

EDITORIAL

Lively start to Decade

There has been an exciting start to the year with new initiatives underway as we take further steps towards our central objective – mapping the entire ocean floor by the year 2030. In this edition we describe the importance of the launch of the United Nations Decade of Ocean Science for Sustainable Development under the auspices of the Intergovernmental Oceanographic Commission (IOC) of UNESCO, which is also a parent organization of GEBCO.

The UN Decade was ‘pinged in’ with seafloor data collected from Australian waters by the Schmidt Ocean Institute’s research vessel *Falkor*, flying – for the first time – the official flag of The Nippon Foundation-GEBCO Seabed 2030 project. A proud moment for us all.

We have news, too, of Sairdron, based in Alameda, CA, and the addition to the fleet of the 72-foot Sairdron Surveyor, capable of long duration missions in the most extreme ocean conditions. The Surveyor will be collecting seafloor data as part of the Two Oceans Two Technologies Programme (TOTT) within the Seabed 2030 project.

In turn, we flag up the 100th anniversary, in June, of the International Hydrographic Organization (IHO), a joint partner with IOC UNESCO in GEBCO. Bathymetry, of course, lies at the heart of the Seabed 2030 Project.

Underpinning our progress is The Nippon Foundation and, in this newsletter we interview Mitsuyuki Unno, Executive Director of the Ocean Affairs Division. In the course of giving a commitment to complete the Project, he envisages “that The Nippon Foundation will continue to fund the core part... while supporting the training of ocean mappers to realize our common objective”.

The Nippon Foundation is also involved in promoting ocean health through a new agreement with the Economist Group. The Back to Blue initiative, signed at the World Ocean Summit, is a response to the escalating challenges to our oceans posed by plastic pollution as well as pollution from nutrients and chemical contaminants. There are clear synergies between Back to Blue and Seabed 2030 (see new initiative on page 4).

Encouragingly there is today a growing spotlight on the health of our oceans – and ultimately its impact on human health.



Schmidt Ocean Institute’s research vessel *Falkor*.
Credit: Schmidt Ocean Institute

Jamie McMichael-Phillips
Seabed 2030 Project Director



A Talk with Mitsuyuki Unno

Executive Director of the Ocean Affairs Division, outlining The Nippon Foundation's commitment to the Seabed 2030 Project

Q. When did The Nippon Foundation become involved in ocean related issues?

The Nippon Foundation was established in 1962 to help rebuild the shipbuilding industry in Japan which had suffered catastrophic damages due to the war. So, we were involved in ocean related issues right from the start of our existence.

Q. What do you regard as The Nippon Foundation's greatest achievements in this field?

Multi-disciplinary cooperation on a global scale is required to solve the complex problems of the ocean. I believe that The Nippon Foundation's greatest achievement in this field is the global network of experts we have established with whom we can work together to shape the future of the ocean. Having begun our first capacity building program in 1988 with the World Maritime University, we have so far raised 1,507 experts from 149 countries across all of our capacity building programs in the ocean field, with a wide array of expertise ranging from ocean governance, international law of the sea to ocean observation. In much the same way that we are working collaboratively with The Nippon Foundation-GEBCO Alumni to complete the map of the world's ocean floor, I look forward to working together with the alumni from all our capacity building programs to tackle the issues faced by humanity.

Q. How did the relationship with GEBCO develop?

It all started with a facsimile message I received from the late Sir Anthony Loughton back in 2003. I was called to London where, upon arriving to our meeting place, I was taken to a boardroom where Sir Anthony and members of GEBCO awaited. I will never forget those four intense hours in which they shared with me their passion for the ocean and appealed to me on the need for raising a new generation of ocean mappers. This meeting led us to establish the postgraduate program in ocean bathymetry at the University of New Hampshire in 2004.

