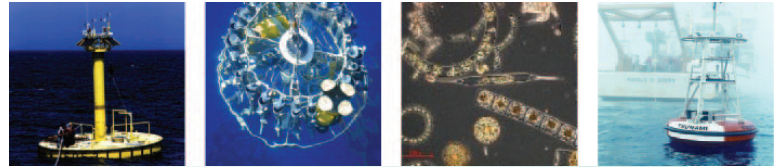




Partnership for Observation of the Global Oceans

Newsletter

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POGO Capacity Building News

International Scholars will attend the New Nippon Foundation-POGO Centre of Excellence in Observational Oceanography at the Alfred Wegener Institute for Polar and Marine Research for 2013

Ten scholars will receive multidisciplinary training at the NF-POGO CoFE at AWI

This December will see the arrival of the ten successful candidates, selected from a pool of 84 applicants, at the new NF-POGO CoFE at AWI. The ten scholars will attend an inauguration event in Berlin and will then receive 10 months of training at AWI's well-equipped training and teaching facilities in marine and oceanographic science. The first half of the training will take place on the island of Helgoland focussing on the study of open-ocean sciences, and the second part of the training will take place on the UNESCO reserve Waddensea island of Sylt, where shelf/basin interactions will be the topic of study.



Essowe Panassa
Togo



Lobsang Tsering
Tibet



Natalia Signorelli
Brazil



Shaazia Mohammed
Trinidad and Tobago



Sutaporn Bunyajetpong
Thailand



Joeline Ezekiel
Tanzania



Mathew KA
India



Pedro Enrique Montoro Gonzalez
Cuba



Subrata Sarker
Bangladesh



Widya Ratmaya
Indonesia

Austral Summer Institute (ASI XIV)

The Austral Summer Institutes (ASI) are run annually at the University of Concepción in Chile and are co-sponsored by POGO. The Institute takes approximately 30 students for a series of lectures on specific topics relating to a different theme each year.



The Department of Oceanography and the COPAS Sur-Austral Program of the University of Concepción, Chile, have announced that the next Austral Summer Institute XIV (ASI XIV) will be held in January 2014 at the Main Campus in Concepción and at the Experimental Laboratory of Marine Biology in Dichato. ASI XIV is devoted to Coastal and Open Ocean Studies through Multiple Approaches.

The course topics will include:

- Multidisciplinary satellite oceanography: platforms, data and applications
- Changing biogeochemical cycles in the coastal ocean
- Ecology and diversity of marine microorganisms
- Fluvial and glacial sediments impacting coastal ocean processes: An interdisciplinary perspective

Information on the courses, lecturers, program and application process is available at www.udec.cl/oceanoudec/asi-14/eng/index.html

Upcoming POGO Capacity Building Programmes for 2014

Following the high demand for this year's POGO-supported capacity building programmes, POGO will soon be announcing opportunities for:

- POGO Visiting Professorship 2014
- POGO-SCOR Visiting Fellowships 2014

Further details and instructions for applications will be posted on the POGO website at: <http://ocean-partners.org/index.php/training-and-education>

The NF-POGO CoFE at AWI will be offering a Regional Training Programme "Detection of HABs in Southeast Asia by Remote Sensing: Operational Warning and Regional Monitoring Protocols". This will be hosted by the Bolinao Marine Laboratory (BML), Marine Science Institute, University of Philippines, Bolinao, Pangasinan from February 24 to March 15, 2014. Application material and more info are available at <https://sites.google.com/site/habseatraining/>.

POGO Capacity Building Updates (cont'd)

POGO-PAP-GreenSeas Fellowship 2013

Reports from the Fellows who have completed studies from the Porcupine Abyssal Plain Cruise



Following the success of the POGO-AMT fellowship programme, this year saw the inaugural POGO-Porcupine Abyssal Plain (PAP)-GreenSeas Fellowship Programme. The PAP observatory is situated in the Northeast Atlantic away from the continental slope and mid Atlantic ridge. The site is an open ocean time-series representing processes in the North Atlantic Drift Region and accessible from many EU ports.

Thanks to collaborative support from the PAP Observatory and the UE Project GreenSeas, POGO was able to offer two fellowships this year. The two candidates successfully completed their fellowships, which included approximately one month spent with their host supervisors, before spending three weeks on board RRS James Cook during May and June, followed by a further month at the host institution processing and interpreting the data collated from the cruise.



Bellineth Valencia

Fellow: Bellineth Valencia
From: University of Valle, Cali, Colombia
Hosted by: Dr Marja Koski, Aquatic Science and Technology, Technical University of Denmark.
Project Title: Copepods grazing and pellet production: there are changes in particle production according to the sexual condition and vertical distribution?

Bellineth reported "For me, to have the opportunity to participate in this fellowship programme was an enriching experience. I learned a lot during the time that I spent at DTU Aqua laboratories, not only because of the facilities that they have to work with live zooplankton, but also because I had the opportunity to share with masters and Ph.D. students, and highly experienced researchers.

Likewise, the experience during the cruise was very good. It was the first time that I participated in such a complete cruise. I consider that this is a very good opportunity for researchers working in developing countries to learn from highly experienced researchers, to work in well-equipped laboratories, to try to agree future collaborations between institutions (host and parent institutions), and in this way strengthen the research capabilities at the parent institutions.

In a long term, the aim will be to explore the possibility to conduct a project of carbon flux in the Colombian Pacific in collaboration with DTU and/or PAP researchers, and to explore the possibility to do a zooplankton course with Colombian professors that are working with zooplankton and DTU and other international researchers."

Dr Marja Koski commented " We have been extremely happy to host Bellineth, and are impressed both by her skills and her interest on the topic of her study. Irrespective of little previous experience with experimental work, Bellineth was able to perform demanding ship-board experiments, to the amount and quality which is sufficient for a research article. During her stay she has worked extremely hard, and has used every opportunity to improve her skills and knowledge on the plankton ecology. She has proven to be skilful in both planning and conducting experiments, and in analysing the results against the existing knowledge on the topic. I am therefore confident that the stay in Denmark has helped her in her future work, and that she will without doubt succeed in her upcoming PhD project."



Çağlar Yumruktepe

Fellow: Veli Çağlar Yumruktepe
From: Institute of Marine Sciences, Middle East Technical University, Turkey
Hosted by: Dr Adrian Martin and Prof Richard Lampitt, National Oceanography Centre, UK.
Project Title: Model-Data Integration of Key Nitrogen Cycle Processes

Çağlar reported "After the expertise I gained from this fellowship, we now have the conceptual experimental knowledge on how to build incubations on deck, sample at sea and conduct necessary laboratory work. Our institute has the access to three different seas with three unique ecosystems: the Mediterranean, the Marmara and the Black Sea. The techniques followed at the PAP site will be carried on to these three seas and unique estimations of vital rates will be made. We are also planning to train new students, so that the technique can be sustained in time, and hoping that this study will be used in our time series stations at different regions.

