

ISCO & THE ISCO NEWSLETTER

The International Spill Control Organization, a not-for profit organization dedicated to raising worldwide preparedness and co-operation in response to oil and chemical spills, promoting technical development and professional competency, and to providing a focus for making the knowledge and experience of spill control professionals available to Intergovernmental, Governmental, NGO's and interested groups and individuals

ISCO holds consultative status at the International Maritime Organisation and observer Status at International Oil Pollution Compensation Funds

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INTERNATIONAL NEWS

WHAT HAPPENS TO CONTAINERS LOST OVERBOARD? HOW LONG DO THEY FLOAT?



February 15 - We reviewed the typical causes and legal aspects of container collapse cases in June. In this article we address what happens to the containers once they enter the sea. How long do containers stay afloat? Is there any basis in fact for the myth that they "hover" below the surface?

The World Shipping Council's 2020 report estimates that an average of 1,382 containers are lost at sea each year. The figure is based on a survey of the WSC members that represent 80% of the global vessel container capacity. The WSC assumed for the purpose of the analysis that the container losses for the 20% of the industry's capacity that is operated by carriers that did not participate in the survey would be roughly equivalent to the losses reported by the responding carriers representing 80% of the industry's capacity. The report, however, was issued before the One Apus stack collapse in December 2020 that resulted in the loss of more than 1,800 containers in the Pacific Ocean.

For how long will a container float? -Well, how long is a piece of rope?

Empty containers will eventually sink as they are not truly watertight. The question of how much time a container needs to sink is, of course, impossible to answer in a simple way – there are too many variables. The timespan depends on the type of cargo, the type of container and its permeability and resilience. However, the most determining factor is the extent of structural damage to the container after hitting the sea surface.

Some containers sink immediately, while there are stories of containers floating across the Atlantic – in one case, taking 15 months to cross the Atlantic from the Caribbean to Spain.

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INTERNATIONAL NEWS (CONTINUED)

Once in the sea, water will enter through vents and seals. However, containers laden with lightweight, low density and buoyant cargoes can float for years even when holed and waterlogged. The cargo itself may have enough uplift to keep the container unit afloat.

Reefer containers are naturally tighter by nature for securing the correct airflow and atmosphere when carrying temperature sensitive cargoes. A reefer box may float until it is broken up, so damage during the incident, sea conditions and wave action will decide how much time before the reefer sinks.

Experience suggests that containers falling onto the sea from lower heights tend to float longer than containers falling from heights. The explanation is, of course, that the chance of containers falling from heights suffering structural damage is far greater compared with containers falling from lower heights.

In practice, this means that containers falling from small coaster vessels and barges can often be recovered prior to sinking. Containers falling from mega oceangoing boxships will often sink almost immediately after touching the sea surface. Hellenic Shipping News / [Continue reading this very short article](#)

CONTRACTS SECURE ROBUST STANDBY POLLUTION RESPONSE IN WATERS AROUND EUROPE

February 19 - Three new contracts for stand-by oil spill response vessels and one new contract for an Equipment Assistance Service were successfully concluded by EMSA in December 2020. The three public procurement procedures for stand-by oil spill recovery vessels cover: the Central Mediterranean Sea – M/T SB Borea, based in Napoli (Italy), capacity 3,200 m3, contractor Sarda Bunkers; the Southern Atlantic coast – M/T Bahia Tres, based in Sines (Portugal), capacity 7,414 m3, contractor Mureloil; and, the West Mediterranean Sea – M/T Brezzamare, based in Genoa (Italy), capacity 2,600 m3, contractor Ciane/Ottavio Novella. After completing the preparation phase, these new arrangements will enter into stand-by service by the end of 2021. In addition, the Agency concluded the tender for the Equipment Assistance Service (EAS) in Southern Europe. The service will be provided by Ottavio Novella and the equipment stockpile will be based in Ravenna (Italy). It will become operational by mid-2021. EMSA / [Read more in the February issue EMSA's newsletter](#)

TERMINAL OPERATORS NEED TO MANAGE STORAGE OF DANGEROUS GOODS SAFELY: IUMI

February 12 - The explosion in the port of Tianjin and last August's disaster in Beirut showed that more work needed to be done in assessing accumulated values at terminals and port facilities, while the significant number of fatalities as a result of the Beirut explosion was "a compelling argument to urge terminal operators to manage the storage of dangerous goods to include proper safety measures", according to Isabelle Therrien, Chairperson, IUMI Cargo Committee.

Speaking at the press conference following IUMI's winter meeting, which was held online, Therrien said that 2020 had been a disruptive year, with the volume of world trade expected by the United Nations Conference on Trade and Development (UNCTAD) to decline by 4.1% for 2020 as a whole. This was after a decline of 27% year on year in Q2 2020. "And let's not forget the hardships that the pandemic has had on the real risk-takers of the global supply chain: The Seafarers. Seafarers have had a particularly hard time during the pandemic with national lockdowns that resulted in an abrupt halt to crew changes. It is important to acknowledge that these men and women have still delivered food, fuel and medical equipment that enabled economies and societies to function during these unprecedented times and we are thankful for their work", said Therrien. Insurance Marine News / [Read more](#)

ENVIRONMENTAL ENFORCEMENT AWARDS RECOGNIZE 8 WINNERS ON THE FRONTLINE OF PROTECTING OUR PLANET

February 17 - Exceptional efforts on the frontlines to stop environmental crime, including the illegal trade in wildlife and in plastic waste, have been recognized by the United Nations, INTERPOL and the World Customs Organization with the presentation of the 5th Asia Environmental Enforcement Awards. The Awards are given annually for achievement in combatting transboundary environmental crime.

INTERNATIONAL NEWS (CONTINUED)

Winners have worked across multiple countries, made dozens of arrests, and seized hundreds of endangered species and thousands of tonnes of illegal waste worth millions of dollars. Recipients have been nominated for their contributions across the categories of impact, gender leadership, innovation, integrity and collaboration. UNEP / [Read more](#)

OSPAR RADIOACTIVE SUBSTANCES COMMITTEE 2021

February 12 - OSPAR's Radioactive Substances Committee (RSC) met online from 9-11 February 2021. Chair Justin Gwynn (Norway) guided RSC through a packed agenda which focused mainly on matters relating to the preparation of the next assessment of discharges and concentrations of radioactive substances that RSC will finalise in 2022. This Fifth Periodic Evaluation (SPE) will build on past evaluations and will assess discharges, environmental concentrations and the radiological impacts on man and biota in the assessment period 2012 to 2018. RSC conduct such evaluations to demonstrate Contracting Parties' progress towards the strategic objective in OSPAR's 2010-2021 North-East Atlantic Environment Strategy: to prevent pollution of the OSPAR maritime area from ionising radiation through progressive and substantial reductions of discharges, emissions and losses of radioactive substances, with the ultimate aim of concentrations in the environment near background values for naturally occurring radioactive substances and close to zero for artificial radioactive substances. The SPE will then feed into OSPAR's next full assessment of the state of the North-East Atlantic, the Quality Status Assessment 2023. OSPAR / [Read more](#)

NEWS REPORTS FROM AROUND THE WORLD

ANGOLA, DRC, CONGO, SAO TOME & PRINCIPE, TOGO

GI WACAF has advised an update on the entries printed in last week's Newsletter.

