

## 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

CLICK ON THE BANNERS BELOW FOR MORE INFO ON THE EVENTS FEATURED



**CLEAN WATERWAYS**  
SPILL PREVENTION, RESPONSE & HAZARDOUS MATERIALS MANAGEMENT FOR INLAND REGIONS & WATERWAYS  
Use VIP code **ISCO** to save \$100 on your registration  
**AUGUST 3-5, 2020**  
JW Marriott Indianapolis  
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**OIL SPILL INDIA 2020**  
6<sup>TH</sup> INTERNATIONAL CONFERENCE & EXHIBITION  
23<sup>RD</sup> & 24<sup>TH</sup> SEPTEMBER 2020, JW Marriott, Mumbai Sahar, India  
THEME: COMMITMENT, SYNERGY, EXCELLENCE

## MARINE SALVAGE IN THE CORONAVIRUS ERA



Photo: Joseph E. Farrell III (courtesy Resolve Marine)

April 26 - The marine salvage industry has changed dramatically in the last ten years, with fewer players working in a smaller market. On the 10th anniversary of the Deepwater Horizon spill, we spoke with Resolve Marine Group's director of business development, Joey Farrell III, about how the industry has evolved - and about what it takes

to move salvage crews and conduct operations during the COVID-19 shutdown. For more, listen in on the podcast from The Maritime Executive and ISCO Corporate Member, Resolve Marine. [Link for listening to the podcast.](#)

## PFAS – A GLOBAL CONTAMINATION ISSUE

April 29 - Environment Analyst's virtual seminar on PFAS shed light on the subject from an international perspective bringing together experts from the science and laboratory communities, geotechnical engineering and remediation from the UK, Australia and the United States. Will Hatchett reports.

"They are in all our bodies and are present in the environment almost everywhere. Persistent and all-pervasive, PFAS compounds will mean work for the remediation industry for years to come.

The four speakers looked at the proven human health effects of PFAS, how levels can be measured, the mechanics of PFA contamination and its dispersal in the environment and emerging techniques and best practice in remediation.

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## INTERNATIONAL NEWS (CONTINUED)

The speakers were professor Tony Fletcher of the department of health, environment and society at the London School of Hygiene and Tropical Medicine, Dr Claire Stone, quality manager at i2 Analytical, Peter Nadebaum, senior principal at GHD, and Michael Donovan, global R&D director of CETCO.

What is PFAS? - PFAS is the name for a family of perfluorinated alkylated substances. Containing long chain molecules of carbon and fluorine, they are oil and water resistant. They have been used in numerous non-stick, stain resistance, lubrication and firefighting applications.

The main sources of release into the environment have been pollution from chemical plants and the widespread use by civil and military firefighters of PFAS-based aqueous film forming foam (AFFF). Most of the world's PFAS containing products have been manufactured in the US. General exposure has been caused by the use of household products and ingestion from food and drinking water.

The so-called C8 chemicals perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) are of particular concern. As persistent organic pollutants (POPs) they are banned under the Stockholm Convention on POPs of 2001".

Environment Analysis / [Continue reading](#)

## UNEP: THE EXECUTIVE DIRECTOR'S STATEMENT TO THE 150TH MEETING OF THE COMMITTEE OF REPRESENTATIVES

April 30 - H.E. Mr. Fernando Coimbra, Chair of the Committee of Permanent Representatives addressed the Committee – "UNEP is deeply committed to efforts to arrive at an ambitious, measurable and inclusive Post-2020 Global Biodiversity Framework, as well as The Beyond 2020 Chemicals and Waste Management Framework, because both play a central role in keeping nature, intact, diverse and flourishing. The stronger our planet's life support systems are, the better human health will be. UNEP / [Read the Executive Director's statement](#) [Watch President's Address on video](#)

## SOUTH-EAST EUROPE: MINISTERS AND HIGH-LEVEL REPRESENTATIVES OF THE FIVE RIPARIANS ENDORSE THE STRATEGIC ACTION PROGRAM (SAP) FOR THE DRIN RIVER BASIN





## INTERNATIONAL NEWS (CONTINUED)

April 24 - High-level representatives from the five Riparians virtually signed a joint statement today, thus endorsing the Strategic Action Program (SAP) for the sustainable management of the extended Drin Basin, directly benefiting its 1.6 million inhabitants. Shared among Albania, Greece, Kosovo\*, Montenegro, and North Macedonia (the five 'Riparians'), the Drin River Basin provides water resources for drinking, energy, fishing, and agriculture, biodiversity, tourism and industry.

This endorsement confirms the political will among the five Riparians to work across borders and sends a strong message that improved water resources management, which also yields benefits for public health and livelihoods, remains a priority and will continue to be pursued at the transboundary level, in spite of current difficulties associated with the COVID-19 pandemic. The current crisis underscores the vital importance of water for hygiene in the region and globally. The GEF / [Read more](#)

### SEA ALARM EXTENDS ITS PARTNERSHIP WITH REMPEC

April 29 – From Sea Alarm – “We are pleased to announce that our MoU with the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) has been extended for a further two years”.

The MoU was first signed between our organisations in 2011 and provides for the inclusion of Sea Alarm in the Mediterranean Assistance Unit. Via that mechanism, which REMPEC can activate under the Barcelona Convention on the Protection of the Mediterranean Sea (Barcelona Convention), Mediterranean countries can call on Sea Alarm to provide wildlife response assistance during a pollution emergency. With the MoU, REMPEC and Sea Alarm also aim to assist Contracting Parties to the Convention in developing their oiled wildlife preparedness through planning, training and capacity building activities. Sea Alarm / [Read more](#)

### ITOPF DELIVERS REMOTE TRAINING TO THE WMU

April 30 - On Friday 24th March, David Campion and Andrew Le Masurier delivered four online lectures to 33 students on the Maritime Safety and Environmental Administration course at the World Maritime University (WMU). David and Andrew were unable to attend the previously arranged two-day course in Malmö, Sweden, due to the travel restrictions associated with the current COVID-19 pandemic. Therefore, they provided a morning of online interactive lectures from their respective homes with topics including ‘The Role of ITOPF and Environmental Impacts of Oil Spills’, ‘Hazardous and Noxious Substances’, ‘Spill Response Strategies’ and an ‘Introduction to the International Compensation Regime’. The students were also confined to their residences as the WMU is currently closed. ITOPF / [Read more](#)

### IOPC FUNDS: NAURU TO BECOME THE 118TH MEMBER STATE OF THE 1992 FUND

April 29 - The International Maritime Organization (IMO) has informed the Director of the IOPC Funds that the Republic of Nauru deposited instruments of accession to the 1992 Civil Liability and Fund Conventions on 23 March 2020. Both Conventions will enter into force for Nauru on 23 March 2021, bringing the number of 1992 Fund Member States to 118 on that date.

On the same day, Nauru also acceded to a number of other IMO Conventions covering liability and compensation for damage caused by ships and the prevention of marine pollution, including the:

- Protocol of 1996 to amend the Convention on Limitation of Liability for Maritime Claims, 1976 (LLMC PROT 1996);
- International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 (BUNKERS 2001);
- International Convention for the Control and Management of Ships’ Ballast Water and Sediments, 2004 (BWM 2004); and
- Nairobi International Convention on the Removal of Wrecks, 2007 (NAIROBI WRC 2007).