Scientists in our institute are also running physical and ecosystem models in all of the seas mentioned. The modelling expertise will be transferred, and I hope to improve the modelling skills of my colleagues and their individual models.

From this programme, I had the chance to work in a highly professional environment, and met many experts of my field. I will carry on working with them and hopefully collaborate on future scientific works. Also, the chance for me to attend a different and highly advanced vessel, and observe the state-of-the-art work scientists are carrying out was remarkable. I witnessed a well-planned, and successful cruise, with all the scientific works linking with each other for a better, bigger picture. I will try hard to achieve such a thing in our cruises back home. I also thank all the POGO members, that made it possible for me have such an experience."

Dr Martin wrote "Çağlar had been developing 1d models as part of his PhD with the intention of reproducing the biogeochemistry observed at key open ocean time series sites which includes the PAP sustained observatory. By coming to NOC Çağlar was able to discuss this modelling work with a range of scientists who have been instrumental in making observations at and studying PAP as well as a number of experienced modellers. Çağlar spent a fruitful period obtaining data, discussing key processes and analysing trial model runs with a wide range of scientists. Çağlar's visit will only strengthen our desire to remain working with IMS.

The fellowship programme provided an excellent opportunity for training that would have been very difficult by any other means. Furthermore, Çağlar was an excellent example of what it can allow a fellow to achieve."

News from the POGO members

RV Mtafiti - Flemish research vessel donated to Kenya

A new collaboration between Flanders Marine Institute (VLIZ) and KMFRI is agreed in the field of marine sciences



RV Mtafiti on her journey to Mombasa, Kenya.
Photo Credit: Eliud Keter, VLIZ

On 31 August 2013 the former Flemish research vessel RV Zeeleeuw, renamed RV Mtafiti, departed from the harbour of Ostend for its journey to Mombasa, Kenya. There the ship will be used by the Kenyan Marine and Fisheries Research Institute (KMFRI) to carry out marine studies of benefit to the local population and to several regional tasks in the West Indian Ocean.

Earlier this year, following the launch of the brand-new vessel RV Simon Stevin, it became apparent that the RV Zeeleeuw (a pilot vessel 1977) transformed to a research vessel (2000) would not be sold but instead donated to Kenya. This donation is the result of the cooperation between the Flanders Marine Institute (VLIZ) and the Kenya Marine and Fisheries Research Institute (KMFRI). The ship has been renamed RV Mtafiti, which means "researcher" in Kiswahili.

On 31 August, the vessel departed from its previous home port Ostend. With 29 crew members of the Kenyan navy on board the ship sailed a total distance of 7 000 km to arrive to its new home port, the Kenyan harbour city of Mombasa.

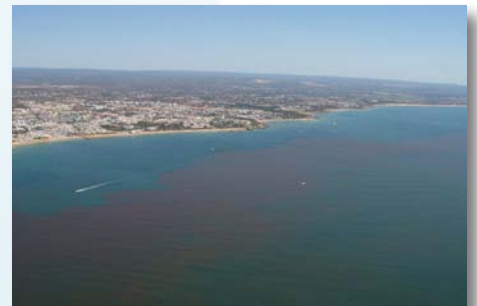
With the arrival of the oceanographic research vessel, Kenya will be able to investigate its entire Exclusive Economic Zone in the Western Indian Ocean. This will allow Kenya to reach its goals for 2030 specified in 'Kenya Vision 2030'. This policy vision explicitly refers to the fishing research, a healthy environment and the role that science, technology and information can play in this. The operation of RV Mtafiti will allow KMFRI to pursue the objectives of the National Oceans and Fisheries Policy. Additionally, it will facilitate scientific research for the sustainable management of Kenya's natural marine resources. In this way the donation of RV Mtafiti is important for the stimulation of the national strategy for food safety, poverty reduction and job creation. In collaboration with WIOMSA (Western Indian Ocean Marine Science Association), KMFRI will support and coordinate the operation of the RV Mtafiti for the research of the large marine ecosystems of the East African coast. In this regard it will contribute to priority themes, identified by African Member States of the Intergovernmental Oceanographic Commission of UNESCO, including coastal erosion, pollution, sustainable use of living resources, management of key habitats and ecosystems and tourism.

This article was provided by Karen Rappé, Communication & Information, Flanders Marine Institute.

New Harmful Algal Bloom forecast service wins award

Forecast system to help aquaculture industry

A forecasting system to warn of impending harmful algal blooms has won this year's most beneficial Earth-monitoring service for European citizens. The Harmful Algal Bloom (HAB) Forecast is the first system of its kind and is designed to combine information from in-situ monitoring, satellite data and biological and physical oceanic models. The service provides a weekly alert warning of likely toxic or harmful events in the Atlantic Europe area in the following week. Early warning of severe blooms will give fish and shellfish farmers time to adapt their culture and harvesting practices to help reduce potential losses. HAB Forecast has been developed by the European-funded ASIMUTH project. Professor Keith Davidson, ASIMUTH's lead scientist at SAMS, said the team was really pleased to receive the award.



Aerial view of a "red tide" algal bloom.
Photo Credit: ASIMUTH

"We've been working with the end users and hope very much this forecast system will benefit the aquaculture industry. In 2014, subject to funding, the system will be fully operationally tested in Shetland, which has this year suffered months of closure."

ASIMUTH is led by Dr Julie Maguire from Daithi O'Murchu Marine Research Station in Ireland. The project brings together 11 institutes and SMEs from five European countries on Europe's Atlantic coast. The group includes experts in aquaculture, modelling, earth observation, HAB monitoring programmes, and biological and physical oceanography.

Each of the partner countries experience HAB problems with prolonged closures of aquaculture areas and, in some cases, large losses of farmed fish.

HAB Forecast won the award for Best Service Challenge from Copernicus Masters, a European Earth monitoring competition that annually awards prizes to innovative solutions for business and society based on Earth observation data. The team will receive EUR 40,000 in satellite data, made available with financial support by the European Commission. The HAB Forecast bulletin is available from www.asimuth.eu.

This article was provided by Cathy Winterton, Communications Officer, Scottish Association for Marine Science (SAMS)

News from the POGO members (cont'd)

New Research Project to unravel how wind drives Antarctic Bottom Water Change
Dynamics of the Orkney Passage Outflow (DynOPO)



Autosubs take measurements in the Orkney Passage.
Photo Credit: National Oceanography Centre

DynOPO is a project funded by the UK Natural Environment Research Council that will assess the dynamics of the outflow of Antarctic Bottom Water (AABW, a water mass formed near Antarctica that integrates the deepest layers of the global ocean's overturning circulation) at one of its key sites of export from the subpolar Southern Ocean: the Orkney Passage.