Q. What attracted you to maritime issues?

My educational background was social welfare. As a student, I visited a number of nursing homes as I was very keen to find work in the welfare field. I was



particularly interested in being of support to those with hearing impairments. However, I wasn't sure if I wanted to commit to it for the rest of my life. I still wanted to be of use in some way however, so I began looking for a job that would still allow me to offer support, which is how I came across The Nippon Foundation. As for how I came to be involved in the ocean sector, around 20 years ago, the then Chair Ayako Sono (a writer) said to me "there is no one at the Ocean Affairs Division with a name related to the sea – you'd be perfect to make up for that (since the name Unno written in Chinese characters literally translates as 'sea field')". I was then transferred to the Ocean Affairs Division half a year later!

Q. When did you join The Nippon Foundation?

I joined in 1990. Before being transferred to the Ocean Affairs Division in 2000, I spent four years at the Public Relations Division and was then placed in charge of projects related to sports as well as those related to arts and culture at the Public Service Projects Division. I became Executive Director of the Ocean Affairs Division in 2011. Everyone who works at The Nippon Foundation can apply to be transferred to a specific department and every year I kept writing "welfare" – but it hasn't happened yet!

Q. Why did you and Mr Sasakawa decide to hold the Forum for Future Ocean Floor Mapping in Monaco in 2016?

By 2016, 77 fellows from 33 countries had completed their training at the University of New Hampshire and were working as experts in ocean bathymetry in their respective countries. Even after returning to their home countries, many of them voluntarily discussed how they could contribute to GEBCO in the future, and we felt the need to establish a platform that would allow them to continue their collaboration in a

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A Talk with Mitsuyuki Unno
Executive Director of The Nippon Foundation's Ocean Affairs Division

stable manner. We decided to hold a forum in Monaco, the place of origin for GEBCO, to gather everyone's thoughts as to how we could facilitate the mapping of the ocean floor, of which only six per cent was mapped then, and how we could consolidate the power of the alumni to help achieve this.

Q. Was the Forum part of a plan to map the ocean floor by 2030?

The Forum was actually not part of a plan to map the ocean floor by 2030. Since the ultimate objective for starting the training program at the University of New Hampshire was to facilitate the mapping of the ocean floor, and as we had by then established a fairly extensive network, we thought that the time was ripe to launch a new project to take another step towards realizing that objective. I remember discussing with the members of GEBCO whether this new project was really going to be feasible right up until Chairman Sasakawa gave his speech.

Q. How committed is The Nippon Foundation to reaching this objective and providing financial support?

We are committed to completing the map of the world's ocean floor through The Nippon Foundation-GEBCO Seabed 2030 Project. We will also continue to support the training of ocean mappers to realize our common objective.

Q. Are other financial partners needed?

Seabed 2030 is a project that is facilitated by The Nippon Foundation and GEBCO so I envisage that The Nippon Foundation will continue to fund the core part of the project. However, if, in the future, other organizations wish to make monetary or in-kind contributions for individual mapping missions for instance, then that is of course welcomed.

Q. What is your assessment of the success of the project so far?

When the project began in 2017, only six per cent of the world's ocean floor had been mapped. So, it was truly impressive when, in less than two years, the project succeeded in collecting more data than had been collected in a century, increasing the percentage of the world's ocean floor mapped to 15%. Now, with 19% of the world's ocean floor mapped, it is apparent how much the project has contributed to furthering our understanding of the last frontier. I think the success of the project is reflected not only in the mapped bathymetry, but also in the number of partners we have - 156 to date. The fact that we have been able to get the support and cooperation of many government agencies, research institutions and companies around the world and rally them around the goal of discovering the seafloor topography speaks volumes.

Q. Did the example and work of Seabed 2030 encourage the United Nations in establishing the Decade of Ocean Science?

I don't think that there is a direct connection between Seabed 2030 and the establishment of the Decade of Ocean Science, but the fact that Chairman Sasakawa received the Ocean's 8 Award in 2017 suggests that The Nippon Foundation's ocean initiatives have been well received by the UN. I am very encouraged that the UNESCO-IOC, a parent organization of GEBCO, is facilitating the mapping of the ocean floor by positioning it as one of the pillars of the Decade. I believe that Seabed 2030 and the Decade share the fundamental goal of achieving a sustainable ocean through deepening our understanding of it.

