



## 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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**SEASON'S GREETINGS  
TO ALL OUR READERS**



## HEADLINE INTERNATIONAL NEWS

### CONTAINER SHIP ACCIDENTS ARE A LITTLE-UNDERSTOOD BUT EMERGING THREAT TO MARINE ECOSYSTEMS

EXCERPTS FROM AN ARTICLE BY PATRICK LEJTENYI OF CONCORDIA UNIVERSITY

An estimated 80 percent of the world's cargo is transported via ship-borne containers—a method that has soared in use in the decades after World War II. The efficient, cost-effective method of packaging and moving goods across the world's oceans boomed with the globalization of trade, experiencing a near 20-fold increase in container tonnage in the past 40 years. An estimated 100 million tons were shipped by container in 1980. In 2020, that number reached a staggering 1.85 billion tons.

However, not all this cargo makes it to market. Fires, collisions, groundings and other seaborne accidents can lead to containers spilling overboard and sinking to ocean floors where they and their contents pollute the marine environment.



*Above: Photo courtesy of Hans-Jurgen Hamman via Wikimedia*

In a new paper published in the Journal of Cleaner Production, a group of Concordia University researchers, under the supervision of Chunjiang An, reviews the state of marine pollution from container ship accidents. The study investigates the risks they pose, the current policies and strategies around them, and the regulations that cover reporting and cleanups.

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## HEADLINE INTERNATIONAL NEWS (CONTINUED)

The group found that despite the existence of international protocols, risks are often overlooked, and existing regulations around maritime cargo have significant deficiencies.

"There are many regulations around oil spills, even for responders," says An, associate professor in the Department of Building, Civil and Environmental Engineering and the Concordia University Research Chair in Spill Response and Remediation. But there is little such expertise to deal with other sources of pollution, such as the 1,680 tons of plastic nurdles that swamped Sri Lanka's shoreline last year after the container ship X-Press Pearl caught fire and sank. Experts attending the recent International Oil Spill Science Conference also raised the particular concern of such container ship accidents

The paper's co-authors are Ph.D. students Xiaohan Yang, Xinya Chen and Huifang Bi and master's student Zhaonian Qu of Concordia, as well as Baiyu Zhang of Memorial University and Kenneth Lee of Fisheries and Oceans Canada.

Phys Org / [Read the unabridged article](#)

**More information:** Shuyan Wan et al, Emerging marine pollution from container ship accidents: Risk characteristics, response strategies, and regulation advancements, *Journal of Cleaner Production* (2022). DOI: [10.1016/j.jclepro.2022.134266](https://doi.org/10.1016/j.jclepro.2022.134266)

## ISCO NEWS

### POSTPONED ISCO 2022 AGM

The ISCO Secretariat has not yet determined the date of the delayed AGM but it will be announced in the next issue of the ISCO Newsletter. The Agenda and Meeting Papers will be circulated to members by email as soon as possible after New Year.

### ISCO NEWSLETTER PUBLICATION DATES

Your Editor is taking a break over the holiday period. This issue is the last one for 2022 and the next one will be published on 2nd January 2023.

## INTERNATIONAL & REGIONAL NEWS

### MEPSEAS SOUTH-EAST ASIAN MARINE PROTECTION PROJECT CONCLUDED

November 24 -- The conclusion of a successful five-year initiative to protect the marine environment in South-East Asia from the negative effects of ships and shipping has been marked at a high-level meeting (25-27 October) in Viet Nam with the adoption of a MEPSEAS-Halong Statement by the participating countries.

The Marine Environment Protection of the South-East Asian Seas (MEPSEAS) project has seen seven partner countries - Cambodia, Indonesia, Malaysia, Myanmar, Philippines, Thailand and Viet Nam – make substantial progress in ratifying and implementing key IMO environmental treaties. IMO / [Read more](#)

### GREEN TURTLES IN REMOTE AZORES FEEDING GROUNDS ARE INGESTING PLASTIC, REVEALS NEW STUDY

December 7 - Analysing two decades of data on stranded turtles in the North East Atlantic, researchers have found that 14% of turtles were entangled in litter and 86% of those examined after death had ingested plastic.

This study indicates the effect of litter on turtles that feed near oceanic islands. Coordinated stranding networks which report marine mammals washed ashore either because they are sick or injured or have died, provide a crucial tool for studying species in remote locations, say the researchers. Green turtles (*Chelonia mydas*), found near coastal areas in temperate, subtropical and tropical waters around the world, are on the IUCN Red List of Threatened Species.

Environment EC / [Read more](#)

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**INTERNATIONAL & REGIONAL NEWS (CONTINUED)**

**UN RECOGNIZES 10 PIONEERING INITIATIVES THAT ARE RESTORING THE NATURAL WORLD**

December 13 - The winning initiatives were unveiled at [the UN Biodiversity Conference \(COP15\)](#) in Montreal and a special [virtual gala](#) event featuring actors Jason Momoa and Edward Norton, Dr. Jane Goodall, extreme mountaineer Nirmal Purja, singer Ellie Goulding, UK band Bastille, Chinese celebrity Li Bingbing, UNEP Executive Director Inger Andersen, FAO Deputy Director-General Maria Helena Semedo and British economist Sir Partha Dasgupta, among others. The gala was hosted by Indian National Geographic Explorer and wildlife filmmaker Malaika Vaz. UNEP / [Read more](#)

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**COP15 HALF-TIME REPORT: CHINA PROMPTS FEARS OF NEW ‘COPENHAGEN MOMENT’**

December 13 - At the halfway stage of the summit in Canada, negotiators at the UN biodiversity summit have said divisions are contributing to the growing risk of a “Copenhagen moment”, referring to the 2009 UN climate summit when talks ended with a weak final agreement in the Danish capital, not the “Paris moment for nature” leading environmental figures had been calling for. Mid-term measures including possible technical and economic measures The Guardian / [Read more](#)

**SEA ALARM PRESENTS AT THE FIRST EFFECTS OF OIL ON WILDLIFE CONFERENCE IN FOUR YEARS**

December 14 -- The Effects of Oil on Wildlife (EOW) conference is the biggest event of the international oiled wildlife response community and is the only global meeting focusing on the planning, response, rehabilitation, and research aspects of oil spills and their impacts to wildlife. The **EOW** was an exciting opportunity for Sea Alarm to learn about new developments in oiled wildlife preparedness, new technologies and new insights from recent pollution incidents. Sea Alarm / [Read more](#)

**AI IS CHANGING HOW SCIENTISTS STUDY THE OCEANS**

December 15- We’ve used AI’s exceptional pattern recognition to trawl through satellite images and map the tonnes of plastic pollution threatening our seas – in real time. Already, this technique has found more than 4,000 unreported informal dumps next to rivers. This is useful, given just ten rivers contribute nearly all the plastic entering our oceans.