During the last three decades, AABW has exhibited a striking warming and contraction in volume over much of the global ocean abyss, particularly in the Atlantic basin. The causes of these changes are unknown. Possible explanations in terms of a climate-scale perturbation to the properties of the AABW precursor water masses near the Antarctic margins have been tentatively put forward by a number of authors, yet endorsement of these ideas by time series of water mass characteristics near the AABW sources is at best equivocal. In the Atlantic sector, observations strongly suggest a tantalizing alternative (or complementary) explanation: that climatic variations in the basin-scale properties of AABW downstream of its source region are primarily controlled by wind-forced changes in

export, via a mechanism involving the modulation of small-scale turbulent mixing in the Orkney Passage.

DynOPO will test this emerging hypothesis by (i) measuring the circulation, water mass transformations and their underpinning physical processes in the passage for the first time, using a combination of ship-deployed instrumentation and an autonomous underwater vehicle (Autosub); and (ii) assessing the climatic significance of those processes with a mooring array.

Project Timeline:

- Early 2015 – Deployment of DynOPO moorings
- Early 2017 – DynOPO process cruise and mooring recovery
- 2017 – 2020 – Analysis of DynOPO data set

This article was provided by A.C. Naveira Garabato, E. Frajka-Williams, M.P. Meredith, E.P. Abrahamson and K.W. Nicholls and featured on the SOOS website.

Red Sea Research Vessel Arrives at KAUST

Saudi Arabia's first research vessel is acquired by KAUST

King Abdullah University of Science and Technology (KAUST) has recently acquired Saudi Arabia's first research vessel, the R/V Thuwal. "This vessel will help bolster innovative research and knowledge of this largely unexplored resource at our doorstep," shared President Jean-Lou Chameau. "Our scientists and students are now equipped to explore the Red Sea aboard the R/V Thuwal with greater flexibility and access. This new tool will accelerate discoveries in marine science research, enhance teaching opportunities, and strengthen partnerships with industry, governments, and academia."



RV Thuwal, Saudi Arabia's first research vessel. Photo Credit: KAUST

Professor Xabier Irigoien, the Director of KAUST's Red Sea Research Center, explained that this acquisition also reflects the Kingdom of Saudi Arabia's wider commitment to independent research efforts into its sea resources. "The Red Sea represents a large oasis at hand. The sea has a yet untapped potential to produce water, food, and income at the levels required in the future" Prof. Irigoien said. He further highlighted the "big plan for aquaculture development along the coast of the Red Sea." Those plans include the development of large fish farms near the coral reefs. The successful management of the ecosystem requires the ability to regularly acquire and measure information.

The 35 meter-long R/V Thuwal, which was previously used as a survey boat, was purchased from an Australian boat builder. Dr. Abdulaziz Al-Suwailem, Manager of the Coastal and Marine Research Core Lab (CMOR) at KAUST added, "The addition of this vessel to the scope of research facilities at KAUST reaffirms the university's commitment to strengthening marine science research and education in the Kingdom. R/V Thuwal will certainly cater to strategic needs for unhampered and increased marine research and explorations in the Red Sea. Hopefully, it will also open new opportunities for more multidisciplinary scientific collaborations."

KAUST scientists are aiming to venture on their maiden expedition later this fall. "Our first projects will include biodiversity and impact studies. We are collaborating with Saudi Aramco on setting up fixed instruments to measure and collect samples at intervals along the Red Sea," said Prof. Irigoien.

In addition to the planned project with Saudi Aramco to perform impact studies for environmental protection, KAUST plans to develop partnerships with other universities and surrounding countries.

This article was provided by Samia Falimban, Communications, KAUST.

News from the POGO members (cont'd)

Long-term data reveals: The deep Greenland Sea is warming faster than the World Ocean
Recent warming of the Greenland Sea Deep Water is about ten times higher than warming rates estimated for the global ocean

Since 1993, oceanographers from the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research (AWI), have carried out regular expeditions to the Greenland Sea on board the research vessel Polarstern to investigate changes in this region including extensive temperature and salinity measurements. For the present study, the AWI scientists have combined these long term data sets with historical observations dating back to the year 1950. The results of their analysis: In the last thirty years, the water temperature between 2000 metres depth and the sea floor has risen by 0.3 degrees centigrade.

'This sounds like a small number, but we need to see this in relation to the large mass of water that has been warmed' says the AWI scientist and lead author of the study, Dr. Raquel Somavilla Cabrillo. 'The amount of heat accumulated within the lowest 1.5 kilometres in the abyssal Greenland Sea would warm the atmosphere above Europe by 4 degrees centigrade. The Greenland Sea is just a small part of the global ocean. However, the observed increase of 0.3 degrees in the deep Greenland Sea is ten times higher than the temperature increase in the global ocean on average.'



A member of the Polarstern crew lowers the CTD probe into the depths. Photo: Thomas Steuer, Alfred-Wegener-Institut

The cause of the warming is a change in the subtle interplay of two processes in the Greenland Sea: the cooling by deep convection of very cold surface waters in winter and the warming by the import of relatively warm deep waters from the interior Arctic Ocean. "Until the early 1980s, the central Greenland Sea has been mixed from the top to the bottom by winter cooling at the surface making waters dense enough to reach the sea floor" explains Somavilla. "This transfer of cold water from the top to the bottom has not occurred in the last 30 years. However, relatively warm water continues to flow from the deep Arctic Ocean into the Greenland Sea. Cooling from above and warming through inflow are no longer balanced, and thus the Greenland Sea is progressively becoming warmer and warmer."

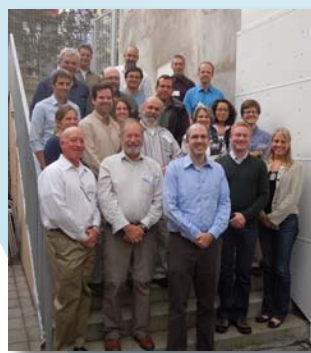
To understand how the world's oceans react to climate change, scientists need to investigate the Arctic Ocean in more detail. "Due to its large volume and its thermal inertia the deep ocean is a powerful heat buffer for climate warming. The polar oceans are scarcely studied. If we want to understand the role of the deep ocean in the climate system, we need to expand the measurements to remote regions like the Arctic," AWI-scientist Ursula Schauer says. For that, she has already planned further Polarstern expeditions. In 2015, Ursula and her group will return to the Arctic.

The publication in Geophysical Research Letters can be found at: <http://onlinelibrary.wiley.com/doi/10.1002/grl.50775/abstract>

This article was provided by Sina Löschke, Department of Communications and Media Relations, Alfred Wegener Institute.

Report from 'Workshop on the effects of climate change on ocean productivity and marine fisheries'

Trans-Atlantic workshop on climate change hosted by IMR and NOAA



Attendees of the Workshop on the effects of climate change on ocean productivity and marine fisheries

In September 2013, the Institute of Marine Research (IMR) and the National Oceanic and Atmospheric Administration (NOAA) jointly hosted a workshop of 23 researchers from the US and Europe in Iceland to discuss 'Climate change and the effects on ocean productivity'. A strong motivation for organizing this workshop was that understanding consequences of climate change requires a multidisciplinary approach from large-scale physics to small-scale biology. This trans-Atlantic workshop brought together ecologists, climate modelers, and fisheries experts to discuss key research questions related to how global climate change may affect biological production in Arctic and sub-Arctic ecosystems.