- Angola, DRC, Congo: launch of a study on transboundary oil spill contingency planning in Central Africa – study launched and currently ongoing
- Sao Tomé and Príncipe: critical review of the draft National Oil Spill Contingency Plan (NOSCP) – ongoing
- Senegal: critical review of the draft shoreline response plan – ongoing
- Togo: online training on liability and compensation in case of an oil spill – in preparation

The updated info can be accessed by clicking on the links below -

[Angola, Congo, Democratic Republic of Congo](#) [Sao Tomé and Príncipe](#) [Senegal](#) [Togo](#)

CANADA: QUEBEC ONLINE TRAINING COURSE

February 15 - Through interactions with CEGRIM, Cedre was asked to give a lecture as part of a training course on emergency response to a maritime incident organised by BCU (Quebec environment ministry), for Urgence-Environnement personnel. This was the opportunity for two of our engineers to share their experience through 3 events involving oil or chemicals: the pollution of the Loire estuary in 2008, the Ece incident in 2006 and the collision between the Ulysse and the CSL Virginia in 2018. As this was an online course, we were also able to attend certain modules, affording us a fuller understanding of the spill response context in Quebec. CEDRE / [Read more in the January 2021 issue of the Cedre Newsletter](#)

FINLAND: FINNISH AUTHORITIES ATTEND ONLINE INFO SESSION ON EMSA'S MAR-ICE SERVICE FOR CHEMICAL EMERGENCIES

February 19 - Following a request by the Finnish authorities, EMSA together with the MAR-ICE Contact Point, Cedre provided an online information session on 9 December to 16 Finnish experts on the activation procedures of its MAR-ICE service for chemical emergencies. The participants gained a better understanding of how to activate the service, what type of assistance it can provide and had the opportunity to practice activating MAR-ICE during the session on the basis of a test scenario. Noting that this was the first time such an event was organised, the Agency could explore providing member states with short MAR-ICE information sessions upon request more frequently in the future. EMSA / [Read more in the February issue EMSA's newsletter](#)

FRANCE: CEDRE ACTIVITY SUMMARY FOR JANUARY 2021

February 15 - Following a leak from a pipe between the Total refinery in Donges and one of its oil terminals, Cedre was called on by DREAL Pays-de-laLoire to provide advice on the response system implemented for the Loire river. Cedre was also contacted in related to suspected oil pollution on Saint-Cast-le-Guildo beach (Côtes-d'Armor). After receiving samples, the substance was rapidly identified as peat. Following the pollution of the river La Douze, caused by a spill of waste oil in Mauvezin, we received a call from the DDTM for the Landes area to obtain advice on the response operations to be implemented. We also received an enquiry into the behaviour of rapeseed oil at sea. Discussions were held with the DDTM for Gironde as well as the municipality of Gauriac in relation to the sunken wreck of the Frisco in the Gironde estuary. The Port of Roscoff contacted us after a greenish slick was observed in the port waters, most likely due to hydraulic oil. Finally, we received oiled bird feathers, found on the shores of the Morbihan area, for analysis. CEDRE / [Read more in the January 2021 issue of the Cedre Newsletter](#)

FRANCE: NANOPLASTICS PROJECT COMES TO A CLOSE

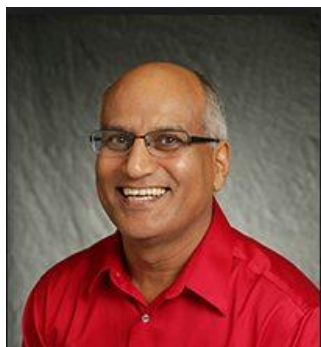
February 15 - At the very end of January, two agents from Cedre took part in the wrap-up meeting of the ANR-funded Nanoplastics project. The project, launched in 2016, brought together several partners (Ifremer, IUEM, UBO, Université du Mans, ANSES and Cedre) to focus on the issue of the fragmentation of microplastics (< 5 mm) into nanoplastics (< 100 nm) and the related impacts on the marine environment. This final meeting was the opportunity to review the advances made through the project as well as the bottlenecks and difficulties encountered by the different teams. Among the results, we note the data relating to microplastic contamination in Brest's roadstead which showed plastic sedimentation despite densities lower than that of seawater. The study of the biofouling of these plastics by algae and bacteria also pointed to the influence of the type of polymers. For Cedre, this project provided the chance to develop our skills in the analysis of pollutants adsorbed onto and contained in microplastics (environmental pollutants and additives). Through the work conducted on a plastic additive used as an antioxidant (Irgafos 168®), we were able, together with the project partners, to demonstrate the difficulty in working on this type of molecule due to the very high levels of contamination that can be found in laboratories (for further information see the article by Hermabessière et al, 2020, published within the scope of the project). CEDRE / [Read more in the January 2021 issue of the Cedre Newsletter](#)

LIBERIA: CRITICAL REVIEW OF THE DRAFT COASTAL AND MARINE SENSITIVITY MAP

This remote assistance activity aims at providing Liberia Maritime Authority with a critical review of the draft Coastal and Marine Sensitivity Map of Liberia, including a gap analysis and agreeing on a set of recommendations. The international experts mandated by the GI WACAF Project have commented the draft Coastal and Marine Sensitivity Map of Liberia and presented their findings during a virtual meeting organized by the GI WACAF Project team in January 2021.

Following this rich discussion, the draft Coastal and Marine Sensitivity Map of Liberia is currently being revised by the Liberia Maritime Authority. GI WACAF / [Read more](#)

NEPAL: THE GOVERNANCE OF NATURAL RESOURCES



In the picture - Professor D. D. Poudel. The Founder of the Asta-Ja Framework

February 17 - Asta-Ja is a theoretically grounded grassroots-based planning and management framework for conservation, development, and utilization of natural and human resources. Asta-Ja means eight of the Nepali letter "Ja" [Jal (water), Jamin (land), Jungle (forest), Jadibuti (medicinal and aromatic plants), Janashakti (manpower), Janawar, (animals), Jarajuri (crop plants), and Jalabayu (climate). Asta-Ja promotes accelerated economic growth and socio-economic transformation of the nation. It is a scientific, holistic, systematic, self-reliant, and multidisciplinary framework for the conservation, development, and utilization of Asta-Ja resources. The eight elements of the Asta-Ja system are very intricately linked and strongly connected. Hence, it is important to have sustainable conservation and development of each of the eight elements of Asta-Ja for better functioning of the entire system. Telegraph Nepal / [Read more](#)

NIGERIA: THE 'NUISANCE' OF AN OIL SPILL AND THE ISSUE OF LIMITATION

February 18 - On 27 January 2021, the Court of Appeal handed down the latest judgment in the high-profile case of Harrison Jalla and others -v- Shell International Trading and Shipping Company (STASCO) and Shell Nigeria Exploration and Production Company Limited (SNEPCO).[1] The appeal was pursued by the Claimants.

The issue referred to the Court of Appeal concerned jurisdiction and limitation in the context of common law nuisance; with the date upon which the Claimants first accrued their cause of action, and whether it was a 'continuing' or 'one off' nuisance, hotly contested between the parties. As set out in this article, the question of limitation has direct bearing on establishing jurisdiction and a UK nexus for the claim.

The judgment handed down by the Court of Appeal provides clarification of the distinction between a 'one off' and 'continuing nuisance' and the consequent impact on limitation. Lexology / [Read more](#)

USA: ENBRIDGE LAYING PIPE FOR LINE 3 IN MINNESOTA

February 12 - Enbridge has started trenching and welding for its 760,000 b/d Line 3 crude pipeline replacement in Minnesota, which is on track to start service in the fourth quarter.

The overall project will replace and expand capacity on Line 3 from Alberta in western Canada to Wisconsin, proving more export capacity for Canadian crude. Line 3 has been running at 390,000 b/d in recent years and will be expanded to 760,000 b/d.