For a full list of the IOPC Funds’ membership and a map displaying the coverage of the international liability and compensation regime in general, please visit the [Membership](#) section. IOPC Funds / [Read more](#)

## NEWS REPORTS FROM AROUND THE WORLD (COUNTRIES LISTED IN ALPHABETICAL ORDER)

**Note from your Editor: World news is currently dominated by reports on the advance of the Coronavirus pandemic. One consequence is that the usual sources of news that is specifically relevant to the interests of the spill response community have temporarily gone very quiet. Under this circumstance I would be particularly grateful to Members and other readers who send me news reports that will be of interest to Members and readers in their own countries and the wider world.**  
[john.mcmurtrie@spillcontrol.org](mailto:john.mcmurtrie@spillcontrol.org)

### AUSTRALIA: 2020 EDITION OF THE NATIONAL PLAN FOR MARITIME ENVIRONMENTAL EMERGENCIES

May 1 - The National Plan for Maritime Environmental Emergencies (National Plan) sets out national arrangements, policies and principles for the management of maritime environmental emergencies.

It provides for a comprehensive response to maritime environmental emergencies regardless of how costs might be attributed or ultimately recovered. Read the [2020 National Plan](#).

## CYPRUS: GROUNDBREAKING WORKSHOP TO DEFINE AN OIL INDUSTRY OILED WILDLIFE PREPAREDNESS PROGRAMME

April 29 - Sea Alarm organised and facilitated an IPIECA workshop in Cyprus in November 2019, under the auspices of the IPIECA Oil Spill Group. The workshop brought together oil company decision-makers and subject matter experts who have an influence on oiled wildlife planning within their companies.

The aims of the workshop were to explore the future of oiled wildlife preparedness and response for the oil industry, building directly on the principles set out in the IOGP/IPIECA Good Practice Guide on Wildlife Response Preparedness and to explore how to effectively build an oil company's wildlife preparedness and response capability, focusing on the key components that comprise an effective oiled wildlife response program for the industry. Sea Alarm / [Read more](#)

## DENMARK: HELCOM RESPONSE MAKES PROGRESS ON OILED WILDLIFE RESPONSE

April 29 - In February 2019, Sea Alarm's Hugo Nijkamp attended the 27th HELCOM Response meeting in Vejle, Denmark where the integration of all aspects of at sea response, shoreline response and wildlife response was a key topic.

The meeting was preceded by a one-day gathering of HELCOM Response's SHORE Network, which discussed the updating of various HELCOM Recommendations and the HELCOM Manual. The Shore Network (an Expert Coordination Network) is tasked, as its title suggests, with sharing knowledge and experiences on national developments in oil spill response on shore. Sea Alarm / [Read more](#)

## ECUADOR: INDIGENOUS PEOPLES SUE ECUADOR GOVT, OIL FIRMS OVER SPILL

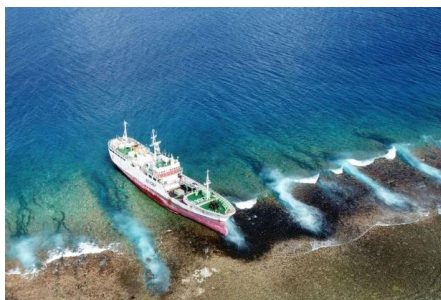
April 30 - Indigenous peoples filed a lawsuit against the Ecuadorian government and private and state oil companies on April 29, 2020, in the wake of one of the country's biggest oil spills in over a decade.

On April 7, an estimated 15,000 barrels of crude oil gushed into two of the country's most important rivers following the rupture of two major oil pipelines in Ecuador's northern Amazon. The spill has affected over 2,000 indigenous families and left an estimated 120,000 people without access to the river's fresh water. Down to Earth / [Read more](#)

## FRANCE: CEDRE RELEASES 2019 YEAR IN REVIEW VIDEO

April 30 - Watch the highlights of CEDRE's activity in 2019, with 5 themes in the spotlight: responding, analysing, assessing, disseminating and training. [Link for viewing video](#)

## FRENCH POLYNESIA ACTS OVER OIL SPILL FEARS



April 27 - A catamaran with oil spill containment booms is on its way to the French Polynesian atoll of Arutua to start the salvage of a Chinese fishing vessel stuck on the atoll's reef. Last week, an assessment team found the ship was firmly stuck and detected only minor pollution. The government said the salvage operation will be difficult. It said once the barrier was in place the salvage crew would have to remove the rotting fish which would take about four weeks because noxious gases in the hold are so potent that even masked people wouldn't be able to be in there for more than two hours at a time. Once the fish had been removed the 250 tonnes of fuel would need to be pumped out, it said. Radio New Zealand / [Read more](#)

## NORWAY TO REVISE BARENTS SEA OIL AND GAS BOUNDARY

April 25 - The Norwegian Government has announced revised management plans for Norway's sea areas – including a shift of the boundary for oil and gas activities in the Barents Sea south to the line where ice is found on average on 15 percent of the days in April.

"The northern part of the Barents Sea is the richest and biologically most productive ocean area in the Arctic. Climate change is making the marginal ice zone and the species that live there more vulnerable to external pressures such as oil spills. Using 15 percent ice persistence – or the probability of finding ice – to delimit this zone will give stronger protection to the environment and reduce the risk of damage to vulnerable species and ecosystems," said Minister of Climate and Environment Sveinung Rotevatn. The Maritime Executive / [Read more](#)

## SINGAPORE COASTLINE PACKED WITH SHIPS FULL OF OIL NO ONE WANTS

April 27 - As many as 60 tankers full of oil are currently waiting out the global oil slump in a narrow waterway off the coast of Singapore. Shipping Watch / [Read more](#)

### SPAIN: WORKSHOP HIGHLIGHTS OILED WILDLIFE RESPONSE STAKEHOLDER CO-OPERATION

April 29 - Spanish oiled wildlife response stakeholders came together on 3 and 4 March 2020 in Madrid at the headquarters of the Fundación Biodiversidad for an oiled wildlife workshop focused on improving processes for oiled wildlife response at the regional and national level. Organized by the Fundación Biodiversidad/Biodiversity Foundation, within the Ministerio para la Transición Ecológica y el Reto Demográfico/Ministry for the Ecological Transition and the Demographic Challenge (MTERD) together with Sea Alarm and Submon, a total of 18 people had the opportunity of participating in the Oiled Wildlife Workshop. A highlight was a discussion on the use of the 'Guide for the development of Regional Response Plans for oiled wildlife and action protocols', which is a framework response plan for Spain, developed by Submon and currently under revision by the Ministry. Sea Alarm / [Read more](#)

### UK: GLOBAL OILED WILDLIFE RESPONSE SYSTEM HOLDS IN-PERSON MEETING

April 29 - February saw the first in-person meeting of the Global Oiled Wildlife Response System (GOWRS) for 2020, which was held in the UK. The meeting included a day spent at the Oil Spill Response base in Southampton, where the GOWRS project partners took centre stage in an equipment exercise evaluating the OSRL wildlife equipment in relation to a specific incident scenario. The GOWRS project partners also carried out part of the meeting during a visit to RSPCA headquarters in Horsham. Sea Alarm / [Read more](#)

### USA: LATEST ACTIVITY REPORTS FROM NOAA OR&R

April 24 – Please click on the links below to read the latest News Reports from NOAA OR&R

[OR&R Staff Mentor Participants in USCG Environmental Response Industry Training Program](#)

Periodically over the years, U.S. Coast Guard (USCG) active duty members interested in learning more about spill science will shadow a Scientific Support Coordinator or other member of OR&R's Emergency Response Division under the USCG Marine Environmental Response Industry Training Program.