One goal of the workshop was to discuss how climate change may affect the physics and biology of marine ecosystems with a particular focus on the flow of energy from phytoplankton to zooplankton to fish. The workshop participants not only discussed consequences of climate change on biological production, but also focused on the mechanisms responsible for the expected changes. Identifying the mechanisms and processes that govern energy transfer between trophic levels is necessary for predicting consequences of climate change on biological production. Discussions also focused on research developments that will need to be implemented before we are able to accurately predict changes to higher trophic level species such as fish. The discussions and presentations from this workshop will be published as a synthesis paper in the near future.

This article was provided by Erlend Moksness, Institute of Marine Research, Norway

News from the POGO members (cont'd)

Early Ocean Observing for the State of Texas
GERG at Texas A&M University assist in oil spill operations

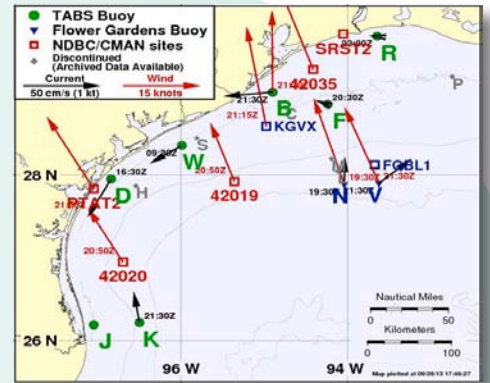
In 1994, due to concerns of oil pollution events off the coast of Texas, the Texas General Land Office (TGLO) implemented plans for an operational system of instrumented buoys off the Texas coast, to be known as the Texas Automated Buoy System (TABS), to protect Texas coastal waters by providing timely, accurate observations of winds and currents for use in spill response operations.

The Geochemical and Environmental Research Group (GERG) at Texas A&M University was selected to design, build, and operate a system of moored, telemetering current meter buoys using off-the-shelf technology. GERG, working with Woods Hole Group (WHG) of East Falmouth, MA, designed buoys to measure surface current velocity using an electromagnetic current sensor and transmit the data to shore on a regular schedule via the existing offshore cellular telephone network. In early 1995, less than nine months after receiving the contract, GERG deployed the first five buoys using this technology. Today the buoys use acoustic current sensors and low-earth orbit satellite data communications.

The primary mission of TABS is to provide near-real-time data when a spill occurs. However, the TGLO recognized from the inception of the project that three factors would form TABS into an effective public resource as well. Thus, the TGLO supports research to improve the reliability, operational range, and versatility of the TABS buoys; it insists that all TABS data be immediately disseminated through a user-friendly Internet website; and it encourages other scientific research projects to build on the TABS resources. To that end, the buoys have been continuously improved since the original design to incorporate new technology, lessons learned in the field, and expanding mission goals. From its inception in 1995, when the Internet was just beginning to emerge, the buoy observations have been made available to the TGLO and the general public on the Internet.

Also in 2003 real-time analysis of the daily observations was implemented to provide quality-controlled oceanographic, meteorological, and engineering products. Today the TABS buoy network consists of nine actively monitored sites, seven along the coast and two near Flower Garden Banks National Marine Sanctuary. The seven coastal sites are funded by the TGLO. The two Flower Garden Banks sites are funded separately by an oil industry consortium and operated as part of the TABS program. Today GERG operates all aspect of the program, from buoy design, construction, deployment, maintenance, data management and public dissemination of the data. GERG is now expanding its observing capabilities with a number of gliders and AUV's (<http://gerg.tamu.edu>).

This article was provided by Tony Knap & Norman Guinasso, GERG, Texas A&M University



Position of the TABS buoys off the Texas coast.
Image Credit: GERG

Plymouth Marine Laboratory deploys the buoys
Plymouth Marine Laboratory joins forces with the Met Office



New buoy for the Western Channel
Observatory
Photo Credit: PML

Plymouth Marine Laboratory (PML) has recently launched a new autonomous data buoy, built in collaboration with the UK Met Office, to take high frequency measurements at one of the monitoring stations 20 miles south of Plymouth UK.

In-situ measurements are undertaken weekly at two coastal stations near Plymouth in the Western English Channel, as part of a long-term oceanographic time-series and marine biodiversity study known as the Western Channel Observatory (WCO). The WCO has some of the longest time-series in the world for zooplankton and phytoplankton.

The two scientific buoys operated and developed by PML are positioned offshore at stations known as 'L4' and 'E1'. The new autonomous data buoy has now been deployed at the E1 station, which has a historical hydrographic series dating from 1903. The measurements from these buoys are collected using the research vessels of PML and the Marine Biological Association in the UK, assessing several key parameters important to the functioning of the marine ecosystem such as light, temperature, salinity, dissolved oxygen, chlorophyll, turbidity, and nutrients.

The buoys capture events otherwise missed when data is taken in the traditional way, i.e. in-situ sampling, with hourly assessments of meteorological conditions, wind speed, atmospheric pressure, temperature and humidity. Once collected the information is then sent via satellite communication back to PML in real time, in order to immediately display the data on the web.

When developing the buoys it was essential that they were built to withstand the harsh conditions at sea, not just above the water but also below. A particular underwater threat to the efficiency of the databuoys is 'biofouling': the accumulation of excessive organic growth on equipment deployed in marine environments. Biofouling creates engineering and environmental challenges with significant maintenance and health & safety costs. PML Applications Ltd, PML's trading subsidiary, does a great deal of work in the study of biofouling, helping clients to reduce its effects and achieve increased efficiency, as well as health & safety performance.

The data gathered by the databuoys on the underwater environment and ecosystems is crucial to providing PML with data for ecosystem modelling and remote sensing. The UK Met Office also utilizes the information to drive weather forecasting, waves and sea states.

This article was provided by Helen Murray, Communications, Plymouth Marine Laboratory

News from the POGO members (cont'd)

POGO at the Science and Technology for Society (STS) forum, Kyoto, Japan



Yoshihisa Shirayama at the STS forum
Photo Credit: JAMSTEC

Approximately one thousand global leaders in science and technology, policy, business and media from around one hundred countries, regions and international organizations attended the Tenth Annual Meeting of the Science and Technology for Society (STS) forum held in Kyoto, Japan on 6 – 8 October, 2013. Prime Minister Shinzo Abe of Japan addressed the inaugural session. The goal of the meeting was to reflect on how to expand the “lights” and control the “shadows” of science and technology, in the context of the two main themes of the meeting: innovation and sustainability.