Head of our Atlantic and Indian Ocean Regional Center, Dr Vicki Ferrini, has been selected from a pool of over 400 nominees as one of the "Explorers Club 50: Fifty People Changing the World the World Needs to Know About." The EC50 was established to not only reflect the great diversity of exploration, but to give a voice to these trailblazing explorers, scientists, and activists doing incredible work.



Dr Vicki Ferrini

BACK TO BLUE

The Economist Group and The Nippon Foundation in new initiative to promote ocean health

Back to Blue, a new initiative from The Economist Group and The Nippon Foundation, was launched at the 8th annual World Ocean Summit in March. With an initial focus on ocean pollution, the three-year collaboration is a response to the escalating challenges posed by plastic pollution and, less visibly, pollution from nutrients and chemical contaminants that are damaging ocean life and ecosystems, and in turn human health. The programme, now under development, has been supported by findings from a Back to Blue global survey which place plastic pollution (59.6% of respondents) and chemical pollution (39.1%) as the top two concerns, followed by climate change (31.1%).

The Back to Blue initiative brings together two organizations that share a common understanding of the need for evidence-based approaches and solutions to the pressing issues faced by the ocean, offering a powerful platform from which to accelerate momentum for improving ocean health.

At the signing of a memorandum of understanding between the two organisations, Yohei Sasakawa, Chairman of The Nippon Foundation, warned that “we are much aware of the land-based problems that occur around us, yet when it comes to understanding the multifaceted problems of the ocean that covers 70% of the earth surface, I believe that our understanding is still very poor. This is already a threat to human security for every individual on this planet.”

Lord Deighton, Chairman of The Economist Group, said: “We have also developed our own passion for the ocean. We held our first World Ocean Summit in 2012, after we had argued in the newspaper that the seas were in trouble, and that human activities were having a profound impact on ocean health. A decade or so later we are more committed than ever to our vision of an ocean in robust health and with a vital economy. The ocean is too big to fail.”

Speaking on the Back to Blue initiative at the launch event, Charles Goddard, editorial director at The Economist Group, noted that “defining and heading towards a pollution-free ocean is an enormous challenge, as we are already seeing in the many extraordinary efforts to address plastic pollution. We hope Back to Blue can contribute vital new knowledge and perspectives on contaminants in the ocean, and to the global architecture of engagement needed to address them.”

Seabed 2030 Project Director Jamie McMichael Phillips comments: “There are synergies between Back to Blue and Seabed 2030, including the need for a baseline seabed map to act as a reference frame for the collection of data on plastics and chemistry in a meaningful way. Back to Blue may also end up working in ocean frontiers collecting bathymetry which Seabed 2030 has not already reached.”

Find out more about
[Back to Blue](#)



Yohei Sasakawa, Chairman of The Nippon Foundation (left) and Lord Deighton, Chairman of The Economist Group sign the MOU launching Back to Blue

