

POGO Capacity Building News

POGO Visiting Professorship 2014

Report from the POGO Visiting Professorship in Brazil



Some of the participants of the POGO Visiting Professorship with Prof. Mosetti.
Image credit: Anon, CEM-UFPR

The 2014 POGO Visiting Professorship took place between 19 October and 3 November 2014, when Prof. Renzo Mosetti from the Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS) delivered a training programme at the Centre for Marine Studies, Federal University of Paraná. The title of the training course was "Innovative integrated marine monitoring systems in coastal regions" hosted by Dr. Eduardo Marone.

The course comprised of a series of lectures and practical activities, mainly processing observational data, and included a field trip to the Paranaguá Bay where scholars observed currents with electromagnetic and acoustic devices and measured water properties with CTD and other methods. Some participants requested training in the use of such instruments which was provided at the Marine Physics Group.

The impact of the training on Centre for Marine Studies was very positive, more than 90 students and professionals participated in the course in addition to the 50 that had registered. As a result, the host plans to establish a permanent training centre for ocean observations for participants coming from Latin America and the Caribbean from 2016 onwards.

Participants in the training course came not only from Brazil, but also from Argentina, Peru, Colombia and Uruguay. In addition to support from POGO, funding was also provided by the International Ocean Institute, Brazil OC's resources and Brazilian grants from sources made available by the local host. In-kind contribution of CEM-UFPR also provided substantial support to the programme.

This article was provided by Dr. Eduardo Marone (Center for Marine Studies - Federal University of Paraná) and Dr. Renzo Mosetti (Istituto Nazionale di Oceanografia e di Geofisica Sperimentale).

POGO-AMT Fellow reports on 24th Atlantic Meridional Transect Cruise

Rafael Rasse, post-doctoral researcher at the Instituto Venezolano de Investigaciones Científicas (IVIC), reports upon his training from the Atlantic Meridional Transect Cruise

During the AMT24 led by Plymouth Marine Laboratory, Rafael contributed to collecting new biogeochemical samples (particulate organic carbon, POC, and total suspended solids) with the aim of establishing a bio-optical model to estimate POC in the mesopelagic zone. A large part of the training focused on the analysis of existing optical and biogeochemical measurements collected during previous AMT cruises and this analysis was carried out by means of a programming language (Matlab).

"I learned to program by using Matlab. For that, I have processed a large datasets (inherent optical properties, physicochemical properties, particulate organic carbon (POC) and pigments) from previous AMT expeditions (AMT-19 and AMT-22). Simultaneously, I have acquired new basic and advanced knowledge about optical properties of the ocean (basic concepts, instrumentations/methods normally used to measure these, and its applications to predict biochemical parameters such as POC) among other relevant aspects.

I participated actively in the AMT-24 between 22nd September and 1st November 2014 (a total of 42 days in the sea). Before setting off for the cruise, I spent time helping to prepare all instruments used to measure optical properties of the ocean as well as the filtration system for collecting samples of POC, total suspended solids and pigments. My activities over the cruise were divided in two periods. During the morning I was processing data from previous AMT and discussing these results with Dr. Giorgio Dall'Omo. I also began to write a manuscript that we are planning to submit for peer-review. Over the afternoon (between 5-6 hours per day) I was filtering sea water from mesopelagic region (between 2- 500 m depth) to collect and store samples of POC and total suspended solids (around 700 samples were collected in total).

The most useful applications that I acquired over the training were processing large data sets using Matlab; and valuable knowledge gained in ocean optics and its applications to better understand the biogeochemical cycles of C, O and N. The main topic of research in my institution consists to study the dynamic of the carbon and nitrogen cycles in the Cariaco basin and Caribbean Sea. Therefore, I'm planning to use all mentioned tools for improve the quality of my current research and contribute to better understand the C and N cycle in these places.

This fellowship was an important opportunity to update my scientific knowledge in the best practices of oceanography, particularly, in the optical properties of the ocean and its applications. The most important contribution of the fellowship was the international collaboration that I have established with Dr. Giorgio Dall'Omo."



