

July – August Synthesis Calendar!

Here are some important dates:

- July-August: Internal review of Regional Synthesis Collection papers
- July 3-6: Oceanographic Basis of Marine Predator Movements Workshop, Monterey, CA, USA
- July 5-9: Australian Marine Sciences Association Conference, Adelaide, Australia
- July 26-31: Xth SCAR International Biology Symposium, Sapporo, Japan
- Aug. 14: Draft project and cross-project synthesis outputs due for review by Synthesis Group
- Aug. 30: Cross-project synthesis progress reports due to Synthesis Group

Each month of the Synthesis Calendar can be viewed online.

Top News!

CoML Co-Senior Scientist and OTN member Ron O'Dor was honored by Canadian Geographic in June when **he was recognized as the Environmental Scientist of the Year**. This annual award seeks to honor those individuals who work to preserve natural environments, improve humankind's interaction with them, and inspire activism or change. Congratulations, Ron on this award! To read more, please visit Canadian Geographic's web site.



The **Census of Marine Life was the focal point of a 2 August 2009 story in the Los Angeles Times**. The article briefly noted the history of CoML and highlighted many of CoML's discoveries, including greater insights on animal migration, new and exiting life forms and finding a species of shrimp thought to be extinct. Numerous CoML researchers were quoted in the piece, which ended with a nice line from Jesse Ausubel - "in the end the beauty of the ocean is what inspires us." To read the article, please visit the *Los Angeles Times* online.

The Census of Marine Life now has a **Twitter page!**

Scientific Steering Committee (SSC)



Census of Marine Life Program Director, **Jesse Ausubel, was recently awarded an honorary Doctor of Laws degree** from Dalhousie University. One of the original champions bringing attention to global climate change, Jesse was instrumental in the creation of CoML as well as the Encyclopedia of Life. His work as both Director of the Human Environment Program at Rockefeller University and Program Director at the Alfred P. Sloan Foundation continue to promote the cause of the global ocean and increase awareness of global climate change.

Congratulations on this honor, Jesse! For more information, please visit Dalhousie's Honorary Degree Recipients web page. Jesse's brief address to the graduating students is available online at Rockefeller University.

Jesse Ausubel also received a recent title change from the Alfred P. Sloan Foundation Board. **He is now Vice President**. Jesse noted that he believes this a result of the Board's enthusiasm for the success of CoML. Congratulations, Jesse!

The Scientific Steering Committee (SSC) met 15-17 June 2009 in Cape Town, South Africa.

The meeting focused largely on the progress of the program towards its final report out in October of 2010. Several local scientists were invited to speak on their research in the southern Africa region, including Alison Kock of the University of Cape Town, who is researching white sharks, Marten Grundlingh, the manager for the OBIS node in Sub-Saharan Africa and Tony Ribbink, from the Sustainable Seas Trust. The SSC was also privileged to hear from Vice Chair Victor Gallardo from the University of Concepcion, Chile, on new findings of large continuous tracts of bacteria found on the continental margins of South America. The SSC next meets in Monaco on 8-12 October 2009.



Synthesis

The Synthesis Group met 14 & 17 June in Cape Town, where they discussed progress toward synthesis goals, particularly with respect to the cross-project efforts. They also discussed several opportunities for publishing Census findings, including a potential cluster of papers in *Nature* to coincide with the events in London in October 2010. The Synthesis Group next meets on 20-21 August 2009 in Woods Hole, Massachusetts, USA.

The Polar Synthesis Macroscope group met 13-16 May 2009 at the Villefranche Laboratory near Nice, France. A total of 11 participants from CAML, ArcOD, and the Mapping & Visualization group, used the **latest methods to explore biodiversity data of the ice oceans**. CoML research voyages during the International Polar Year (IPY) have provided a comprehensive inventory of polar marine species: more than 6,000 verified species of animals at each pole and 251 species that occur at both poles. At the molecular level, DNA sequences are showing differences among species that were previously thought to be the same. The analyses showed a close connection between the species and their physical environment at various spatial scales.

The CoML 2010 presentation of scientific findings, press conference, symposium and celebration – **“Census of Marine Life 2010: A Decade of Discovery”** – are scheduled for 4-7 October in London. Mark your calendars!