The parallel session on “Oceans” was chaired by Prof. Jane Lubchenco (former Administrator of National Oceanic and Atmospheric Administration, currently professor at Oregon State University), and Dr. Yoshihisa Shirayama (Executive Director of Research, Japan Agency for Marine-Earth Science and Technology and Member of POGO Executive Committee). Speakers in the session included Dr. Mamoru Mohri (Astronaut and Executive Director of National Museum of Emerging Science and

Innovation), Dr. Hang Soon Choi (Vice President of Policy, The Korean Academy of Science and Technology) and Dr. Shubha Sathyendranath (POGO Secretariat, Plymouth Marine Laboratory). Other participants, predominantly executives of influential organizations, attended the session and joined the discussion for two hours. Their names are withheld for compliance with the Chatham House Rules that the meeting followed.

The discussions that followed were broad, and touched upon conservation, issues facing fisheries and aquaculture, threats to marine life from ocean acidification, the Arctic, the need for an integrated approach to studying the oceans and the entire Earth System, user engagement and commitment, the interconnected nature of oceans, the need for capacity building, the importance of international coordination and collaboration, sustainability of resource exploitation and communication strategies. Dr. Philip Campbell (Editor-in-Chief, Nature) reported to the plenary from the breakout session.

The statement from the meeting contained a special reference to the oceans: “The oceans and seas are a major and essential part of the Earth’s environment, with significant impacts on climate and food, and are being affected by human activity. Neither policymakers nor the public know enough about the oceans. Both research and dissemination for awareness need to be greatly reinforced.”

This article was provided by Shubha Sathyendranath (POGO Secretariat, Plymouth Marine Laboratory), Yoshihisa Shirayama and Aska Vanroosebeke (JAMSTEC)

Two New Research Vessels Closer to Joining U.S. Academic Fleet

The United States continues to invest in oceanographic research vessels critical for ocean observing infrastructure and seagoing scientific research. The U.S. academic research fleet provides the mobility and flexibility needed to conduct observing capability worldwide. The U.S. Navy is contributing to the framework for increasing the efficiency and effectiveness of the nation’s Earth observation enterprise through the development of two new Ocean Class research vessels that will be operated for the U.S. Office of Naval Research and are currently under construction.



New Research Ships in construction
(L) RV Neil Armstrong; (R) RV Sally Ride
Photo Credits: WHOI & Scripps

The new ships will possess novel features that will enable advanced capabilities at sea. With berthing for scientific parties of 24, the ships’ features include spacious main, wet, and computer labs, and 5,000+cubic feet of science storage plus extensive cranes and hands free over-the-side handling systems. The ships will be maneuvered by controllable pitch propellers with variable speed motors along with bow and stern thrusters for improved efficiency over varying modes of operation. Both ships will have a range up to 10,800 nm at optimal transit speeds, with maximized ability to work in sea state 5 and higher.

The first vessel to be completed will be R/V Neil Armstrong (AGOR 27), which will be operated by Woods Hole Oceanographic Institution. As of June 2013, approximately 50 percent of overall construction is complete and many large components have been installed such as main engines, transformers, and air conditioning compressors. The research ship is on schedule for tentative launch in February 2014. Directly following by a few months is R/V Sally Ride (AGOR 28), which will be operated by Scripps Institution of Oceanography, UC San Diego.

“The construction of these research vessels marks an important milestone in the renewal of our oceanographic research fleet. Scientists and students rely on capable research infrastructure to study and observe our planet. Both R/V Sally Ride and R/V Neil Armstrong will enhance the oceanographic community’s ability to conduct high-quality, ship-based scientific research globally,” said Bruce Applegate, Scripps Associate Director for Ship Operations and Marine Technical Support.

This article was provided jointly by Cindy Clark, Scripps Institution of Oceanography, UC San Diego, and Stephanie Murphy, Woods Hole Oceanographic Institution.

News from the POGO members (cont'd)

Plymouth Marine Laboratory supports \$2 million XPRIZE seeking new sensors to study ocean acidification



Sensors for the detection of Ocean Adification
Photo Credit: Dreamtime © Willyam Bradberry

Plymouth Marine Laboratory (PML) has been named official supporter of the Wendy Schmidt Ocean Health XPRIZE foundation, following the exciting announcement last month that XPRIZE will be offering a \$2-million prize challenge to an innovator who can build cheaper and better pH sensors in the quest for a global solution to ocean acidification.

While ocean acidification is well documented in a few temperate ocean waters, little is known in high latitudes, coastal areas and the deep sea, and most current pH sensor technologies are too costly, imprecise, or unstable to allow for sufficient knowledge on the state of ocean acidification.

The 22-month competition will award two \$1-million prizes, one to the best low-cost sensor and one to the most accurate. The competition's organizers decided to award two prizes because the two goals present different engineering challenges. Registration opens on 1 January 2014.

This is the second collaboration between the XPrize Foundation of California and Wendy Schmidt, who co-founded the Schmidt Ocean Institute with her husband Eric Schmidt, Google's executive chairman. In 2011, the Wendy Schmidt Oil Cleanup X Challenge awarded \$1.4 million to projects cleaning up oil spills.

Whilst ocean acidification research is still in its infancy, PML has been at the forefront of this developing area, earning an internationally recognised reputation for research and advice to policy makers. More knowledge is still required about how ocean acidification will impact upon the oceans environmentally, socially and economically, and PML is leading part of the UK Ocean Acidification Research Programme (<http://www.oceanacidification.org.uk/>) to investigate the impacts of ocean acidification, including co-ordinating how the knowledge gained will be made available to stakeholders, policy makers, scientists and the public.

This article was provided by Helen Murray, Communications, Plymouth Marine Laboratory

Royal Research Ship Discovery named by HRH The Princess Royal

A new, state-of-the-art research ship for UK marine science - RRS Discovery - was named by Her Royal Highness The Princess Royal at the National Oceanography Centre in Southampton.

Around 200 guests, including the Science Minister David Willetts, local MPs, civic guests and senior figures from the UK's marine science community were present to see a bottle of champagne smashed in the traditional manner on the vessel's bow. The Honorary Assistant Bishop of Winchester, the Right Reverend John Dennis, blessed Discovery.

Following the ceremony, Her Royal Highness toured the ship, meeting officers and crew, representatives of the Freire shipbuilders and members of the Discovery replacement team who were praised by the Minister for delivering the project on time and on budget. The Princess was shown some of the equipment used by scientists to carry out research in the deep ocean. She also met researchers inside the centre where she learned about science impacts funded by the Natural Environment Research Council (NERC), or delivered by its centres.

Mr Willetts also toured the vessel and in a speech spoke of the UK's world-leading role in marine science.

RRS Discovery is a state-of-the-art platform for world-leading oceanographic research and represents a £75 million investment in frontier science by the Department for Business Innovation & Skills. Commissioned by NERC and operated on NERC's behalf by the National Oceanography Centre (NOC) for the United Kingdom's marine science community, Discovery's wide capability will allow deep-ocean research in the remotest and least hospitable parts of our planet, from tropical seas to polar waters.

Discovery joins RRS James Cook as one of a brace of vessels with deep ocean capability that will deliver NERC's science priorities for decades to come. Her Royal Highness also named James Cook in 2007.