The project has seen opposition from environmental groups and Native American tribes as the route crosses an area that local tribes value for wild rice, hunting and fishing. Argus Media / [Read more](#)

USA: 150 YEARS OF SPILLS: PHILADELPHIA REFINERY CLEANUP HIGHLIGHTS TOXIC LEGACY OF FOSSIL FUELS

February 16 - Plans call for the nearly 1,400-acre site to be transformed into a new commercial hub with warehousing and offices. All it will take is a decade, hundreds of millions of dollars, and confronting 150 years' worth of industrial pollution, including buried rail cars and a poisonous stew of waste fuels poured onto the ground. A U.S. refinery cleanup of this size and scope has no known precedent, remediation experts said. Reuters / [Read more](#)

USA: MINNESOTA ANNOUNCES "PFAS BLUEPRINT" FOR INCREASED REGULATION OF "FOREVER" CHEMICALS

February 16 - Minnesota announced a new "PFAS blueprint" on February 10, 2021, calling for increased regulation of the so-called "forever" chemicals through a combination of legislation and agency rulemaking.

Because PFAS are persistent in the environment, they do not break down over time and can "bioaccumulate" in living organisms, resulting in increased toxicity and the potential for adverse health effects. The blueprint notes "there are gaps in our understanding of the effects of PFAS on human and environmental health including a lack of toxicity studies available," requiring additional studies and complicating the development of regulatory approaches to PFAS management.

The PFAS blueprint would take a number of significant steps toward preventing, managing and cleaning up PFAS contamination throughout the state. The PFAS blueprint identifies 10 regulatory priorities, including understanding risks from PFAS air emissions, preventing PFAS pollution, remediating PFAS contaminated sites and managing PFAS in waste. JD Supra / [Read more](#)

See also related reports Feb 17 <https://www.idsupra.com/legalnews/potential-impact-pfoa-and-pfos-4962763/> and Feb 18 <https://www.natlawreview.com/article/pfas-blueprint-mn-may-be-blueprint-other-states>

USA: LATEST NEWS REPORTS FROM NOAA OR&R

February 19 – Please click on the links below to download the latest News Reports from NOAA OR&R

[Fire on the F/V Aleutian Falcon in Tacoma](#)

Early on February 18, 2021, the USCG notified the NOAA Scientific Support Coordinator (SSC) for the region of a major vessel fire in the Hylebos Waterway in Tacoma, Washington. A fire had broken out shortly before midnight aboard the 233-foot Aleutian Falcon at Pier 25 in the Port of Tacoma.

[Registration Open: North Carolina Aquaculture Gear Management and Storm Preparedness Workshop](#)

With support from NOAA'S Southeast and Caribbean Regional Collaboration Team (SECART), The NOAA Office of Response and Restoration's [Disaster Preparedness Program](#) and [Marine Debris Program](#) are co-hosting a [North Carolina Aquaculture Gear Management and Storm Preparedness workshop](#).

[Report on Remedial Injury Determination Released for Hudson River Superfund Site, New York](#)

NOAA and the Natural Resource Trustees for the [Hudson River PCBs Superfund Site](#) in New York have released a [Remedial Injury Determination Report](#).

The Trustees determined that dredging to remove polychlorinated biphenyls (PCBs) from the upper Hudson River between Fort Edwards and the Federal Dam at Troy caused injuries to natural resources such as wetlands, aquatic vegetation beds, freshwater mussels, and shoreline trees.

[Marine Debris Program Presents to National Academy of Sciences Committee](#)

On February 18, Nancy Wallace and Hillary Burgess of the Marine Debris Program (MDP) presented to the National Academies of Science, Engineering, and Medicine (NASEM) ad hoc committee on the [United States Contributions to Global Ocean Plastic Waste](#)([link is external](#))

[Journal Article on Responder Needs in the Arctic](#)

OR&R staff co-authored a recent paper in the Journal of Marine Science and Engineering, Responder Needs Addressed by Arctic Maritime Oil Spill Modeling. This paper is part of a larger project, "Oil Spill Modeling for Improved Response to Arctic Maritime Spills" funded by the Department of Homeland Security's Arctic Domain Awareness Center and facilitated by the University of New Hampshire's Coastal Response Research Center.

[Marine Debris Program Supports Arctic Council Marine Litter Action Plan](#)

The Marine Debris Program (MDP) attended and presented at the bi-annual Arctic Council working group meetings on assembling an international action plan for marine litter in the Arctic. Peter Murphy, the MDP Alaska Coordinator, gave a presentation on proposed projects for initial action under the plan.

NEWS REPORTS FROM AROUND THE WORLD (CONTINUED)

[Dr. Michael Ziccardi of UC Davis on Giving Oiled Wildlife a Chance to Survive](#)

On the Feb. 18 episode of You Don't Know What You Don't Know, we dove into the life of a veterinarian for oiled wildlife. Dr. Michael Ziccardi of UC Davis discussed how far we have come in giving the oiled wildlife in a response a chance to survive. Dr. Ziccardi allows us a view into a different side of the response network that is taking action on more than just the waterways and beaches but the vast number of creatures that live there.

Lectures held every third Thursday from 3-4 pm ET. noaaorr.adobeconnect.com/orrlectureseries/ (link sends e-mail) For further information, contact Hayley.Betker@noaa.gov (link sends e-mail).

PEOPLE IN THE NEWS

PUERTO RICA, USA: TONY PARKIN APPOINTED AS NEW ISLANDS' OIL SPILL ASSOCIATION EXECUTIVE DIRECTOR



In the picture - Tony Parkin (center), the new executive director of the Islands' Oil Spill Association, and family.

February 19 - Tony Parkin has been hired as the new executive director of the Islands' Oil Spill Association.

Hailing from the United Kingdom, Parkin used his degree in geology and oceanography to launch an international career in marine science, remote-sensing, and over the past 30 years, oil spill response and planning. Parkin and his family moved to the islands from Alaska in January. San Juan Journal / [Read more](#)

ISCO NEWS

ISCO'S FEBRUARY ZOOM MEETING IS ON 25th FEBRUARY

Since our last Zoom meeting there has been quite a lot of correspondence between members of the "Way Forward" group – to try to keep you all "up-to-speed" on what has been going on, some progress reports have been sent to members of the group.

Mary Ann Dalglish will host the meeting. The link for joining the meeting is at – <https://us02web.zoom.us/j/86187968173>

It is expected that the meeting will focus on progress being made. Non-members of the group will be able to join the meeting which will be open for all members and other interested parties.

During the meeting ISCO Secretary Matthew Sommerville will be "handing over the baton" to his successor, Neil Marson who will become the new Secretary of ISCO on 25th February 2021.

NEWS FROM ISCO MEMBERS

OSRL: COVID-19 UPDATE (19TH FEBRUARY 2021)

This week we have approved the de-escalation of both our Aberdeen and Southampton UK bases from RED to AMBER. This means a wider range of activities will be able to be undertaken whilst still adhering strictly to the UK Government guidelines. We have also included an update on aircraft availability, Brexit and travel. OSRL's ability to respond is not materially affected and we are confident in our ability to support a response with our personnel and equipment should there be a need.

Aircraft availability - There has been a significant amount of news in the press regarding the continuing impact the COVID-19 pandemic has had on the global supply chain, most notably the effect on shipping capacity by sea and air. Regarding the future capacity of air freight, there are mixed opinions across industry regarding how far in the future capacity will be affected. With the reduction in passenger flights, shipments of vaccines, PPE and the continuation of the shipment of usual goods, experts believe that capacity could be affected for the next 4-10 years. The impact of vaccine shipments on air charter capacity is something of particular prominence in the media. A number of programmes have been established to coordinate the transport of vaccines with special measures being put in place. Regarding one of these vaccine transport programmes a spokesperson for one cargo airline said it was: "very difficult to predict, as it will depend on how many vaccines will be available for distribution, compared with the capacity

NEWS FROM ISCO MEMBERS (CONTINUED)

demand for other cargo. The number of vaccines that have to be transported is considerable, but if you compare it to the total air cargo demand, it is not that much. We expect we are able to accommodate all vaccine shipments within our existing capacity, and still have opportunities to increase capacity on lanes where this is needed, as not all our planes are yet in operation."

