



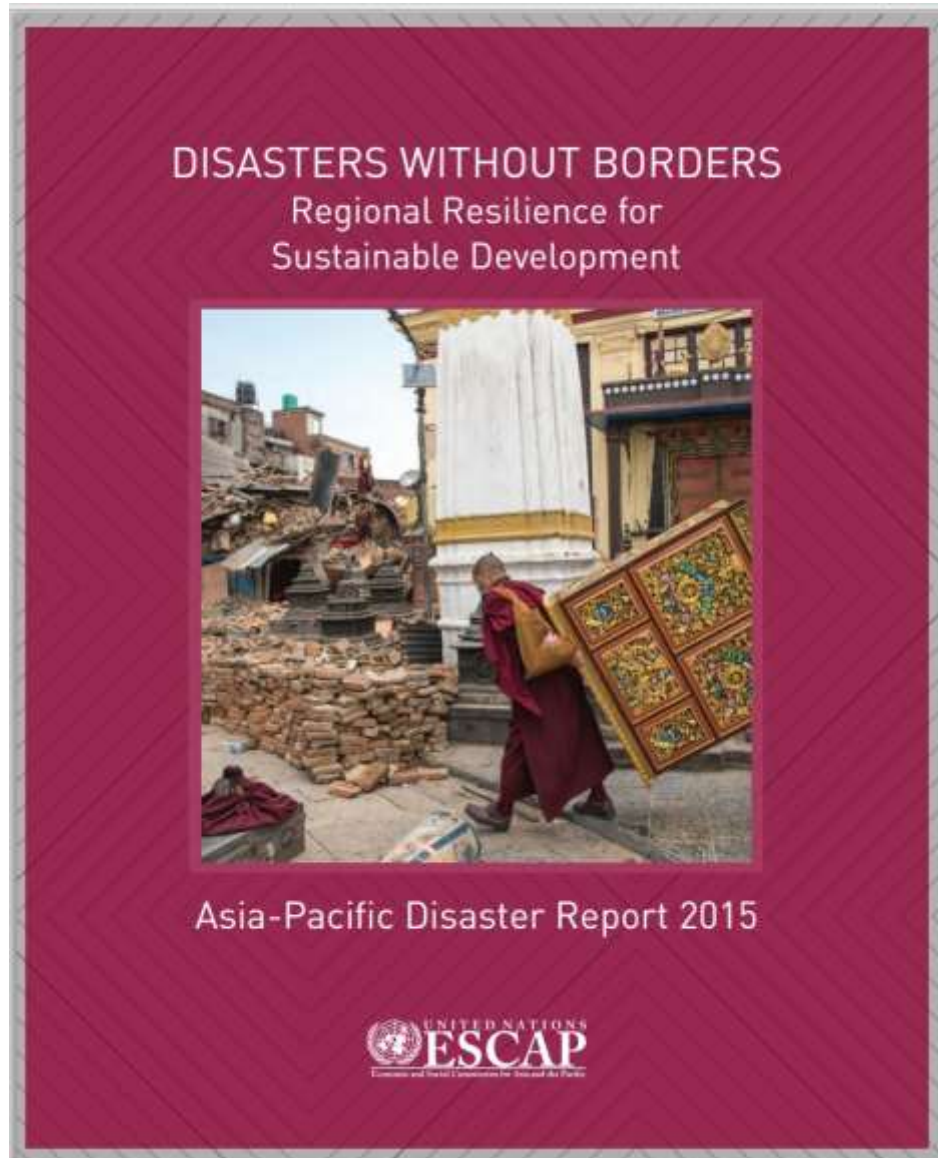
Alastair Lees

Director EASOS

Keynote Address – Disaster Management & Climate Change Seminar

GeoSmart Asia – 24 August 2017

Context and the Challenge in Asia Pacific for all of our Organisations



“Asia Pacific has had over **40% of the 3,979 disasters that occurred globally** between 2005 and 2014. This resulted in the **loss of half a million people**, and **60% of the total global deaths related to disasters**. More than **1.4 billion people were affected by these disasters**, constituting **80% of those affected globally**. Our region has also faced severe economic damage of more than **half a trillion dollars** over the same time period, accounting for 45 per cent of global total.”