At almost 100-metres in length, and with a displacement of 6,075 tonnes, Discovery will carry a marine crew of 24 and has accommodation for 28 scientists and technicians. The ship is fitted with a comprehensive suite of laboratories, handling systems and sensors that will enable her to carry out research spanning a wide range of ocean issues that impact on society.

This article was provided by Jacky Wood, National Oceanography Centre



RRS Discovery is named by HRH The Princess Royal
Photo Credit: NOC

News from the POGO members (cont'd)

Australia-Japan Marine Science Workshop

A joint Australia-Japan marine science workshop took place in Tokyo, Japan on 11 and 12 July 2013. This workshop was hosted by the Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education (DIICCSRTE) of Australia and the Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japan, based on an agreement from the 14th Australia-Japan Joint Science and Technology Committee meeting held in Tokyo on 23 August 2012.

John Gunn, Chief Executive Officer of the Australian Institute of Marine Science (AIMS) and Yoshihisa Shirayama, Executive Director of the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) co-chaired this workshop.

Recognising "Understanding Global Change Impacts and Opportunities in Tropical and Subtropical Marine Ecosystems" is a common priority theme for both countries, experts from Australia and Japan discussed the following three key questions:

- What are the biogeochemical processes that influence ocean acidification and the impacts of acidification on biodiversity?
- What do we understand about the limits to the adaptability of tropical and sub-tropical marine ecosystems to climate change?
- What new technologies are required to better explore and routinely observe tropical and subtropical marine systems?

As a result of the workshop it was agreed that both countries would develop a work program to guide future collaborative research into tropical and sub-tropical marine science between Australia and Japan.



Marine Science Experts from Australia and Japan (Mita Conference Hall, Tokyo, Japan) Photo Credit: JAMSTEC

The workshop was followed by the Australia-Japan Marine Forum: Coral Reefs and Global Change, which was co-hosted by AIMS and JAMSTEC in Tokyo on 13 July 2013, in collaboration with the Commonwealth Scientific and Industrial Research Organisation (CSIRO) Marine and Atmospheric Research (CMAR), the Australian Embassy, Tokyo, the Australian Academy of Science, MEXT and the Oceanographic Society of Japan.

This public forum provided the audience with an opportunity to learn about an outline of the bilateral expert workshop and to recognise the importance of Australia-Japan cooperation in marine science and technology.

This article was provided by Mizue Iijima, International Affairs Division, JAMSTEC

Scripps Oceanography Welcomes Director Margaret Leinen

Scripps Institution of Oceanography at UC San Diego recently welcomed Margaret Leinen as its new director. A highly distinguished, award-winning oceanographer and an accomplished executive with extensive national and international experience in ocean science, global climate, and environmental issues, Dr. Leinen is a name familiar to many members of the POGO community.

She is a geological oceanographer whose research specialized in paleoceanography, paleoclimatology, and the present-day processes that are responsible for the formation of the sedimentary record. Her early educational interests in geology quickly expanded to include the oceans and she has had far-reaching research experience with the Deep Sea Drilling Program (DSDP), known today as the International Ocean Discovery Program. A seagoing researcher who participated in three cruises with DSDP, she also led two ALVIN diving expeditions to the Juan de Fuca Ridge and Mariana back-arc environments, studying the sedimentation from hydrothermal vents and a variety of other oceanographic cruises.

Dr. Leinen served for seven years at the U.S. National Science Foundation (NSF) as Assistant Director for Geosciences and Coordinator of Environmental Research and Education and led government-wide planning for climate and ocean research. While at NSF, she directly influenced some of the most consequential programs in marine, atmospheric, and earth science.

Dr. Leinen has set her vision on defining Scripps Oceanography as a national and international leader in the great challenges and opportunities facing ocean, atmospheric, and earth sciences.

"I am excited by the combination of Scripps's 110 years of research and educational excellence and UC San Diego's culture of interdisciplinary innovation," said Dr. Leinen.

With annual expenditures approaching \$200 million and a fleet of four research vessels and research platform FLIP, Scripps encompasses physical, chemical, biological, geological, and geophysical studies of the oceans, Earth, and atmosphere. Scripps offers graduate and undergraduate educational programs in marine biology, oceanography, and Earth sciences.

This article was provided by Cindy Clark, Scripps Institution of Oceanography, UC San Diego.



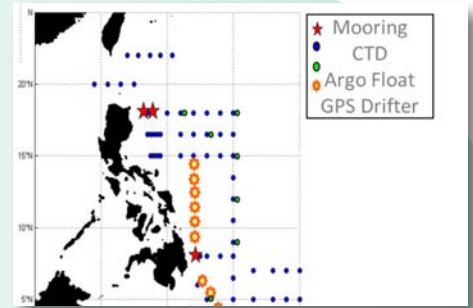
Margaret Leinen new Director of Scripps Institution of Oceanography Photo Credit: Scripps Institution of Oceanography

News from the POGO members (cont'd)

NPOCE observation breakthrough in the western Pacific Ocean by China

Endorsed as an international joint program by CLIVAR/WCRP in 2010, NPOCE (Northwestern Pacific Ocean Circulation and Climate Experiment) is designed to observe, simulate, and understand the dynamics of the NWP ocean circulation, joined by 19 institutions from 8 countries, and steered by its Scientific Steering Committee (SSC).

On December 21, 2012, the R/V Science-1 of IOCAS fulfilled its third cruise to the western Pacific since its inauguration in 2010. During the cruise three subsurface moorings measuring WBCs at 8°N and 18°N (see figure) were retrieved and redeployed. In addition one more was deployed in Maluku Strait in November 2012. Two year current observation data were obtained from the mooring off Mindanao, which revealed a number of new features of the MUC, much deeper and stronger than the geostrophical velocity in the past.



Mooring observations in NPOCE domain (2010-2012): 3 moorings (red stars)
Image Credit: Institute of Oceanology, CAS

A CAS program on Tropical Northwestern Pacific Ocean System and Consequences (2013-2017) has been newly funded, the key of which is designed to set up 29 subsurface moorings in the western tropical Pacific Ocean in order to understand the interaction between the WBCs and equatorial currents and hence its climatic effects. The program is a tremendous support for NPOCE.

This article was provided by Yixin Ma, Institute of Oceanology, Chinese Academy of Sciences

The Launch of the Caribbean Netherlands Science Institute



The new CNSI at St Eustatius
Photo Credit: NIOZ

Since the constitutional reform of the Kingdom, the Netherlands are directly responsible for a number of Caribbean islands and the marine system surrounding them. The Netherlands Ministry for Education, Culture and Science (OCW) has taken this opportunity to set up a research institute at St Eustatius, the Caribbean Netherlands Science Institute (CNSI) and to fund a multidisciplinary research programme aiming at stimulating excellent research on themes of scientific and societal relevance regarding the Caribbean region. OCW asked the Netherlands Organisation for Scientific Research (NWO) to organise both initiatives.

