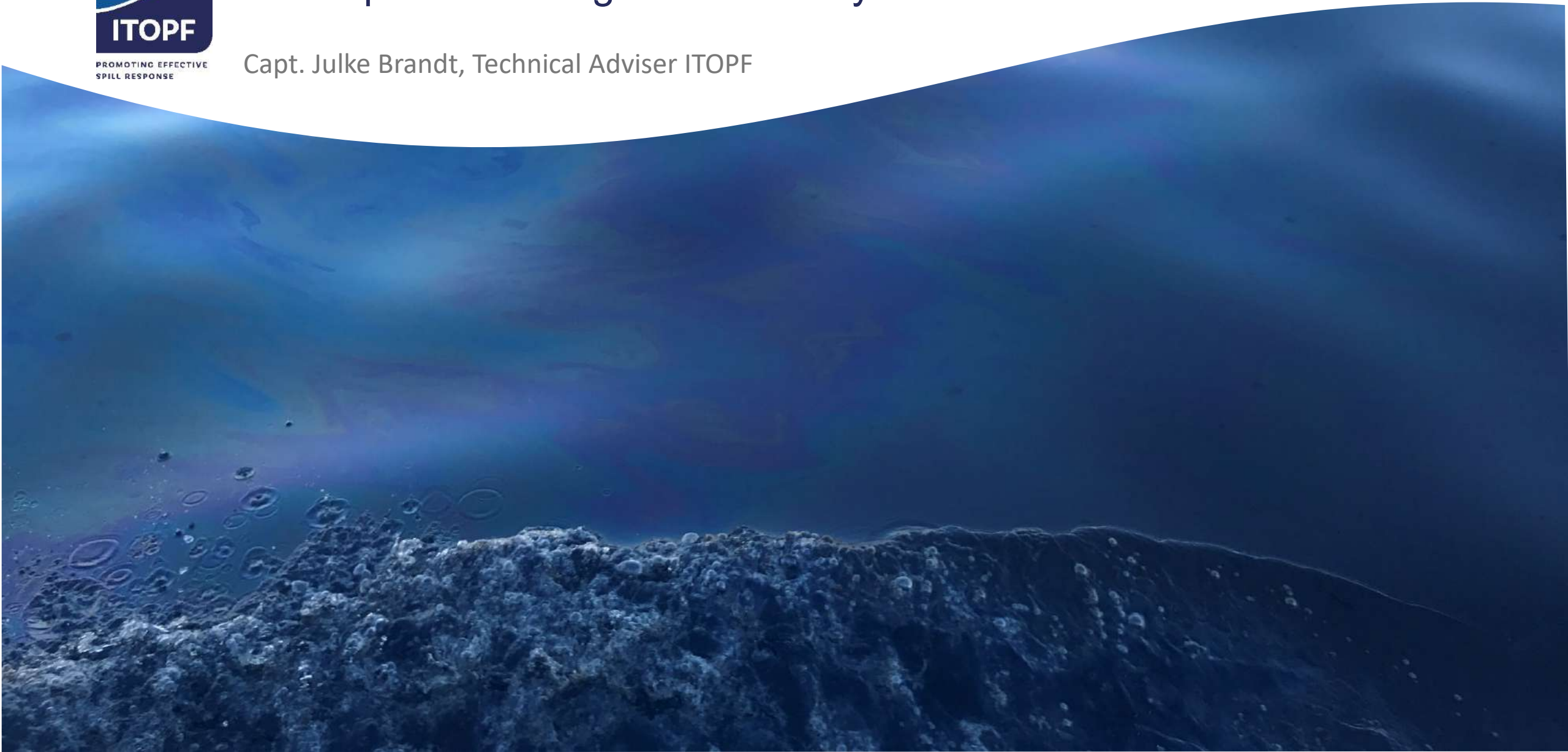