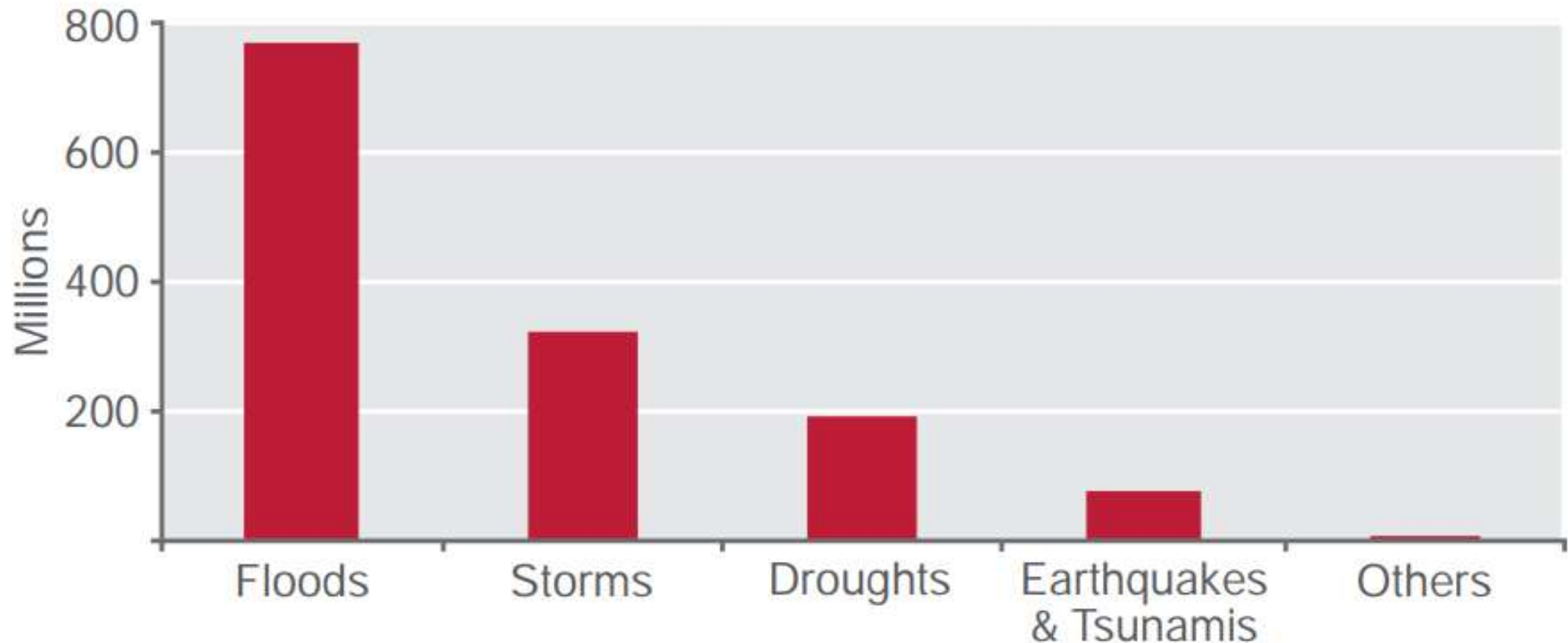


Shamshad Akhtar

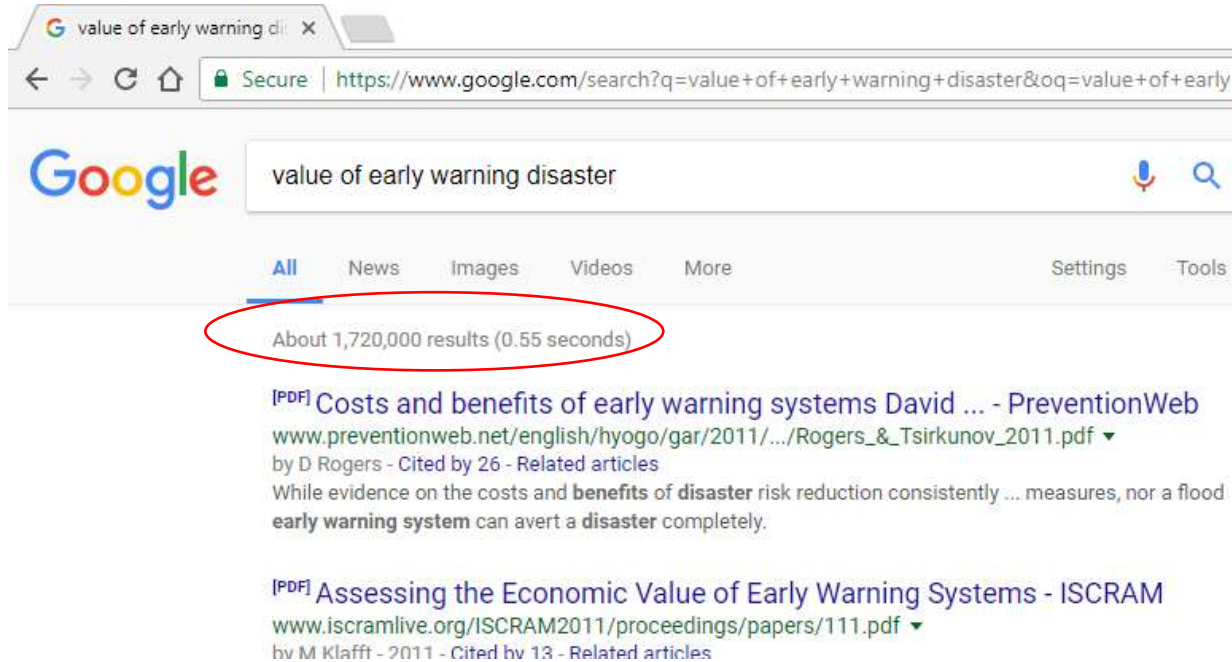
Under-Secretary-General of the United Nations
and Executive Secretary, United Nations
Economic and Social Commission for Asia and
the Pacific

Flooding and other natural disasters have had a devastating impact across Asia Pacific

Number of people affected in Asia Pacific 2005-2014 (millions)

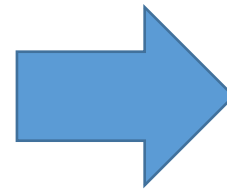


The value of early warning is well documented and supports the UN Sendai Framework's 7th goal however that is not the end...



“Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030.”

7th Goal listed in Sendai Framework 2015-2030



However to be more effective, this needs to be integrated, bringing together the science, technology, practical local approaches and aligned with broader national and regional strategies for building resilience and reducing disaster risks.

UN Office for Disaster Risk Reduction

Topics discussed at Geosmart Asia 2017:



- Avenues for collaboration
- Sharing
- Enable decision makers to combine layers of information
- Improve decision making



An example in Malaysia



- 26 Malaysian Government departments
- Unique UK Malaysia collaboration as part of the UK Space Agency International Partnership Programme.
- Brings together 14 UK specialist companies to form one company
- Platform to provide high-value decision support to tackle environmental, security and human challenges



EASOS: PROGRAMME AIMS

To provide Malaysian Government with the knowledge and data that can help preserve lives and protect resources.

To provide informed and coordinated decision making capability to 26 Government Agencies in Malaysia through an integrated user-centred dashboard and a scalable platform

To deliver information and analysis on three environmental challenges.



Reduce the degradation to the mangrove coastline in Malaysia by reducing marine pollution in the Malacca Straits.



Reduce the social and environmental impact of illegal logging and increase the economic benefit from legal logging for Malaysia.



Reduce the economic and social cost of flood events.