NWO has asked NIOZ to study the feasibility of setting up CNSI and to propose an organisation structure that addresses the interests of the island of St Eustatius and the Caribbean Netherlands, OCW and NWO, and the multidisciplinary scientific communities. The NIOZ feasibility study resulted in a positive advice, after which NIOZ was asked to take formal responsibility for the implementation of CNSI.

CNSI's mission is to realise a permanent scientific presence in the Caribbean Netherlands with research facilities (e.g. laboratories, research boat, ICT), outreach facilities (e.g. exposition space, seminar room, information centre) and accommodation for visitors. CNSI will support basic, strategic, applied, societal and policy relevant research and education in the fields of the natural sciences, life sciences, social sciences and humanities. Its mission is based on the vision that the Caribbean and European Netherlands share mutual responsibility for the sustainable development of the Caribbean Netherlands islands and their marine territories. Working toward this goal requires an understanding of each other's institutional organizations, historical and cultural backgrounds, management and development priorities and natural and societal resources. It also requires a commitment to multidisciplinary knowledge development and human and institutional capacity building. It is clear that the sustainability of these small island economies cannot be regarded in isolation and should be addressed within the scientific, political and socioeconomic context of the greater Caribbean region.

CNSI fosters the ambition to develop the institute as an authoritative expert and facility centre acknowledged in the wider Caribbean region, positioned at the intersection of science, research, education, management and governance.

CNSI welcomes and supports relevant activities of users from around the globe. For its activities, CNSI anticipates on research projects financed through the Caribbean research call of NWO that will use CNSI's facilities as home base for its research.

This article was provided by Nienke Bloksma, Communications, NIOZ

POGO Activities

Jesse Ausubel in the Oceanauts "Hall of Fame"



Jesse Ausubel's Portrait by
Zofia Kostyrko

Jesse Ausubel, one of the founding fathers of POGO, has recently been honoured by having his portrait included in the art exhibition Oceanauts: Living the Dream of the Sea, at the Aquarium of the Pacific in California, USA.

The exhibition comprises 24 mixed-media portraits by artist Zofia Kostyrko, of the world's most famous and notable "ocean explorers", including historical figures such as James Cook and Charles Darwin, as well as some more recent leaders in the field, such as Robert Ballard, Jacques Cousteau, John Delaney, Sylvia Earle, Harry Hess, Walter Munk, and Jacques Piccard, to name a few. Of particular relevance to POGO, John Delaney has been an advocate for launching next-generation ocean science and educational capabilities, particularly using distributed robot-sensor networks, such as the NEPTUNE cabled observatory.

The work of all these "Oceanauts" has contributed in fundamental ways to our current understanding of the oceans, and in many cases has made the oceans more accessible and inspiring to the general public. This exhibition recognises Jesse's outstanding contributions to both ocean science and public engagement, in particular through his leading role in the Census of Marine Life.

"The portraits, whose subjects span sea floor to sea surface, life to rock, and satellites to submarines, convey the scope and excitement of ocean exploration", commented Jesse.

The portraits can be viewed on-line, at http://www.aquariumofpacific.org/exhibits/ocean_exploration/art_exhibit.

The SeaKeeper Award 2013 is presented to The Sargasso Sea Alliance

Throughout its existence SeaKeepers has made it a practice to honour and promote those key decision makers and influencers who have made extraordinary commitments to preserving our planet's oceans. Each year the prestigious SeaKeeper Award is presented at the Bal de la Mer, typically held in Monaco. This year the 2013 SeaKeeper Award was presented to The Sargasso Sea Alliance (SSA), of which one of Executive Committee Members is Prof. Howard Roe, co-founder and past chairman of the POGO. This year, the event took place in San Francisco during the America's Cup.



The Sargasso Sea Alliance are presented with
the SeaKeeper Award 2013
Photo Credit: The International SeaKeepers
Society

The award ceremony took place on September 9th, with nearly two hundred guests gathered at the St. Francis Yacht Club in San Francisco. Michael T. Moore, Chairman of the Board of SeaKeepers; Skip Zimbalist, Event Chair; and Patty Elkus, Honorary Committee Chair, welcomed the SSA into the ranks of past recipients of the award include Sylvia Earle, H.S.H. Prince Albert II and Kelly Slater for their extraordinary commitment to ocean conservation.

David Shaw, SSA Founding Chair, along with Executive Committee members Howard Roe, Richard Rockefeller, Kristina Gjerde, Derrick Binns and David Freestone accepted the SeaKeeper Award on behalf of the SSA. Formed in 2010, the SSA strives to preserve the ecologically significant yet highly vulnerable Sargasso Sea through improved management regimes and novel legal protection strategies.



The SeaKeepers Award 2013

GACS Business Meetings September 2013

The second annual business meetings of the Global Alliance of CPR Surveys (GACS) were hosted by the Sir Alister Hardy Foundation for Ocean Science (SAHFOS) in the last week of September. The two GACS working groups dealing with the development of the global CPR database, and maintaining common standards and methods met on Tuesday 24th. The Board of Governance comprising the heads of regional CPR Surveys then met over the next two days. The meetings were attended by representatives from Antarctic (Southern Ocean), Australian, USA, Canada (North Pacific), Japanese, South African, Brazilian and SAHFOS CPR surveys, plus a number of SAHFOS staff, and observers from developing surveys in Cyprus and India, and representatives from stakeholder agencies, SCOR, OBIS and Dr Sophie Seeyave representing POGO.

Continued....

POGO Activities (cont'd)

GACS Business Meetings September 2013 (cont'd from previous page)



The meetings highlighted the success to date in meeting GACS initial objectives:

- the global database of CPR data has been established,
- a website has been established,
- assistance has been provided to developing surveys (France, Brazil, Korea, Cyprus, India) which has included training workshops at SAHFOS and the Australian Antarctic Division; FAQs have been developed to provide advice for new surveys,
- the first Global Marine Ecological Status Report has been published; the second report is scheduled for March 2014,
- documenting and promoting a common set of standards and methods.

The establishment of the global CPR database now allows us to conduct a global assessment of plankton patterns and changes. This includes providing data and advice on changes in zooplankton abundance and copepod composition for the GEF-Transboundary Water Assessment Programme. Other data products have been prepared and tested, and will be transferred to the GACS public website by the end of 2013.

During the Board meeting, Dr Ramaiah Nagappa of the National Institute of Oceanography, Goa, and Ms Rana Abu Alhaja of the Cyprus Institute gave presentations on their new surveys. Cyprus plans to conduct regular tows in the eastern Mediterranean starting in October 2013. India's first CPR tow is scheduled for January 2014, with a particular interest in the Arabian Sea.

As part of GACS capacity building and knowledge sharing, a workshop was conducted for CPR analyst after the GACS meeting, aimed at providing instruction on identification and recording of micro-plastics, which are becoming more prevalent in CPR samples, identification of Ceratium and coccolithophores, and assessment of the phytoplankton colour index (PCI).