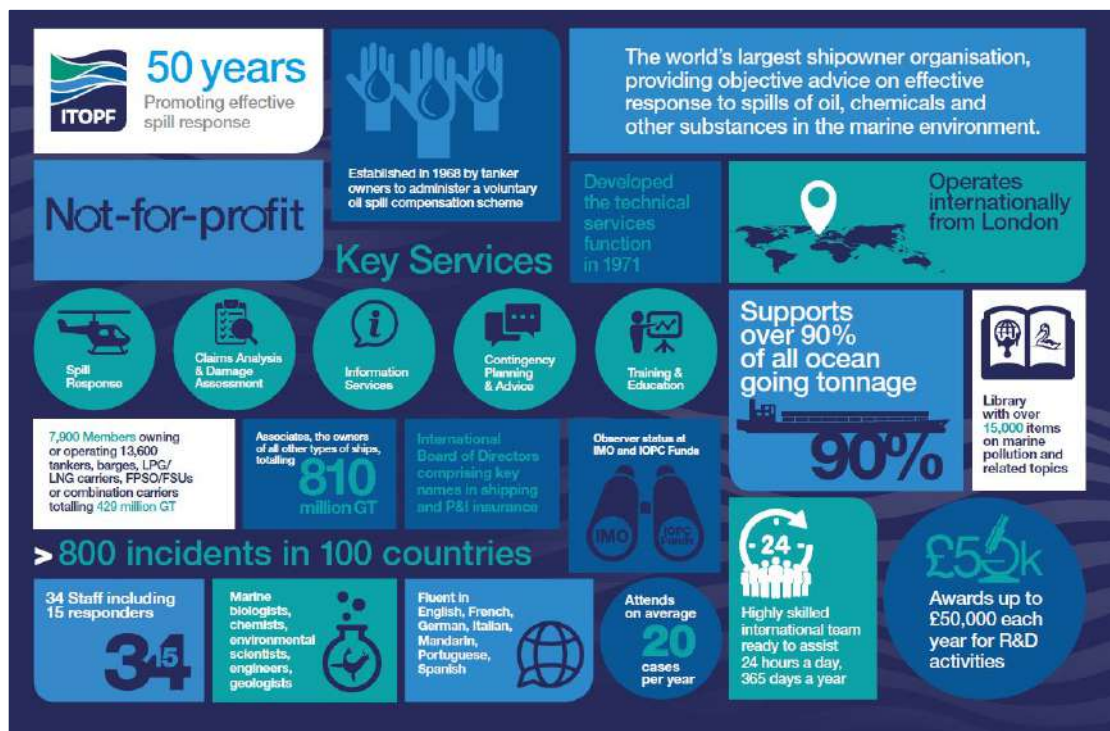