This is just the start. So far, AI has shown promise in our projects mapping seagrass meadows from space and finding unknown reefs likely to harbour heat-resilient coral. Soon, we hope we’ll be able to put AI on the job to find out exactly what fish live where – without ever seeing them. The Maritime Executive / [Read more](#)

**NEWS REPORTS FROM AROUND THE WORLD**

*Editor: Many of these reports are gleaned from news provided on the websites of Environment Agencies and other national organisations, some of which are not being well maintained. ISCO does not have the resources to monitor multiple social media platforms. Your editor is grateful to those organisations that directly send him their national news reports of interest to the spill response community.*

**AUSTRALIA: AMOSC ANNOUNCES LEADERSHIP CHANGES**



December - After 11 years at AMOSC as the General Manager, Nick Quinn will be retiring from the company early in the New Year.

During his time as General Manager, Nick has led AMOSC through a period of considerable growth, change and expansion. Some of the company’s achievements under his tenure include:

- The expansion of staffing to 16 FTE;
- establishing the AMOSC Perth office and warehouse;
- successful delivery and integration of the Sub-Sea First Response Toolkit; and
- growth in AMOSC’s capabilities to include Oiled Wildlife Response, operational/technical advisory services, Shoreline, Surveillance Monitoring & Visualization.

Most critically, Nick has fostered and grown the AMOSC team to serve the Australian Oil & Gas Industry’s needs during a time of change. AMOSC wishes him well with his future endeavors!

The AMOSC Board is delighted to announce that after an exhaustive open recruitment process, Phillip Starkins will commence as the (new) Chief Executive Officer of AMOSC, early in the New Year. Phillip's career spans oil spill, security and emergency response in both the Government and Industry sectors. He has been a member of the AMOSC team since 2012, most recently as the Deputy General Manager – Policy & Advocacy. Phillip's work within AMOSC to deliver quality outcomes, integrate AMOSC with government sectors and represent key marine oil spill preparedness & response issues have all been critical to the profile of AMOSC and our membership.

Phillip & Nick have commenced a comprehensive handover process to ensure that AMOSC's service delivery during this leadership transition is seamless. #AMOSC #oilspillresponse #marineenvironment #marine #future



### CHINA: IMAREST CHINA TECHNOLOGY CENTRE OPENS IN NINGBO

December 6 - We are delighted to announce the opening of the 'IMarEST China Technology Centre' in Ningbo, China. The new centre will support professionalism in the area with access to IMarEST services and events.

"This exciting new development is the next step of our Memorandum of Understanding with China Association of National Shipbuilding Industry (CANSI), the Ningbo Municipal Office for Port Services (NBOPS) and Ningbo Municipality Yinzhou District People's Government. Supporting the maritime profession on a global level and ensuring access to professional development and ongoing training are vital for those who work in the sector." - Alastair Fischbacher, 119th IMarEST President. IMarEST / [Read more](#)

### CHINA: UN RECOGNIZES VAST CHINESE RESTORATION EFFORT WITH SPECIAL AWARD

December 13 - The United Nations has recognized an initiative to restore 10 million hectares of ecosystems across China as one of 10 pioneering efforts to revive the natural world.

The Shan-Shui initiative – which translates to "mountains and rivers" – is an ambitious country-wide effort to restore 10 million ha of natural spaces, including forests, grasslands and waterways. Between 2021 and 2030, China is aiming to complete 50 projects stretching across 700 counties, focusing on the large-scale protection and restoration of entire ecosystems. By 2030, that is expected to create more than 3.2 million jobs in a range of industries, from tourism to wine-making. An estimated 70 million households, or 200 million people, are expected to benefit from the work. Decade on Restoration / [Read more](#)

### FRANCE: EMERGENCY RESPONSE SUMMARY FOR NOVEMBER 2022

December - November was a particularly busy month for our duty team. We were contacted by DREAL PACA about the behaviour and toxicity of butyldiglycol acetate, following a leak from an industrial tank into the sea at the Anse d'Auguette.

The Port of Antwerp (Belgium) questioned us about the behaviour of a VLSFO and the recommendations on response measures following a spill from a container ship.

The Finistère fire brigade (SDIS 29) was in contact with Cedre following a leak of hydrochloric acid which reached the wastewater network at an industrial site in Quimper, as well as in relation to strandings of industrial plastic pellets on the South Finistère coast.

The Côtes-d'Armor fire brigade (SDIS 22) also contacted Cedre to discuss the different clean-up techniques which could be implemented to respond to a spill of domestic fuel oil in vegetated ditches.

A participant in an exercise organised as part of the RCH4 chemical risk training course questioned Cedre about the impact of water used to extinguish an ammonium nitrate fire on the marine environment.

MAR-ICE was activated by a Scandinavian country after a solid substance rose to the surface and ignited with air; the substance turned out to be white phosphorus.

Requests for analysis of photographs of suspected pollution were received from COM Toulon, MRCC Corsica and MRCC Corsen.

The discovery of an oil patty in the Bay of Douarnenez was reported by VIGIPOL. A sample of the oil, found by an individual, will be sent to Cedre for analysis. We are also expecting a delivery of samples of oil found in bags on the Finistère coastline.

In terms of exercises, the ICE network was activated 4 times (by England for formaldehyde, Belgium for benzene, the Netherlands for chlorine and Poland for ethanol). MARICE was also activated by Malta. CEDRE Newsletter / [Read more](#)

### GREECE: JOINT CLEANUP BY HELMEPA, THE U.S. EMBASSY IN GREECE AND THE PORT AUTHORITY OF ELEFSIS AT THE 2023 EUROPEAN CAPITAL OF CULTURE

December - Marking the closing event of HELMEPA's International Coastal Cleanup campaign in Greece, 80 sailors and marines from the USNS TRENTON (T-EPF 5) anchored off the port of Piraeus alongside Embassy officials, families and staff of the Port Authority cleaned up the Cronos docking area of Elefsina Bay. Fifty six (56) bags of marine litter were collected on the day and included litter ranging from, - plastic bottles and other consumer goods to elastic tires and mooring lines. HELMEPA / [Read more](#)

### INDIA: 24TH NATIONAL OIL SPILL DISASTER CONTINGENCY PLAN AND PREPAREDNESS MEETING

December 11 - Coast Guard conducted the 24th National Oil Spill Disaster Contingency Plan (NOS-DCP) and Preparedness Meeting in Chennai on November 30, 2022. About 100 delegates, including representatives of various Ministries, Central and State Government departments and agencies, State Pollution Control Board, Ports and Oil Handling Companies participated. National capabilities with the common aim to ensure collective preparedness to respond to any oil and chemical spill contingency in Indian waters were reviewed. Organiser / [Read more](#)

### INDIA: UN RECOGNIZES INDIAN GOVERNMENT INITIATIVE TO RESTORE GANGES RIVER WITH SPECIAL AWARD

December 13 - The United Nations has recognized an initiative to rejuvenate India's sacred Ganges River as one of 10 pioneering efforts to revive the natural world.

The UN designated the push, which has so far restored about 15 per cent of the river's length, as one of its inaugural World Restoration Flagships. These initiatives, which are eligible to receive UN support, funding or technical expertise, showcase how environmental advocates are mending damaged ecosystems across the planet. Human activity has significantly altered three-quarters of the Earth's land and two-thirds of its marine environment, pushing 1 million species towards extinction.