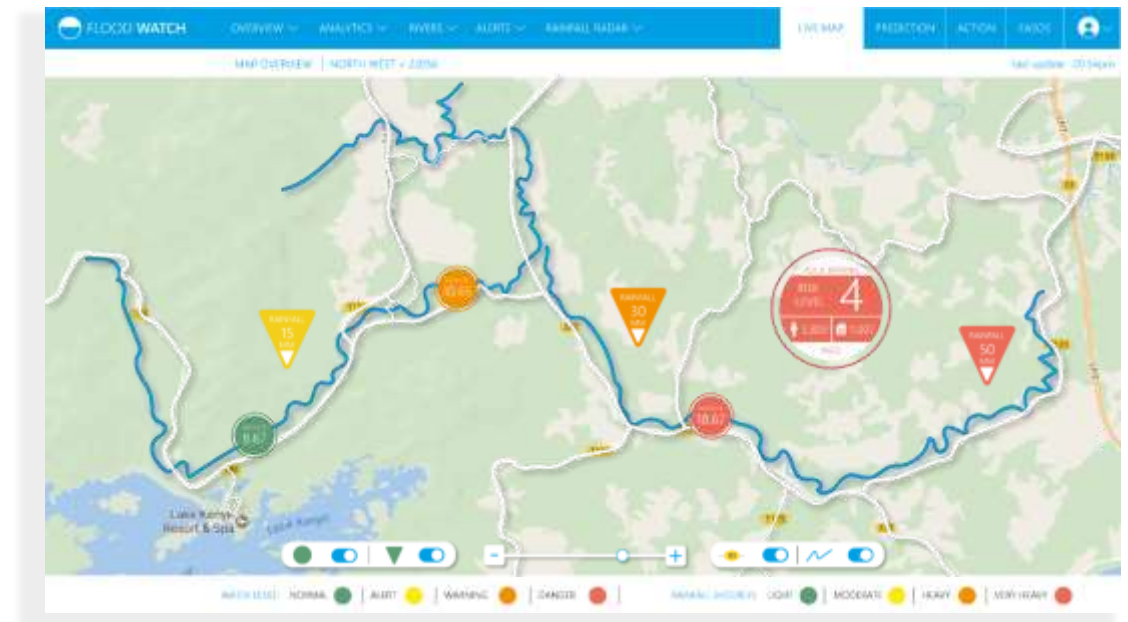
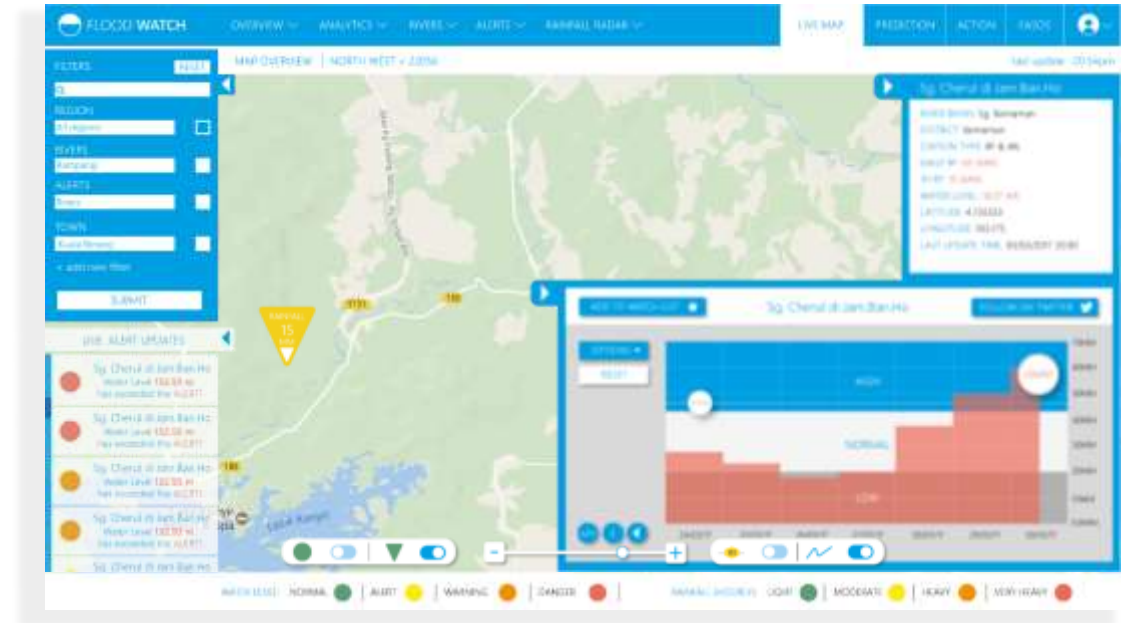
An aerial photograph showing a residential area severely affected by flooding. The water is a murky, brownish color, covering most of the ground. A large, multi-story house is partially submerged in the center. The surrounding area is filled with palm trees and other vegetation, many of which are also partially underwater. In the background, more buildings and a road are visible, though less distinct due to the distance and the flood. The overall scene conveys the scale and impact of the disaster.

**FLOODING IS THE MOST DEVASTATING
NATURAL DISASTER EXPERIENCED BY THE
MALAYSIAN POPULATION AFFECTING LIVES,
PROPERTY, AND THE ECONOMY.**



EASOS: FLOOD WATCH AIMS

- Reduce human and economic cost from flood disasters
- Increase accuracy for flood alerts and lead time given for floods
- Enable better handling of flood events
- Benefit from fusion of multiple geospatial datasets.
- Enable proper action to be taken prior to a disaster event
- Enable Malaysian Disaster Management committee to coordinate all agencies, and preventative measures using the same source information