Mapping & Visualization

Pat Halpin, lead for the CoML Mapping and Visualization team, took part in a cruise to Antarctic seas from mid-April to June to **study the underwater movements and behaviors of endangered humpback and minke whales**. Researchers



applied suction cup tags to humpback and minke whales to measure their underwater movements and behaviors. They also made detailed measurements of the distribution, abundance, and behavior of their prey (Antarctic krill), as well as physical features of the water column in an attempt to visualize the foraging behavior of the whales. To learn more about the expedition, read the web logs, or view the photo gallery, please visit Tagging Whales in the Antarctic Seas website.

Database: Ocean Biogeographic Information System (OBIS)

In late June, OBIS received much awaited good news. **OBIS has been formally accepted as a program of the International Oceanographic Commission (IOC)** under its International Oceanographic Data and Information Exchange (IODE) program. The resolution was approved by the General Assembly of IOC during its most recent meeting in Paris, 16-25 June 2009. Under the terms of the resolution, OBIS activity would continue under IODE and the OBIS Secretariat at Rutgers University, NJ, USA could become the host of an IOC Program Office. Currently, discussions are in progress to work out the details of this integration and to investigate the establishment of IOC cooperation with OBIS’ contributors and other

stakeholders. A multi-source fund has been set up by IOC to ensure OBIS' continued research and operation into the future. More information is available on the IODE website.

GEO, the Group on Earth Observations, is developing a Biodiversity Observation Network called GEO BON. The first formal meeting of the GEO BON Steering Committee took place in Geneva, on 22-23 June 2009. **OBIS and CoML were represented by Carlo Heip and Edward Vanden Berghe.** OBIS hopes that the marine community will play a major role in this observation network, which promises to become one of the most important instruments for governments to gain access to information on the environment, and on the status of biodiversity.

In mid-July, **a new version of the OBIS website was released.** This release includes: improved main page layout and formatting, links to the World Register of Marine Species (WoRMS); the Encyclopedia of Life (EOL); SpeciesIdentification.org; and DiscoverLife on the species information page and improved performance for scientific name searches.

New data is available on OBIS. OBIS now has 19.1 million records! The largest recent contribution comes from NOAA's Northeast Fishery Science Center, with over 460,000 records. Other new datasets include the Shorefishes of the Tropical Eastern Pacific; A Historical Record of Sponges, Bryozoa and Ascidians on the Coast of Maine; 8 datasets from the Australian Antarctic Data Centre; and updates from the EPA's Environmental Monitoring and Assessment Program (EMAP) and ECOCEAN Whale Sharks.

Oceans Past: History of Marine Animal Populations (HMAP)

Drawing from such unlikely sources as ships logs, tax records, literary sources, and monastery archives, marine scientists are painting a picture of past life in the global ocean. This picture is proving to be a powerful, and necessary, tool in assessing environmental change in the ocean and associated ecosystems, for without it science's view of these environments is limited to only a short span of history and hamstrung by a narrow perspective. Utilizing these unorthodox sources of information, **HMAP researchers are discovering some surprising facts about human impact on the ocean:** Prior to whaling pressure arriving in the 1800s, New Zealand's southern right whale population was roughly 30 times higher than today's. Prior to the 1800s, the waters of the English Isles were home to orca and blue whales, as well as porpoise, dolphins, and blue and thresher sharks. Written records, from as early as the 2nd century CE, suggest that the Romans used trawl nets to catch fish. To learn more about this news, please view the full press release online.



The **latest issue of HMAP's newsletter is now available.** The May newsletter highlights video reports from the HMAP's Baltic Sea and Asia projects, a short video of three elderly fishermen from the Venetian lagoon explaining how the fish population has changed during the 20th century, and HMAP's participation in the upcoming 1st World Congress of Environmental History from 4-8 August 2009 in Copenhagen, Denmark and Malmö, Sweden, among other stories. To view the newsletter, please visit the HMAP website.

HMAP has a **new brochure.** To download, please visit HMAP's documents page.

Oceans Future: Future of Marine Animal Populations (FMAP)

Boris Worm was interviewed on National Public Radio (NPR) on 30 July about a recent update on FMAP results from 2007 stating that seafood stocks would collapse by 2048. Overfishing does continue; however, the new findings, published in *Science* on 31 July, are more positive, showing that steps are being taken in some study areas to curb overfishing and rebuild stocks. See the related story on the NPR website and the publication in *Science*.