OSRL continue to work with a Charter Broker to receive 2-weekly updates on AN-124 availability as we understand this is a critical aircraft to deliver a number of response solutions. AN-124 availability is improving compared to Q4 of 2020. Availability of general freighters such as B747's change daily, with a potential lead time of 5-7 days, however this may shorten depending on availability. Availability of AN-124 aircraft is currently shorter, with the last market check showing 1-3 days availability (these times constantly change and may be subject to repositioning and permit approvals etc.).

Brexit update - OSRL continue to maintain contact with a range of freight forwarders to understand the current situation regarding new trade agreement rules. The majority of feedback relates to understanding how new paperwork and systems are used which causes some delays, however transport of goods by sea and air are largely unaffected. OSRL continue to update and test internal documents based on feedback from suppliers and also first-hand experience we have gained during the physical movement of goods into Europe since the new trade agreement.

Travel - With the continuous changes in travel restrictions, testing requirements and quarantine regulations OSRL are regularly engaging with travel specialists and reviewing government advice. OSRL continue to carry out in-field work to support our members, providing the opportunity to use and continuously improve travel procedures that would be used during emergency response activity. OSRL's global footprint provides a great deal of flexibility and provides many options for us to support a response. Members from the travel team form part of OSRL's Business Continuity Team to ensure the safety of personnel remains the highest priority for OSRL.

Also included in this update, our most recent country plan updates are for Oman, Tunisia, Brunei, Brazil, Atlantic Canada, Singapore, Qatar, Kuwait and can be found [here](#).

Are women better leaders in a crisis? One year into the COVID-19 Pandemic and the subject of effective leadership and the value of empathy has been thrust back into the spotlight on a global scale. Gender plays a significant role in a leader's approach, but does that mean that one gender is better at leading in a crisis? Rosie Buse, Principal Consultant explores this area in our latest Insights article. [Read more here](#).

Last week we released a new FREE online course, the on-line course is aimed at those people with no knowledge or background of oil spill response or those with limited operational knowledge but would like to understand the whole response concept. The course takes approximately 75 minutes to complete and you or any colleagues you feel may be interested in the course can [sign up on our website](#) and gain immediate access to the course.

Our next upcoming seminar is Planning For a Successful Capping Operation, registration can be done on the website [here](#). We also have new seminar recordings available in our technical library [here](#). As always, we remain just a phone call away, ready to virtually support you and your operations. Should you have any questions, please email CMT@oilspillresponse.com or contact our Duty Managers.

CONTRIBUTED ARTICLE

GRAPHENE HELPS OIL SPILL CLEAN-UP

Graphene-based technology is playing an increasing role in tackling oil spills clean-up, explains Poorna Rodrigo, Sarah Gibbons and Raghavendra Verma.

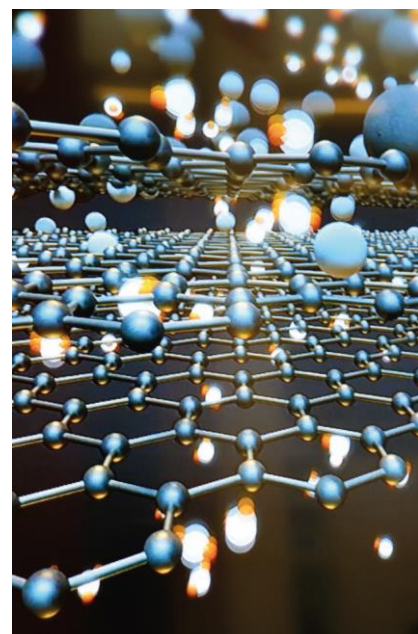
This article was originally published in the Energy Institute's December 2020 – January 2021 issue of *The Petroleum Review* and is reprinted here with the kind permission of the Energy Institute.

Picture on right: Graphene is a nano-based form of carbon arranged in a single layer of atoms in a 2D honeycomb lattice Photo: Pixabay

Graphene, a remarkable nano-based form of carbon arranged in a single layer of atoms in a two-dimensional honeycomb lattice, has been hailed as a super-material.

Graphene is highly conductive (in terms of heat and power), extremely strong, stable and absorbent (as well as adsorbent) of light and liquid.*

This latter quality has caught the eye of the petroleum sector, which is using graphene to help clean up oil spills.



Indian initiative - A good example of the effectiveness of grapheme technology in oil spills is how they have helped fight pollution from the mid-August 2020 tanker spill off the coast of Mauritius. This prompted the air lift of 10,000 specialised ‘Sorbene’ absorbent (and, to a lesser extent, adsorbent) pads from Mumbai, developed by Indian technology start-up Log 9 Materials Scientific. ‘We customised the structure of graphene to give it a 3D-form-like shape and encapsulated it in an outer covering, making it highly absorbent,’ explains Akshay Singhal, Director. ‘Unlike most existing products in the market that cannot be re-used, Sorbene pads can be re-used up to six times before their efficiency goes down below 50%.’ Through its subsidiary, Log 9 Spill Containment, the company has set up a manufacturing unit in Mumbai capable of producing up to 100,000 pads per month. Its standard-sized pads measure 50 x 40 cm, are 1cm thick and are made in three different variants. The most effective one costs \$1, weighs 22 grammes and can absorb more than 1.7 litres of oil in less than a minute. The global market for this product is valued at \$2–3bn, with the majority of demand coming from shipping lines, dock yards and oil refineries.

Italian innovation - Meanwhile, in Italy, grapheme nanoplatelets-based product specialist Directa Plus has developed an innovative oil adsorbing grapheme-based material called Grafysorber. According to the company’s Communication Manager, Michela Fumagalli, Grafysorber’s special external fabric, ‘in synergy with the unique graphene-based adsorbent inside each pillow, absorbs oils but repels water-based liquids, thus guaranteeing the floating of the adsorbent device, even when saturated’. The material is claimed to quickly absorb over 90 times its own weight in any kind of oil, and gathers hydrocarbons dissolved or dispersed in low concentrations in the water column. Grafysorber adsorbing barriers have been used both for oil spills at sea and as a fixed defence barrier on rivers and streams contaminated by hydrocarbon leaks. The lightness of the barriers play a fundamental role. ‘Grafysorber barriers are five times lighter than conventional ones and are therefore much easier to transport, especially in areas of intervention that are difficult to access,’ says Fumagalli. They are therefore ideal for skimming oil off the surface of water or for operational oil spills controls, for example during maintenance or clean-up operations. The pillows can be pressed to recover the adsorbed hydrocarbons and incinerated after use, reducing waste. Graphene is chemically and biologically inert, and Italy’s Ministry of Environment, Land and Sea Protection has acknowledged Grafysorber’s suitability for use in the sea.



Photo: Graphene-based adsorbent used in Grafysorber products Photo: Directa Plus

Chinese developments - In China, a team of experts led by the Material Science and Engineering College, Central South University of Forestry and Technology, Changsha, Hunan, have developed 3D magnetic graphene balls as sorbents for cleaning oil spills. According to a research paper published in October 2019, the researchers have been trying to counteract a problem of graphene sheets automatically agglomerating or restacking, significantly decreasing conductivity and mechanical strength, and diminishing adsorbent surface area. In a bid to overcome this problem, the research team developed a 3D magnetic grapheme ball material using cellulose as the carbon source, with its magnetic field keeping grapheme sheets apart. Testing the balls’ ability to remove oil from water, the researchers concluded ‘they demonstrated outstanding adsorption performance and excellent recyclability’. The researchers also documented alternative forms of graphene that can help maintain its single-sheet form and hence effectiveness, such as grapheme foams, sponges, aerogels, mesh and balls. The paper highlighted that: ‘3D graphene materials possess excellent properties, including large surface areas and pore volumes, low densities, good electrical conductivities, and mechanical properties.’