Decade on Restoration / [Read more](#)

### UAE : UN RECOGNIZES INITIATIVE TO PROTECT GULF WATERS AND DUGONG SPECIES WITH SPECIAL AWARD



*Image by: Abu Dhabi Environment Agency*

December 13 - Ambitious effort to restore coral, mangrove and seagrass in Abu Dhabi honoured as World Restoration Flagship Initiative now eligible to receive United Nations support, funding or technical expertise. Flagship news welcomed in the Abu Dhabi.

The coastline of Abu Dhabi, the capital of the United Arab Emirates, is home to an array of marine life, including 500 species of fish, seven species of marine reptiles, three species of dolphins, one species of finless porpoise and the dugong, the world's only exclusively marine mammal that is herbivorous. But

tourism, home building and other infrastructure construction have put critical coastal and marine habitats at risk. To counter that, partners, conservationists and communities led by the Environment Agency Abu Dhabi are planting mangrove trees, transplanting healthy coral and creating nurseries for seagrass, reviving the coast and creating a haven for marine life.

Decade on Restoration / [Read more](#)

### UK: CEFAS SECURES NEW EUROPEAN FUNDING TO TACKLE GLOBAL MARINE BIODIVERSITY LOSS

December 14 - Cefas and its European partners will continue to collaborate to tackle the global biodiversity crisis thanks to new funding to support marine science.

Horizon Europe is the EU's flagship funding programme for research and innovation to tackle global environmental problems. Cefas has been awarded over £2.6 million until 2027 to deliver a variety of projects aimed at supporting EU and UK policy makers with the tools and evidence to protect marine biodiversity and ecosystems. CEFAS / [Read more](#)

### UK & IRELAND SPILL ASSOCIATION - PLASTIC POLLUTION WORKING GROUP WEBINAR SERIES

December 14 - For the last 18 months, the Plastic Pollution Working Group (PPWG) has been working together to produce a response plan for small spills of plastic pollution that affect the UK coastline. To do this we examined equipment, created a triage system for these incidents, and developed a response plan and safe system of work guidance for members.

In May 2021 a fire on board the MV X-Press Pearl led to the vessel sinking and the loss of its container contents off the coast of Colombo, Sri Lanka. Several of our member companies have been involved in dealing with its consequences, in particular, the significant loss of plastic nurdles onto the coastline with the spread of as much as 150km. The group agreed that the learning from

## NEWS REPORTS FROM AROUND THE WORLD (CONTINUED)

this, and members prior experience of MV Rena and other recent incidents eg. MSC Zoe lost 345 containers in Jan 2019 of which the contents of several impacted the Wadden Islands, should be collated and published.

PPWG members agreed that the work should be shared as widely as possible through the publication of guidance documents with each accompanied by a webinar.

There are going to be 8 guidance documents published that will be accompanied by a webinar on the dates below as follows:

29 Nov 2022 – Goal 1: Understand the sources, pathways and impacts of plastic pollution – Oracle Environmental Experts

18 Jan 2023 – Goal 5: Environmental and health risks associated with microplastics – CEFAS

15 Feb 2023 – Goal 10: Identifying effective tools and equipment for controlling plastics at source – Oracle Environmental Experts

15 Mar 2023 – Goal 2: Identifying effective equipment for microplastic recovery – Oracle Environmental Experts, Oil Spill Response, ITOFF

19 Apr 2023 – Goal 4: Method of qualitative and quantitative assessment of microplastics in sediments and water – Oil Spill Response and CEFAS

17 May 2023 – Goal 6: Surveillance and modelling of microplastics – UKEireSpill and OSRL

21 Jun 2023 – Goal 3: Assessment of the ecological impact of microplastic recovery – RSK Raw and CEFAS

11 Jul 2023 – Goal 7: Sustainable endpoints of recovered microplastic waste – RSK Raw

Our aspiration is to combine these into a Field Practice Guide in 2023 and to hold a conference to launch this with workshops to explain its contents.

In the meantime here is the link to the guidance document for Goal 1: Understand the sources, pathways and impacts of plastic pollution produced by Oracle Environmental Experts and its webinar: <https://ukeirespill.org/plastic-pollution-working-group/>  
<https://ukeirespill.org/>

## USA: WEEKLY ROUND-UP OF NEWS & INFORMATION FROM NOAA OR&R

December 12 – Please click on the links below to download and read the latest news reports from NOAA OR&R

### Young Pacific Leaders Visit NOAA's Inouye Regional Center

On Nov. 29, the 2022 [Young Pacific Leaders\(link is external\)](#) cohort visited the Inouye Regional Center in Honolulu, Hawaii, for a facility tour and presentations from NOAA team members.

The Young Pacific Leaders Program is organized by the U.S. government and aims to build the leadership capabilities of youth in the region and strengthen ties between the United States and the Pacific.

### NOAA, Partners Exercise a Worst-Case Discharge in Anacortes, Washington

In early October, NOAA OR&R scientists participated in a functional tabletop exercise in Anacortes, Washington. The purpose of the exercise was to demonstrate the capability of the oil industry and other agencies working together to develop an oil spill response plan that is used to minimize and mitigate the impacts of an oil spill.

### Celebrating Five Years of Improving Preparedness, Response, and Recovery

The [Office of Response and Restoration Disaster Preparedness Program](#) serves a vital role for the National Ocean Service's preparedness and continuity of operations planning.

This November, the program celebrated a major milestone — five years of preparing partners and communities to respond to and recover from disasters. Their work is growing in importance and demand as coastal disasters become more frequent and severe.

### New Publication on Discounting in Natural Resource Damage Assessment

On Nov. 22 2022, the [Journal of Benefit Cost Analysis\(link is external\)](#) published "Discounting in Natural Resource Damage Assessment(link is external) " by OR&R's economists Cameron Duff, Chris Giguere, and Jason Murray, and co-authors from Industrial Economics and the University of Wisconsin.

### NOAA Offices and U.S. Coast Guard Co-Host Environmental Consultation Seminar in Honolulu

Last week, NOAA OR&R and NOAA National Marine Fisheries Service's Pacific Regional Office, in collaboration with U.S. Coast Guard District 14, hosted an Environmental Consultation Seminar in Honolulu, Hawaii.

## USA: BILL TO FUND OIL SPILL STUDIES ON ST. LAWRENCE RIVER INCLUDED IN DEFENSE ACT, ON ITS WAY TO PASSAGE

December 12 - Legislation included in the 2023 National Defense Authorization Act will provide more funding for the U.S. Coast Guard to study the impact of a potential oil spill in the St. Lawrence River, and develop a response plan.

NNY 360 / [Subscription required to read more](#)

## PEOPLE IN THE NEWS

### MALAYSIA: NIK NAZMI NIK AHMAD APPOINTED NEW ENVIRONMENT AND CLIMATE CHANGE MINISTER

December 9 - Following Malaysia's tumultuous 15th general election and the swearing in of Datuk Seri Anwar Ibrahim as the country's new prime minister, the ministries of energy and water have been combined and a new minister has been appointed to oversee the combined portfolio.