[Marine Debris Program Awards Funds to Eight Sea Grant Programs](#)

On April 16, the NOAA Marine Debris Program (MDP), in collaboration with Sea Grant, awarded \$350,000 to eight Sea Grant programs for projects that will research, prevent and remove marine debris in U.S. waters.

[New Web Version of CAFE Toxicity Database](#)

The Chemical Aquatic Fate and Effects (CAFE) team is excited to announce that the CAFE database was recently released as a web-based program.

[Refugio Beach Oil Spill Trustees Release a Draft Assessment and Restoration Plan for Public Comment](#)

The draft Damage Assessment and Restoration Plan for the Refugio Beach Oil Spill NRDA was released for public comment on Wednesday April 22, 2020.

[Marine Debris Program Welcomes California Sea Grant Marine Debris Extension Fellow](#)

On April 21, the NOAA Marine Debris Program (MDP) welcomed Tanya Torres as a California Sea Grant Marine Debris Extension Fellow.

[Marine Debris Program Discusses Derelict Fishing Gear Removal with Congressional Staff](#)

On April 16, the director of the Marine Debris Program (MDP), Nancy Wallace, and other MDP team members participated in a phone call with Congressional staff from the offices of Senator Kaine (VA) and Senator Murkowski (AK) to discuss derelict fishing gear removal activities.

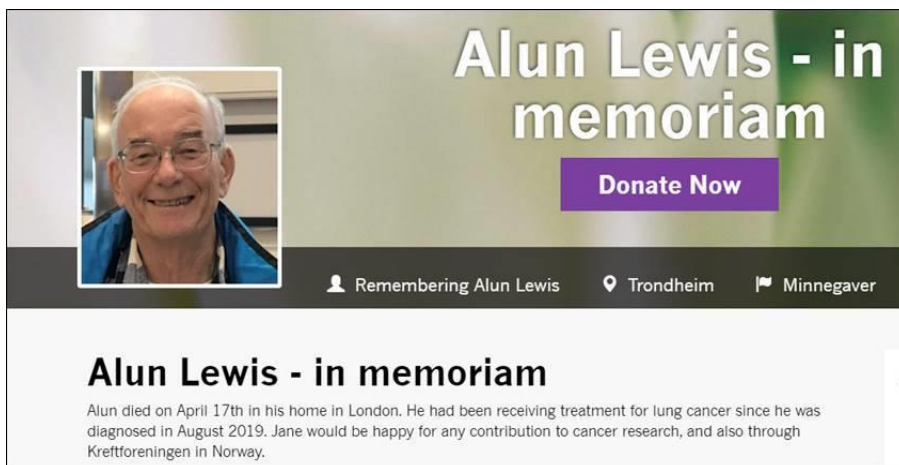
## ISCO NEWS

### FLOODING WILL AFFECT DOUBLE THE NUMBER OF PEOPLE WORLDWIDE BY 2030

The number of people harmed by floods will double worldwide by 2030, according to a new analysis. The World Resources Institute, a global research group, found that 147 million people will be hit by floods from rivers and coasts annually by the end of the decade, compared with 72 million people just 10 years ago. Damages to urban property will soar from \$174bn to \$712bn per year. The Guardian / [Read more](#)

Your Editor is aware that many ISCO Members have extended their service / product offerings to include emergency flood pumping operations, post-flood clean up services, manufacture of emergency flood barriers, etc. It would be an option to include some relevant information / articles in the ISCO Newsletter. Readers are requested to advise if this would be welcome. Please send your comments to the Editor – [john.mcmurtrie@spillcontrol.org](mailto:john.mcmurtrie@spillcontrol.org)

## IN MEMORIAM



The image shows a memorial page for Alun Lewis. At the top left is a portrait of an elderly man with glasses. To the right of the portrait, the text reads "Alun Lewis - in memoriam" in a large, white font. Below this text is a purple button that says "Donate Now". Underneath the button, there are three icons: a person icon labeled "Remembering Alun Lewis", a location pin icon labeled "Trondheim", and a gift icon labeled "Minnegaver". Below the portrait and navigation icons, the text "Alun Lewis - in memoriam" is repeated. Underneath this, a short paragraph reads: "Alun died on April 17th in his home in London. He had been receiving treatment for lung cancer since he was diagnosed in August 2019. Jane would be happy for any contribution to cancer research, and also through Kreftforeningen in Norway."

Per Daling of SINTEF writes "We have created an online fundraiser for cancer research through "Kreftforeningen" and we hope you will please consider supporting and give a tribute to Alun. For donating , you don't need to use your phone number, but use the "card" option".

Some info in English about Kreftforeningen: <https://kreftforeningen.no/en/about-us/>

An obituary for Alun Lewis was published in last week's ISCO Newsletter.

You find the page for Alun here: <https://innsamling.kreftforeningen.no/minnegaver/5-14240>

## CORRESPONDENCE

### RECEIVED FROM ISCO MEMBER ED LEVINE, RETIRED NOAA SSC

"This acknowledgment from the former President will have meaning to many of the people who responded to the DWH incident."

Editor: Ed has kindly forwarded a short note from Thad Allen together with a letter from former President Barack Obama

**From Thad Allen** – "Wednesday, 22 April, was Earth Day. It was also the anniversary of the Deepwater Horizon Oil rig sinking. After the explosion on 20 April, the rig burned and consumed the oil and natural gas coming from the well. When the rig collapsed it sank in 5000 feet of water. The "riser pipe" that connected the rig to the well head bent over past 90 degrees as the rig settled on the seabed. Cracks in the damaged pipe began to leak which became the start of the discharge. When the collapse occurred President Obama was ironically hosting an Earth Day event in the Rose Garden. Two hours later I was in the Oval Office with Secretary Napolitano and Interior Secretary Salazar briefing the President. What followed was the designation of a Spill of National Significance and ultimately my assignment as National Incident Commander. This year on the anniversary of Earth Day and the rig sinking, President Obama sent this letter to those who worked the response. Not sure if it will reach everyone so I am posting it here to facilitate delivery and to add my thanks to the tens of thousands individuals who supported the response".

**From Barack Obama** –



BARACK OBAMA

April 22, 2020

To the Deepwater Horizon Oil Spill Response Team –

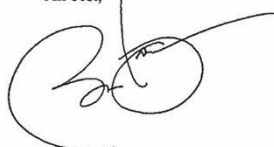
On the 10-year anniversary of an incredibly harrowing time for our country, I wanted to write you all to say thank you. Thank you for the incredible dedication you brought to work every single day, and more importantly, thank you for relentlessly maintaining that dedication when it was needed most.

Deepwater Horizon constituted the largest marine oil spill in history. The incident resulted not only in significant ecological damage to the waters and wildlife in the Gulf of Mexico, it tragically resulted in the loss of American lives as well. When faced with the difficult task of confronting this crisis, each and every one of you answered the call to action and produced an efficient and well-coordinated response that brought together the best resources our country had to offer. It made a difference, both in solving the immediate problem and in making sure our waters remained as clean and teeming with life as possible.