Canadian research – Research undertaken at the University of Waterloo, in Ontario, Canada, has also emphasised how carbon-based materials such as graphene have excellent potential hydrophobic and oleophilic properties – repelling and attracting oil, and therefore ideal for oil clean-ups. A paper by Teresa Sung published in UWSpace in 2017 stressed the utility of a laboratory-created acid-pre-treated sponge coated with 3-methacryloxypropyl trimethoxysilane functionalised reduced graphene oxide. Tests revealed the net adsorption capacity of the product was 28.61 g/g of sponge compared with 18.5 g/g in control samples of the sponge without the grapheme coating. The study identified more than 20% improvement to the volume of oil adsorption compared to an untreated sponge, 10% improvement in oil retention and over 50% boost to the adsorption mass flux (the movement of liquid in the sponge). Once cleaned, the treated sponge was shown to be 99% as effective as before being cleaned – with a similar slow decline in capacity after subsequent cleanings. Sung said graphene’s superior adsorption capabilities are due to its high levels of inertness and thermal stability. She also concluded that graphene sponges are more effective when organosilicon and polymer materials are combined with carbon-based materials. ‘This combination enhances recyclability, mechanical strength and durability, inertness, intrinsic hydrophobic, low-surface energy and other modifiable properties,’ she said.

China and U.S. oil skimmer - In 2019, a team of Chinese and US-based researchers described a jointly developed solar-energy powered, nano-based siphoncapillary oil skimmer (S-SOS) in the American Chemical Society journal Nano, where grapheme plays a pivotal role in boosting the device’s efficiency. The oil skimmer harvests solar energy, gravitational potential energy and surface energy to create a self-pumping system which removes waste oil, with no need for manual assistance. Graphene nanosheets are key

to this process. The nanosheets are created on a base of graphene felt using plasma-enhanced chemical vapour deposition. This process creates a graphene layer that aids conductivity, enabling the nanosheets to harvest solar energy and convert it to thermal energy, heating waste oil and hence reducing its viscosity, making it flow faster and easier to collect. The oil recovery rate 'dramatically increases' when exposed to energy from the sun, with a combination of enhanced siphon action, capillary action and conversion of direct sunlight into heat by the graphene nanostructures. Professor Tim S Fisher, Chair of the Department of Mechanical and Aerospace Engineering at UCLA (University of California) and co-author of the report, said the sunlight provides the heat which starts the capillary flow of the oil and water mix. 'There's no pump taking the fluid to the sponge. It just naturally flows as the graphene absorbs the light,' he said.

An algal approach - Meanwhile, researchers at Brown University, in Rhode Island, US, have combined nanomaterial graphene oxide with hydrogel materials made from 'alginate', a natural material derived from seaweed to provide antifouling protection to structures from oil spills. The material can also be used to make ocean sensors to take readings during a spillage. In a paper published in the journal Carbon in March 2019, the researchers described a 3D printing method for making durable alginate-graphene oxide structures that are twice as tough and more fracture resistant than alginate alone. The oil-repellent material is also capable of becoming stiffer or softer in response to different chemical treatments, meaning it could be used to make 'smart' materials that are able to react to their surroundings in real time. The researchers showed that a coating of alginate-graphene oxide could keep oil from fouling the surface of glass in highly saline conditions. That could make alginate-GO hydrogels useful for coatings and structures used in marine settings. 'These composite materials could be used as a sensor in the ocean that can keep taking readings during an oil spill, or as an antifouling coating that helps to keep ship hulls clean,' said Ian Y Wong, an Assistant Professor of Engineering at Brown and the paper's senior author.

White graphene - Meanwhile, back in Canada, a team at the University of Calgary has devised a way to manufacture what it describes as 'magnetic nanostructured white graphene' for cleaning water after oil spillages, collecting usable oil. Hexagonal boron nitride is similar in structure to graphene with its hexagonal appearance providing strength and thermal properties. Hexagonal boron nitride gets the tag 'white graphene' due to its highly transparent nature but does not contain any carbon. Professor Nashaat N Nassar, from the Department of Chemical and Petroleum Engineering, says: 'Current technologies for oil spill clean-up only focus on impact mitigation and tend to ignore crude oil recovery. There is, therefore, a need for an innovative technology that generates materials with crude oil recovery capabilities.' His team has developed magnetic hexagonal boron nitride (h-BN) nanostructured composites, a material that can absorb crude oil up to 53 times its own weight. The key here is using magnetism to separate oil from water particles, with the nanostructures being surrounded by hydrocarbons, creating an increasingly large mass that can attract more oil. After cleaning, the nanoparticles can be removed, and the oil recovered and reused. Such nano-based projects, as those mentioned above, offer the oil and maritime sectors a range of evolving technical solutions to dealing with oil spills.

** Adsorption is the process of adhesion of molecules of liquid or gases onto the surface of a solid particle (the adsorbent). In absorption, the molecules of the liquid or gas enter into the absorbent.*

SCIENCE & TECHNOLOGY

IMMENSE HYDROCARBON CYCLE DISCOVERED IN WORLD'S OCEAN

February 2 - Hydrocarbons and petroleum are almost synonymous in environmental science. After all, oil reserves account for nearly all the hydrocarbons we encounter. But the few hydrocarbons that trace their origin to biological sources may play a larger ecological role than scientists originally suspected.

A team of researchers at UC Santa Barbara and Woods Hole Oceanographic Institution investigated this previously neglected area of oceanography for signs of an overlooked global cycle. They also tested how its existence might impact the ocean's response to oil spills.

"We demonstrated that there is a massive and rapid hydrocarbon cycle that occurs in the ocean, and that it is distinct from the ocean's capacity to respond to petroleum input," said Professor David Valentine (link is external), who holds the Norris Presidential Chair in the Department of Earth Science at UCSB. The research, led by his graduate students Eleanor Arrington and Connor Love, appears in Nature Microbiology.

In 2015, an international team led by scientists at the University of Cambridge published a study demonstrating that the hydrocarbon pentadecane was produced by marine cyanobacteria in laboratory cultures. The researchers extrapolated that this compound might be important in the ocean. The molecule appears to relieve stress in curved membranes, so it's found in things like chloroplasts, wherein tightly packed membranes require extreme curvature, Valentine explained. Certain cyanobacteria still synthesize the compound, while other ocean microbes readily consume it for energy. Science Daily / [Read more](#)

PROTECTING VULNERABLE ASSETS WITH OSIL OIL SPILL MONITORING SYSTEMS

February 4 - Potential exposure to, or discharge of, hydrocarbons is an increasingly prominent and crucial environmental and

SCIENCE & TECHNOLOGY (CONTINUED)

operational concern for many. Tighter controls on oil detection place a high demand on quality real-time data being immediately available at the click of a button. Innovative environmental monitoring systems manufacturers Ocean Scientific International Ltd (OSIL) produce a wide range of continuous monitoring systems for uninterrupted hydrocarbon detection, and have supplied these to facilities across the globe.



The low maintenance oil spill monitoring systems available from OSIL can be terrestrial or aquatic (using moored floating buoy platforms or fixed stations in shallow waters), and individual systems can be networked together to cover multiple locations, with a single secure login or shared webpage available to view all data. These systems can detect a variety of hydrocarbon-based substances, even under harsh weather conditions. The systems can also be equipped with additional sensors (for water quality parameters, current monitoring, meteorological conditions, etc.).