Post Spill Monitoring – Case Study and Lessons Learned

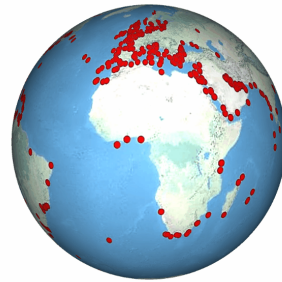
Capt. Julke Brandt, Technical Adviser ITOPF





Vision

To be a trusted source of objective technical advice worldwide on preparedness and response to accidental marine spills.



Mission Statement

To promote effective response to marine spills of oil, chemicals and other substances as a means of reducing impacts on the environment and affected communities.



- Established in 1968
- Operates on a non-for profit basis
- Based in London, but we work globally
- Total team of 34, technical team with 14 responders available 24/7
- Primarily funded by the global shipping industry (annual fee)
 - Members: > 97% of the world's ocean going tanker fleet
 - Associates: > 90% of the world's ocean going non-tanker fleet



1967 Torrey Canyon

Tanker Owners Voluntary
Agreement concerning
Liability for Oil Pollution
(TOVALOP)

1968

'International Tanker
Owner Pollution
Federation' (ITOPF) was
established to administer
TOVALOP

1970s

ITOPF developed its
technical services function
and established a team of
well qualified scientists