Camilo Mora led a team of researchers, including other members of the CoML FMAP team, on a paper published in the 23 June edition of PLoS Biology. **The article focuses on the global evaluation of current fisheries management practices** and how they affect fisheries' sustainability. The study surveyed 1,200 fisheries experts to evaluate current management practices in comparison with data from

fisheries catches. The full text of the article “Management Effectiveness of the World’s Marine Fisheries” is available at the PLoS-Biology website. A video detailing the findings of the paper can be viewed on YouTube.

Ocean Present: Realm Field Projects

Near-Shore: Natural Geography In Shore Areas (NaGISA)

NaGISA held a **Sponge Taxonomy Training workshop** at Burapha University in Chonburi, Thailand on 31 May - 2 June 2009. Dr. Somchai Bussarawit of Phuket Marine Biological Center, and Associate Professor Kashane Chalermwat of Burapha University, hosted the workshop which attracted 38 participants from seven countries (Vietnam, Indonesia, Philippines, Malaysia, Israel, Thailand, and Japan). Instructors from Walailak University taught the lectures and laboratory training, and the participants identified sponge samples in Thailand, as well as samples collected in their home countries. For additional photos of the workshop, please visit the NaGISA website.



NaGISA held a taxonomy of tunicates workshop at Boca del Río, Margarita Island in Venezuela on 20-25 April. Tunicate expert Dr. Rosana Rocha, a researcher at the Universidade Federal do Paraná (UFPR) in Brazil conducted the workshop with 13 participants. **The workshop’s primary objectives were to develop skills in tunicate collection and dissection techniques**, as well as species identification. All participants completed 14 hours of introductory theory, plus 40 hours of field and laboratory work. Samples were collected at La Restinga, a major mangrove in Margarita Island, and a total of 31 species

were collected and identified for 4 different sampling sites; several others were identified in the field. The techniques approached in this workshop will aid future NaGISA samplings, as well as proper identification. For additional photos, please visit the NaGISA website.

Reefs: Census of Coral Reefs (CReefs)

CReefs is moving out of Ningaloo Station. The researchers had been housed in a sheep shearing shed while examining a remote section of the Ningaloo Reef. The team’s expedition has not only added to the knowledge of the Ningaloo Reef and the Western Australia coastline, but also to the global knowledge of coral reefs and methods to assist in managing them. To learn more about the Ningaloo research, please visit the Australian Institute of Marine Science – CReefs Australia website.

CReefs was featured in the 9-10 May 2009 edition of Australia’s Brisbane *Courier Mail’s* weekend color magazine, *QWeekend*. Sporting a full color cover image of a coral reef octopus and a photo-rich feature article inside, *QWeekend* detailed **CoML research on Australian coral reefs** and the discoveries that are being made. The article addressed the fact that despite all that is known about the Great Barrier Reef, new species are being discovered with every new field expedition. The feature provided an overview of CoML as a whole, with detailed information on CReefs research and a collection of their stunning images. The *QWeekend* article can be viewed on the *Courier Mail’s* website.

Regional Ecosystems: Gulf of Maine Area Program (GoMA)

GoMA researcher Nick Makris and his colleagues published an article in the March 27 issue of *Science* entitled "Critical Population Density Triggers Rapid Formation of Vast Oceanic Fish Shoals." The article **addressed the aggregation behavior of many species of oceanic fish**. Using remote sensing data, Nick and his team were able analyze the formation process of fish shoals that sometimes grew to cover tens of kilometers of ocean space. Their results suggest that aggregation formation occurs quickly as the

population reaches a certain critical mass and beyond this point the group tends to move as a single synchronized shoal. Results also suggest that the actions of the large group may be significantly influenced by small sets of "leaders." The article is available on the *Science* web site.

GoMA, in collaboration with the Regional Association for Research on the Gulf of Maine, Department of Fisheries and Oceans - St. Andrews Biological



Station, and Gulf of Maine Research Institute, is holding a symposium entitled “**The Gulf of Maine Symposium: Advancing Ecosystem Research for the Future of the Gulf**” on 4-9 October 2009 at the Fairmont Algonquin Hotel in St Andrews, New Brunswick. Researchers, managers, policymakers, and stakeholders from the region will discuss current scientific advances and ecosystem approaches to management in the Gulf of Maine. Registration opened 1 June 2009. To learn more, please visit the symposium website.