Credit: World Ocean Summit, The Economist

IOC CONTRIBUTION

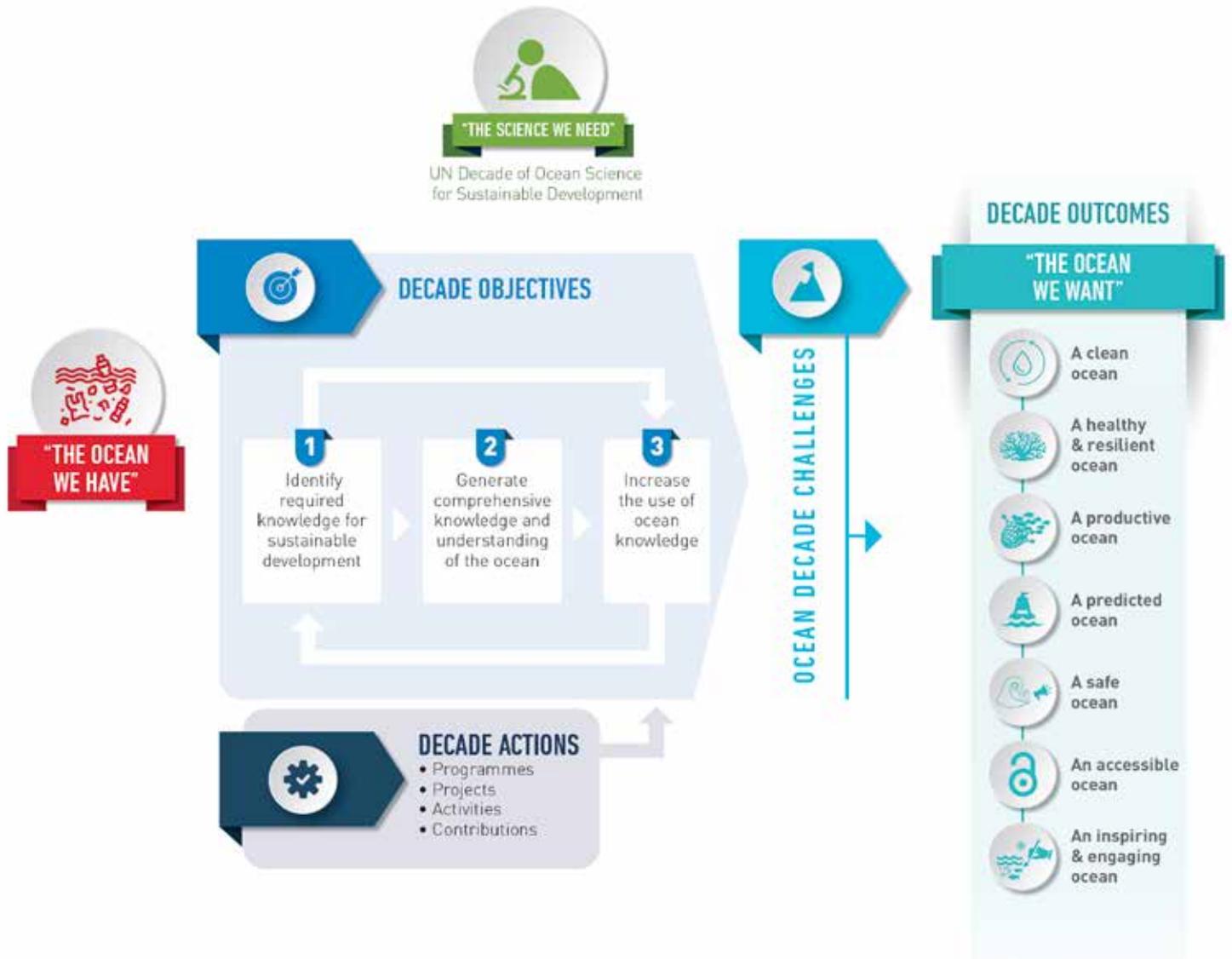
Towards the Ocean We Want

The year 2021 kicks off with the United Nations Decade of Ocean Science for Sustainable Development, the ‘Ocean Decade’, which will transform how we generate and use ocean knowledge and foster the partnerships needed to support a well-functioning, productive, resilient, sustainable and accessible ocean.

Despite its immeasurable economic, social and cultural value, ocean research is largely underfunded, receiving less than two per cent of Government research budgets. Over the next ten years, the Ocean Decade will mobilize the global ocean community around a much-needed transformative research agenda that delivers knowledge-led solutions for achieving a healthy, sustainable and accessible ocean.

The Ocean Decade, guided by the [UN Convention on the Law of the Sea \(UNCLOS\)](#) and coordinated by the [Intergovernmental Oceanographic Commission of UNESCO \(IOC-UNESCO\)](#), the United Nations body responsible for supporting global ocean science and services, will serve as a unifying framework across the UN system, helping countries and partners to achieve all of their ocean-related [2030 Agenda](#) priorities.