In securing the chance for future generations to enjoy the wonders of our environment, just as previous generations protected them for us, your many capable hands helped deliver on our commitment to our kids and to their children to leave behind a safer, more sustainable planet. Please accept my enduring gratitude for your great work.

Keep up with your health, and take good care of yourselves and your loved ones.

All best,





# INLAND RESPONSE - GOOD PRACTICE GUIDELINES FOR INCIDENT MANAGEMENT AND EMERGENCY RESPONSE PERSONNEL

Part 10 of a serialised article contributed by IPIECA and IOGP



## Response techniques (continued)

### Shoreline Clean-up / Treatment (continued)

#### Surface washing or shore cleaning agents

Shore cleaning agents are products which increase the ease or efficiency of oil removal when flushed with water. The oil is washed, or mobilized, off a hard surface, corralled by booms and collected by skimmers or sorbents. These products are designed to be used on very heavy oils on hard substrates that cannot be cleaned by water flushing alone, and their use is not an initial response technique. They do not work well on porous habitats like sand shores and marshes.

*Below Left: Oiled riprap with sorbent boom at water's edge.*

*Below Right: Spraying shoreline cleaner.*



*Below Left: Flushing oiled riprap after soak time.*

*Below Right: Cleaned riprap*



There is a long history of their use by local responders, such as fire departments, for removing oil quickly from roads and other hard surfaces. Their priority is to quickly reopen paved areas for safe public use. However, care should also be taken to constrain the further spread of mobilized or dispersed oil.

The best products are those that have low aquatic toxicity while remaining effective. They often require soak time to interact well with the oil before being flushed with water. As a result, they cannot be successfully used if waves or rain are present because the water will wash the product off the oiled surface before it has time to interact with, and mobilize, the oil.

### **Biodegradation**

Although not a technique for spill response to limit the spread of oil and recover it, subsequent longer-term clean-up activities may include bioremediation tasks. Microbes that degrade oil exist everywhere and need adequate oxygen and nutrients, primarily nitrogen and phosphorus, to promote their growth. In quiescent inland waters with limited flow, such as some wetlands, swamps, and ponds and lakes, a major influx of hydrocarbons can be overwhelming to microbes, and oxygen and nutrients may become limiting. Microbial degradation of spilled hydrocarbons is easier and faster if oil components are soluble in water. However, this is atypical since most oil components are not very soluble in water, or may be insoluble. The more soluble components are the lighter-weight compounds found in refined products, very light crude oils and ethanol fuels.

If soluble components (e.g. refined products) are available to microbes in large quantities, their rapid growth could deplete the dissolved oxygen supply in smaller water bodies and cause hypoxia, slowing down their growth and affecting other aquatic species. Extreme reductions in dissolved oxygen can lead to fish deaths. Studies have shown that the addition of fertilizers accelerates the rate of degradation if nutrients are lacking; however, this can also lead to eutrophication, thereby increasing the potential for hypoxia.

Biodegradation is not a new response technology. It occurs naturally, regardless of whether it is enhanced by the addition of nutrients. The rate of biodegradation depends on four key factors: nutrients; oxygen; ambient temperatures; and the local degree of oiling. Light oiling can be degraded within weeks or a growing season. Because it may take months to degrade thick layers of stranded oil, this is not regarded as a response technique, but rather a process that can be relied upon after the majority of the oil has been removed by other clean-up techniques.

It can be a challenge to reach agreement on the end points of clean-up activities, as stakeholders may have the initial perception that removing all oil through clean-up activities is required and appropriate. However, the ability for the natural process of biodegradation to break down the majority of oil compounds is an important consideration in the framework of NEBA and should be factored into the analysis alongside the potential harm of other clean-up operations.

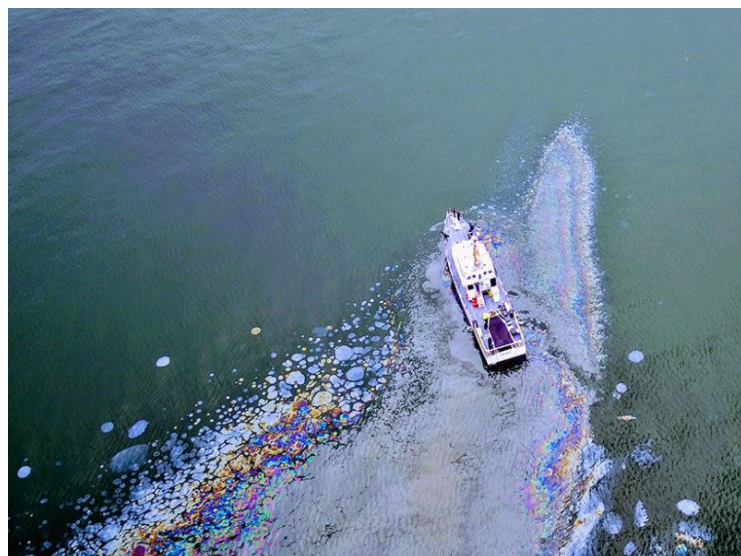
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To be continued next week

## **SCIENCE & TECHNOLOGY**

### **LEVERAGING SATELLITE SENSORS FOR OIL SPILL DETECTION**

An article by [Sarah Derouin](#)



*Photo: This aerial view of the U.S. Coast Guard cutter Brant was taken by a drone over the Mississippi Canyon 20 oil lease block, an open-water site in the northern Gulf of Mexico. Remote sensing with multispectral sensors reveals physical properties of the floating oil that allow scientists to characterize thickness, weathering, and emulsification processes. Credit: Oscar Pineda-Garcia*

When an ocean oil spill occurs, time is of the essence. Details about the slick—the type of oil, its thickness, and the extent of the discharge—are crucial information for responders who want to contain the spill.

Spotting an oil slick with satellites is an easy task under most conditions. But getting those important characteristics of the oil spill takes an additional step: field verification. Directly measuring spills can be problematic; it's not always practical, safe, or quick to collect measurements after a spill.