GoMA’s summer 2009 newsletter is available online. To subscribe, please visit the ‘[About Us](#)’ section of the GoMA website.

Continental Shelves: Pacific Ocean Shelf Tracking (POST)

On 18 June, **members of the POST community met at the Vancouver Aquarium for the 2009 POST Science Forum.** Following presentations, during which participants shared how they’ve used POST in their research, attendees were asked to develop major themes that characterize POST's contribution to their individual and organizations' work. These themes covered both technical and investigative areas, but also the collaborative and synergistic benefits of POST. Participants also identified and prioritized major research areas and new technology, tools and data products which POST should consider when pursuing long-term funding and developing program plans. This information should prove useful for organizational planning and the development of future funding proposals that reflect priorities of the POST community and POST users, specifically.

POST hit a milestone in May. Since 2004, when data were first downloaded from POST’s acoustic receivers, **the team has received more than 6,000,000 pings from tagged animals.** That’s over one million detections per year! The very first animal to "say hello" to a POST receiver in early 2004 was a coho salmon tagged at the Tenderfoot Creek Hatchery, near Squamish, British Columbia, Canada. Most recently, POST detected a locally tagged lingcod in Prince William Sound, AK, in late April. POST scientists are once again out on the water downloading data from each and every POST receiver, adding to the POST database a near weekly basis.



On April 23, **a new curtain of POST acoustic receivers** was draped across Admiralty Inlet, the main entrance (and exit) to Puget Sound, Washington, USA. The cooperative deployment will allow a consortium of over 30 researchers from various areas along Puget Sound to track the movements of hundreds of animals they tag every year. The Admiralty line ensures that no tagged animal will go undetected as they move between Puget Sound and the Strait of Juan de Fuca. Scientists are excited to use data from POST’s new line to help address conservation and management issues for local stocks of six-gill shark, Chinook, and coho salmon.

This summer, researchers from Stanford and NOAA's Southwest Fisheries Science Center **will tag Humboldt squid for the first time.** They hope to see if their coast-wide migrations can be monitored using POST’s system. Stay tuned for the results!

POST now offers a **new POST e-blast** - a regular communication of the POST project that highlights their recent developments and achievements. If you would like to receive the e-blasts, you can subscribe on the POST web site. Past installments can also be read online.

Continental Margins: Continental Margin Ecosystems on a Worldwide Scale (COMARGE)

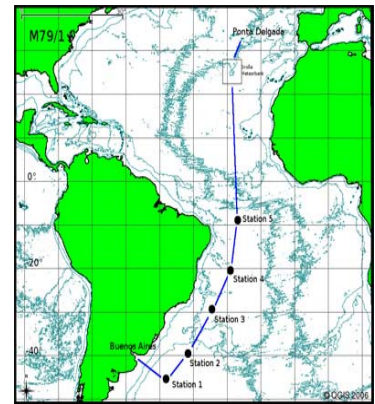
A special issue of *Deep Sea Research II* released online in late April 2009 is based on COMARGE research. This volume, entitled “Deep-sea environment and biodiversity of the West African equatorial margin” and edited by SSC member Myriam Sibuet, highlights the work of the Biozaire multidisciplinary deep-sea environment program from 2000-2005. It is available online from Science Direct in *Articles in Press*.

Abyssal Plains: Census of the Diversity of Abyssal Marine Life (CeDAMar)



A recently released special issue of *Zootaxa*, entitled “Deepsea taxonomy - a contribution to our knowledge of biodiversity”, **highlights the deep-sea taxonomic work of CeDAMar**. The issue features articles on new species and other discoveries from the Southern Ocean, the Southeast Atlantic, Brazil, the Northeast Atlantic, the Mediterranean, the Indian Ocean and the Eastern Pacific. The full issue is available online at *Zootaxa*.

The CeDAMar cruise DIVA 3 set sail from Montevideo, Uruguay on 10 July 2009 aboard the *R/V METEOR*. The **cruise is devoted to the study of benthic deep-sea biodiversity along the area of 45° south to the Equator**. In approximately 5,000m depth, the organismic biodiversity of all size classes (from nano- up to megafauna) will be recorded and correlated with biotic, abiotic, and historical variables. The aim is to recognize possible relationships between the primary production in the water column and the benthic biodiversity. Five stations along the path shown in the photo (on the left) will be sampled with a standardized set of gear to assess all size classes of benthic organisms. Twenty nine scientists from eight institutions in Germany, Spain, Switzerland, and Canada are participating.