OSIL can provide data and alarms from the installed sensors directly to internet-enabled devices from any location with telemetry coverage. The secure data access portal has a customisable display

with powerful visualisation tools, and scheduled reports can be shared securely over FTP or email, or live data can be accessed using a password protected direct URL link. A unified alarm system allows alerts to be sent via email and SMS, and the data portal will display the alert and the data that prompted the trigger on login. Alerts to issues with data collection and/or battery charging can also be incorporated into the appearance. Ocean Business / [Read more](#)

STUDY ON THE AT-SEA BEHAVIOUR OF PARAFFINS AND PALM OIL

February 15 - Within the context of monitoring the behaviour of paraffins and palm oil at sea, this month Cedre launched an experiment designed to study their fragmentation when washed up on the shoreline. This study is conducted using the shoreline test bench which recreates identical agitation conditions in twelve 24-litre tanks. In each of the tanks, balls of 3 paraffins of different grades (1 food grade, 2 semi-refined) and one palm oil were deposited on beds of sand of different grain sizes (fine-grain, medium-grain and coarse-grain sand). The aim is to study the gradual fragmentation of these balls, i.e. their mechanical abrasion, according to the grain size of the sand. This phenomenon will be monitored by weighing each ball on a weekly basis, then, at the end of the experiment, a sediment analysis will be conducted to determine whether the risks of particles of paraffin and vegetable oil being buried require consideration. CEDRE / [Read more](#)

UPCOMING WEBINARS

FREE WEBINARS FROM UK AND IRELAND SPILL ASSOCIATION

MV Wakashio Webinar Part 3 - Wednesday 24th Feb - 12:00 GMT

We have closely followed the grounding, spillage and subsequent loss of the MV Wakashio and have held two previous webinars on this sad event.

The first webinar followed the chronology and initial response; the second covered the impact on the environment that the incident had and we were fortunate to hear from two marine scientists who had involvement in the incident. In Part 3 and 4 we now turn to the clean up of the spill and are delighted that Polyeco Mauritius have kindly agreed to participate in two webinars to explain what they have done and how they did it.

In this first part, we will hear from K Chatzatoglou on the work they have undertaken in the initial response, oil recovery and waste disposal. It will cover some of the equipment and techniques used.

Due to timezone differences, this webinar will commence at 1200 on 24 February 2021 and is likely to last 90 minutes. There will be time for questions. This event is supported by OAMPS. [Please register here.](#)

Other upcoming webinars -

Wed, 24 Mar 2021 15:00 GMT [Spill Knowledge Base: Absorbents](#)

Wed, 14 Apr 2021 15:00 BST [Spill Knowledge Base: Marine Dispersants](#)

Wed, 19 May 2021 15:00 BST [Spill Knowledge Base: Storage Tanks](#)

Wed, 16 Jun 2021 15:00 BST [Spill Knowledge Base: Marine Special Equipment](#)

Click on the blue titles for more info on specified webinars. [view our upcoming virtual events here.](#)

ALGA: SOIL REGENERATION BIOLOGY – EMERGING TECHNOLOGIES IN BIOREMEDIATION

Thursday February 25, 1:00 PM - 2:00 PM AEDT - Microbial ability to degrade pollutants has demonstrated promising results in bioremediation of polycyclic aromatic hydrocarbons-contaminated soils. However, large-scale adoption of bioremediation tools remains low due to inconsistency in efficacy. In this talk, Dr Egidi will provide an overview of a study on the multiple abiotic and biotic factors that can influence the efficacy of bioremediation, highlighting their role in the design and employment of bioremediation management strategies for restoring natural habitats disturbed by organic pollutants. [More info](#)

RECOGNITION TRAINING FOR STRUCK-BY AND CAUGHT-IN-BETWEEN HAZARDS

Advice has been received that this webinar is being rescheduled with further details to be given later. In the meantime the organisers would still like to receive case histories from interested persons. To register interest and get more information about the webinar please contact Marc K. Shaye, Hon.FISCO at shayemk@aol.com

ONLINE AND OTHER TRAINING COURSES

NEW TRAINING SEMINARS ANNOUNCED BY OSRL

OSRL continues to release new seminars with [Dispersant effectiveness monitoring – surface and subsea](#) on the 17th February and [planning for a successful capping operation](#) on the 23rd February. All are available on our [website](#) now.

CEDRE: "FIGHTING ACCIDENTAL OIL POLLUTION AT SEA AND ON THE COAST - LEVEL IMO 2"

Session in English: March 15-19, 2021

Sessions in French: April 19-23, 2021 & May 31 to June 4, 2021 [More info](#)

ENERGY INSTITUTE - FIVE ONLINE TRAINING COURSES FOR OFFSHORE WORKERS

The Energy Institute has announced the availability of currently available short online environmental training courses for offshore workers. Details of five currently available training courses were published on Page 10 of ISCO Newsletter 770. (Link at <https://spillcontrol.org/newsletters/>)

EMPIRE EGYPT - OIL SPILL RESPONSE - 1 DAY FOUNDATION COURSE

1 Day online self-paced training program which provides a foundation knowledge and skills for on-site first response to oil spills with the emphasis on combating and the various clean-up methods, supported by exercises and quizzes. A Certificate of Completion will be issued for candidates who pass the final assessment exam.

[More info](#) For ISCO members and readers a 50% discount is available until 31 March 2021. Using the code: ISCO50

LLOYDS MARITIME ACADEMY – CERTIFICATE IN OIL SPILL RESPONSE

This safety training course has been designed in line with the OPRC Convention and is vital for first-time responders in the oil and offshore industry. Starts 14th April; Online | Study in your own time; Duration: 12 weeks | 6 modules; Taught by: Colin Drake, Managing Director of OSCAR – Oil Spill Consultants & Advisory Response; Fees: £1,529.19/ \$1,988.10 (includes a saving of £170/\$221 until 19 February 2021). Find out more about this course – [download the full course syllabus](#).

ACCELERATING A SUSTAINABLE OCEAN ECONOMY – MARCH 1-5, 2021

The Economist Group's World Ocean Initiative Summit Virtual Week – The 2021 agenda will deliver fresh, robust, and action-oriented insights into creating a sustainable ocean economy. The virtual week offers the opportunity to access highly curated content and the chance to make meaningful connections no matter where you are in the world - [More info](#)

USA: HAZARDOUS MATERIALS CODE ENFORCEMENT P0615

June 13-18 2021. Emmitsburg, Maryland. 6-day on-campus - This six-day course is designed to guide students in gaining and sharing the knowledge, skills and abilities to effectively recognize and analyze hazardous materials risk, classify the materials, and apply the codes, standards, and regulations to prevent incidents and mitigate threats to life and property. [More info](#)

UPCOMING EVENTS

Event organisers are requested to notify ISCO immediately if a listed event is cancelled or postponed

Your Editor is doing his best to keep this listing up-to-date but it should not be assumed that listed events have not been cancelled or postponed. It is recommended that you check with event organisers before finalising your attendance plans.

If an event title is not printed in blue ink it is not hyperlinked to the event website. This may be because the website is not yet available or because the link for the website has not yet been given.

If you want to request the addition of an event please contact the Editor.