The Ocean Decade is already strongly supported by a host of governments and philanthropic institutions. Heavily invested in ocean mapping, the [Schmidt Ocean Institute \(SOI\)](#) has been one of the most dedicated Ocean Decade advocates, making important contributions both to the Decade itself, and to [The Nippon Foundation-GEBCO](#)



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Towards the Ocean We Want

Seabed 2030 Project. Having the entire seabed mapped by 2030 will be a significant contribution to achieving the Ocean Decade Challenge 8 of “creating a digital representation of the full ocean”.

The work of the Ocean Decade will be guided by the Ocean Decade Implementation Plan. This flexible non-prescriptive document is organized around an “Ocean Decade Action Framework” made up of seven desired Decade Outcomes, ten Decade Challenges and three Decade Objectives. Throughout the Decade, a wide range of Actions, driven by diverse partners and stakeholders around the world, will be implemented to deliver on these Outcomes, Challenges and Objectives.

UNESCO invites and welcomes all governments, UN entities, intergovernmental organisations, other international and regional organisations, business and industry, philanthropic and corporate foundations, research institutions and universities, NGOs, educators, community groups and individuals across the world to join this movement and participate in the Ocean Decade.

More information can be found on the [Ocean Decade website](#) and inquiries can be sent to oceandecade@unesco.org.

GEBCO GUIDING COMMITTEE

GEBCO Guiding Committee announces new Chair and Vice-Chair

Evert Flier, IHO appointee from Norway for the joint IHO-IOC GEBCO Guiding Committee, started his career as an officer in the Royal Netherlands Navy in 1989. During his 21 years of service, he spent 11 years at sea on different navy vessels sailing on all oceans. He also sailed on training vessels, obtaining a master mariner certificate for sailing ships up to 3000 tons. Evert started the transition



Chair: **Evert Flier**

of Norwegian Hydrographic Service (one of four divisions within the Norwegian Mapping Authority) from classical nautical chart factory to a marine geo data agency in support of the Blue Economy. He strengthened Norway's role in the International Hydrographic Community by actively participating and contributing to all strategic IHO arenas such as Capacity Building (chairing the Capacity Building Sub-Committee), MSDI, Crowd Sourced Bathymetry, GEBCO and WEND. After one six-year term as director, he became the international coordinator for the Norwegian Hydrographic Service.

Marzia Rovere has a PhD in Earth Sciences and is a researcher in marine geology at the Institute of Marine Sciences (ISMAR) of the National Research Council of Italy since 2009. Her scientific research deals with a variety of different topics related to seafloor and sub-seafloor mapping, including, among others, submarine landslides. Marzia participates in



Vice-Chair: **Marzia Rovere**

several EU projects, including EMODnet Bathymetry where she coordinates the Central Mediterranean contribution, and is leading different national projects sponsored by public stakeholders. A member of the joint IHO-IOC GEBCO Guiding Committee since 2014, Marzia played a role in the establishment team of Seabed 2030. She is also adviser of the Foreign Affairs in matters concerning Maritime Safety and Security and the Law of the Sea and is the Italian alternate head of delegation to the works of the International Seabed Authority, where she served in the Legal and Technical Commission in 2015-2016.

SCHMIDT OCEAN INSTITUTE

Uncovering the Unseen – Mapping Australia’s Marine Estate

Despite the global chaos of 2020, this year is off to a fast start for ocean-based efforts. Not only did we see the launch of the UN Decade of Ocean Sciences for Sustainable Development, but the first public seafloor data of 2021 and the Ocean Decade was collected by Schmidt Ocean Institute’s research vessel *Falkor* as part of [The Nippon Foundation-GESCO Seabed 2030 Project](#) effort. Australian scientists aboard the ship literally “Pinged in the New Year” as they sent acoustic sonar waves down to the ocean floor at midnight on December 31, 2020 and throughout New Year’s Day, while flying the first official flag of The Nippon Foundation-GESCO Seabed 2030 Project.