Rafael Rasse (right) with Giorgio Dall'Omo preparing equipment on the AMT24 cruise
Image credit: PML

News from the POGO members

The Triton that ate the Crown-of-Thorns

The crown-of-thorns starfish is known for its incredible appetite for coral and the damage that it causes on coral reefs. Dr Mike Hall, Principal Research Scientist at the Australian Institute of Marine Science, explains how the rarity of a sea snail may be one reason why the crown-of-thorns is now such a threat to the survival of the Great Barrier Reef. Research towards the development of smart control technologies to manage COTS outbreaks is part the Australian government's National Landcare Initiative Reef Rescue Program. In one line of investigation, scientists including collaborators from the University of the Sunshine Coast, are investigating the potential of natural predators of COTS.



Triton 'eating' a crown-of-thorns starfish.
Image credit: AIMS

The crown-of-thorns starfish (COTS), *Acanthaster planci*, is a specialist, feeding only upon the flesh of live corals. With adults consuming up to 10 m² of live coral per year a population outbreak of hundreds of thousands to millions of COTS can deal a significant blow to coral reefs.

Surprisingly few predators feed upon the vast coral covered seascapes of the GBR but COTS are an exception. As corals are sessile organisms (fixed in one location) they have no discernible defence against an approaching aggregation of hunting COTS. However, corals do have a champion and this is a case where the hunter becomes the hunted!

The giant triton (*Charonia tritonis*) is one of the world's largest marine snails reaching a length of up to half a metre. Due to the beauty of their shell, the giant triton has long been unsustainably harvested from coral reefs, primarily

for sale to shell collectors. While the giant triton was declared a protected species in the 1960s, after a century of heavy fishing pressure, they remain quite rare on the GBR.

COTS however, have a particularly well developed sense of smell and there is nothing more alarming to a COTS than the scent of a giant triton. Indeed, the very presence of a giant triton in the vicinity of a COTS is enough to cause the starfish to rapidly move away.

Giant tritons typically only eat one COTS per week so they have little application in feeding down a population of COTS numbering in hundreds of thousands and their very presence in the vicinity of COTS disperses aggregations. As aggregations are dispersed, and fertilization success rates decline, the likelihood of massive recruitment in a spawning season may well be reduced. Based on early results, scientists are investigating the possibility that giant tritons may play a significant role as a natural control agent for COTS outbreaks and results are promising.

This article was provided by Georgina Kenyon, AIMS Communications.

Report from the National Institute of Oceanography - SAARC Workshop

The Goa based CSIR- National Institute of Oceanography (NIO) recently conducted a workshop on Climate Change on Coral Reef: Management & Conservation from 15 to 19 December 2014 at Hotel Sea Princes Resort, Wandoor, Andaman for the SAARC Coastal Zone Management Centre (SCZMC). A total of 14 participants from Bangladesh (2), India (3), Maldives (7) and Sri Lanka (2) participated in that workshop, which was fully funded by SCZMC. A 4-member NIO Resource Team led by Dr. S Prasanna Kumar, Chief Scientist, and consisting of Dr. J Ravindran (Coordinator), Mr. Mani Murali and Dr. Mahua Saha conducted the workshop. The NIO has been playing a stellar role over the years in spearheading SAARC campaign of capacity building in regional oceanography.

The main objective of the workshop was to build the capacity among SAARC countries to understand and conserve the precious coral ecosystem. This workshop was to educate the member countries on the threats emanating from climate change on coral reefs, methods and approaches to monitor the changes in the reefs and to discuss future opportunities to evolve a coordinated system to monitor the reefs of SAARC countries, and to undertake an effective management practices.

The Workshop involved field trips, theoretical classes, and practicals. In addition, interactive sessions on various important issue like – Corals biology, diversity and distribution, Remote Sensing and its applications in coral reef monitoring, Essentials of climate change and Oceanography of Arabian Sea and Effect of climate change and pollution on coral reefs were arranged. The participants from SAARC countries also shared the status of corals in their respective countries.

Mr. Rajiv Yaduvanshi, IAS (Commissioner-cum-Secretary of Shipping, Civil Aviation, and Urban Development, Government of Andaman & Nicobar Islands) inaugurated the Workshop on 15 December. The workshop ended with the valedictory function on 19 December 2014 in which Dr. Ibrahim Naeem, the Director of SCZMC presented the certificates and the Chief Guest, Dr. Dam Roy, Director, Central Island Agriculture Research Institute (CIARI) presented the mementos to the participants.