1999

ITOPF's services are
formally extended to the
owners of other types of
ships

2018
Celebrating
50th
Anniversary

34 staff provide objective
technical advice to
Members (429 million GT)
and Associates (779 million
GT)

Five key services

SPILL RESPONSE



IMPACT ASSESSMENT & CLAIMS ANALYSIS



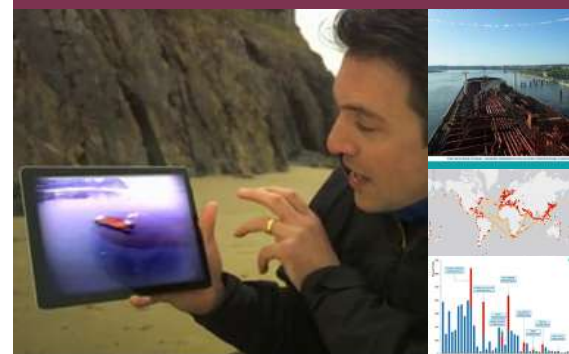
CONTINGENCY PLANNING & ADVISORY

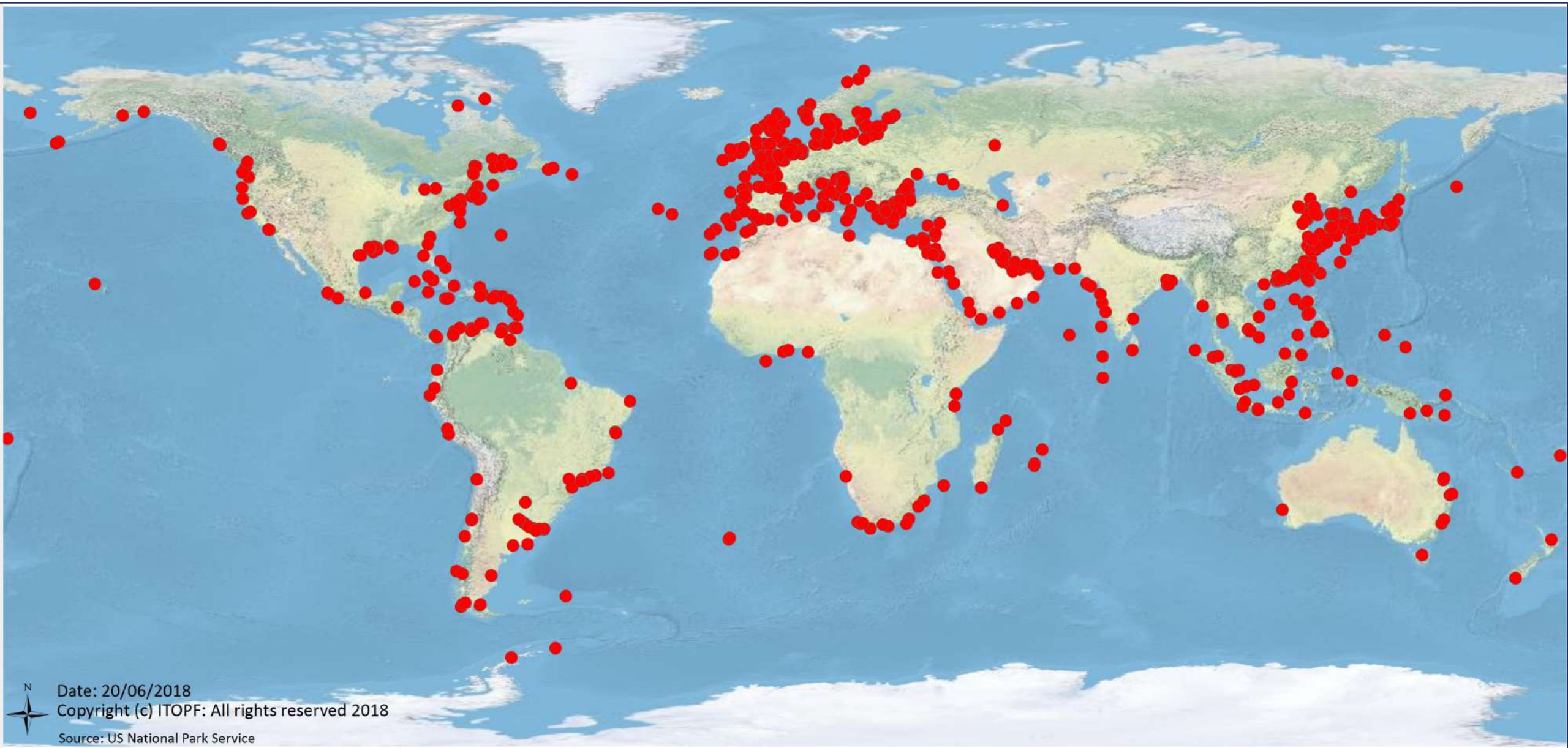


TRAINING & EDUCATION



INFORMATION SERVICES





Date: 20/06/2018

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Source: US National Park Service

Why conduct post spill monitoring?

1. Assess potential environmental and economic impacts
2. Identify appropriate and effective methods to investigate the impacts
3. Use best methods to assess short & long term impacts
4. Efficient use of resources
5. Assess the effectiveness of spill response & clean up operations
6. Determine compensation and / or liability

(Kirby *et al.* 2014)



However....

monitoring studies following spills are bound by a number of **scientific/technical** and **financial constraints**.