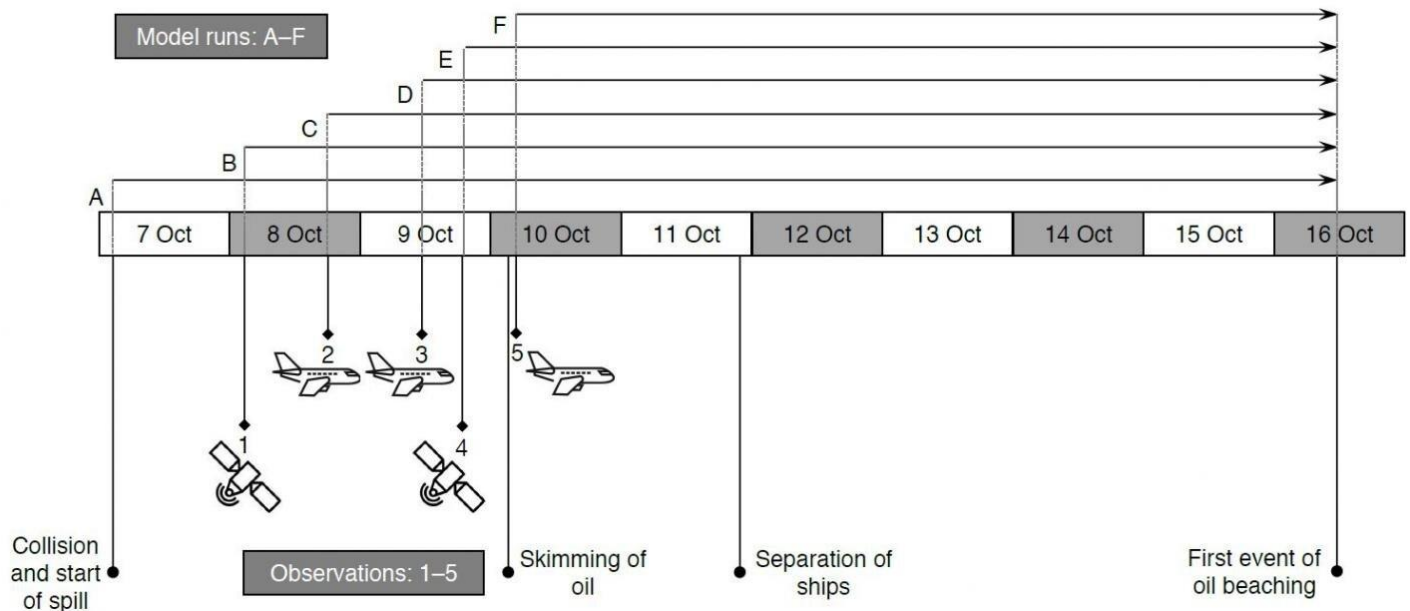


Researchers have long been working on ways to boost the efficacy of satellite measurements of oil spills. Now a multiagency team of scientists has leveraged multiple remote sensing techniques to detect and characterize a spill from the dizzying heights of a satellite.

Researchers verified their remote sensing measurements with two on-site field tests. Their new method of rapid data collection could provide near-real-time information to tactical response teams after an oil spill. EOS / [Continue reading this article](#)

## **OIL SPILL: WHERE AND WHEN WILL IT REACH THE BEACH? ANSWERS TO PREVENT ENVIRONMENTAL IMPACTS**

by CMCC Foundation - Euro-Mediterranean Center on Climate Change



April 6 - In October 2018, the Tunisian Ro-Ro passenger ship "Ulysse" rammed into the hull of the Cyprus-flagged container ship "Virginia," which was anchored in international waters off the northern tip of Corsica, an area known for its pristine waters and beaches. Bunker fuel from Virginia leaked out of her tanks through a breach several meters long, threatening the marine environment and coastal areas. 530 m3 of oil were released, and in 36 hours the slick had lengthened to cover approximately 35 km.

Predicting the drift of oil slicks on water surfaces and in coastal zones is fundamental for responding to spill events and to mitigate their impacts on the environment, allowing for a more efficient use of emergency.

A recently published scientific paper tells about the collaboration that was formed for this purpose, between the researchers of the CMCC Foundation—Euro-Mediterranean Center on Climate Change and REMPEC, the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea, based in Malta, right after the collision of Ulysse with Virginia.

"Thanks to a joint effort involving efficient and timely exchange of information, we received observational data from REMPEC and used these real observations as the starting point for our model in order to calculate the forecast," explains Svitlana Liubartseva, researcher at the CMCC Foundation and first author of the study. "We worked day and night, and provided REMPEC with 5 forecast bulletins during the oil spill tracking and recovery operations." Phys Org / [Read the complete article](#)

## **ON MISSION TO ERADICATE VIRUS GERMS, CHINA FIRMS SEE THE UV LIGHT**

March 13 - Ultraviolet light is being beamed through public buses and lifts in China to wipe out any possible germs as part of efforts to clear the country of the deadly coronavirus epidemic.

With companies under pressure to meet strict prevention measures for the virus, which has killed more than 3,100 people in China, some are turning to new technology to keep everything clean.

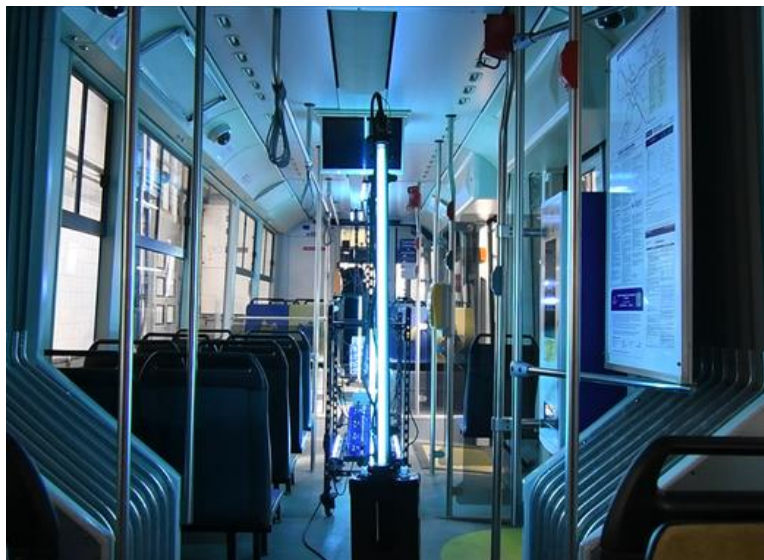
Shanghai public transport firm Yanggao has converted a regular cleaning room into a UV light disinfection chamber for buses -- cutting a 40-minute process down to just five minutes.

Staff drive one bus at a time into the chamber -- which has been equipped with 210 UV tubes -- and leave the room before activating the system, bathing the vehicle in a blue-white hue.

Two cleaning rooms have been converted and each can disinfect up to 250 buses a day

With around 1,000 buses needing disinfection daily, the UV system has reduced the amount of staff overtime and manpower needed for regular public transport disinfection. France 24 / [Read more](#)

## KRAKOW TESTS UV TECHNOLOGY FOR DISINFECTION OF PUBLIC TRANSPORT



April 8 – Krakow has begun testing new technology to disinfect tramways and buses in the context of the coronavirus pandemic. Starting Monday, 6 April, ultraviolet lamps have been tested as an alternative to other methods of disinfection, such as those based on chemical substances.

Prior to this week, the transport operator MPK S.A. Krakow has been cleaning vehicles daily with other methods, paying particular attention to the places of the vehicles that are most commonly touched - buttons, handrails, handles, ticket validators and ticket vending machines. Now, instead of manually cleaning every single element, which takes a substantial amount of time, the ultraviolet lamps system is expected to be able to clean wider surfaces quickly and efficiently.

Several vehicles belonging to the fleet of the company have already been subjected to the new process. The innovation is trialled for the sake of passengers, with the objective of

finding out what works best to protect them from the spread of COVID-19. Transport vehicles are the natural testing environment, due to the high number of people boarding them and touching various surfaces. The Mayor / [Read more](#)

## A SIMPLE EXPLANATION OF SOLUBILITY

April 16 - Benzene, Toluene, Ethylbenzene, Xylene = BTEX. BTEX are known carcinogens and are component parts of petrol/gasoline. BTEX-type solvents are the building block materials for the plastics industry and are shipped in huge volumes all over the world.