Nik Nazmi Nik Ahmad, 40, was appointed earlier this month as the minister of natural resources, environment and climate change. This is the first cabinet post for the former youth leader of Anwar's People's Justice Party (PKR), who is currently serving as a member of parliament for Setiawangsa, a suburb of the capital, Kuala Lumpur. Eco Business / [Read more](#)

### IMarEST APPOINTS NEW CO-CHAIRS TO THE TECHNICAL LEADERSHIP BOARD (TLB)



December - Jennifer Gomez Molina and Tim Kent, the new co-chairs of the Technical Leadership Board (TLB), talk of increased collaboration, knowledge consolidation and a technical strategy that represents its international and multi-generational members.

Tim Kent: I first worked as a mechanical engineer in heavy industry before joining Lloyd's Register which is also when I joined the IMarEST. I worked as a design appraisal engineer, a field surveyor in Japan and other roles in business development and strategic planning— and for the past 11 years, I was LR's technical director. Now I've retired from full time work so I have some spare time on my hands.

Jennifer Gomez Molina: I graduated with a BSc Ocean & Earth Sciences from the University of Liverpool, and following placements at the British Oceanographic Data Centre and Australia's Bureau of Meteorology, I began an entry role at a subsea engineering contractor. I later moved into project management roles within Hydropower R&D and am now working for Vattenfall Wind Power. I joined IMarEST as a student, because Bev McKenzie, who now sits on the Council, left IMarEST leaflets outside my lecture hall in first year and thought it would be a good idea! I joined the Offshore Renewables Special Interest Group (ORSIG) and from there became co-chair and the opportunity came to join the TLB. Now I find myself as TLB co-chair. IMarEST / [Read more](#)

### STATEMENT FROM CSB BOARD MEMBER STEVE OWENS ON SENATE CONFIRMATIONS

December 14 - I am honored that last night the U.S. Senate unanimously voted to confirm me to be Chairman of the Chemical Safety Board, and I am grateful to President Biden for nominating me for this important position.

Additionally, I am very pleased that the Senate last night also unanimously confirmed Catherine Sandoval as a CSB Board Member.

Board Member Sylvia Johnson and I welcome Cathy Sandoval to the CSB, and we look forward to working with her as we work to rebuild and revitalize the CSB. She will bring a wealth of experience and an important perspective to the CSB. <https://www.csb.gov>

## NEWS FROM ISCO MEMBERS

Corporate Members of ISCO can by submitting news about new products and services in the "News from ISCO Members" section of the ISCO Newsletter. This is a free facility for Members. Given that the ISCO Newsletter has a large and highly targeted readership in over 50 countries, it's a cost-effective way to promote your company. If you have some news you would like to share with readers of the ISCO Newsletter, send it to [John.McMurtrie@spillcontrol.org](mailto:John.McMurtrie@spillcontrol.org)

### NEWS FROM ISCO CORPORATE MEMBER VARICHEM IN COLUMBIA



Last November 2022, VARICHEM DE COLOMBIA, conducted a three-day IMO III certified training course in Cartagena, Colombia. VARICHEM DE COLOMBIA is certified by the Nautical Institute, based in the United Kingdom, and was contracted by PERENCO, ac company committed to environmental stewardship and the professional learning and development of its staff.

The course, focused on developing a better understanding of the strengths and limitations of emergency response techniques and tactics. VARICHEM instructors also taught participants how to identify and adequately manage the consequences and collateral effects of hydrocarbon spills. Other course topics included planning contingency systems and securing the necessary resources in the event of a spill.



PERENCO's staff also learned how to communicate effectively with the media and the public, protect their organization's image and reputation in a crisis.

In addition to the certified course's mandatory topics, and as an added value in the training sessions, VARICHEM DE COLOMBIA delivered the following sub-topics:

- Technological support of the 360° simulator located at the Naval Cadet School, including the development of applicable practical scenarios for planning, decision-making and business continuity.
- An Environmental Sensitivity and Net Environmental Benefit Analysis Module, aimed at providing decision-making tools to participants.
- Contingency Planning as an operational element to provide a phased response to events following a hydrocarbon spill.

These spaces for joint work and collaboration at the managerial level make it possible to reinforce the skills and knowledge of the attendees in preparation for potential emergency situations. Participants also benefited from learning how to integrate the efforts of the different dependencies that must participate cohesively and decisively at the time of a large spill, reducing the risk to people, facilities, and the environment.

Learn more about Varichem de Colombia at <https://www.varichem.com/>

## SCIENCE & TECHNOLOGY

If you are interested in new technology you may find it useful to visit Technology Innovation News Survey at <https://clu-in.org/products/tins/> and Tech Direct at <https://clu-in.org/techdirect/archive/>

### HOW WOULD AN AMMONIA SPILL AFFECT THE MARINE ENVIRONMENT?

*Some of the maritime industry's most successful safety requirements were a reaction to fuel and cargo spills, but what are the risks with future maritime fuels? An article by Gary Howard published in SeaTrade Maritime News*

A new 283-page report from Environmental Defense Fund (EDF), Ricardo PLC and Lloyd's Register has looked ahead at the potential impact of an ammonia spill on marine ecosystems. Ammonia is a frontrunner future fuel for maritime as the sector attempts to decarbonise, but is also a toxic chemical.

In the absence of real world experience, the study used modelling to predict the impact of a spill from a collision or bunkering incident on multiple marine habitats: rivers, estuaries, wetlands, coastal waters, coral reefs, mangroves, polar regions and the deep sea.

Among the key findings of the report was that ammonia spills are likely to disperse less widely and persist for shorter amounts of time



in the environment when compared to spills of conventional oil marine fuels.

While the report forecast specific impacts on rivers, reefs, coastal areas, polar regions and mangroves, the impact on deep sea ecosystems remains unknown. The effects on habitats are generally concentrated around the increased growth of bacteria, plankton and macrophytes and the impacts that can have should habitats become smothered and eutrophication takes hold.

The toxicity of ammonia to fauna could also alter the dynamics of food chains, the study noted, as physiological damage occurs and habitat quality and prey availability are destabilised.

The study modelled the impact of an ammonia spill across the food web, from bacteria, plankton and macrophytes through to invertebrates, reptiles, fish, birds and marine mammals. Ammonia spills are expected to have a greater impact on fish than oil spills, but a lesser impact on invertebrates and birds. Seatrade Maritime News / [Continue reading this article](#) More info - <https://www.edf.org/media/environmental-defense-fund-ir-and-ricardo-launch-report-examining-ecological-impact-ammonia>

## RECENT INTERESTING PEER-REVIEWED OIL SPILL PUBLICATIONS



### A COLUMN CREATED BY DR. MERV FINGAS, MEMBER OF ISCO COUNCIL

This is part of a weekly column which provides the references and abstracts of new peer-reviewed scientific publications on oil spills. These references are selected on the basis of those papers that provide new insights into the fate, effects and control of oil spills. Readers may choose to obtain the full publications and to do so, one of three methods is suggested; contact your library, search the internet with the DOI (digital object identifier) provided, or search the internet for the exact title. These are given in the order of likely success in obtaining the article. Merv Fingas, ISCO Colleague.