Mapping the seafloor is paramount and has been one of Schmidt Ocean Institute’s priorities during its Australia campaign. Since January 2020, *Falkor* has mapped more than 180,000 sq. km of sea floor in Australia’s precious marine real estate. These maps have helped to identify habitats of interest for exploration with Schmidt Ocean Institute’s underwater robot, ROV SuBastian, illuminating deep ocean environments that until now have gone unseen by humans. These dives led to amazing discoveries such as glass coral gardens, the longest sea creature ever found, and a new 500 meter tall coral reef in the Great Barrier Reef.

Importance of seafloor mapping

By mapping the ocean floor and interpreting the geologic information of past processes, the scientists who have been sailing on *Falkor* can also start to understand how the future of the planet may look. The scientists leading the most recent mapping expedition, Dr Helen Bostock and Dr Derya Gürer (University of Queensland) have worked closely with SOI’s expert crew to map the [Tasman and Coral Seas](#). Their focus on the Chesterfield Plateau and the chain of extinct volcanoes called the [Tasmantid Seamounts](#) has produced some of the only high-resolution multibeam seafloor data for the area. The new, detailed maps will provide information about past tectonic plate movements that could explain how the oceans and continents formed in Australia.



Scientists in the control room aboard *Falkor* just after midnight on New Year’s Day. *Credit: Schmidt Ocean Institute*



Scientists hold the first official flag of The Nippon Foundation-GESCO Seabed 2030 Project aboard SOI’s research vessel *Falkor*.

Credit: Schmidt Ocean Institute

Schmidt Ocean Institute advocates and shares the importance of seafloor mapping through the production of educational videos during its expeditions, as highlighted by the recent videos [Beneath the Waves](#) and [Pinging in the New Year](#); and through art. Unique to *Falkor*, two Australian artists, [Jessica Leitmanis](#), and [Lea Kannar-Lichtenberger](#), have documented the bathymetry observed through their weaving and drawing as part of Schmidt Ocean Institute’s Artist-at-Sea program.

Seabed 2030 and the Australian mapping work was also highlighted at the first [Schmidt Ocean Institute Virtual Symposium](#) this past February. A fireside chat included Seabed 2030’s executive director, Jamie McMichael-Phillips, as well as Dr Vicki Ferrini (Columbia University) and Dr Robin Beaman (James Cook University), and was hosted by Dr Alan Leonardi (NOAA) in his personal capacity.

For many, 2020 was a year of loss. Through partnerships and strategy, the year brought Schmidt Ocean Institute a new opportunity to pivot and expand remote science. This was only achieved with outstanding local collaborations and the support of many scientists. As we claw our way back to normalcy, many of the lessons learned will remain. Schmidt Ocean Institute will continue to support missions to map and explore the unknown areas of the seabed and support the Seabed 2030 mission, and will do so alongside others in our community as we work towards achieving large-scale decadal goals. We hope these efforts will lead to a collective understanding of the ocean and global policies that will protect ocean health for future generations.

Dr Carlie Wiener

*Director of Communications and Engagement Strategy,
Schmidt Ocean Institute*

Saildrone Surveyor joins the fleet

Saildrone, based in Alameda, CA, provides high-resolution scientific ocean measurement, ocean mapping, and maritime domain awareness data collected by its fleet of the world's most capable, proven, and trusted uncrewed surface vehicles (USVs), known as saildrones. Predominantly powered by wind and solar energy, each vehicle can stay at sea for up to 12 months, transmitting real-time data via satellite from some of the most remote areas on the planet.

The latest addition to the fleet is the 72-foot Saildrone Surveyor, capable of long-duration missions in the most extreme ocean conditions and designed to achieve global bathymetry goals, like those set forth by Seabed 2030.

The vehicle's capabilities are being developed in part through a public-private partnership with the University of New Hampshire and the Monterey Bay Aquarium Research Institute (MBARI), supported by a three-year grant from NOAA's Office of Ocean Exploration and Research (OER) through the National Oceanographic Partnership Program (NOPP), which facilitates partnerships between federal agencies, academia, and industry to advance ocean science research and education.