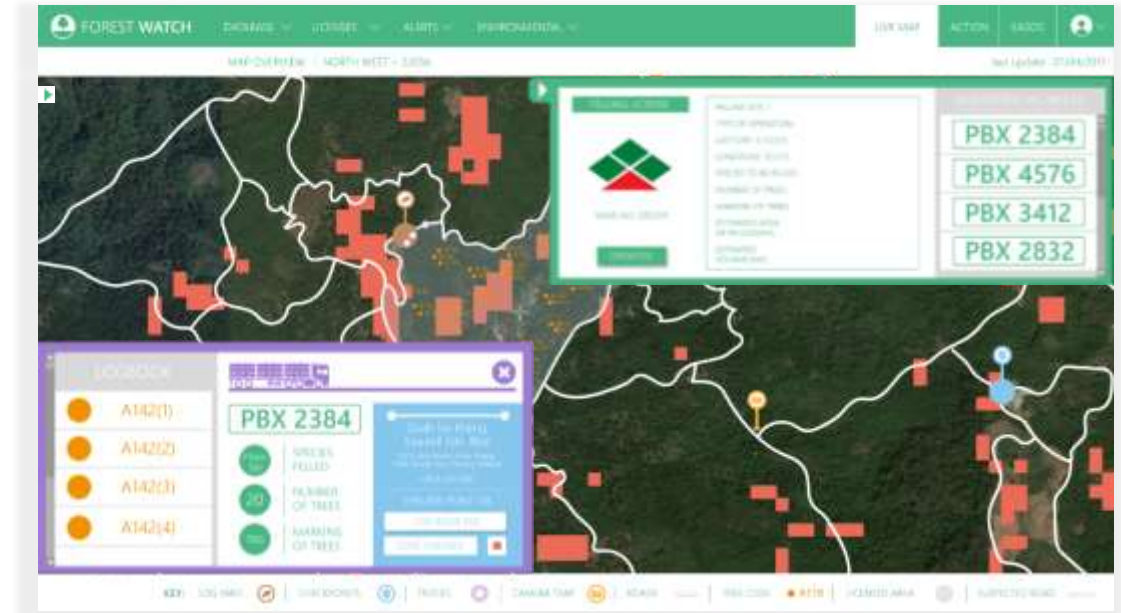
An aerial photograph showing a logging operation in a forest. In the foreground, a large orange excavator is working on a cleared area of earth. To the right, several blue and white trucks are parked, some with their beds raised, suggesting they are being loaded with logs. The background is a dense forest of tall trees. The text is overlaid in white, bold, sans-serif font.

THE **MALAYSIAN** GOVERNMENT MANAGES ONE OF THE **MOST COMPLEX**, DENSE AND **SPECIES-RICH** FORESTS IN THE WORLD. UNFORTUNATELY, **ILLEGAL LOGGING** ACTIVITY IS **THREATENING** THIS NATIONAL ASSET.



EASOS: FOREST WATCH AIMS:

- lead to a 10% decrease of illegal logging activities and enforce forestry legislation and management practices
- help protect the endangered species such as Orangutans, Pygmy Elephants and Sumatran Rhino, threatened by their diminishing habitat
- support the Malaysian's tourist industry who come to see the wildlife and forests
- help identify legally sourced logs and trace how they get into the supply chain