#### **226. Effects of stranded heavy fuel oil subacute exposure on the fitness-related traits of sea urchin *Strongylocentrotus intermedius***

Wang, X., Li, X., Xiong, D., Chen, H., Ren, H.  
(2022) Marine and Freshwater Research, 73 (6), pp. 754-761.  
DOI: 10.1071/MF21268

**ABSTRACT:** In this study, we investigated the behavioural, morphological and physiological responses of the sea urchin (*Strongylocentrotus intermedius*) after subacute exposure to stranded heavy fuel oil (HFO) at oil loadings of 600, 1200, 2400 and 4800 µg oil g<sup>-1</sup> gravel for 21 days. No significant differences in the survival rate and body size of *S. intermedius* were found following subacute exposure to stranded HFO at various oil loadings. Differently, the food consumption, covering behaviour, righting response and gonadosomatic index (GSI) showed obvious adverse effects at higher oil loadings, manifested as a low level of food consumption, reduced covering ability, slower righting speed and decreased GSI compared with the control. This study indicated that subacute exposure to the stranded HFO could cause an adverse effect on the fitness-related traits of sea urchins and provide new insights into the impact of oil spill pollution on benthic organisms.

#### **227. Geotechnical properties of oil-polluted soil: a review**

Haghsheno, H., Arabani, M.  
(2022) Environmental Science and Pollution Research, 29 (22), pp. 32670-32701.  
DOI: 10.1007/s11356-022-19418-1

**ABSTRACT:** Soil polluted by oil and its derivatives is a critical environmental issue worldwide that jeopardizes ecological systems and causes geotechnical problems. This review paper focuses on the previous studies concerning the impacts of oil pollution on soil geotechnical properties. To this end, related academic literature on this topic was investigated and discussed. The findings of this study demonstrated that the addition of oil pollution in coarse-grained soils significantly reduces particle surface roughness. On the other hand, in fine-grained soils, it results in flocculation and secondary aggregation of clay particles, less aggregated and loose packing in the soil matrix, the formation of isometric pores, the formation of fissure-like pores, and an increase in mesoporosity. In general, it was found that the geotechnical properties of oil-polluted soils are mostly determined by the physicochemical and/or physical interactions between the soil and contaminant. Additionally, previous research has demonstrated that oil pollutants alter the geotechnical properties of cohesive and non-cohesive soils significantly, including the Atterberg limits, particle-size distribution, compaction behavior, unconfined compressive strength, friction angle, cohesion, hydraulic conductivity, and consolidation characteristics. However, no general pattern could be established for the majority of them. Besides, it was found that the degree of geotechnical property alteration of oil-polluted soil is strongly influenced by the soil type and features, as well as the quantity, type, and chemical composition of oil pollutants.

#### **228. Interaction effects of crude oil and nutrient exposure on settlement of coral reef benthos**

Hulver, A.M., Steckbauer, A., Ellis, J.I., Aylagas, E., Roth, F., Kharbatia, N., Thomson, T., Carvalho, S., Jones, B.H., Berumen, M.L.  
(2022) Marine Pollution Bulletin, 185, art. no. 114352,  
DOI: 10.1016/j.marpolbul.2022.114352

**ABSTRACT:** Anthropogenic stressors increasingly cause ecosystem-level changes to sensitive marine habitats such as coral reefs. Intensification of coastal development and shipping traffic can increase nutrient and oil pollution on coral reefs, yet these two stressors have not been studied in conjunction. Here, we simulate a disturbance scenario exposing carbonate settlement tiles to nutrient and oil pollution in a full-factorial design with four treatments: control, nutrients, oil, and combination to examine community structure and net primary productivity (NPP) of pioneer communities throughout 28 weeks. Compared to the control treatment oil pollution decreased overall settlement and NPP, while nutrients increased turf algae and NPP. However, the combination of these two stressors resulted in similar community composition and NPP as the control. These results indicate that pioneer communities may experience shifts due to nutrient enrichment, and/or oil pollution. However, the timing and duration of an event will influence recovery trajectories requiring further study.

### 229. An investigation of aquatic oil spills in the Philippines from 2000 to 2021

Alea, C., Ruiz, C.I., Yap, J.B., Molina, E.F., Saballa, A.J., Ñuneza, J.S., Bacharo, K.B.B.  
(2022) *Marine Pollution Bulletin*, 185, art. no. 114241,  
DOI: 10.1016/j.marpolbul.2022.114241

**ABSTRACT:** As an archipelago, the Philippines is heavily engaged in domestic and foreign shipping activities which makes it highly vulnerable to oil pollution. It is the purpose of this present paper to make a follow-up review of the oil spill situation in the Philippines which provides analysis and evaluation of aquatic oil spills in the past 22 years. Results showed that the frequency and volume of oil spills generally occur in areas with high maritime traffic and experienced short-term decreases on periods affected by economic recessions. The sources and causes of oil spills are discussed while examining the possible influences of the changing climate. While, these had been identified, there is a gap in the incident reporting of oil spills. It is recommended that data records on oil spill incidents in the Philippines be systematic, consistent and comprehensively entail information not limited to date, locality, source, cause, and spillage amount.

### 230. Effects of crude oil and gas condensate spill on coastal benthic microbial populations

Kababu, E., Angel, D.L., Sisma-Ventura, G., Belkin, N., Rubin-Blum, M., Rahav, E.  
(2022) *Frontiers in Environmental Science*, 10, art. no. 1051460,  
DOI: 10.3389/fenvs.2022.1051460

**ABSTRACT:** Marine sediments are ecologically-important environments that act as a long-term depository for different contaminants from natural and anthropogenic sources. We investigated the response of crude-oil and gas-condensate spills on benthic microbial populations in the oligotrophic southeastern Mediterranean Sea using costume-design benthocosms. Additions of crude oil and gas condensate significantly changed the sediment's chemical properties, with 2-fold elevated levels of total organic carbon (TOC) and up to ~ 6-fold higher concentration of total polycyclic aromatic hydrocarbons ( $\Sigma$ PAHs) relative to unamended sediments. Naphthalene and benzo(a)pyrene were the dominant species comprising the PAHs in both the crude-oil and gas-condensate treatments (29–43% and 26–35%, respectively). Porewater PO43+ drastically declined throughout the experiment, whereas NO2- + NO3- decreased ~100 days post hydrocarbons addition and then increased in the remaining ~100 days till the conclusion of the experiment. This temporal variability in NO2- + NO3- hints that hydrocarbon pollution may affect the interplay between benthic denitrification and N2 fixation, thus affecting nutrient limitation for benthic heterotrophic bacteria and phytoplankton. Moreover, our results show that crude oil and gas-condensate usually lead to a decline in benthic autotrophic microbial biomass (50–80%), while heterotrophic bacterial abundances remained unchanged, and bacterial production rapidly increased (maximal 1,600%, crude-oil > gas-cindensate). These effects were prolonged and lasted several months post hydrocarbons addition, highlighting the sediments as a repository for oil contaminants. Amplicon sequencing of the 16S rRNA gene revealed hydrocarbonoclastic bacteria including *Methylophaga*, *Ponticaulis* and *Alcanivorax* genera post crude-oil addition and *Actinobacterota* 67–14 lineage following gas-condensate amendments.