This article was provided by Ranadhir Mukhopadhyay, National Institute of Oceanography

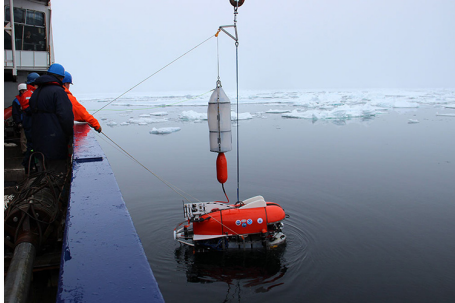


Participants of the Climate Change on Coral
Reefs Workshop
Image credit: NIO

News from the POGO members (cont'd)

Nereid Under Ice Vehicle: A Powerful New Tool for Polar Science

Scientists studying the harsh and rapidly changing Arctic environment now have a valuable new tool to advance their work—an innovative robot, designed and built at the Woods Hole Oceanographic Institution (WHOI) that is changing the way scientists can interact with and observe the polar environment.



The Nereid Under Ice vehicle is launched from the Alfred Wegener Institute's ice-breaker Polarstern during an expedition in the summer of 2014

Photo credit: Chris German, WHOI

The new vehicle, called Nereid Under Ice (NUI), is remotely operated by pilots aboard a surface ship via a lightweight, micro-thin, fiber-optic tether, which relays in real time environmental data, including high definition imagery of what the vehicle "sees" as it explores, maps, and gathers data beneath undisturbed sea-ice away from the disruptive impact of an ice-breaking research ship. This real-time view allows scientists to direct the vehicle's path and collect data of interest based on their visual feedback.

"The fiber-optic tether permits NUI to reach heavier ice cover away from the ship, or to move closer to the calving front of a glacier while still remaining under direct human control," said Andy Bowen, NUI's lead principal investigator.

The approximately \$3 million vehicle, which was developed with major funding from the National Science Foundation and WHOI, was successfully tested in July 2014 on a scientific expedition aboard the Alfred Wegener Institute's (AWI) ice-breaker Polarstern.

"One of the big needs for better understanding the fate of polar life in a warming Arctic is to be able to look for it under the melting ice," said Antje Boetius from AWI's Helmholtz Center for Polar and Marine Research and chief scientist for the Polarstern expedition. "There are no other adequate methods available to science at this time: satellites cannot see through ice, and research vessels stir up the under-ice environment. NUI is a real innovation. It allows us to extend our senses into this fascinating extreme habitat: the cryosphere. It provides impressions and data from an area that could be completely different a few decades from now."

NUI: <http://www.whoi.edu/main/nereid-under-ice> ; AWI: <http://www.awi.de/en/home/> ; WHOI Deep Submergence Lab: <http://www.whoi.edu/groups/DSL/>

This article was provided by Stephanie Murphy, Manager of Public Information & Internal Communications, WHOI

PML presents ocean pressures in Peru

A PML delegation was delighted to attend the recent United Nations Framework Convention on Climate Change 20th session of the Conference of the Parties (UNFCCC COP20) where it was given the opportunity to highlight the global issue of ocean acidification to nearly 20,000 governmental, intergovernmental and non-governmental delegates from 195 countries worldwide.

Ocean acidification has been presented at COP by PML and partners since 2009, when it was far less known or understood. Whilst most of the delegates of COP20 had now heard of ocean acidification, many were still unaware of its potential effects on ecosystems, aquaculture and human society; particularly when coupled with the other two stressors of higher temperature and lower oxygen.

Thanks to support from POGO members the Scripps Institution of Oceanography at UC San Diego as well as the Korea Institute of Science and Technology (KIOST), a collaborative exhibition promoting the "Hot, Sour and Breathless" message was presented throughout COP20. In addition, PML scientist and ocean acidification expert Dr Carol Turley participated in a number of events at the conference to raise the profile of these important issues to government officials, policymakers, environmental managers and the media.