For more information click on Title of Event			
COUNTRY	2021	TITLE OF EVENT	LOCATION
VIRTUAL EVENT	February 22-23	5th Session of the U.N. Environment Assembly	Online
VIRTUAL EVENT	February 22-26	Ninth Technology Workshop for Oil Spill Response	Online
VIRTUAL EVENT	March 1-5	World Ocean Initiative Summit Virtual Week	Online
VIRTUAL EVENT	March 2-4	International Symposium on Plastics in the Arctic and Sub-Arctic Region	Online
VIRTUAL EVENT	March 10	Regional Meeting of National Experts on the Post-2021 Mediterranean Strategy for Prevention of and Response to Marine Pollution from Ships	Online
VIRTUAL EVENT	March 15-18	OSPAR Commission – Environmental Impact of Human Activities 2021	Online
VIRTUAL EVENT	March 22-26	IMO Sub-Committee on Pollution Prevention and Response (PPR)	Online
VIRTUAL EVENT	March 23	CEDRE Information Day on Containers	Online
VIRTUAL EVENT	March 29-31	Meeting of the IOPC Funds' governing bodies	Online
USA	May 9	APICOM GM Meeting	New Orleans LA
NETHERLANDS	May 11-12	Envirotech for Shipping Forum	Rotterdam
VIRTUAL EVENT	May 10-13	International Oil Spill Conference (IOSC 2021)	Online
VIRTUAL EVENT	May 20-21	European Maritime Day	Online
VIRTUAL EVENT	May 25-27	Fourteenth Meeting of the Focal Points of the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC)	Online
UAE	April 6-7	HSE Forum UAE 2021	Dubai
VIRTUAL EVENT	April 8	IMO Council Meeting	Online
VIRTUAL EVENT	June 8-9	Environment Analyst Global Business Summit 2021	Online
VIRTUAL EVENT	June 8-10	43rd AMOP Technical Seminar on Environmental Contamination and Response	Online
USA	June 8-10	Elastec Spill Workshop 2021	Carmi, IL
TUNISIA	June 15	Training on Readiness Evaluation Tool for Oil Spills	Hammamet
TUNISIA	June 16-17	Regional Workshop on Oil Spill Waste Management	Hammamet
USA	June 28-30	Clean Pacific Conference & Exhibition	Seattle, WA
USA	September 7-10	Hazmat Emergency Response Workshop	Sacramento, CA
USA	Sept. 13-15	Clean Waterways Conference & Exhibition	Louisville, KY
CROATIA	October 26-28	Regional Workshop – Enhancing Preparedness and Response in the Adriatic & Mediterranean Regions	Opatija
CROATIA	October 29	MOIG General Assembly Meeting	Opatija
USA	Nov. 16-18	Clean Gulf Conference & Exhibition	San Antonio, TX
BAHREIN	Nov. 28-30	International Conference & Exhibition on Spills, Clean Seas & Environment	Bahrein

Please advise the Editor if any of the above entries require correction or updating. John.mcmurtrie@spillcontrol.org

MESSAGES RECEIVED FROM EVENT ORGANISERS

IOSC SHORT COURSE: AN INTRODUCTION TO THE ENVIRONMENTAL UNIT (EU) FOR NON-EU PERSONNEL (VIRTUAL)

The triennial [International Oil Spill Conference \(IOSC\)](#)(link is external) provides an excellent opportunity to foster and strengthen relationships with government and industry partners, to share experiences, and keep up-to-date with the latest developments and

MESSAGES RECEIVED FROM EVENT ORGANISERS (CONTINUED)

technologies. As part of this effort, IOSC 2021 offers [twelve Short Courses\(link is external\)](#), of which scientists from OR&R will teach or co-teach three.

An oil spill is fundamentally an environmental event, therefore, in many cases, the success of an emergency response can hinge on the strength of the Environmental Unit (EU).

This course aims to educate personnel who normally fill other ICS positions about the roles and responsibilities of the EU and how they relate to other positions inside and outside of the Incident Command System (ICS); and how the EU influences decisions made throughout a response.

The EU is often tasked with supporting the response effort by identifying resources at risk; managing the Shoreline Cleanup Assessment Technique (SCAT) program; leading Endangered Species Act (Section 7) and National Historic Preservation Act (Section 106) Consultations, managing waste stream, and coordinating internal and external environmental stakeholder issues.

This will be a discussion-based course taught by several experienced EU practitioners representing federal, state, and responsible party perspectives. The discussion will be practical, informative and lively, so come join us.

NOTE: This course will be held at 1300-1700 U.S. Eastern Time / 1800-2200 UTC.

More Information: [IOSC 2021 Short Courses\(link is external\)](#)

CEDRE: CEDRE INFORMATION DAY 2021 ON CONTAINERS TO BE HELD VIRTUALLY

After being postponed last year due to measures relating to the COVID19 pandemic, the Cedre Information Day will be held on 23rd March as a virtual conference. The various speakers will present remotely, and question and answer sessions will be organised so that attendees can interact with them. Simultaneous translation into English will be provided in an English language virtual conference room for all the presentations. 23 March 2021 CEDRE / [More info](#)

CONTRACTS, TENDERS AND BUSINESS OPPORTUNITIES

INTERNATIONAL OPEN TENDER NOTIFICATION SERVICE

This is a subscription service. [Have a look to see examples of open tenders.](#)

OTHER OPPORTUNITIES: USA & EUROPE

USA - Government solicitations are frequently posted in Technology Innovation News Survey and US EPA Tech Direct.

EUROPE – European Maritime Safety Agency invitations to tender are often posted in The EMSA Newsletter.

See “Links for other publications” for links to download current issues of these publications. Readers are welcome to post tender invitations in this section.

LINKS FOR DOWNLOADING AND READING OTHER PUBLICATIONS

AMSA Update	Latest News from the Australian Maritime Safety Authority	Current issue
ATRAC Newsletter	News from the Adriatic Training and Research Centre	October 2020
AUSMEPA Bulletin	News from the Australian Marine Environment Protection Assoc'n	Summer 2020
BIMCO Bulletin	Marine and shipping-related news from BIMCO	December 2020
Newsletter from George Holliday	News and commentary on HSE issues from George Holliday	Free on request
Cedre Newsletter	News from Cedre in Brittany, France	January 2021
EMSA Newsletters	News from the European Maritime Safety Agency	Current issue
Environmental Expert	Environmental News from Environmental Expert	Current issue
GDACS Newsletter	Daily alerts for natural disasters – earthquakes, floods, typhoons, etc.	Free on request
GEF Newsletter	Monthly Newsletter from the Global Environment Facility	Subscription
GESAMP	Group of Experts on the Scientific Aspects of Marine Environmental Protection	Latest news
GISEA Quarterly Newsletter	News from Global Initiative for South-East Asia	Q3 2020
IMO News Magazine	News from the International Maritime Organization	Autumn/Winter 2020
IMO Publishing Newsletter	New and forthcoming IMO publications	September 2020
ITOPF Ocean Orbit	News magazine from ITOPF with interesting spill response articles	February 2021
JOIFF Catalyst Newsletter	Int'l Organisation for Industrial Hazard Management	Q1 2021 issue
Maritime Executive Magazine	Often contains articles of interest to the spill response community	Current issue
MEDNEWS	News from UNEP Mediterranean Action Programme	02 / 2020
MOIG Newsletter	News from the Mediterranean Oil Industry Group	February 2021
NCEC Newsletter	News from the National Chemical Emergency Centre	December 2020
Navigate Response	Global crisis communications network for shipping & marine	Current issue

LINKS FOR DOWNLOADING AND READING OTHER PUBLICATIONS (CONTINUED)

NOAA OR&R	Weekly round-up of news from NOAA's Office of Response & Restoration	Latest issue
Oceanbuzz	Newsletter giving news on the Ocean Technology Industry	Current issue
OCIMF Newsletter	News from the Oil Companies International Marine Forum	Current issue
OHMSETT Gazette	Oil Spill Response Research & Renewable Energy Test Facility Quarterly	Autumn 2020
Oiled Wildlife Log	Bi-annual Newsletter from Tri-State Bird Rescue & Research	January 2021
OSPAR Newsletter	Protecting & Conserving the N.E. Atlantic and its resources	End of year 2019
PEMSEA Newsletter	Healthy oceans, people and economies in the East Asian Seas	Current issue
Pollution Online Newsletter	News for pollution prevention & control professionals	Current issue
Salvage World	Quarterly Newsletter of the International Salvage Union	Current issue
Sea Alarm Foundation Newsletter	Oiled wildlife Preparedness and Response news from Sea Alarm	Current issue
Society of Maritime Industries	News from the UK's maritime engineering and business services sector.	October 2020
Spill Alert	Quarterly Newsletter from UK & Ireland Spill Association	December 2020
Technology Innovation News Survey	News from US EPA – Contaminated Site Decontamination	Jan. 1-15, 2021
The Maritime Advocate	Maritime News from Sandra Speares	Current issue
USA EPA Tech Direct	Remediation of contaminated soil and groundwater	February 1, 2021
Water Pollution & Flood News	Monthly round-ups of UK & Worldwide Spill and Flood News	Free on request
WestMOPoCo	Western Mediterranean Region Marine Oil & HNS Pollution Co-operation	November 2020

Your editor depends on regular receipt of updated URL links for listed publications. If these are not received, relevant entries will be discontinued. Publishers are kindly requested to advise the editor john.mcmurtrie@spillcontrol.org if any of the links are not up-to-date.