### 231. Oil Irradiation Experiments Document Changes in Oil Properties, Molecular Composition, and Dispersant Effectiveness Associated with Oil Photo-Oxidation

Aeppli, C., Mitchell, D.A., Keyes, P., Beirne, E.C., McFarlin, K.M., Roman-Hubers, A.T., Rusyn, I., Prince, R.C., Zhao, L., Parkerton, T.F., Nedwed, T.  
(2022) *Environmental science & technology*, 56 (12), pp. 7789-7799.  
DOI: 10.1021/acs.est.1c06149

**ABSTRACT:** While chemical dispersants are a powerful tool for treating spilled oil, their effectiveness can be limited by oil weathering processes such as evaporation and emulsification. It has been suggested that oil photo-oxidation could exacerbate these challenges. To address the role of oil photo-oxidation in dispersant effectiveness, outdoor mesocosm experiments with crude oil on seawater were performed. Changes in bulk oil properties and molecular composition were quantified to characterize oil photo-oxidation over 11 days. To test relative dispersant effectiveness, oil residues were evaluated using the Baffled Flask Test. The results show that oil irradiation led to oxygen incorporation, formation of oxygenated hydrocarbons, and higher oil viscosities. Oil irradiation was associated with decreased dispersant efficacy, with effectiveness falling from 80 to <50% in the Baffled Flask Test after more than 3 days of irradiation. Increasing photo-oxidation-induced viscosity seems to drive the decreasing dispersant effectiveness. Comparing the Baffled Flask Test results with field data from the Deepwater Horizon oil spill showed that laboratory

## RECENT INTERESTING PEER-REVIEWED OIL SPILL PUBLICATIONS (CONTINUED)

dispersant tests underestimate the dispersion of photo-oxidized oil in the field. Overall, the results suggest that prompt dispersant application (within 2-4 days), as recommended by current oil spill response guidelines, is necessary for effective dispersion of spilled oil.

## TRAINING COURSES

### USEFUL LINKS

- INTERNATIONAL – IMO E-LEARNING PLATFORM [e-learning platform](#)
- AUSTRALIA – AMOSC - <https://amosc.com.au/training/>
- AUSTRALIA & NEW ZEALAND – ALGA - <https://landandgroundwater.com>
- CHINA - <http://www.sioetc.com>
- EUROPE – [EMSA Academy 2022. Courses Catalogue](#)
- FRANCE - CEDRE - Click on these links [training catalogue](#) and [2022 calendar](#).
- UK & WORLDWIDE – OIL SPILL RESPONSE LTD. - <https://www.oilspillresponse.com/training/courses/>
- UK & WORLDWIDE – BRIGGS ENVIRONMENTAL SERVICES LTD. - <https://www.briggsmarine.com/services/training/>
- UK – NCEC HAZMAT ACADEMY – [More info](#)
- USA – TEXAS A&M UNIVERSITY – NATIONAL SPILL CONTROL SCHOOL <https://www.tamucc.edu/research/nscs/>
- USA – MPC, DETROIT - <https://marinepollutioncontrol.com/services/training-and-compliance>
- USA – ALLIANCE OF HAZARDOUS MATERIALS PROFESSIONALS - [https://www.ahmpnet.org/events/event\\_list.asp](https://www.ahmpnet.org/events/event_list.asp)

Members who would like to be listed here, please contact your editor – [john.mcmurtrie@spillcontrol.org](mailto:john.mcmurtrie@spillcontrol.org)

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*Understand environmental issues and related management matters in the maritime sector*

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### NEWLY ADDED TO THE UPCOMING EVENTS PAGE

- Norway – NOSCA Seminar 2023, Bodo, Norway, 20-24 March, 2023
- USA – Clean Waterways Conference & Exhibition, Denver CO, 11-13 April 2023
- European Maritime Day, Brest, France, 24-25 May, 2023
- Australia – SPILLCON 2023 Conference & Exhibition, 11-15 September 2023

### RECENTLY ADDED TO THE UPCOMING EVENTS PAGE

- UK: Hazmat 2023 Conference, 24-25 May 2023

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## MESSAGES FROM EVENT ORGANISERS

### NORWAY: NOSCA SEMINAR 2023: MARCH 20-24, 2023

NOSCA will arrange the next NOSCA Seminar in week 12/23 (20-24.03.23) in Bodø/Norway. The seminar will focus on following topics:

- Early warning, remote sensing technologies
- Subsea dispersion
- Experiences from recent incidents
- Standardization project

## MESSAGES FROM EVENT ORGANISERS (CONTINUED)

- Technology transfer: From traditional oil spill prevention to combat marine litter
- Observartion of OKEA's large scale exercise "Draugen"

Price: NOK 16.500 incl. hotel accommodations and all local transports. Please register by Dec 31, 2022 by using the link below (payment by Paypal) or send an email to [info@nosca.no](mailto:info@nosca.no) Our main topic will be "Tomorrow's challenges and solutions within oil spill response". Beside of two conference days, the seminar participants will be able to observe the large scale exercise "D1H" which will be carried out by NOFO and OKEA. For more information and registration please read <https://www.nosca.no/nosca-seminar/>

### **USA: COLORADO - CLEAN WATERWAYS 2023: 11-13 APRIL, 2023**

If you have leftover funds in your marketing budget from this year, use it to invest in your business for 2023 and secure participation at the CLEAN WATERWAYS Conference, April 11-13 in Denver, CO. We are accepting exhibit/ sponsorship applications and registration is open, with early bird discounts expiring at the end of January. Clean Waterway takes place at the Hilton Denver City Center Hotel in Denver, CO, on April 11-13. [More News re conference & abstract submission](#) [Registration](#) [Introduction to the Planning Committee](#) [EXHIBIT SPACE AND SPONSORSHIPS ARE AVAILABLE](#) [Agenda](#).