Types of post spill studies

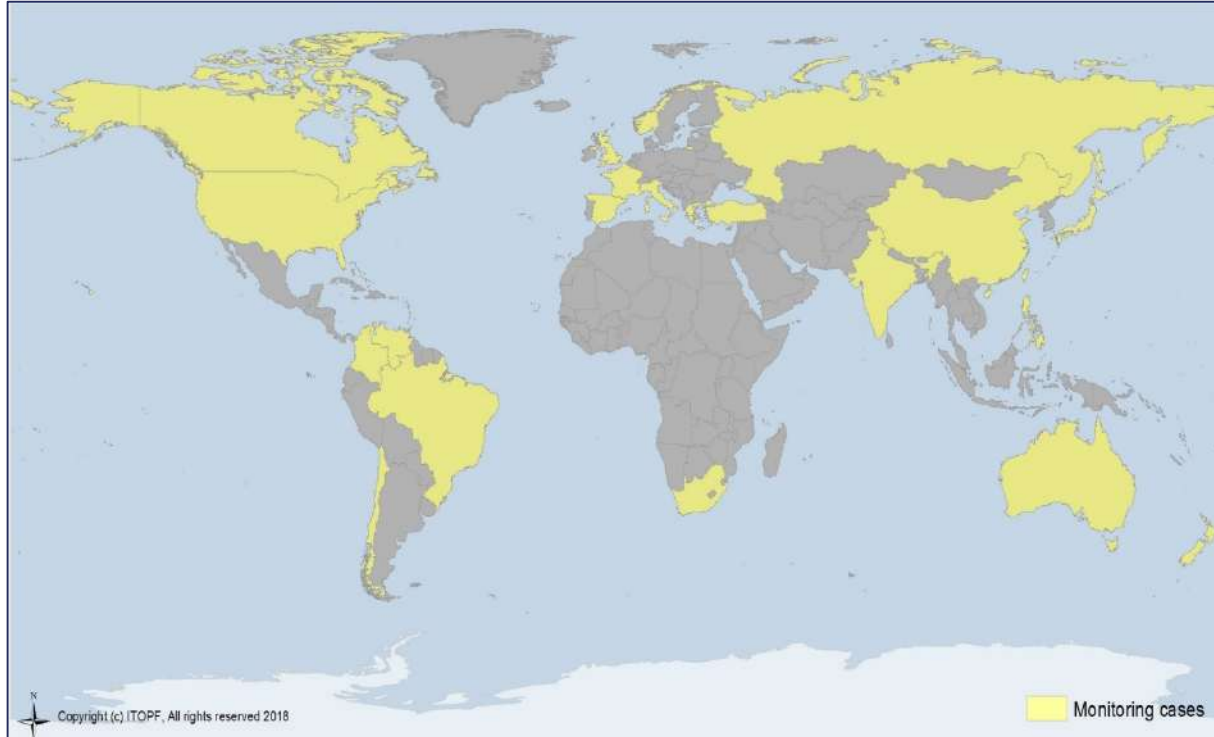


Post environmental studies – when are they necessary?

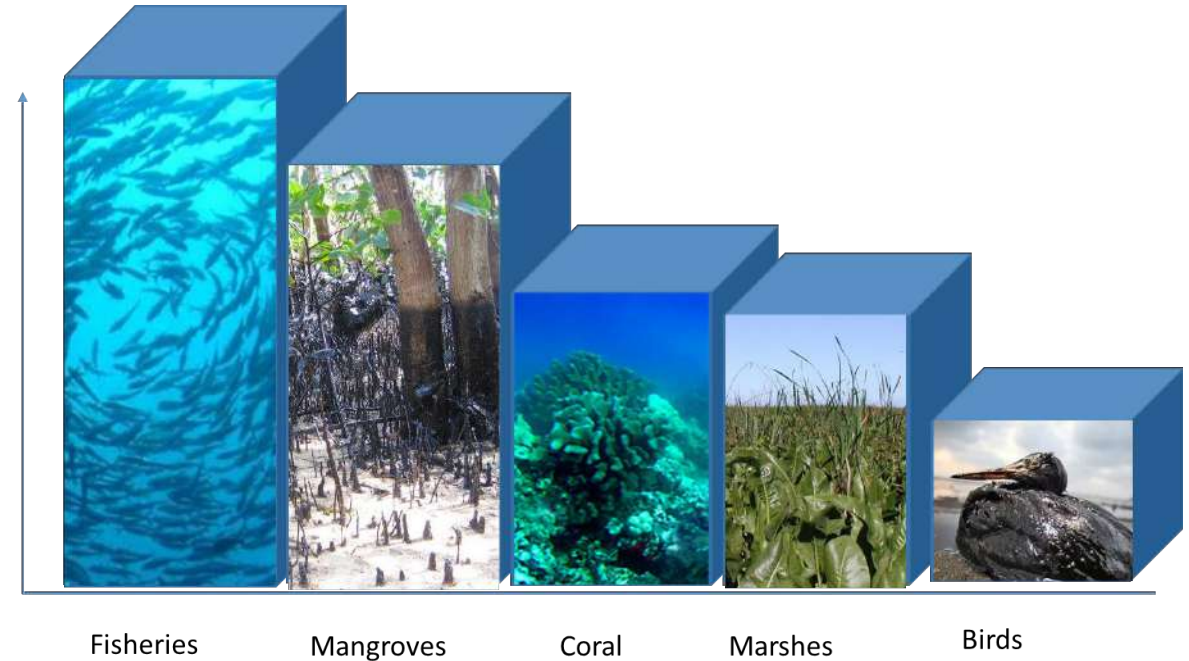
Necessity depends on...

- Scale of the pollution
- Vulnerability and sensitivity of natural resources
- Level of concern of the authorities / public
- 'Reasonableness' decided case by case
- Are studies likely to meet their objectives?
- Is there a clear link to the spill?