This article was provided by Graham Hosie, Chair of GACS

The International Research Cruise Information Database and web-site: A joint POGO-CoML-NOAA initiative

The POGO Cruise Information Database (www.pogo-oceancruises.org) was launched in May 2007 and is maintained by the British Oceanographic Data Centre (BODC). It is a joint initiative by POGO, the Census of Marine Life (CoML), and National Oceanic and Atmospheric Administration (NOAA). The objective of the project was to develop, update and maintain an international cruise information database to facilitate resource sharing and information exchange related to past and planned research cruises.

Benefits of the project include helping scientists from different countries coordinate future funded research through information about research vessels of opportunity; aiding in the retrospective ability to find data in regions of interest; making it possible for projects to conduct joint work and to fill empty berths; creating capacity-building and training opportunities; aiding in the tracking and distribution of data; allowing cost sharing among institutions, projects, and nations; making possible intercomparisons, intercalibrations, and validation among different data types (e.g. CTD vs. Argo, in situ vs. remote sensing).

The website focuses on vessels greater than 60m in length and incorporates three major databases:

(i) The Cruise Programme Database – this continues to be operational and contains approximately 2700 cruise programmes, covering 60 research vessels from 20 countries. The web portal was developed and is maintained by MARIS, Netherlands.

(ii) The Research Vessels Database – this contains facts and figures of approximately 170 Research Vessels. Vessel operators have access to the database and are able to update details of their own vessels. It has been developed by EurOcean with support from MARIS.

(iii) The Cruise Summary Report (CSR) database - this is operational for the input of new CSRs and the searching of existing ones. This database has been developed by BSH/DOD, Germany based on the Cruise Summary Report and its predecessors originally conceived by the IOC's International Oceanographic Data and Information Exchange (IODE) programme.

In addition, a forum for users comprising general information of upcoming cruises is being planned.

The priorities for the project in the future are to:

- Continue requesting cruise programmes and update the database, including information on 2013 and 2014 (and beyond) cruise programmes
- Continue to work with operators to improve timeliness and content of cruise programme information
- Develop links with POGO

- members not currently supplying information, through POGO contacts and also ship operators (e.g. International Research Ship Operators (IRSO), European Research Vessels Operators (ERVO))
- Utilise spreadsheet input for preliminary Cruise Programme input from CCHDO, IOCCP and GO-SHIP and other sources
- Improve links with other projects and programmes including Argo, OceanSITES, IMBER, SOLAS, GEOTRACES and EURO-BASIN
- Advertise to other organisations and request links on their web-sites (e.g. IOC/IODE, IRSO, ERVO, Global Observing Systems Information Center (GOSIC), national ship operator sites, UNOLS, Rolling Deck to Repository (R2R), SeaDataNet)
- Develop links with JCOMMOPS (in particular the Ship Logistics Coordinator) possibly leading to exchange of information through Web Map Services (WMS)
- Routine maintenance of the system and web-site – including ensuring the research vessels database is kept up to date
- Synergy from working with EU EUROFLEETS-2 project



NOAA Research Ship Nancy Foster.
Photo Credit: National Oceanic and Atmospheric Administration

In addition to ongoing database maintenance, recent outreach activities have included describing the POGO research cruise information system at the final EUROFLEETS annual meeting at SeaDataNet plenary meetings and International Marine Data and Information Systems (IMDIS) conferences.

This article was provided by Lesley Rickards, The British Oceanographic Data Centre

POGO Activities (cont'd)

POGO Executive Committee Meeting



POGO Executive Meeting attendees
Photo Credit: POGO

On August 13th, a meeting of the POGO Executive Committee was hosted by Plymouth Marine Laboratory (PML). A full day's agenda of discussion items included the review of POGO activities and follow-up on the Action Items from the last annual meeting, POGO-14, in Cape Town. As proposed by the members, the agenda for the POGO-15 meeting, scheduled for January 2014 in Hobart, will include a number of parallel workshops, a Partners-only meeting and a review of the membership dues. Other topics of discussion by the Executive Committee included the projected budget for 2014, the incoming Chairman for 2016, the proposed host for the POGO-16 meeting in 2015, and the "Oceans and Society: Blue Planet" Task and its inclusion in the upcoming GEO Ministerial Summit.

The POGO Secretariat thanks the Chairman and all of the Executive Committee Members for travelling to Plymouth, and to PML for hosting what was a productive and very useful meeting.

Conference on Ocean Literacy in Europe

The European Marine Science Educators' Association (EMSEA) is an association dedicated to facilitating the exchange of success stories and good practices in marine education, to providing a networking directory for marine educators and to co-organizing annual conferences for educators throughout Europe. This was the second conference on Ocean Literacy in Europe organised by EMSEA, the first one having been held in Bruges in 2012. Both conferences were attended by Sophie Seeyave on behalf of POGO.



Public outreach is part of POGO's mandate, and school children are an important target audience, since they will grow up to become either scientists, policy makers or any other type of stakeholder of the ocean. They are also able to pass on knowledge to, and exert pressure on, their parents and extended families. "Ocean literacy" is a growing movement in Europe and worldwide, and the community of marine educators is increasingly aware that international coordination is valuable to exchange ideas and expertise, as well as to avoid duplication of efforts. There could be a role for POGO to play in coordinating these efforts.

There were many interesting presentations on various aspects of marine education, ranging from educational programmes of museums and aquaria, to activities aimed at exposing students to field work and hands-on research projects. Several projects had on-line materials that have been added to the POGO web page (<http://ocean-partners.org/outreach>). There was also an initiative called "Ocean Explorer", which is using Skype in the Classroom to deliver lectures by marine scientists to school classes. This initiative has been over-subscribed by interested schools, and as a result the organisers were looking for additional speakers. As part of this programme, POGO has been organising a series of lessons covering different aspects of ocean observations, with guest speakers from Plymouth Marine Laboratory (PML) and the Sir Alister Hardy Foundation for Ocean Science (SAHFOS) who will teach students about ocean colour remote sensing and the Continuous Plankton Recorder (CPR).

An ad hoc meeting of the POGO News and Information Group was held during one lunch break, attended by Vikki Cheung, Jan Seys, Anuschka Miller, Clare Buckland and Sophie Seeyave. This was very useful to discuss progress on the Action Items from the last meeting (Jan 2013), and in particular plans for a 500th Anniversary celebration of the first circumnavigation of the globe by Magellan.

POGO-15 Meeting

22-24 January 2014, Hobart, Australia - Hosted by CSIRO and IMAS

The agenda for the POGO-15 Meeting will soon be finalised and will be placed on the POGO website at <http://www.ocean-partners.org/meetings-and-workshops/meetings-and-workshops/pogo-15>. Members are advised to make their travel and accommodation bookings well in advance since it will be the peak holiday season in Australia at the time of the meeting.



Attendees should register for the meeting using the online form at https://docs.google.com/forms/d/1MsAKY4_Cprib6O2SSBNe9jbsIVb7Y2Lrtox_dAtm7z4/viewform



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