Note that the solubility of "benzene" is 800 parts per million (See chart). This means that if you had 1 million parts of a water/benzene solution, 800 parts of the million will be benzene. This represents (800 divided by 1 million times 100) 0.08% of the total solution. The benzene particles are mixed homogeneously with water and there is no visual evidence, such as a sheen, that the benzene is in the water.

Benzene is very soluble in water and as a result is much more difficult to remove from water. In order to get the benzene level down to 10ppm or less means that 790ppm must be removed from the 800ppm, which represents 98.7% of the benzene.

Similarly, Toluene is soluble at 470ppm, which means the toluene represents (470 divided by 1 million times 100) .047%. (This represents almost half the amount of benzene) In other words you are starting out with less toluene in the mix than benzene, which means there is less to remove in order to get down to 10ppm. You will have to remove 460parts from the 470 or 97.87%.

This is still a significant amount in comparison to some of the other hydrocarbons listed on the chart such as naphthalene at 30ppm. You only have to remove 20 of the 30 ppm in order to arrive at 10ppm because naphthalene is less soluble in water, and as a result there is less to remove. At 30ppm the water is only contaminated with .003% naphthalene, or 15 times less than the amount of toluene and roughly 30 times less than benzene.

As an over-simplified example to explain solubility, take a Styrofoam coffee cup and a handful of gravel and drop them into a solvent such as paint thinner or gasoline. The Styrofoam will dissolve into the solvent while the gravel will not. Styrofoam is very soluble and mixes easily into the solvent. The gravel is not soluble and is for all intents and purposes unaffected by the solvent. Which material will be the easiest to remove from the solvent?

Similarly, some hydrocarbons are like the Styrofoam and dissolve into the water while some are less soluble.

In order to remove dissolved hydrocarbons from water requires that they are attracted to a filtering media. In most cases adsorption takes place and the hydrocarbon adheres to the surface of the filter material; usually activated carbon because of its tremendous surface area.

IMBTEC is working on developing a water filtration product(s), which will complement activated carbon. Activated carbon cannot adsorb more than once its' own volume of contaminant and is easily overwhelmed by high concentrations of contaminant. It is for this reason that activated carbon is used primarily as a "polishing" step to remove trace amounts of contaminants in water filtration systems. Use of Imbiber Beads® with their ability to absorb large volumes of contaminants makes them an excellent pre-filter alternative that will extend the life of a carbon bed.

## SCIENCE & TECHNOLOGY (CONTINUED)

### Examples of SOLUBILITIES

Information that will affect the use of Imbiber Beads® in Water Filtration, Valving and Gravity-flow Drainage Devices:  
**Hydrocarbons in Water at 15°C**

<u>Hydrocarbon</u>	<u>Solubility</u> Mg/L (ppm)	<u>Boiling Point</u>	
		°C	°F
n-pentane (C <sub>5</sub> )	350	36	96.8
n-hexane (C <sub>6</sub> )	86	69	156.2
n-heptane (C <sub>7</sub> )	45	98.5	209.6
n-octane (C <sub>8</sub> )	14	125	257
n-decane (C <sub>10</sub> )	6	174	345.2
n-tetradecane (C <sub>14</sub> )	2	253	486.4
n-octadecane (C <sub>18</sub> )	1	317	602.6
benzene	800	80	176
toluene	470	111	231.8
O-xylene	136	144	291.2
t-butylethylbenzene	5	210	410.0
naphthalene	30	218	424.4
dodecylbenzene (C <sub>18</sub> )	1	218	424.4

[Thanks to John Brinkman of ISCO Corporate Member, Imbibitive Technologies. <http://www.imbiberbeads.com/site/home>]

## CASE STUDY

### WHEN IN-SITU TECHNIQUES FAIL

*French, K. | RemTech 2019: Remediation Technologies Symposium, 16-18 October, Banff, 57 slides, 2019*

Soil and groundwater at a former fueling station in Canada were contaminated with petroleum hydrocarbons (PHCs). While risk management did not require remediation of the source area, they did require controlling the PHC plume to prevent continued offsite migration. Two permeable reactive barriers (PRBs) containing colloidal activated carbon and oxygen-releasing material failed to control plume migration.

A Remedial Design Characterization was conducted to better understand the PHC-contaminated zones. After collecting additional site data, the material used in the second PRB was changed to Trap and Treat BOS200®. After installation, contamination decreased to below the target level, and the plume was effectively contained.

<https://www.esaa.org/wp-content/uploads/2019/10/19-French2.pdf> Source / [Technology Innovation News Survey](#)

## CONTRACTS, TENDERS & 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.

ISCO Members are welcome to post tender invitations in this section.



## 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.

COUNTRY	2019	TITLE OF EVENT	LOCATION
<b>For more information click on Title of Event</b>			
COUNTRY	2020	TITLE OF EVENT	LOCATION
USA	POSTPONED	<a href="#">APICOM GM Meeting</a>	New Orleans, LA
USA	POSTPONED	<a href="#">International Oil Spill Conference &amp; Exhibition</a>	New Orleans, LA
UK	POSTPONED	<a href="#">HAZMAT 2020 Conference</a>	Stratford on Avon
IRELAND	POSTPONED	<a href="#">European Maritime Day Forum Event</a>	Cork
CANADA	POSTPONED	<a href="#">43rd AMOP Technical Seminar on Environmental Contamination and Response.</a>	Edmonton, Alberta
USA	CANCELLED	<a href="#">Elastec's Spring 2020 River Workshop</a>	Carni, IL
USA	CLOSED	<a href="#">Science of Oil Spills Class</a>	New London, CT
UK	POSTPONED	<a href="#">2020 IOPC Funds' Short Course</a>	London
NORWAY	POSTPONED	<a href="#">INTERTANKO Annual Tanker Event</a>	Oslo
USA	POSTPONED	<a href="#">Clean Pacific Conference &amp; Exhibition</a>	Seattle, WA
USA	CANCELLED	<a href="#">Science of Oil Spills Class</a>	Seattle, WA
NETHERLANDS	June 24-25	<a href="#">European Environmental Ports Conference 2020</a>	Rotterdam
USA	August 3-5	<a href="#">Clean Waterways Conference &amp; Exhibition</a>	Indianapolis, IN.
SAO TOME & PRINCIPE	POSTPONED	<a href="#">National workshop on the National Oil Spill Contingency Plan</a>	Sao Tomé
ESTONIA	August 25-27	<a href="#">BALEX DELTA 2020 pollution response exercise</a>	Talinn
USA	Sept. 8-11	<a href="#">HazMat Emergency Response Workshop</a>	Sacramento, CA
USA	Sept. 8-11	<a href="#">Oil Spill Response Strategies &amp; Tactics Training</a>	Leonardo, NJ
AUSTRALIA	Sept. 15-17	<a href="#">Ecoforum Conference &amp; Exhibition</a>	Darwin
MALTA	October 6-7	Regional Meeting of National Experts on the Post-2021 Mediterranean Strategy for Prevention of and Response to Marine Pollution from Ships	Valetta
UK	October 12-13	<a href="#">EI Hazardous Area Classification</a>	London
UK	October 19-23	<a href="#">IMO Marine Environment Protection Committee</a>	London
USA	October 20-22	<a href="#">Clean Gulf Conference &amp; Exhibition</a>	San Antonio, TX
CANADA	October 27-29	<a href="#">Arctic Shipping Forum North America</a>	Montreal
MONACO	October 27-29	Regional Workshop to enhance Marine Oil and HNS regional cooperation in the Mediterranean (MEDEXPOL 2020)	Monaco
GREECE	POSTPONED	<a href="#">Posidonia 2020</a>	Athens
BAHREIN	December 7-8	<a href="#">EI Middle East HSE Forum</a>	Bahrein
COUNTRY	2021	TITLE OF EVENT	LOCATION
NETHERLANDS	POSTPONED	Interspill Conference & Exhibition	Amsterdam
USA	May 10-13	International Oil Spill Conference (IOSC 2021)	New Orleans
MALTA	May 25-27	Fourteenth Meeting of the Focal Points of the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC)	Valetta
CANADA	June 8-10	43rd AMOP Technical Seminar on Environmental Contamination and Response	Edmonton, Alberta
COUNTRY	2022	TITLE OF EVENT	LOCATION
	Details TBA	Interspill Conference & Exhibition	