In particular, Dr Turley took part in the US Center live webcast 'What goes up in the air, also goes into the sea' as an expert panellist along with other esteemed scientists from the US, South America and Europe, such as the National Oceanic and Atmospheric Administration (NOAA) and the International Atomic Energy Agency (IAEA). The event left the audience with the vital message that the acidification of our ocean is happening now and it's serious. The panel also stressed that a global network of observation is essential to tackling this worldwide issue.

During COP20, Dr Turley gave several television interviews where she explained that ocean acidification is occurring at the fastest rate ever in Earth's history with significant impacts on marine organisms. As 1 billion people depend on marine protein as a main protein source and engage in aquaculture for their livelihoods, adaptation is an important issue.

PML's involvement at COP20 provided actionable information for the international climate change negotiators, ensuring that the important role of the ocean in climate change processes, impacts and adaptation was properly recognised in the UNFCCC process, and including its relevance to preparations for COP21 in Paris at the end of 2015.

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



Exhibit at the United Nations Framework Convention on Climate Change 20th Session of the Conference of Parties.

Photo credit: PML

News from the POGO members (cont'd)

Cool deep-water protects coral reefs against heat stress

Cool currents from the deep ocean could save tropical corals from lethal heat stress. Researchers from Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, GEOMAR Helmholtz Centre for Ocean Research Kiel and Phuket Marine Biological Center observed internal waves preserving corals in the Andaman Sea.

Stony corals are highly susceptible to changes in water temperatures. Even a small temperature rise damages the symbiotic algae living in a cell layer of the corals causing their expulsion by the coral host. The corals, which depend on the photosynthetic energy of their symbionts, are hardly able to survive without them. The rise in ocean temperatures and coral bleaching are considered as the greatest threats to coral reef ecosystems worldwide. Therefore, natural retreat areas where corals experience less stress or have become more resistant through physiological adaptations are investigated.



One of the marine scientists on her way to the reef.

Photo Credit: Gertraud M. Schmidt, Alfred-Wegener-Institute

so-called large-amplitude internal waves (LAIW). In contrast to surface waves, LAIW travel along density gradients that separate the cold deep water from the warmer upper layer. Once they reach the continental shelf, internal waves may break and transport water from the deep to the shallow coral reefs. Internal waves can temporarily cool down the water temperature around coral reefs by up to ten degrees Celsius.

"In regions where internal waves come about, they could contribute to the conservation of coral reefs," the authors stress in their study. As part of their investigation, the biologists revealed differences between the data of the satellite monitoring of the US National Oceanic and Atmospheric Administration (NOAA) and in-situ work: Because satellites do not detect these small-scale phenomena, local measurements are crucial for the establishment and monitoring of protected areas

This article was provided by Margarete Pauls, Alfred Wegener Institute for Polar and Marine Research Helmholtz Centre for Polar and Marine Research Office for Strategic Information

Using submarine cables for deep-ocean monitoring

While observations gathered from in situ and remote satellite sources are starting to give us a well-described picture of the upper ocean, the deep ocean remains sparsely monitored. Although the emerging picture at depth is one of large scale warming, these observations suffer from poor spatial coverage and temporal aliasing.

In September 2014 SAEON participated in a NASA-sponsored science workshop, organised by the University of Hawaii and held at the Jet Propulsion Lab, to discuss the use of underwater telecommunication cables as measurement tools. Every 50 km or so each cable, which lies on the sea bed, has a repeater, which amplifies any incoming communication signal such that it can reach from continent to continent. By incorporating bottom temperature and pressure instruments into these repeaters, the cables can relay high-frequency oceanographic data along the pre-existing cable infrastructure and, with the addition of IES instruments, offer the possibility to calculate total mass change and steric contributions to sea level rise. As cables have a typical maintenance cycle of ~20 years, they would produce a decadal time series of measurements, sampling at the highest possible temporal resolutions, and spanning entire ocean basins. The workshop discussed the scientific value of the proposed measurements, the associated technological challenges, and the utility of the data in satellite and model validation. For example, while recent satellite missions such as GRACE have been successful in refining our picture of the geoid, allowing ocean mass movement to be inferred from minute gravitational changes, independent confirmation of bottom pressure would provide a necessary validation source for gravimetry, substantially reducing errors. Other potential uses include tsunami warnings as deviations in bottom pressure associated with tsunami events would be immediately evident in the cable array's instruments.