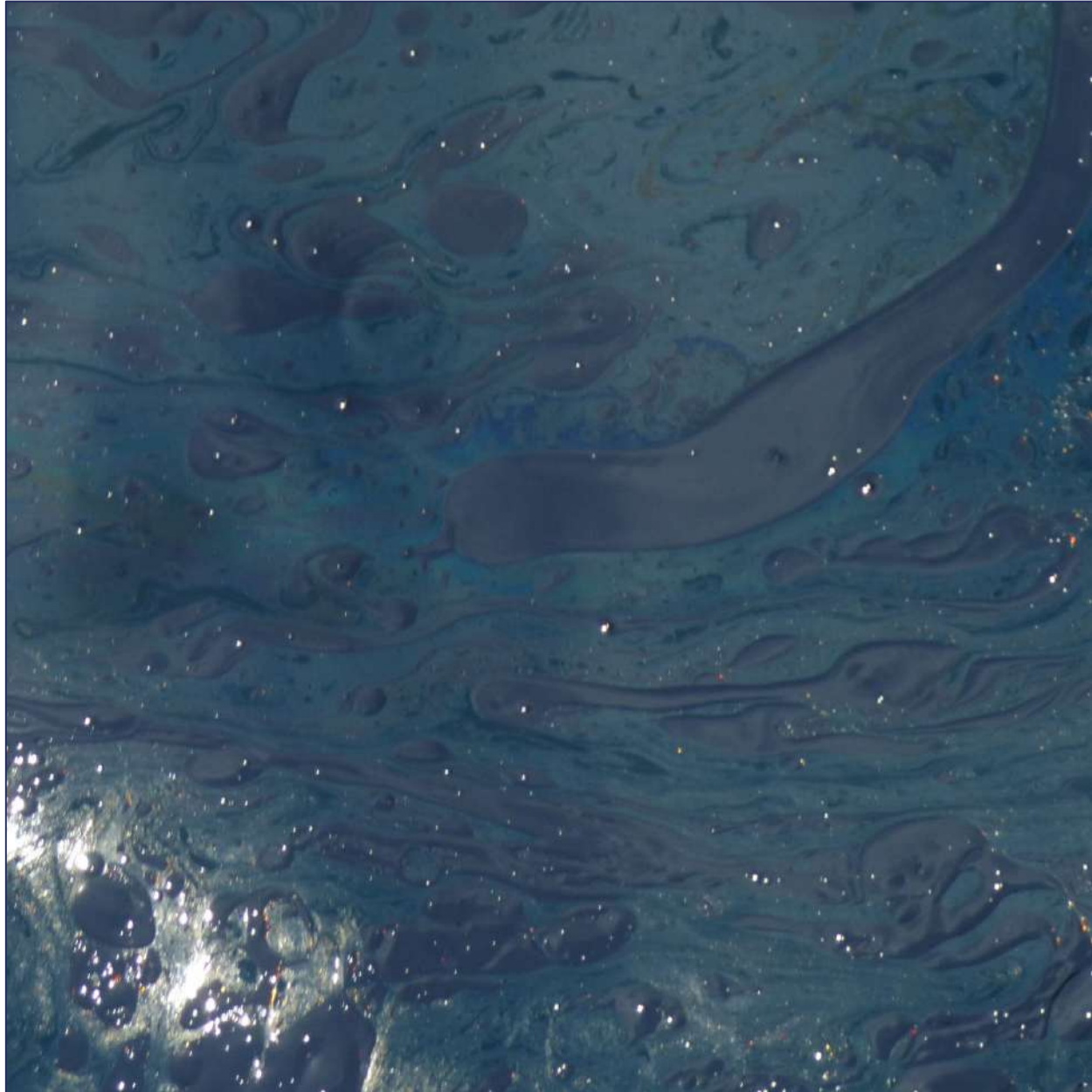


Despite the general trend in decreasing number of large spills, post-spill studies now occur in > 40% of incidents