## LINKS FOR DOWNLOADING & READING OTHER PUBLICATIONS

<a href="#">Alga Cronicle</a>	News from Australia on Contaminated Land Remediation	February 2020
<a href="#">AMSA Update</a>	Latest news from the Australian Maritime Safety Authority	April 2020
<a href="#">ATRAC Newsletter</a>	News from the Adriatic Training and Research Centre	December 2019
<a href="#">AUSMEPA Bulletin</a>	News from the Australian Marine Environment Protection Assoc'n	Summer 2020
<a href="#">BIMCO Bulletin</a>	Marine and shipping-related news from BIMCO	December 2019
<a href="#">Newsletter from George Holliday</a>	News and commentary on HSE issues from George Holliday	On request email
<a href="#">Cedre Newsletter</a>	News from Cedre in Brittany, France	March 2020
<a href="#">Clean Nigeria Associates Newsletter</a>	News from CNA about Oil Spill Response in Nigeria	December 2018
<a href="#">EMSA Newsletter</a>	News from the European Maritime Safety Agency	Current issue
<a href="#">GEF Newsletter</a>	Monthly Newsletter from the Global Environment Facility	December 2019
<a href="#">GESAMP</a>	Group of Experts on the Scientific Aspects of Marine Environmental Protection	Latest news
<a href="#">GISEA Quarterly Newsletter</a>	News from Global Initiative for South-East Asia	Q4 2019
<a href="#">IMO News Magazine</a>	News from the International Maritime Organization	Winter 2019
<a href="#">IMO Publishing Newsletter</a>	New and forthcoming IMO publications	April 2020
<a href="#">ITOPF Ocean Orbit</a>	News from the International Tanker Owners Pollution Federation	October 2019
<a href="#">JOIFF "The Catalyst"</a>	Int'l Organisation for Industrial Hazard Management	Q1 2020 issue
<a href="#">Maritime Executive Magazine</a>	Often contains articles of interest to the spill response community	Jan.-Feb. 2019
<a href="#">MEDNEWS</a>	News from UNEP Mediterranean Action Programme	01 / 2020
<a href="#">MOIG Newsletter</a>	News from the Mediterranean Oil Industry Group	January 2020
<a href="#">NCEC Newsletter</a>	News from the National Chemical Emergency Centre	March 2020
<a href="#">Nautical Institute News</a>	News from the Nautical Institute	Jan.-Feb. 2020
<a href="#">Navigate Response</a>	Global crisis communications network for shipping & marine	October 2019
<a href="#">NOAA OR&amp;R</a>	Weekly round-up of news from NOAA's Office of Response & Restoration	Latest issue
<a href="#">Oceanbuzz</a>	Newsletter giving news on the Ocean Technology Industry	Current issue
<a href="#">OCIMF Newsletter</a>	News from the Oil Companies International Marine Forum	February 2020
<a href="#">OHMSETT Gazette</a>	Oil Spill Response Research & Renewable Energy Test Facility Quarterly	Summer 2019
<a href="#">OSPAR Newsletter</a>	Protecting & Conserving the N.E. Atlantic and its resources	End of year 2019
<a href="#">PEMSEA Newsletter</a>	Healthy oceans, people and economies in the East Asian Seas	September, 2019
<a href="#">Pollution Online Newsletter</a>	News for pollution prevention & control professionals	Current issue
<a href="#">Safe Seas, Clean Seas</a>	Quarterly Newsletter from Maritime New Zealand	July 2018 issue
<a href="#">Salvage World</a>	Quarterly Newsletter of the International Salvage Union	Current issue
<a href="#">Sea Alarm Foundation Newsletter</a>	Oiled wildlife Preparedness and Response news from Sea Alarm	Current issue
<a href="#">Technology Innovation News Survey</a>	News from US EPA – Contaminated Site Decontamination	March 1-15, 2020
<a href="#">USA EPA Tech Direct</a>	Remediation of contaminated soil and groundwater	May 1, 2020
<a href="#">WestMOPoCo</a>	Western Mediterranean Region Marine Oil & HNS Pollution Cooperation	January 2020

Your editor depends on regular receipt of updated URL links for listed publications. If these are not received, relevant entries will be discontinued.

## MESSAGES RECEIVED FROM EVENT ORGANISERS

### 43RD AMOP TECHNICAL SEMINAR ON ENVIRONMENTAL CONTAMINATION AND RESPONSE HAS BEEN POSTPONED

The 43rd AMOP Technical Seminar on Environmental Contamination and Response - originally scheduled for June 2-4, 2020 in at the Chateau Lacombe in Edmonton, Alberta, Canada - is delayed until June 8-10, 2021 (in the same location) due to the global Covid-19 Pandemic.

We regret any inconvenience that may result from this decision. We will continue to move forward with seminar organization. The peer review and paper submission process is underway. In consideration of the international response to the virus, the submission deadline for draft paper will be extended until January 12, 2021. Final papers will be due April 9, 2021. Measures will be taken to accommodate currently accepted presentations. Please take the time to focus on your well-being over the coming months and stay safe! More info -

<https://www.canada.ca/en/environment-climate-change/services/science-technology/arctic-marine-oilspill-program/about.html>

## PUBLICATIONS

### ARCTIC COUNCIL RELEASES GUIDELINE FOR ARCTIC MARINE RISK ASSESSMENT

April 18 - The Emergency Prevention, Preparedness and Response (EPPR) Working Group of the Arctic Council has released a Guideline for Arctic Marine Risk Assessment. The guideline contains best practice methods and data sources for conducting regional and area-wide risk assessments concerned with ship traffic and operations in the Arctic. This Guideline applies the risk management process as defined in ISO 31000:2018 and uses the six steps of risk management process with some customization to fit the objective of capturing the Arctic risk influencing factors. The Guideline is available [here](#). The Maritime Executive / [Read more](#)

## INCIDENT REPORTS

Editor – Very few spill reports in the press recently – probably not because there’s only a few spills – but because the news media is focused on the Coronavirus Pandemic. Currently I depend on readers who send me reports and on Mikhail Voytenko of the Maritime Bulletin. He regularly advises on vessel abandonments, groundings and sinkings – several every week – but, unless there is an immediate release of oil or chemicals, spillages are not reported in the Maritime Bulletin. However, some of his reports cover incidents that are likely to result in significant pollution by oil or chemicals.