Currently, array coverage is far from global, and there is a notable focus on the northern hemisphere. In the interim, continued development of sensor technology will see the engineering of new, low-power, self-calibrating instruments that are equal to requirements of long-term, deep-ocean, deployment. The next science meeting is scheduled for mid-2015.

This article was provided by Ben Loveday and Juliet Hermes, SAEON



Attendees at the 2014 undersea-cable science workshop, including representatives from U. Hawaii, NASA, JPL, WHOI, NOC, Scripps, U. Wash, SAEON, KIOST, RSMAS, U Michigan, NERSC, NOAA, APL Washington, MIT, IRD and GFZ.

Photo Credit: Karynne Morgan, University of Hawaii

News from the POGO members (cont'd)

Tracking the deep ocean tides of the Tasman Sea

An international ocean study to track the massive internal tides of the Tasman Sea began from Hobart, Tasmania in mid-January.

The 10-week project, termed T-TIDE, involves two U.S. research vessels, Roger Revelle, from Scripps Institution of Oceanography and Falkor, operated by the Schmidt Ocean Institute, along with U.S., Canadian, and Australian scientists. It will ultimately lead to major improvements in global climate models, and an understanding of biological production concentrating nutrients for fisheries.

According to Australian biological oceanographer, Dr Pete Strutton, from the University of Tasmania's Institute for Marine and Antarctic Studies (IMAS), the Tasman Sea is considered a global internal tide hotspot and a natural laboratory for the study.

Internal tides form when the more familiar regular tides push water across seafloor features such as seamounts or ridges. The forces created by this movement spawn underwater waves that can travel great distances in the interior of the sea. These waves reflect off the sea surface and seafloor, and can be found at any depth. Far below the surface, waves can be hundreds of metres high, with wavelengths of up to 200 km.

Tasmania is a special place, in that it stands in the path of a powerful, focused beam of internal tidal waves generated on the Macquarie Ridge, south of New Zealand. Computer models predict, and satellite observations confirm, that these waves slam into the East Coast of Tasmania after a four-day, 1400 km transit through the Tasman Sea. What happens next is not so clear, since the wave-breaking and turbulence that results from this impact will happen far below the stormy sea surface.

Dr Strutton said one challenge will be to carefully tease out the effects of the internal tide wave from the region's renowned eddies, which are almost permanent features of the ocean in south-east Australia. Eddies are circular currents that spin off of larger currents and can reduce the width of the tide wave, or change its path.

Scientists will study these internal waves by deploying autonomous deep-diving gliders and install 15 deep sea moorings from the Roger Revelle to study the internal tide's movements and effects after it breaks 1-3 km down on the Tasmanian continental slope. A series of continental shelf moorings will be installed to determine the near-shore consequences of the internal tide, supporting research led by Prof. Nicole Jones of The University of Western Australia.

The Falkor will be using high resolution mapping and sensors that will measure vital long term data of the internal tides such as temperature, depth and salinity. Falkor's new high performance supercomputer will be used for the first time to communicate real-time data - <http://schmidtocan.org/story/show/3065>. Historical data from Australia's Integrated Marine Observing System will be sourced during the experiment.

The moorings are anchored cables equipped with dozens of temperature sensors and multiple current and CTD profilers that will provide vital, longer-term data on the internal tides. Additional collaborations will include the Falkor team coming in to the shelf for several days of coordinated research with the Roger Revelle collecting supplementary data to ensure the highest resolution maps of the wave's dissipation there. The project is being funded by the US National Science Foundation, the Schmidt Ocean Institute, The University of Tasmania and The University of Western Australia. More information: <http://schmidtocan.org/story/show/2963>

This article was provided by Craig Macaulay, Communications, Institute for Marine and Antarctic Studies

A World's First: Argo Floats in the Barcelona World Race

Skipper of the Barcelona World Race help distribute Argo floats

Argo floats are a crucial component of the Global Ocean and Climate Observing System. 3500 of these autonomous robots, from 30 participating countries, currently observe the 2000m upper layer of the ocean. The deployment of 1000 units per year, required to maintain the network, is an enormous challenge in which France plays an important role.