The Surveyor was launched in January 2021 and is undergoing sea trials in San Francisco Bay ahead of its maiden transpacific voyage from California to Hawaii. During this first transit, expected to begin in early Spring 2021, the Surveyor will be collecting seafloor data as part of the Two Oceans Two Technologies Programme (TOTT) within The Nippon Foundation-GEBCO Seabed 2030 Project.

State-of-the-art system

Working with UNH and Kongsberg, Saildrone has equipped the Surveyor with several state-of-the-art acoustic systems for shallow and deep-water ocean mapping and water column characterization: the Kongsberg EM304 and EM2040 multibeam sonars, Simrad EK80 echo sounder, Teledyne Pinnacle ADCP, and Simrad EC150 ADCP. Saildrone is working with MBARI to integrate environmental DNA (eDNA) capabilities—DNA originating from the sloughed-off skin, mucus, and excrement of a wide variety of marine animals—into the Surveyor platform. The Saildrone Surveyor also carries a sophisticated suite of instruments to collect oceanographic and meteorological data above and below the sea surface, supporting a wide range of research applications.



Saildrone Surveyor sails under the Golden Gate Bridge during sea trials in the San Francisco Bay. *Photo: Saildrone*

“This innovative partnership will produce a much more efficient and cost-effective way to collect needed data for mapping the ocean and monitoring the marine environment,” said Larry Mayer, director of UNH’s Center for Coastal and Ocean Mapping and co-head of Seabed 2030’s Arctic and North Pacific Regional Data Center. “The data we collect will play a critical role in safety of navigation, tsunami and storm surge predictions, ecosystem and other environmental studies, and modeling climate change.”

The Surveyor is a scaled-up version of the 23-foot Explorer, which has been proven in numerous operational missions for science, ocean mapping, and maritime security, covering more than 500,000 nautical miles from the Arctic to the Antarctic.

Like the Explorer, the Saildrone Surveyor is uncrewed and uses renewable solar energy to power its robust sensor suite; the Surveyor delivers an equivalent survey capability, but at a fraction of the cost and carbon footprint, of a traditional survey ship and without putting human health and safety at risk.

Saildrone is hoping to accelerate many of the global mapping initiatives seeking to give us better insight into our own planet, efforts like the Seabed 2030 Project, and the 2019 White House Memorandum on Ocean Mapping that calls for a national strategy for mapping, exploring, and characterizing the US exclusive economic zone.

IHO anniversary celebration

When people think of depth data, the first things that usually jump to mind are maps and navigation, even though the implications for this work actually extend well beyond these areas. The shape and texture of the seabed are important for a wide range of ocean processes, and can influence climate, pollution, biodiversity, etc. The [International Hydrographic Organization](#), one of the GEBCO Project's parent organizations, is celebrating its 100th anniversary on 21 June 2021, and we felt it would be a good opportunity to look at why depth data matters.

Detailed bathymetry is the information that helps us determine what the seabed looks like. Just as above water there are mountains, hills, and valleys, the same is true underwater. The shape and texture of the seabed can influence tides and currents, which guide the movement of pollutants in the oceans and seas. The seabed provides habitats for marine species and plays a role in spawning areas, information which is useful for initiatives aimed at protecting biodiversity. It also determines the speed of tremor and tsunami wave propagation. It plays a role in ocean circulation, which in turn has an impact on the climate and the atmosphere. IHO Member States and other GEBCO partners are collecting depth data, which is getting increasingly more accurate thanks to progress in technology, and which can be used, for example, to refine and improve the accuracy of climate change impact models. A complete picture of the seabed can help ensure initiatives for the sustainable use of the oceans are targeted and effective.

Development of Blue Economy

Participants in GEBCO merge all this information which is relevant for all ocean stakeholders, and can contribute to the development of the Blue Economy. Knowledge of the seabed, together with other hydrographic data obtained during sea surveys, is the basis of all marine activities and has a wide variety of applications. Information related to the topography of the seabed or the strength and regularity of currents can be used by operators to develop marine renewable energy projects. Industries like fishing and aquaculture can benefit from information on environmental



Special postage stamp to mark the centenary of the International Hydrographic Organization

factors like temperature, salinity, and currents – information which is recorded in detailed digital charts.

