1. POGO Member Activities

1.1. POGO-11 Annual Meeting: Moscow, January 26-28, 2010

The POGO-11 meeting was hosted by the Shirshov Institute of Oceanography. The weather was marked by below-seasonal temperatures hovering around -20 to -25°C, cold winds and snow. But the warm welcome and the wonderful hospitality laid out for the participants by Academician Robert Nigmatulin (Director, Shirshov Institute) and Prof. Sergei Shapovalov more than made up for the weather. Draft minutes of the meeting are available at: http://www.ocean-partners.org/attachments/456_pogo-11-minutes_draft.pdf

1.2. New members

The Instituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS), Italy, and the Red Sea Research Centre of King Abdullah University of Science and Technology (KAUST), Saudi Arabia, joined POGO in 2010.
2. POGO Capacity Building Activities

2.1. POGO-SCOR Visiting Fellowships

There were thirteen successful applications for the 2010 POGO-SCOR Visiting Fellowship programme. Successful candidates were from Argentina (1), Chile (2), China (2), India (6), Iran (1) and Mexico (1). See Fellowship_Report_2010.pdf for further details or go to http://ocean-partners.org/training-and-education/pogo-scor-fellowship/fellowships-archive.

2.2. POGO Visiting Professorship Programme

There were seven excellent proposals for the 2010 POGO Visiting Professorship Programme. Unusually, POGO decided to appoint two Visiting Professors in this competition. They are Professor Lisa Levin (an expert on deep-sea benthic ecology and ecosystems of oxygen-minimum zones) and Professor David Checkley (an expert on zooplankton and fisheries), both from the Scripps Institution of Oceanography. They will be hosted by Dr. Bronwen Currie at the Ministry of Fisheries and Marine Resources, Namibia, for three months.

2.3. The POGO AMT Fellowships

Barbora Hoskova, from the Institute of Microbiology of the Academy of Sciences of the Czech Republic, was awarded the 2010 POGO-AMT fellowship to participate in the AMT-20 cruise under the supervision of Dr. Gavin Tilstone (Plymouth Marine Laboratory). After a 10-day visit to PML in September 2010 to prepare the equipment and familiarize herself with the laboratory techniques that would be involved during the cruise, she joined the ship in Southampton on 9 October. During the 6-week cruise from Southampton to Punta Arenas (Chile), Barbora made physiological and bio-optical measurements on phytoplankton populations, including measuring the effect of high CO₂ concentrations on diazotrophic cyanobacteria (*Trichodesmium*). She brought 2 instruments for measuring phytoplankton photophysiology from her lab on the cruise, one of which had not been previously tested in the marine environment. She will return to PML in February to complete the data analysis and start working on the publications with Dr. Tilstone.

2.4. The Nippon Foundation – POGO Centre of Excellence in Bermuda


The third year of the programme started in August 2010, when BIOS welcomed scholars from Brazil, Venezuela, Vietnam, India, Bangladesh, Cote d’Ivoire, Turkey, Kiribati, Russia and Iran. These students were selected from over 110 applications from all over the world by a selection committee composed of Dr. Tony Knap, Dr. Gerry Plumley (Director of the Programme at Bermuda), Prof. Peter Herzig, Prof. Howard Roe, Dr. Trevor Platt and Dr. Shubha Sathyendranath.

Trevor Platt and Shubha Sathyendranath taught a two-week module at the Centre of Excellence (Applications of Remote Sensing), which had the additional benefit of helping them to get to know the new scholars.

A proposal has been submitted to the Nippon Foundation for the fourth year of the Centre of Excellence. Applications opened in September 2010 and closed on 15 December. A total of 86 applications were received, from applicants in 36 different
countries. The selection committee will meet on 27 January 2011 and it is anticipated that the successful candidates will be announced in February 2011.

2.5. Austral Summer Institute ASI-XI

The Austral Summer Institute X (ASI X) was held at the Main Campus of the University of Concepcion and at the Marine Biological Station in Dichato from 14 December 2009 to 23 January 2010.