Floats are mostly deployed from research vessels, e.g. during the last GEOVIDE2014 cruise. Although crucial to maintain the scientific quality of Argo data array, such cruises are insufficient to maintain a uniform network distribution, in particular the Southern Ocean.

After successful testing, the Barcelona World Race will now the first ocean race with mandatory float deployments from all participating yachts in the IMOCA60 category. The instruments and skipper's education are provided by Coriolis (France). Floats will all be released on an "Argo day", allowing for a good spatial distribution in the existing array, and without disturbing the skippers more than necessary. A total of 9 floats paid for by Ifremer and SHOM will be deployed. This operation is coordinated by JCOMMOPS, a JCOMM office coordinating in situ observational networks networks for GOOS.

This article was provided by This article was provided by Thomas Isaak, Press and Media, Ifremer



R/V Falkor
Image credit: Schmidt Ocean Institute



Argo floats being prepared for the Barcelona World Race. Photo Credit: Ifremer/Stephane Lesbats

News from the POGO members (cont'd)

South African SeaSonde Coastal HF Radar Monitoring Initiative



The Coastal HF Radar Team in discussion at the Cape Recife lighthouse.
Photo Credit: Wayne Goschen (SAEON)

Coastal high-frequency (HF) radar measures surface currents and waves, although it can also be configured for smaller areas such as harbours and bays. The measurements are in real time, with a resolution of a few kilometres. Excellent visual products are available from the data to interpret sea surface movement. Their uses include search and rescue, oil spills, ships entering/leaving harbours, offshore ship tracking, ocean surface currents, waves, tsunamis and storm surges, operational oceanography, remote sensing data validation, ocean modelling and physical oceanographic research.

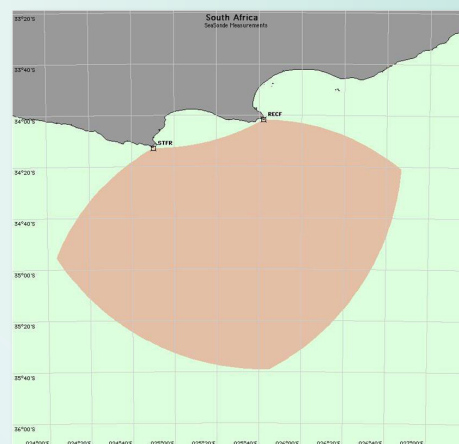
South African marine scientists are collaborating with several local and international institutions on a project to install a HF radar network (SeaSonde) around the coast of South Africa. Participants are the South African Weather Service, University of Cape Town, South African Environmental Observation Network (SAEON), Nelson Mandela Metropolitan University,

Rutgers University, Nansen Environmental and Remote Sensing Center, CODAR Europe and Nelson Mandela Bay Metropolitan Disaster Management. The project is in the process of seeking funds for the initial installation of the system.

During the first phase of the project, the team visited two lighthouses at Cape Recife and Cape St Francis, near Port Elizabeth in the Eastern Cape, South Africa. They were chosen as the first ones to be operational in the national network. The radial range of measurement will cover the Agulhas Current and beyond to 180 km offshore. Lighthouses provide excellent locations for the installation of HF radar sites because of their unobstructed view of the sea, their secure buildings and as a source of electricity.

The Team involved in the initial phase: Frank Shillington, Andrés Alonso-Martirena, Anton Kjelaas, Johnny Johannessen, Andrew Leitch, Wayne Goschen, Tommy Bornman, Juliet Hermes, Eckart Schumann, Hugh van Niekerk, Johan Stander, Scott Glenn, Hugh Roarty, Jorge Sanchez, Donald Barrick, Chad Whelan, Laura Pederson.

This article was provided by Wayne Goschen and Tommy Bornman, SAEON



A map showing the radial range of measurement (180 km) of the SeaSonde HR radar.
Image credit: Andrés Alonso-Martirena (CODAR Europe)

POGO Activities

POGO Annual Meetings

The 16th POGO Annual Meeting will be taking place from 27th-29th January 2015, with associated side meeting on 26th and 30th January. The meeting will be hosted this year by the Instituto Español de Oceanografía (IEO).