INCIDENT REPORTS

AUSTRALIA: OIL SPILL STOPS SHIPLOADING AT W AUSTRALIA'S GERALDTON

February 15 - Australian iron ore mining firm Fenix Resources has stopped loading the Ya Tai 2 bulk carrier after mechanical issues caused an oil spill at the port of Geraldton in Western Australia's (WA) MidWest region. Argus Media / [Read more](#)

AUSTRALIA: DEAD, SICK BABY TURTLES WASH UP ON CENTRAL QUEENSLAND BEACHES AFTER EATING PLASTIC

February 17 - Dead and sick baby turtles are washing up on Capricorn Coast beaches in numbers never seen before by researchers, after swallowing plastic. The Department of Environment is working with international researchers to study the impact of plastic on marine life. Dr Col Limpus says breeding numbers will be affected in decades to come

The Department of Environment (DES) said an "unusually large number" of weeks old flatback turtles have been found on the west coast of Keppel Bay. Chief Scientific Officer Col Limpus said fragments of floating hard plastics and soft plastics had been found in the post-hatchling turtles. ABC News / [Read more](#)

GIBRALTAR DETAINS BULKER AS IT CLEANS BUNKERING OIL SPILL

February 16 - Gibraltar is working to contain and clean up an oil split believed to have come from a bulker that was fueling in the anchorage. Calling it the first oil spill in many years to impact the inner harbor and surrounding areas, the government of Gibraltar has detained the vessel being blamed for the incident. The Maritime Executive / [Read more](#)

MAURITIUS: WAKASHIO'S STERN REMOVAL KICKS OFF



February 17 - Six months after the scuttling of the Wakashio's bow, the dismantling of the stern has finally kicked off in Pointe d'Esny, Mauritius. The parts will be transported on a special barge to Port-Louis' harbor before being handed over to a local scrap metal recycling specialist.

The operation kicked into gear on Monday with experts from the Chinese company Lianyungang Dali Underwater Engineering on-site for the dismantling of the 75-meter bow of the Wakashio, which has been stuck on the reef since last July. The operation, which is expected to be completed by the end of March depending

on weather conditions, comes six months after the bow of the 225-meter long ore carrier was scuttled by the Dutch salvage company Smit International about 20 nautical miles from Old Grand Port. gCaptain / [Read more](#) See also <https://www.maritime-executive.com/article/wakashio-salvage-begins-in-mauritius-as-officers-appear-in-court>

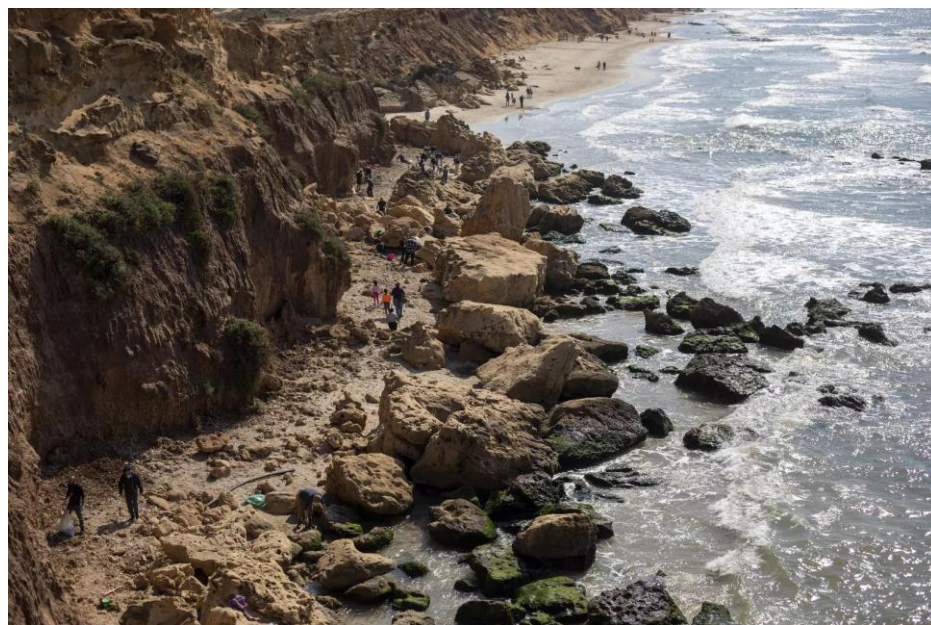
PACIFIC OCEAN: MAERSK BOXSHIP LOSES 260 CONTAINERS OVERBOARD DURING BLACKOUT

February 17 - Maersk Line is reporting the second significant container loss from one of its vessels in 2021. The 13,100 TEU Maersk Eindhoven was near Japan on its regular sailing from Xiamen, China to Los Angeles, California. The line is reporting that the crew is safe as they work to assess the extent of the loss and seek a suitable port of refuge.

An 11-year-old boxship registered in Denmark, the Maersk Eindhoven experienced an engine stop in heavy seas causing the ship to be unable to maneuver and experience a severe roll. Maersk is now reported that the vessel lost 260 containers overboard during the accident. MSC issued a similar advisory to its customers saying that “preliminary advice from the vessel operator suggests that several hundred containers have been lost overboard, although we have not yet been informed whether any MSC customer cargo was impacted.” The Maritime Executive / [Read more](#) See also February 18 https://gcaptain.com/maersk-eindhoven-loses-containers-overboard-pacific/?subscriber=true&goal=0_f50174ef03-aa0dce8730-139903897&mc_cid=aa0dce8730&mc_eid=432e1339aa and February 19 <https://www.maritime-executive.com/article/maersk-says-oil-pressure-system-led-to-container-loss-from-boxship>



ISRAEL: OIL SPILL STAINS SHORELINE; INVESTIGATIONS UNDERWAY TO DETERMINE CAUSE



Picture: People clean tar from an oil spill in the Mediterranean sea in Gador nature reserve near Hadera, Israel, Saturday, Feb. 20, 2021. Photo/Ariel Schalit)

February 21 - Israeli media reported that several volunteers were hospitalized after inhaling fumes. Israel's Nature and Parks Authority urged people to stay away from the beach at 16 of the communities that are most polluted. Hundreds of volunteers took part Saturday in a cleanup operation of the Israeli shoreline as investigations are underway to determine the cause of an oil spill that threatens the beach and wildlife.

From as north as Haifa and down south to Ashkelon near Gaza, black strips could be seen along the Mediterranean coastline. At Gador Nature Reserve near the northern city

of Hadera, the tar smeared fish, turtles, and other sea creatures. The reason and timing of the spill are yet to be determined, but stormy weather earlier this week is believed to have pushed the pollutants ashore. On Thursday, a baby whale washed up dead on a beach near Tel Aviv, and authorities investigating whether the two incidents are linked. Economic Times / [Read more](#) See also <https://abcnews.go.com/International/wireStory/oil-spill-stains-israeli-shoreline-investigations-underway-76016725>

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