ASI X was devoted to topics on Multi-Scale Observations in Coastal Oceanography and consisted of the following courses:

- Food Web Structure and Management of Biodiversity in Fjord Ecosystems December 14-19, 2009, Main Campus University of Concepcion
- Global Biogeochemistry and Molecular Dynamics of Marine Dissolved Organic Matter January 4-9, 2010, Main Campus University of Concepcion
- Ecology and Diversity of Marine Microorganisms (ECODIM) January 4 – 23, 2010, Marine Biological Station at Dichato, University of Concepcion
- Interacciones Físico-Biológicas y Flujos de Carbono en Fiordos y Estuarios 18 - 23 Enero 2010, Main Campus University of Concepcion.

POGO sponsored the attendance of 15 students.

The 11th Austral Summer Institute ‘From tsunamis to water pathogens: Understanding Ocean Hazards in the XXI Century’ will take place at the University of Concepcion from 3 to 28 January 2011. The programme will involve lectures on themes such as understanding and coping with tsunamis, tectonics and recurrence of great subduction earthquakes, marine hazards to human health, ocean acidification and oil spills.

A total number of 70 participants are expected to attend ASI XI (some of them will participate in more than one course). They come from Brasil, Peru, Ecuador, Colombia, Venezuela, Trinidad & Tobago, USA and Chile (from the University of Concepcion and other Universities and Institutions). See ‘Program_ASI-XI.pdf’ for more information.

2.6. POGO UCT Bursary

The POGO Bursary Programme at UCT was continued.

2.7. Nippon Foundation-POGO Alumni Meeting

POGO and the Nippon Foundation are keen to maintain a network of Scholars who have participated in the various NF-POGO training programmes (Centre of Excellence, Visiting Professorships and Regional Training Programmes). To build upon this idea, a major Alumni Meeting is planned for October 2011, to take place at the Nippon Foundation premises in Tokyo, Japan.

To prepare this meeting, a selection of Scholars and Instructors from past programmes, as well as Nippon Foundation and POGO representatives met on 20-
22 October 2010 at the Royal Society in London. As well as planning the 2011 Meeting in detail, the participants discussed ideas for setting up and maintaining the global network of scholars, and research ideas for projects that could be undertaken by this future network. The POGO chairman was present throughout the meeting. See Alumni Planning Meeting report.

A Planning Committee Meeting will take place at the Nippon Foundation on 31 January 2011.

2.8. SCOR Capacity Building Summit

Marie-Fanny Racault represented POGO at this SCOR meeting, which took place in Bremen, from 16 to 18 August 2010. The purpose of the meeting was to bring together representatives of organisations interested in capacity building for ocean research and observations, to discuss their experience with existing activities, to identify new activities, and to discuss how the organisations could work together to create a global strategy for capacity building for ocean research and observations. The presentations can be downloaded at http://www.scor-int.org/CB_Summit.htm. See background documents for overview presentation.
3. Science Coordination

3.1. Post OceanObs'09 Working Group

The working group that was set up following OceanObs’09 to develop a framework for taking forward the recommendations of the meeting has now begun its deliberations. The co-chairs Dr. John Gunn and Dr. Eric Lindstrom have written soliciting inputs to the working group from the sponsoring organisations, including POGO.

One avenue for providing inputs is through the POGO-nominated members of the committee: Dr. Yukio Masumoto (physical oceanography, Japan), Dr. Sun Song (marine ecosystems, China), Dr. Vicki Fabry (acidification, plankton, biogeochemistry, USA) and Dr. John Gunn (biology, Australia). Note that new members were added to the committee following POGO recommendation (at POGO-11 in Moscow) that Asian countries be better represented in the committee. In addition, there are other members in the committee with close ties to POGO, including Dr. Peter Burkill (Sir Alister Hardy Foundation for Ocean Science), Dr. Martin Visbeck (IFM-GEOMAR), Dr. Stan Wilson (NOAA), Dr. Mike Meredith (BAS) and Dr. Candyce Clark (NOAA). POGO is supporting the participation of Dr. Vicki Fabry. Full list of working group members is available at: http://www.oceanobs09.net/wg/members.php.