Next year's meeting will be hosted by the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) and discussions will be held during POGO-16 on proposed venues for POGO-18 in 2017.



POGO Activities

NANO Southeast Asia Regional Workshop



Participants of the NANO Southeast Asia
Coordination meeting hosted by the Faculty of
Science, Burapha University.
Photo Credit: Phan Minh Thu, VNIO

Vikki Cheung attended the NANO Southeast Asia Regional Research Group's Coordination meeting in October 2014 on behalf of the POGO Secretariat. Since the successful implementation of a new research project for the NANO Southeast Asia region, this meeting brought together the co-leaders of the current project to work on the final report and start drafting a research paper. In addition, new members of NANO from two additional countries (Malaysia and Indonesia) as well as the current participating countries (Thailand, Philippines and Vietnam), who had attending NF-POGO training programmes during 2014, were invited to the meeting. The aim was to introduce them to the current research project and the other participants, and to work on drafting a new proposal for a research project for 2015 that would include study sites in these two additional countries.

Co-leaders from each of the 5 participating countries were identified and together a new proposal was drafted entitled "Eutrophication in the Coastal Waters of SE Asia: Monitoring and Capacity Building" which is a continuation on the current research theme.

This article was provided by Vikki Cheung, Scientific Coordinator, POGO Secretariat

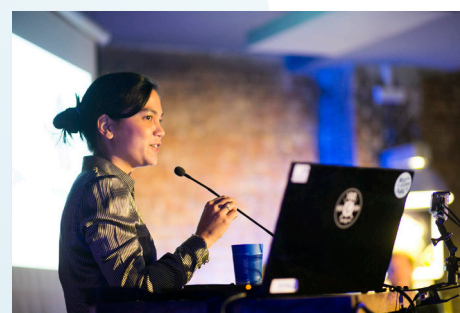
POGO Representation at other meetings

11th GEO Plenary Meeting in Geneva

Sophie Seeyave represented POGO at the GEO-XI Meeting hosted by the WMO in Geneva (12-14 November 2014). GEO Plenaries are good opportunities to promote ocean observations within the GEO arena, which would otherwise be heavily dominated by terrestrial observation programmes. This can be done through formal statements to the Plenary, through networking and by displaying promotional materials at the venue. There was also an opportunity to meet members of the Blue Planet Steering Committee and other participants in the Blue Planet. A meeting of the Planning Committee for the 2015 Blue Planet Symposium was held. A number of side meetings were also held in conjunction with the Plenary, one of which was the Architecture Implementation Pilot-7 Meeting, in which POGO is creating a mobile app for plankton identification.

Public conference and Ocean and Climate Platform workshop in Brussels

Sophie Seeyave was invited to give a presentation on the role of the ocean in climate change at this public event aiming to highlight the importance of oceans in the context of climate discussions leading up to COP-21 (Paris, November/December 2015). The event was open to the public and involved a mixture of decision-makers, NGOs and scientists. The talk focussed on the role of the ocean in regulating climate, some examples of climate change impacts on both oceans and society, and a brief review of the ways in which we can observe the ocean in order to better understand and predict climate change and its impacts. This was an excellent opportunity to (1) raise the profile of ocean science and ocean observations in a public conference, 2) network with non-profit organisations that are politically well connected, and 3) attend a workshop on international collaboration in preparation for COP-21 (the "Ocean and Climate Platform"). This presented a possible avenue for POGO to become involved in COP-21. This trip also allowed a brief visit to Ostend, which was very productive, enabling meetings with the Assistant Director of VLIZ, with the IODE Secretariat, to discuss IODE-POGO collaboration and IOC's new capacity building strategy, and with the European Marine Board Secretariat, to discuss POGO-EMB collaboration and in particular the Trans-Atlantic Alliance/Galway Statement Implementation Stakeholder Meetings that POGO/Blue Planet are regularly invited to.



Sophie Seeyave presenting at the Public Conference
focusing on climate change impacts.
Photo Credit: Surfrider Foundation

This article was provided by Sophie Seeyave, Executive Director, POGO Secretariat

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