### **CANADA: 45TH AMOP TECHNICAL SEMINAR ON ENVIRONMENTAL CONTAMINATION AND RESPONSE: 6-8**

The 45th AMOP Technical Seminar on Environmental Contamination and Response will take place from June 6 to 8, 2023 at the Chateau Lacombe Hotel in Edmonton, Alberta, Canada. The Seminar provides a forum for professionals working in the field of oil and hazardous materials spills. The forum facilitates the transfer of scientific results and is intended to link research and the operational community. All submitted papers are peer-reviewed by scientific and technical experts. The Technical Seminar features plenary sessions of 10- or 20-minute presentations on spill-related topics including Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE). Sessions will begin at 8:00 a.m. each day. The presentations are followed by a 5- or 10-minute question and answer period. Sessions may also conclude with Speaker's Corner presentations at which results of more recent research can be discussed without an associated paper. Government of Canada / [Seminar Information](#)

### **AUSTRALIA: BRISBANE - SPILLCON 2023: 11-15 SEPTEMBER 2023**

Proudly organised by Australia's key government and industry agencies responsible for Australia's marine environmental protection arrangements, the Australian Institute of Petroleum (AIP) and the Australian Marine Oil Spill Centre (AMOSOC) invite you to attend the international oil spill conference for the Asia-Pacific region, Spillcon 2023. Spillcon 2023 will bring together local, regional and global environmental and shipping representatives across industry, government and non-government organisations to provide an avenue to discuss issues including causes and prevention, preparedness, response management and environmental issues.

Spillcon 2023 has been confirmed for 11 – 15 September 2023 at the Brisbane Convention and Exhibition Centre, Queensland, Australia. This website will be regularly updated with further information for sponsors, exhibitors and delegates.

<https://www.spillcon.com/>

### **USA: CLEAN GULF CONFERENCE & EXHIBITION – SAN ANTONIO, NOVEMBER 7-9, 2023**

Now Accepting Reservations for Exhibit Space and Sponsorships for CLEAN GULF 2023 - Make an impact on buyers from oil & gas, maritime, rail, environmental companies and regulatory agencies with an exhibit space or sponsorship at the [CLEAN GULF Conference & Exhibition](#). Attendees at CLEAN GULF are looking for new products, services, and technologies to help them better prepare or respond to a hazardous spill or environmental emergency. With the end of the year quickly approaching, now is a great time to use any leftover marketing funds and invest in your business for 2023! Contact Renie Mayfield at 720-289-7008 or [rmayfield@accessintel.com](mailto:rmayfield@accessintel.com) to secure your exhibit space or sponsorship.

## CONTRACTS, TENDERS AND BUSINESS OPPORTUNITIES

### **INTERNATIONAL OPEN TENDER NOTIFICATION SERVICE**

### **INTERNATIONAL OPEN TENDER NOTIFICATION SERVICE**

This is a subscription service. <https://www.tender247.com/keyword/oil+spill+tenders+global>

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US Government solicitations are frequently posted in Technology Innovation News Survey <https://clu-in.org/products/tins/> US EPA Tech Direct <https://clu-in.org/techdirect/archive/> and USA Federal Contracts Updates <https://clu-in.org/Federal-Contract-Opportunities> European Maritime Safety Agency invitations to tender are often posted in The EMSA Newsletter <https://www.emsa.europa.eu/newsroom/newsletters.html>

## JOB VACANCIES

### USA: DIRECTOR, NATIONAL SPILL CONTROL SCHOOL

TAMU-CC is a dynamic university designated as both a Hispanic-Serving Institution (HSI) and Minority-Serving Institution (MSI) with approximately 11,000 students from 47 states and 54 foreign nations. We employ over 1,400 full-time and 2,000 part-time Islanders (including students/GAs). The University attracts highly talented faculty and staff and offers an array of undergraduate and graduate degrees, including doctoral programs. As a member of the Texas A&M University System, TAMU-CC benefits from a range of resources, increased visibility and influence, and opportunities to collaborate in mutually beneficial ways with peers across member institutions and associated agencies.

TAMU-CC's beautiful campus is located on a 240 acre island on Corpus Christi Bay and was ranked #1 College by the Sea by Best College Reviews. Our natural setting is enhanced by its modern, attractive, and state-of-the-art classroom buildings and support facilities.

From our generous benefits package and professional development opportunities, to our retirement programs and our commitment to service excellence, the Island University is an engaging and rewarding place to work.

For more information and details on how to apply, please visit –

[https://tamus.wd1.myworkdayjobs.com/en-US/TAMUCC\\_External/job/Corpus-Christi-TX/Director--National-Spill-Control-School\\_R-056071](https://tamus.wd1.myworkdayjobs.com/en-US/TAMUCC_External/job/Corpus-Christi-TX/Director--National-Spill-Control-School_R-056071)

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## NEW PUBLICATIONS

### FRANCE: CEDRE NEWS FROM NOVEMBER 2022

- Emergency response
- 56th session of the Cedre Strategy Committee
- Cedre Technical Day
- IBNB technical days
- Presentation of work conducted with French Navy support
- Mediterranean Strategy for the Prevention, Preparedness, and Response to Marine Pollution from Ships
- Departure of REMPEC Head of Office
- In-house response training
- Multilayer testing
- Saudi International Maritime Forum 2022
- Clean Gulf 2022
- 9th biennial GI WACAF Regional ConferenceCleanAtlantic project coordination meeting
- International workshop on marine litter sources
- OceanWise project wrap-up conference
- We need you! Online survey on marine litter response initiatives, measures and actions

[https://wwz.cedre.fr/en/content/download/10920/file/317\\_E.pdf](https://wwz.cedre.fr/en/content/download/10920/file/317_E.pdf)

### EMSA NEWSLETTER FOR DECEMBER 2022

In this issue: EMSA end-of-year Administrative Board takes dynamic approach to multi-annual planning; EMSA Executive Director appears before European Parliament Transport & Tourism Committee in annual exchange of views; Irish Lights maritime conference: international leaders come together to debate safe and sustainable route to 2050; Annual overview of marine casualties and incidents 2022 now published; EMCIP marine casualty platform user group meets at EMSA premises; Participants in EMSA RPAS user group share their practical experience of the RPAS service; Workshop on Maritime Autonomous Surface Ships (MASS) held at EMSA; EMSA Academy "Core skills of maritime search and rescue coordinators"; CISE hands-on training for node administrators held for the first time in person in Lisbon; Member State authorities participate in an online awareness session on new IMS SEG, mobile app and ABM functionalities; Capacity building efforts among Black and Caspian Sea countries reinforced as newly launched BCSEA II project gets underway; First SAFEMED Steering Committee brings renewed commitment to capacity building among neighbouring Mediterranean countries; EMSA takes part in festive Diplomatic Bazaar all in aid of a good cause.

[https://emsa.europa.eu/index.php?option=com\\_flexicontent&view=item&cid=2&id=4874:newsletter-december-2022&Itemid=2](https://emsa.europa.eu/index.php?option=com_flexicontent&view=item&cid=2&id=4874:newsletter-december-2022&Itemid=2)

### TRINIDAD & TOBAGO: SUPPLY BARGE SINKS

December 6 - The captain and five-member crew on board a jack-up barge off the west coast of Trinidad & Tobago had to be rescued after the vessel toppled and sank in the Gulf of Paria, with 900 barrels of diesel fuel aboard. Local authorities mobilized resources to contain the potential environmental impact of the 900 barrels of diesel fuel leaking.