Suggestions from POGO-11 that the working group set priorities for scaling up ocean observations and provide budget estimates for the proposed observing elements, have already been passed on to Dr. Albert Fischer at IOC, who is providing secretariat support to the group. Please pass on any additional inputs you have directly to any of the working group members.

Further input from POGO will be discussed at POGO-12, during the International Cooperation in Ocean Observations session.
3.2. Group on Earth Observations (GEO) - Related Activities

3.2.1. UK-GEO Meeting

Dr. Trevor Platt spoke about POGO’s involvement with GEO to a meeting of the UK-GEO community at the DEFRA Innovation Centre in Reading on June 10, 2010. The group welcomed the scope and quality of the POGO contribution to GEO.

3.2.2. Proposal to GEO for funding under Agriculture and Water Themes

A proposal has been submitted by POGO to GEO under the Earth Observations for Decision Support scheme. If the proposal succeeds, funding will be made available for support of international activities related to remote sensing applications in fisheries and water resources, including SAFARI and ChloroGIN.

3.2.3. Beijing Ministerial Summit

The 7th Plenary Session of the Group on Earth Observations (GEO) and 2010 Ministerial Summit took place at the China National Convention Centre in Beijing, from 3 to 5 November 2010. The event was attended by a POGO delegation, consisting of the Chairman of POGO Kiyoshi Suyehiro, members of the POGO Secretariat (Trevor Platt, Shubha Sathyendranath and Sophie Seeyave), Sun Song, Director of the Institute of Oceanology, Chinese Academy of Sciences (IOCAS, a member of POGO), Yin Hong, Head of the International Office of IOCAS, and Jesse Ausubel, Programme Director for the Alfred P. Sloan Foundation and one of the founders of POGO.

GEO was founded in 2005 in response to calls for action by the 2002 World Summit on Sustainable Development and by the Group of Eight leading industrialized countries (G8). These high-level meetings recognized that international collaboration is essential for exploiting the growing potential of Earth observations to support decision making in an increasingly complex and environmentally stressed world.

GEO is a voluntary partnership of governments and international organisations. It provides a framework within which these partners can develop new projects and coordinate their strategies and investments. As of October 2010, its Members included 84 Governments and the European Commission. In addition, 61 intergovernmental, international, and regional organizations with a mandate in Earth observation or related issues have been recognized as Participating Organizations, one of which is POGO. Plenary Sessions take place at least once a year at the level of senior officials, and periodically at a ministerial level. This was the second Ministerial Summit, the first having taken place in Cape Town in November 2007, also attended by POGO.

The remit of GEO is to build a Global Earth Observation System of Systems (GEOSS), and POGO, GOOS (the Global Ocean Observing System), and other organisations under the umbrella of Oceans United, are striving for the continued development of the Ocean component of GEOSS.

In preparation for the Summit, a press release was issued that highlighted the importance of ocean observations for societal benefit and the urgent need to complete the ocean observing system. The press release was picked up by reporters around the world and, as of 1st November (the day after the embargo was lifted), there were over 200 on-line articles published in 30 countries. A press conference was also organised on-site, at which the press release (translated into Chinese), was distributed to the local press.
A POGO-Oceans United stand was developed for the Exhibition, which took place alongside the Plenary Session and Ministerial Summit (see photo). The stand was visited by both scientists and members of the public, with an interest in oceans and particularly in the applications of remote sensing to ocean observation, ecosystem monitoring and fisheries management.

At the Ministerial Summit, Trevor Platt made the following statement on behalf of POGO:

“We live on a Blue Planet, and the Oceans affect all the societal benefit areas of GEO, without any exceptions. It is only through the collective efforts of all nations that we can observe, share and inform ourselves about the oceans, and understand better their role in the Earth System. The ocean is the biggest reservoir on planet Earth of heat, of water and of carbon. Rates of change of these variables dictate the environmental conditions we experience on land, such as our weather and climate. We rely on the oceans for food, for recreation, for transport. But the oceans are under threat from a variety of causes, and many of their key properties changing at an alarming rate: the threats include pollution, ocean warming, loss of ice cover, changing distribution of marine life and ocean acidification. We now have the technology to observe the ocean in all its aspects, including physics, chemistry, biology and geology. We have the ability to sample the remotest parts of the oceans, from the Antarctic to the Arctic, and to reach the deepest trenches of the oceans, miles below the surface. POGO is committed to help build the capacity, in developing countries, to implement this technology and interpret its results, through the Centre of Excellence in Ocean Observations, located at the Bermuda Institute of Ocean Sciences, and through a fellowship programme sponsored jointly with the Scientific Committee on Oceanic Research, to name only two of POGO’s various capacity development initiatives. Organisations with an ocean mandate have joined together under the umbrella of Oceans United, led by the Partnership for Observation of the Global Oceans, to work with GEO to ensure that the ocean observations take their rightful place in GEOSS for addressing all societal benefit areas of GEO.”

More information on the Summit can be found at http://ocean-partners.org/ocean-observations/geo/94-geo-ministerial-summit
More information about Oceans United can be found at http://www.oceans-united.org.
3.3. IOC-Related Activities

3.3.1. Global Conference on Oceans Coasts and Islands

Dr. Trevor Platt participated in the Global Conference on Oceans Coasts and Islands in Paris in May 2010. The meeting was part of the 50th Anniversary celebrations of the IOC.

3.3.2. International Ocean Data Exchange

IODE offered a teaching module on data management and related topics at the NF-POGO Centre of Excellence in 2009, which was very much appreciated. We hope that this collaboration will be continued this year.

3.3.3. Meeting with new Executive Secretary, IOC

On Tuesday, May 4, Dr. Kiyoshi Suyehiro (POGO Chairman), Dr. Trevor Platt (POGO Executive Director), Dr. Wendy Watson-Wright (Executive Secretary, IOC) and Dr. Boram Lee (Programme Officer, IOC) met in IOC headquarters to discuss various ways in which IOC and POGO might work together towards common goals. Among the issues discussed in a very cordial and constructive meeting were:

a. **Next meeting of POGO** (January 2011) and the attendance of the Executive Secretary of IOC.

b. **Collaboration between POGO and IOC for the GEO Summit** (Beijing, November 2010).

c. **The Baker Report.** The group discussed informally some points raised in the Baker Report, including capacity building (probably the best way to make progress at short notice would be through the IOC office in Ostend) and the idea of making, in the future, an international ocean forum modelled loosely on the Davos forum (develop this theme gradually through events such as the Beijing Summit). It was noted that there already exist some initiatives with possibly parallel interests (such as the World Oceans Conference and the Global Ocean Conference), so that a cautious approach would be wise to avoid unnecessary overlap. A possible starting point, or nucleus, might be the following.

3.3.4. Oceans United

An informal alliance of ocean interests, Oceans United, was founded a few years ago by POGO, to provide a common voice for oceans inside groups such as GEO. At that time, the then Executive Secretary of IOC (now retired) was invited to be its first spokesman. Subsequently, a web site was made for Oceans United. That site is quite out of date, and its scope seems more limited than was originally intended.

As founder of Oceans United, POGO will now name a new spokesman, and will revitalize Oceans United. In this, POGO has the full concurrence and moral support of the present Executive Secretary of IOC. As a first step, the POGO Secretariat has created a new website, with new logo, hosted at PML (http://oceans-united.org), and created a banner and leaflets that were displayed at the GEO Summit in Beijing.

Both sides accept that a common voice for marine interests, outside of intergovernmental restrictions, could be very useful. A new mailing list will be developed for Oceans United, because the present one is out of date. The POGO approach to the Beijing Summit was through Oceans United, following the successful model of a previous summit, held in Cape Town.
3.3.5. World Association of Marine Stations

A workshop was held at IOC in April 2010 to discuss the plans for the formation of a World Association of Marine Stations. POGO was invited and Dr. Shubha Sathyendranath attended on behalf of POGO. The plan is to extend the European Marine Network of Marine Institutes and Stations (MARS) and similar regional networks around the world, to form a global network of marine stations. At the workshop, it was decided to proceed with the plans to establish WAMS under the Auspices of IOC. POGO has been invited to be on the Steering Group. Press release of these developments is available at: http://www.ocean-partners.org/attachments/467_WAMS%20Press%20Release%20for%20Science%20community%20Final070510urls.doc. Other related documents can be found in the Background Documents.

