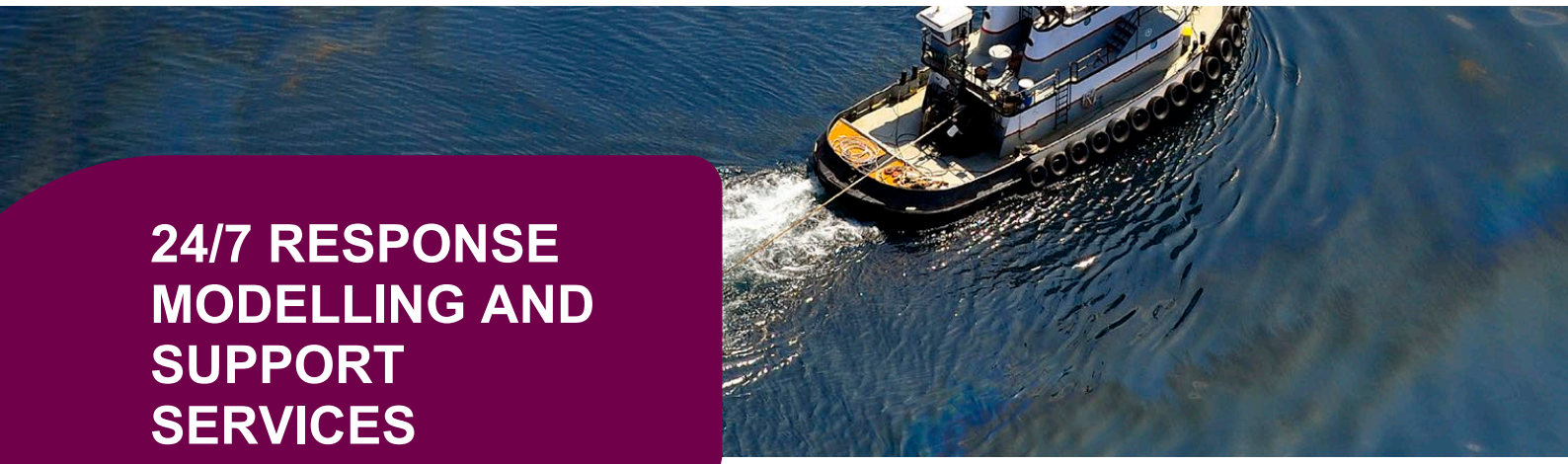


24/7 RESPONSE MODELLING AND SUPPORT SERVICES

RPS leads the field in providing services for marine emergencies and our team of oceanographers, data specialists and modellers tackle a range of scenarios from oil spill response to search and recovery of assets and saving lives at sea.

EFFICIENT AND EFFECTIVE EMERGENCY RESPONSE

We believe that the most important decisions should be made with the best information. That is why, we provide 24/7 emergency response modelling services supporting major oil and gas operators and government agencies globally. We can predict the movement and fate of an oil or chemical spill which allows your team to determine the potential human, environmental and socioeconomic resources under threat from the very early stages of an incident. Or help locate missing objects lost at sea This information is critical for guiding an effective response and provide a firm basis for advising relevant authorities on potential implications for a wider response if required.

An efficient and effective response begins long before an incident occurs. An ability to predict the trajectory and fate of an oil or chemical spill allows your team to determine the potential human, environmental and socioeconomic resources under threat from the very early stages of an incident. This information is critical for guiding an effective first and ongoing response and provide a firm basis for advising relevant authorities on potential implications for a wider response if required.

As an event unfolds, our service can provide simulated analysis of various response strategies allowing for a net environmental benefit analysis, providing the response managers with sensible guidance on the likely efficacy of the available response actions.

Our service delivers an understanding of areas that are likely to be affected by dangerous levels of toxic and/or, flammable vapours and fumes that could render a spill area dangerous to health and safety of response personnel – critical for the safe management of any evacuation and spill recovery response. And, in the case of emergencies that require search and rescue/recovery support, such as a man-overboard, shipping or aviation incident, or loss of property/equipment; our team provide predictions on the optimal search area.

To support the equally important process of scientific investigations to quantify the real impacts of a spill, post-spill modelling and analysis provides a firm basis for understanding the distribution of exposures to harmful substances - for shorelines, the water surface and submerged resources.

Quality data delivered fast

RPS provides a 24/7 emergency response modelling service with clients ranging from major oil and gas operators to government agencies responsible for Tier 3 spill intervention and management. We have responded to many incidents, ranging from small vessel spills to long-term subsea blowouts. RPS, as a technology and software leader, providing a second-to-none service that calls on the expertise of our experienced oceanographers, data analysts, and modelling specialists. You'll receive:

- Direct access to a qualified and experienced team to deliver fast, reliable modelling services 24 hours a day, 7 days a week
- A complete modelling service using scientifically defensible methodology and data
- High-quality modelling predictions based upon reliable and proven software and state-of-the-art technologies (OILMAP, SIMAP, SARMAP, CHEMMAP, AIRMAP and HYDROMAP) using high quality live forecast metocean data (winds and ocean currents) via our Environmental Data Server (EDS)
- Access to an environmental data viewing portal for internal use by your incident response team, which can also be shared with 3rd parties
- Continuous delivery of updated forecasts and specialist advice to guide risk assessment and emergency response efforts until stood down

We regularly respond to...