The Trinidad & Tobago Ministry of Energy said that “at this time, response efforts are being led by the owner of the vessel. The focus is now on salvage and ensuring that during this process there are no oil spills. There are about 900 barrels of diesel fuel on board the vessel, oil spill response equipment is on standby in the event a spill response is required”. Insurance Marine News / [Read more](#)

### USA: KANSAS – KEYSTONE PIPELINE OIL SPILL UPDATES

**December 11 - TC Energy provides update on Kansas oil spill** - TC Energy provided an update on its response to the spill. The company says it has more than 250 personnel working on response and recovery. Repair planning and shoreline assessments are also underway. Air quality is also being monitored, and the company claims that at this time there are no adverse health or public concerns. WOWT / [Read more](#)

**December 11 - TC Energy says has not found cause of Keystone oil pipeline leak** - Canada's TC Energy (TRP.TO) said on Sunday it has not yet determined the cause of the Keystone oil pipeline leak last week in the United States, while also not giving a timeline as to when the pipeline will resume operation. Reuters / [Read more](#)

**December 12 - Keystone operator recovers about 2,600 barrels of oil from Kansas creek** - Canada's TC Energy Corp (TRP.TO) said it had cleaned up almost 2,600 barrels of oil from the largest U.S. crude spill in nearly a decade, but the timetable to restart the Keystone Pipeline following its rupture last week remained unclear. Reuters / [Read more](#)

**December 12 - Keystone pipeline has now leaked more oil in the US than any other since 2010 report** - The U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration has issued a corrective order to operator TC Energy, requiring the company address the current Keystone leak, develop and submit “restart plan” to resume operations for approval, and submit quarterly reports moving forward. The Hill / [Read more](#)

**December 13 - Keystone oil spill cleanup expected to last weeks officials** - The U.S. Pipeline and Hazardous Materials Safety Administration (PHMSA) said TC Energy is yet to submit a restart plan. The affected segment of the line cannot resume operation until regulators approve a restart plan in its entirety, according to a U.S. Department of Transportation document. Reuters / [Read more](#)

**December 13 - Oil storage situation in Canada and U.S. after Keystone spill** - Following a previous Keystone leak in 2019, which triggered a 13-day shutdown, inventories climbed by 13.6 million barrels over five weeks. The spare capacity on hand this time suggests Canadian storage hubs have ample space for any barrels stranded in Alberta. Reuters / [Read more](#)

**December 14 - TC Energy opens segment of Keystone pipeline, continues oil spill cleanup** - TC Energy Corp. says it has restarted the section of the Keystone pipeline that was unaffected by last week's oil leak in Kansas. The Calgary-based company says the restarted segment of pipeline extends from Hardisty, Alta., to Patoka, Ill. The portion of the pipeline affected by the spill remains shut down. CBC News / [Read more](#)

**December 15 - The Kansas Keystone pipeline spill isn't an ordinary oil spill. Here's why.** - Each day that passes, the hundreds of thousands of gallons of sludgy oil coating Mill Creek in north-central Kansas become harder to clean up. That's because the pipeline that busted just outside the town of Washington on Dec. 7 doesn't carry conventional crude oil. It carries a product of the Canadian tar sands called diluted bitumen that changes dramatically in chemical composition and behavior soon after escaping from pipes. CJonOnline / [Read more](#)

**December 15 - Keystone pipeline break spilled diluted bitumen, complicating cleanup** - A 2016 National Academy of Sciences study for the U.S. Department of Transportation examined whether transporting dilbit carries different environmental risks than other oils, following a 2010 spill in Michigan. “For this reason, spills of diluted bitumen pose particular challenges when they reach water bodies,” the report said. Crews are using equipment to skim oily water off the surface of Mill Creek in Kansas and to vacuum crude into trucks. Colder temperatures may hamper the cleanup, the EPA said. Reuters / [Read more](#)

#### Some other News Reports –

December 12 - [Energy Intelligence](#) [MSN.com](#)

December 13 - [ABC News](#) [Independent](#) [CTV News](#) [Breaking News](#)

December 14 - [Reuters](#) [Clean Technica](#)

December 15 – [France24](#) [Pipeline Journal](#)

December 16 – [JWN Journal](#)

**USA: CALIFORNIA - FISHING VESSEL GOES AGROUND IN CHANNEL ISLANDS NATIONAL PARK**



*Photo courtesy of US Coast Guard*

December 16 - First responders are working to prevent a spill from a fishing vessel that went aground on Santa Cruz Island, California on Thursday morning. Cleanup crews are already on scene to ensure containment and recover the boat's 1,000 gallons of diesel fuel. The Maritime Executive / [Read more](#)

**GIBRALTER: SALVORS HEAD TO GIBRALTAR TO REMOVE BULKER OS 35 WRECK**



*Photo courtesy of Gibraltar Port Authority*

December 16 - Salvage crews are continuing to strip down the contents of the vessel to prepare for its removal. The GPA reports divers undertaking vacuuming operations have successfully removed a further 3,000 liters of oil residues from inside the hull of the vessel. The operation to remove as many oil pockets as possible from within the structure of the wreck is expected to continue in the coming weeks.

### USA: PENNSYLVANIA – THE ATHOS 1 OIL SPILL



*Crude oil spilled into the Delaware - The tank vessel Athos listing approximately 7 degrees to port, the day after its hull was punctured and over 260,000 gallons of crude oil spilled into the Delaware River. Credit: NOAA*

On November 26, 2004, the 750-foot tanker Athos I, carrying 13 million gallons of crude oil, struck an uncharted submerged anchor while she made her approach to the CITGO Asphalt Refining Facility in the Delaware River outside of Philadelphia, Pennsylvania. The ship's hull was breached and the vessel acquired an eight-degree list, causing the engines to shut down, immobilizing the vessel. The breached hull began releasing more than 263,000 gallons of crude oil into the tidal water of the busy Delaware River shipping route. Due to the significant list the vessel had acquired, it could not make berth at the facility and was forced to anchor in the immediate vicinity of where the casualty occurred.

Upon receiving report of the incident, the Coast Guard contacted NOAA's Mid-Atlantic Scientific Support Coordinator and requested initial oil trajectories and spot weather forecasts. OR&R personnel were deployed on-scene and joined the Unified Command in the Environmental Unit (EU). OR&R personnel served as the EU leader, which coordinated shoreline cleanup assessment technique (SCAT) surveys, wildlife recovery, and natural resource damage assessment (NRDA).

Spilled oil washed up on 280 miles of shoreline, which impacted Pennsylvania, New Jersey, Delaware, and Maryland. The spilled oil resulted in the loss of approximately 12,000 birds. Due to the heavy characteristics of the crude oil, submerged oil proved to be a challenge and resulted in the shutdown of two reactors at the Salem Nuclear Power Plant as a safety precaution when submerged oil was found in the sediment below cooling water intakes. The shutdown lasted 11 days and resulted in a loss of \$33 million. The spill also halted commercial traffic in the active shipping route for more than a week and delayed over 200 vessels, resulting in \$162.6 million in claims paid to affected businesses. NOAA OR&R / [Read more](#)

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