3.3.6. IOC Executive Council Meeting

Dr. Shubha Sathyendranath represented POGO at the meeting of the IOC Executive Council in June.
3.4. SCOR-Related Activities

International Quiet Ocean Experiment Workshop, Rhode Island, 27-29 October 2010

The IQOE is being developed by the Scientific Committee on Oceanic Research (SCOR) and POGO as a potential joint project, with funding from the Alfred P. Sloan Foundation. Through this cooperation, IQOE aims to engage with the global oceanographic community, with the intention of combining the talents of physical oceanographers, acousticians, behavioral biologists, ecosystem modelers and population biologists. This first workshop brought together scientists from these different fields to discuss the IQOE idea, its feasibility and scientific merit.

The idea of experimentally shutting down anthropogenic sound sources for one day and observing the effects was a central driver for the development of the IQOE. During the workshop, however, the IQOE concept grew beyond this idea to something more complex and multi-faceted. It was decided that the ‘one quiet day’ concept might have advantages as part of a more widely based acoustic observation programme, where it could be used to explain and draw public attention to the importance of the subject and the work underway in different ocean basins.

A wider programme of focused acoustic observations, a Global Acoustical Ocean Observing System, with observations conducted over a longer period to include seasonal changes, would have considerable value. It would require the establishment of specific observation sites, either new or based on existing facilities, including both quiet sites, noise-affected sites, and sites which were about to become affected by noise. It would be especially important to make observations before any changes took place in an area and to determine in advance what measurements would be necessary to measure both the noise and its impact.

In describing the soundscape in an area, whether it was noisy or quiet, it might be helpful to prepare noise budgets, which apportioned the noise to different sources. It was recognised that the concept of a noise budget required further work. Selective shut downs might help to determine the relative contributions from different sources.

There would be great advantages in mounting a series of long term-experiments at specific locations. In particular, observations could be made at quiet locations which were likely to come under threat. Use might be made of existing plans for seismic surveys or pile driving for wind-farms to perform before, during and after observations. The effects of movement of shipping lanes might also be observed in a similar way. Again, the importance of collecting baseline data first was emphasised.

There was also support for the idea of defining an International Year of the Quiet Ocean, in which a single day might be set aside for publicity and education about the longer period of observation. Data from one day might be presented as an example of the dominance of noise in the ocean and its likely effects.

The objectives of the IQOE need to be defined very carefully, as well as the effects of sound to be measured. These will determine the baseline information that would need to be collected, for example to measure animal behaviour would require long term baseline information.
Next steps:

Another meeting is planned to take place in Fort Lauderdale, Florida, on 10-11 February 2011. The meeting will review progress since October (e.g. article to be submitted to Oceanography, literature review) and plan an Open Science Conference to take place in October 2011. The meeting will be attended by Sophie Seeyave from the POGO Secretariat.
4. Other Secretariat Activities

4.1. Ocean Data Sources

As recommended at the POGO-11 meeting, the POGO website has begun to host a compilation of sources of ocean data. The POGO Secretariat thanks all who have responded to this initiative and provided pointers to various data sources. We have also learned of similar efforts or interests in other organisations, for example International Ocean Data Exchange (IODE) and IMBER (Integrated Marine Biogeochemistry and Ecosystem Research). Possible ways of working with these initiatives have to be explored.

4.2. Science articles

As recommended at the POGO-11 meeting, the Secretariat has asked all members to provide a short article highlighting ocean observations carried out by their institute. Articles were received from 11 of the 37 members, and these were formatted following a set template, and posted on the POGO website (http://ocean-partners.org/ocean-observations/societal-benefit). These are organized following the 9 different “Societal Benefit Areas” of GEO.

4.3. Newsletter

The POGO Secretariat has started producing a quarterly Newsletter (see http://ocean-partners.org/index.php/component/content/category/53?layout=blog), and has just released issue no. 3.