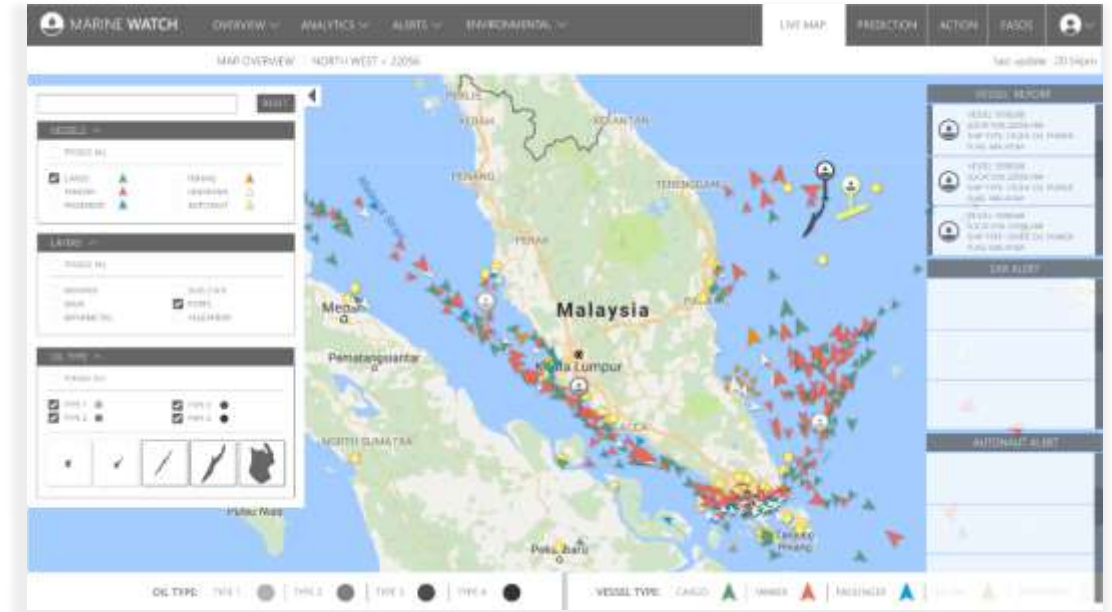


MALAYSIA IS RESPONSIBLE FOR MONITORING ONE OF THE **BUSIEST** TRADE ROUTES IN THE **WORLD** - **THE MALACCA STRAITS**. CONSEQUENTLY, MALAYSIAN WATERS **SUFFER** FROM **HIGH POLLUTION RATES**.



EASOS: MARINE WATCH AIMS

- Reduce the financial impact of marine pollution by at least 10% across regions covered by the project
- Improve the detection rate of marine pollution events
- Help identify vessels that are likely to be responsible
- Forecast pollution dispersal
- Help Coastguard assess and track where oil slicks derive from and predict end points to intercept offenders
- Help relieve loss of habitat, coastal erosion, species extinction and depletion of fish stocks by deterring ships from pumping their bilges in the Malacca Straits



EASOS: DECISION MAKING TO SUPPORT DIASTER MANAGEMENT

- Flood Watch
 - Up to 7 days forecasting of floods
 - Integrated view of flood prediction and asset locations
- Forrest Watch
 - Identification of deforestation to allow action
 - Camera traps to support prosecution
- Marine Watch
 - Automatic detection of oil on the surface of the water
 - Ability to model forward: dispersion path to support proactive action
 - Ability to model backward: candidate ships to aid prosecution
- Come and see at the stand after the session!



THANK YOU!

EASOS: THE CONSORTIUM

The EASOS consortium works with the Malaysian Stake holder partners to meet 21st century environmental challenges through the use of cutting edge technologies.

UNITED KINGDOM

THE SATELLITE APPLICATIONS CATAPULT

- Janus TCD
- Ambiental Ltd
- Stevenson Astrosat
- Sterling Geo
- Geocento
- Autonaut Ltd
- Plymouth Marine Laboratories
- University of Oxford
- University of Leicester
- RiskAware
- Telespazio Vega
- Earth Observation Ltd
- eOSphere Ltd

MALAYSIA

NDUM

- Malaysian Maritime Enforcement Agency
- Operations Disaster Management Division
- Malaysia Civil Defence Department
- Department of Marine Park Malaysia
- Department of Wildlife and National Parks (DWNP) Peninsular Malaysia
- Department of Homeland Security and Public Order Royal Malaysia Police
- National Space Agency (ANGKASA)
- Fire & Rescue Department of Malaysia
- National Institute of Land & Survey
- National Disaster Management Agency (NADMA)
- Forest Research Institute Malaysia
- Department of Irrigation & Drainage
- Malaysia Ministry of Natural Resources and Environment
- Department of Survey and Mapping Malaysia
- Department of Orang Asli Development
- Forestry Department Peninsular Malaysia
- Defence Industry Division
- Ministry of Defence Malaysia
- Ministry of Science, Technology & Innovation
- Minerals and Geoscience Department Malaysia
- Malaysian Remote Sensing Agency
- Department of Environment
- Marine Department Malaysia
- Department of Director General of Lands and Mines
- National Hydraulic Research Institute of Malaysia
- Malaysian Centre for Geospatial Data Infrastructure

EASOS: FUTURE

IPP PROJECT

NEW PROJECT

EASOS GLOBAL

EASOS V1

The delivery of capability within three key domains of requirement **for specific sites**

EASOS V1 National

The delivery of capability within three key domains of requirement **for the whole of Malaysia**

EASOS V2 International

As V1 National, extended to **multiple other domains** (sustainability, agriculture...) **for the World**