The General Bathymetric Chart of the Oceans (GEBCO) is an IHO & Intergovernmental Oceanographic Commission of UNESCO joint project to collect bathymetric data and map the oceans. It was launched in 1903 by Prince Albert I of Monaco, and some of the initial data was collected during his research expeditions.

The IHO is an intergovernmental organization which was created in 1921 and works with its 94 Member States to increase knowledge of the ocean. It works to ensure all the world's seas, oceans and navigable waters are surveyed and charted. It coordinates the activities of national hydrographic offices and promotes uniformity in nautical charts and documents. It issues survey best practices, provides guidelines to maximize the use of hydrographic survey data and develops hydrographic capabilities in Member States.

Hydrography focuses on the physical features of oceans, such as the shape of the seabed, depth, temperature, currents, sea level, etc. There is a lot of overlap with disciplines such as oceanography, and much of the information collected is relevant to the larger discussions currently taking place on increased knowledge and protection of the ocean, such as the UN Decade of Ocean Science for Sustainable Development and the Sustainable Development Goals.

Sarah Jones-Couture

Public Relations and Communication Officer, IHO

Rear Admiral (Select) Rick Brennan has been appointed to become the next Director of the Office of Coast Survey at the National Oceanic and Atmospheric Administration (NOAA) – effectively the USA's new national hydrographer. He replaces Rear Admiral Shep Smith who has been an invaluable supporter of the aims and objectives of Seabed 2030 since its inception.

NEW PARTNERSHIPS

GMRT

Seabed 2030 and the Global Multi-Resolution Topography (GMRT) Synthesis Project, operated at Columbia University's Lamont-Doherty Earth Observatory, have paved the way for a future of collaborative working by entering into a Letter of Intent.

The mission of the GMRT Synthesis Project is to provide free and open access to multi-resolution bathymetry data throughout the global oceans to the widest possible user community.

The synthesis began in 1992 as the Ridge Multibeam Synthesis (RMBS), and was expanded to include multibeam bathymetry data from the Southern Ocean. Today, it includes bathymetry from throughout the global and coastal oceans. To achieve its aim of providing access to bathymetric data, the GMRT Synthesis Project processes and integrates publicly available multibeam bathymetry data into a global synthesis, and operates a scalable infrastructure that can be used to offer the highest-resolution data for any particular location in the ocean.



GMRT

Find out more
about GMRT



Scripps Institution of Oceanography

A Memorandum of Understanding has also been signed with the California-based Scripps Institution of Oceanography.

Founded in 1903, the Scripps Institution of Oceanography is one of the oldest and largest centres for ocean and Earth science research in the world. The institution operates large global-class research vessels for ocean exploration with instrumentation for seafloor mapping.

Scientists at the Scripps Institution use global marine gravity models, derived from satellite altimetry, to interpolate and predict seafloor depth in areas devoid of depth soundings – roughly 80% of the deep ocean floor. These global predicted depth maps provide the foundational layer for the Seabed 2030 grids.

UC San Diego



SCRIPPS INSTITUTION OF
OCEANOGRAPHY

Find out more about
Scripps Institution of Oceanography



REGIONAL CENTERS

Seabed 2030 consists of four Regional Centers and a Global Center

The Regional Centers are responsible for championing mapping activities, assembling and compiling bathymetric information and collaborating with existing mapping initiatives within their regions. The Global Center is responsible for producing and delivering global GEBCO products.

Global Center | Center Head: Dr Helen Snaith | gdacc@seabed2030.org

Atlantic and Indian Oceans Regional Center | Center Head: Dr Vicki Ferrini | atlantic-indian@seabed2030.org

Southern Ocean Regional Center | Center Head: Dr Boris Dorschel | southern-ocean@seabed2030.org

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