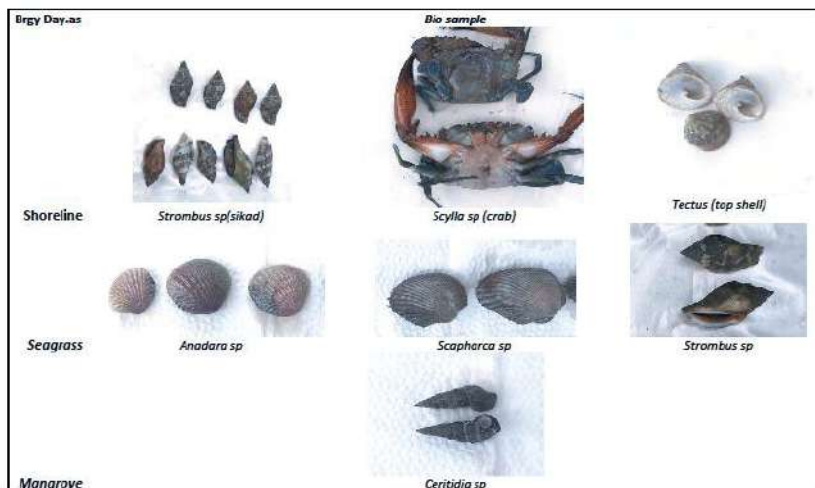


Since the mid-1990s ITOPF has observed an increase in the number of cases involving post-spill studies.

Case study: ST THOMAS DE AQUINAS

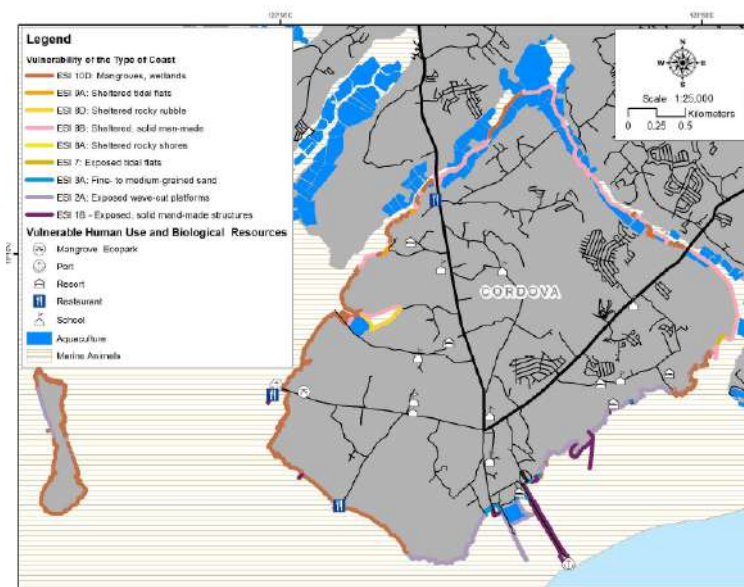


- 16th August 2013 (RORO) passenger vessel ST THOMAS DE AQUINAS (STA) suffered a collision with the container-ship Sulpicio Express 7 in the approaches to Cebu port
- 125 m³ IFO, 20 m³ diesel and 20 m³ of lube oil on board at the time of the incident
- Environmental Impact Studies started in October / November
 - Chemical Assessment of Water, Sediment and Biological Samples
 - GIS Mapping of Affected Areas
 - Mangrove Assessment
 - Fisheries Assessment



Chemical Assessment of Water, Sediment and Biological Samples

- Total petroleum hydrocarbon (TPH) concentrations in the **water and water column, sediment** as well as **biological samples** (shellfishes and crab)
- → no control or reference site, no baseline data
- → elevated samples were close to the port / site selection



GIS Mapping of Affected Areas

- Environmental Sensitivity Index map
- → detailed map of the area, EAI maps are handy to have before an incident