- Surface and subsea oil and chemical spills from vessels, pipelines, wells
- Drifting objects such as shipping containers, microplastics and equipment
- Locating the original location of lost objects (backtrack modelling)
- Port of refuge to minimize the potential impact
- Salvage operations
- Investigations requiring technical expert advice
- Detailed Natural Resource Damage Assessment (NRDA)

CONTACT US

Sasha Zigic

General Manager – Ocean Science
Australia Asia Pacific
T: +61 7 5553 6900
E: sasha.zigic@rpsgroup.com

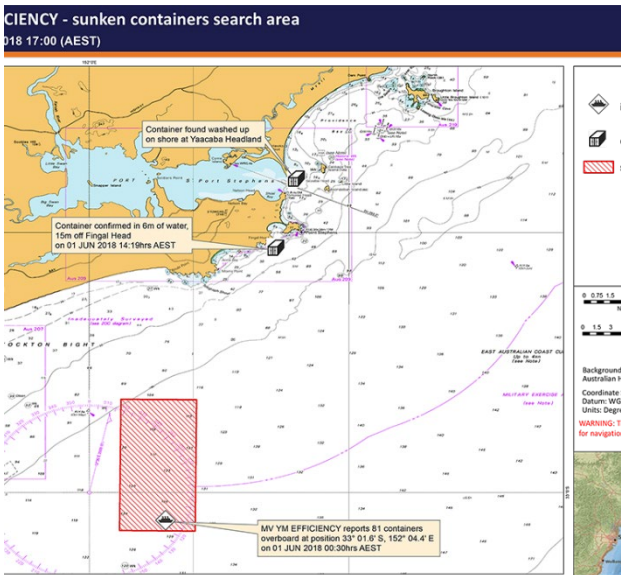
Nathan Benfer

Principal Consultant – Ocean Science
Australia Asia Pacific
T: +61 7 5553 6900
E: nathan.benfer@rpsgroup.com

Kelly Knee

Executive Director
North America
T: +1 401 789 6224
E: kelly.knee@rpsgroup.com

OUR EXPERIENCE

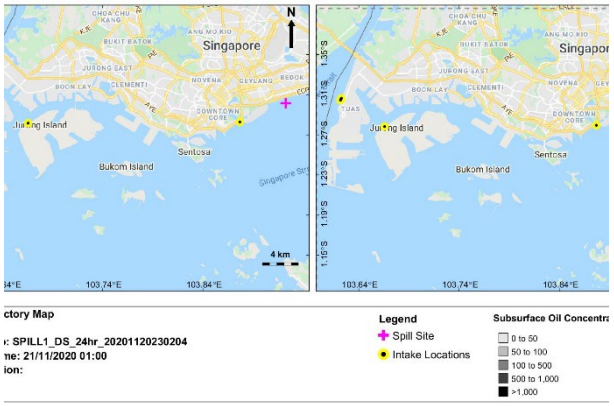


Predicting the drift of lost shipping containers from YM Efficiency

81 containers were lost overboard from container ship YM Efficiency, 30 km east southeast of Newcastle, Australia, when it rolled heavily during strong gale force winds and very rough seas. Shipping containers can create a dangerous maritime hazard and pollution risk. To support the emergency response operations, Australian Maritime Safety Authority (AMSA) activated RPS through its 24/7 emergency response service contract requesting drift modelling to help locate and recover the containers, determine the search areas for the underwater side-scan and Remote Operated Underwater Vehicle (ROUV) surveys. RPS' predictions were delivered within 2 hours of the initial request. The results assisted AMSA to locate many of the containers and were also consistent with debris that ultimately washed up along the nearby shorelines.

Operational search support for MH370

Malaysian Airlines flight MH370 vanished from civilian radar screens around an hour into the flight while traveling from Kuala Lumpur to Beijing on March 8th, 2014. Nine days after the aircraft disappeared, the sea surface search for MH370 shifted to the Southern Indian Ocean when the AMSA assumed responsibility for the coordination of search operations. Due to the complexities of the incident, and to ensure international best practice, AMSA established a drift planning working group, which included RPS emergency response modelling specialists who immediately began providing daily drift modelling forecasts to support the search effort.



Predicting oil spill impacts on desalination plants

Singapore's Public Utilities Board (PUB) operate five desalination plants that use reverse osmosis to draw seawater from Singapore Harbour and Johor Strait to produce pure drinking water for the people of Singapore. As the waterways are regularly subject to oil spills, and desalination is one of the country's major water sources, it was critical for PUB to be able to predict the potential impacts of an oil spill on the intake water quality and make considered decisions on the plants' operability.