### USA: GEORGIA - FIFTH LIFTING LUG INSTALLED ON THE GOLDEN RAY

April 25 - T&T Salvage installed the fifth lifting lug on the wreck of the car carrier Golden Ray on April 24 in St. Simons Sound, Georgia. In total, 16 lugs are scheduled to be installed with two lugs installed on each of the eight sections of the vessel. The lifting lugs will be used as a connection point between the rigging of the VB-10,000 twin-gantry catamaran and each section of the Golden Ray. The lugs are designed to distribute the weight of each particular section during the cutting and lifting operation.

The Maritime Executive / [Read more](#)

### USA: LOUISIANA - TOWBOAT INCIDENT: CAPTAIN LOST CONTROL IN STRONG CURRENT

April 26 - The US National Transportation Safety Board (NTSB) has released a Marine Accident Brief about an accident that occurred on April 24, 2019, involving the towing vessel Edna T. Gattle when the captain lost control of the tow and the vessel and barge made contact with a bridge and piers. The Edna T. Gattle was pushing the barge Terral 2 downbound on the Atchafalaya River through the Union Pacific Railway Bridge at mile 41.5, near Krotz Springs, Louisiana, when the captain lost control. As a result of the contact, the barge suffered \$26,748 in damages, and the bridge sustained \$500,000 in damages and was out of service for three days. No injuries or pollution were reported. The Maritime Executive / [Read more](#)



### USA: CALIFORNIA - SUBMERGED OIL WELL SPILLS CRUDE OIL ONTO STREET IN LOS ANGELES

April 27 - Last year on December 30th, there was a significant oil spill within the boundaries the Los Angeles City Oil Field residential community or the City Central West, Specific Plan. The Field is considered to be the birthplace of Los Angeles' oil industry. “There was a land boom in 1887 and since there were no regulations in California on well spacing at this time, well crowding was extreme. The town lots were often only 50' by 150' [presently, a common standard], and sometimes contained as many as four wells. The Manley Oil Company operated out of his residence at Rockwood Street near Glendale Blvd that operated well throughout the neighborhood from its founding in 1886”, <http://historicplacesla.org>. Crude oil spilt out of the ground from across the rear alley while the AllenCo (oil drilling company) was capping an oil well at the Colton Apartments Project, Aragon Properties. The crude took its course, out from the asphalt cracks in the rear parking area of a 10-unit residential apartment. City Watch / [Continue reading](#)

### ECUADOR: TWO PANDEMICS IN THE AMAZON: COVID-19 AND OIL

April 28 - Thousands of Indigenous families in northeastern Ecuador are living a nightmare within a nightmare. When the COVID-19 pandemic hit, Indigenous people severed connections between their forest communities and the outside world to prevent contagion in their territories. Local sources of food and water became more crucial than ever. Hunting, fishing, and subsistence agriculture are especially important in the northern part of the Ecuadorian Amazon as hunting grounds have been heavily degraded by the oil industry. Then, on the evening of April 7, two major pipelines running along the banks of the Coca River in the Andean foothills collapsed, releasing an enormous quantity of crude oil into the rushing rapids.

Most communities learned of the spill the day after, when they stepped into the river to fish and found their legs covered in oil. Two days later, Ecuador’s Minister of Energy, Rene Ortiz, claimed only 4,000 barrels had been released. He had nothing to say about the environment or health risks posed to downstream Indigenous communities. Sierra Club / [Read more](#)

### USA: NORTH CAROLINA - HAZMAT CREWS CLEAN UP LEAKING RAIL CAR'S CHEMICAL SPILL

April 30 - Nearly two dozen Charlotte, NC, firefighters cleaned up a hydrochloric acid spill that leaked from a rail car at a facility in a southwest part of the city Wednesday. The accident happened at about 10 a.m. at a facility in southwest Charlotte, WSOC-TV reports. That’s when hydrochloric acid leaked from an unspecified train car.

Firehouse / [Read more](#)





### BELGIUM: SEVERAL CONTAINERS OOCL MEGA CONTAINER SHIP BLOWN AWAY BY WIND

May 2 - Gale-force wind gusts blow off several containers from mega container ship OOCL UNITED KINGDOM, berthed at Zeebrugge Belgium, in the morning May 2. The giant ship arrived at Zeebrugge early in the morning May 2, from Felixtowe UK. Not clear what happened, floating and crashed containers are seen both in water and on pier alongside container ship. [See all pics full-scale](#) Maritime Bulletin / [Read more](#)

## TEN GOOD REASONS WHY YOU SHOULD BE A MEMBER OF ISCO

Even when budgets are tight, you can fully justify the cost of ISCO membership

- Be recognised as a member of a worldwide community of professionals who share a common interest.
- Corporate Members enjoy Free Listing in ISCO's International Directory of Spill Response Contractors, Equipment Suppliers, Training Providers, and Consultancy Services – your advertising banners displayed with one click access to your website. It's a great search facility for potential customers.
- Corporate Members receive requests for emergency provision of resources for spill response support. The Emergency Assistance facility is there for government agencies, oil companies and response organizations - not only for rapid sourcing of additional resources in very large spill events, it can be used to help find specialised equipment not often available in response inventories, people with specialised experience and know-how, etc. Contractors can use the facility to supplement their own internally available resources.
- Benefit from ISCO initiatives that are of practical value to Members – for example, the free and widely used RESPONSECON contracts that you can use - speeding up contractual arrangements for mobilisation of spill response resources, with positive implications for protecting your cash flow.
- Free publicity – Announce your new products and services developments in the weekly ISCO Newsletter – reaching out to a highly targeted customer audience in over 60 countries.
- Benefit from negotiated discounts in attending conferences and exhibitions – the savings can significantly offset the cost of maintaining your membership.
- To enhance response knowledge of your staff - Freely downloadable technical articles, response guidelines and loads of other useful reference information available in the Members' Area of the ISCO website.
- Your membership helps ensure continued publication of the ISCO Newsletter, keeping you up-to-date on events, developing technologies, new legislation and other matters of mutual interest. This will save many hours a week of scanning, browsing and searching for all the news that matters and puts it in your inbox every week.
- Through ISCO, Members have a voice in the drafting of new legislation that will affect their areas of interest. We introduce new initiatives at IMO and give our support to other delegates advancing developments that will be of benefit for improvement of response effectiveness. ISCO provides an interface with National and International Government Agencies, Industry, the Scientific Community, R&D Establishments and Academia, actively supporting new developments that will be of benefit to our Members.
- Members have the right to display the ISCO logo on their headed notepaper, brochures, business cards, etc. to denote that they are part of an international organisation dedicated to improving worldwide co-operation and preparedness.

For more information visit [www.spillcontrol.org](http://www.spillcontrol.org)

Apply for Membership of ISCO at <http://www.spillcontrol.org/2013-02-05-10-50-47/membership-application>

**REMINDER – THE COST OF ISCO MEMBERSHIP WILL INCREASE WITH EFFECT FROM JUNE 1**

**YOU CAN STILL JOIN OR RENEW YOUR SUBSCRIPTION AT THE OLD RATE IF YOU ACT NOW.**

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