Mangrove Assessment

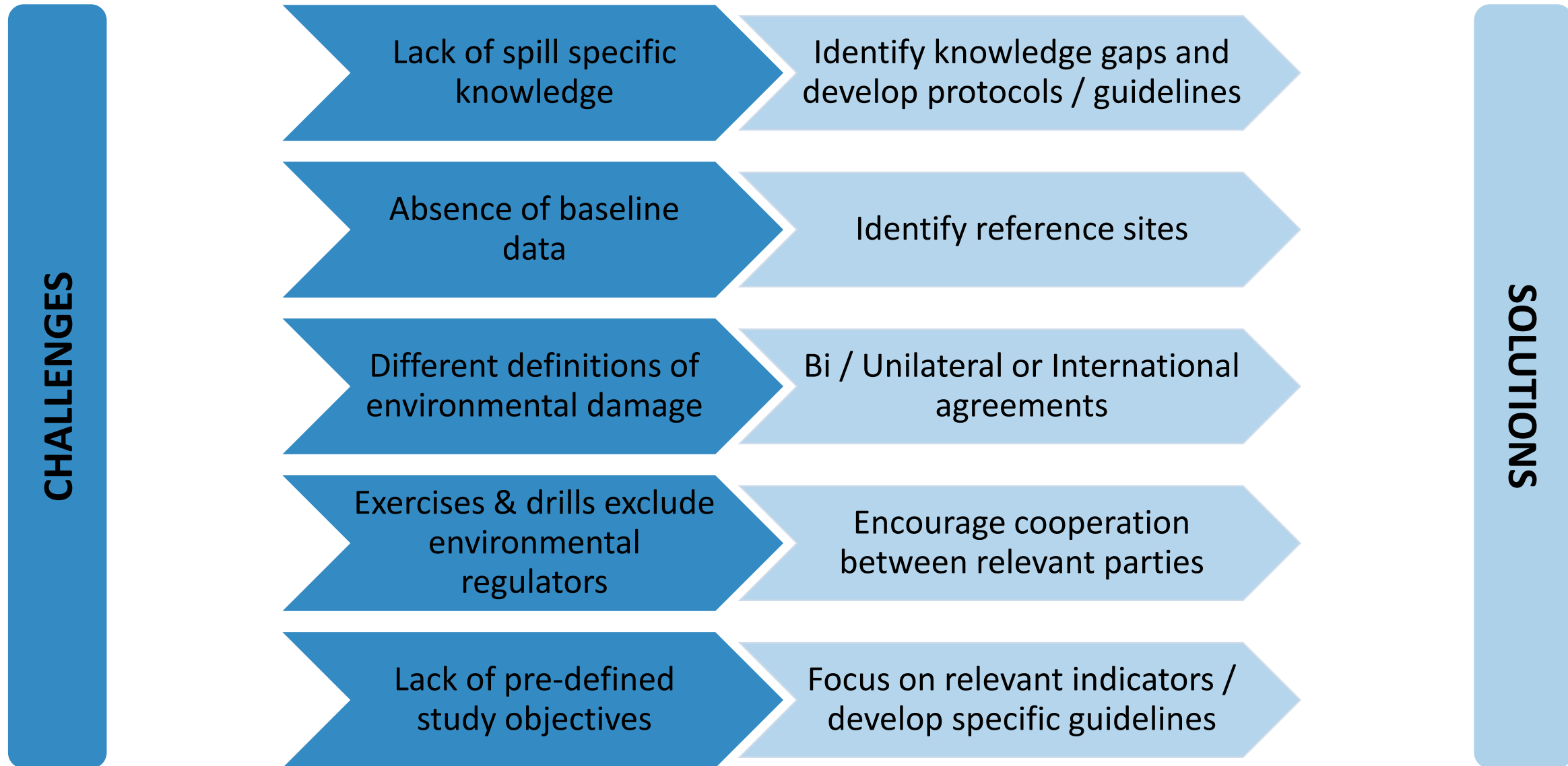
- Aim: Determine the acute impacts of the oil spill on the mangrove community
- → presents the results of a “census” type survey, and as such, documents tangible impacts to mangroves
- → mangrove replantation in direct response to the incident did not incorporate the study’s findings



Fisheries Assessment

- Aim: assessment of the possible effects of the oil spill on fisheries
- Estimation of fishing effort, catch per unit effort, fisheries production, valuation of fishery
- → lack of historical data
- → collection of baseline data

Challenges encountered and suggested solutions





Thank you for your attention

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