Mid-Ocean Ridges: Mid-Atlantic Ridge Ecosystem Project (MAR-ECO)

MAR-ECO scientists Mike Vecchione and Tracey Sutton have joined other oceanographers from around the world on a **six week expedition aboard the NOAA fisheries vessel *Henry B. Bigelow***. The expedition explored the northern Mid-Atlantic Ridge and marks a return trip, after also exploring the area in 2004. Vecchione will be on the lookout for new and unusual species of deep-sea squid for comparison to those collected on the previous 2004 expedition. Sutton joined the expedition to complete research into understanding deep-sea food webs. Virginia Institute of Marine Science (VIMS), where both researchers are professors, has created an informational website. To learn more, please visit VIMS, or NOAA’s Teacher at Sea blog, where Ruth Meadows will post news about the progress of the expedition.



MAR-ECO recently added a **new, interactive feature** to its website which allows visitors the opportunity to become a virtual deep sea explorer. An interactive menu and a collection of videos and animations lets users explore the deep-sea environment and explains specific oceanic phenomenon such as vertical migration and the use of camouflage by marine organisms. Videos in this collection focus on subjects such as orange roughy, marine snow, cephalopods, jellies, and new species. Visitors can also learn more about the MAR-ECO project, its participants, and the technologies used to conduct research in the northern mid-Atlantic. To experience this interactive addition, please visit the MAR-ECO website.

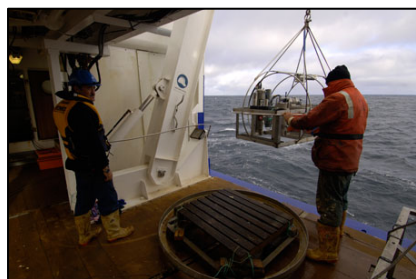
In April 2009, the North-East Atlantic Fisheries Commission (NEAFC) issued a press release noting new regulations that closed large areas on the Mid-Atlantic Ridge (MAR) to protect Vulnerable Marine Ecosystems in the High Seas of the North East Atlantic. NEAFC adopted the measures that closed more than 330,000 square kms to bottom fisheries on the MAR, an area larger than the size of UK and Ireland combined. This comes on top of a number of other measures adopted by NEAFC to protect deep-sea diversity. MAR-ECO did not propose the closures, but **the scientific base of information that**

contributed significantly to the MAR closures came largely from MAR-ECO publications and reports.

We are sad to report that **Peter Boyle** passed away on the 22nd of April. **He will be dearly missed by his many colleagues and friends.** Our condolences and prayers go out to Peter's family. Peter was one of the driving forces during the initiation of MAR-ECO in 2001. Despite his failing health, Peter managed to finish his book on MAR-ECO, taking advantage of the project's amazing visual material. The book will be released next year. The EuroSquid web page was dedicated to the memory of Peter, who led the first three "eurosquid" projects.



Seamounts: Census of Marine Life on Seamounts (CenSeam)



CenSeam scientists have set out on a return voyage to the "Graveyard" on the *Tangaroa* (the New Zealand's National Institute of Water and Atmospheric Research vessel). On the last voyage, scientists found seamount communities never before seen and have since been analyzing hundreds of photographs, videos, and samples. The *Tangaroa* left port on 12 June and CenSeam's website was consistently updated with stories and information from life at sea as the voyage continued! The ship-to-shore logs can be read on CenSeam's website.

Vents & Seeps: Biogeography of Deep-water Chemosynthetic Ecosystems (ChEss)

A ChEss mini-grant partly funded a new online **Photographic Identification Guide to Larvae at Hydrothermal Vents in the Eastern Pacific**. The purpose of the website is to assist researchers in the identification of larvae of benthic invertebrates at hydrothermal vents. The dynamic new collection will grow as further information becomes available. The guide has been printed and is also available online.

The **Deep Sea Mining of Seafloor Massive Sulfides Colloquium**, which took place on 2 April 2009 at Woods Hole Oceanographic Institution in Massachusetts, USA **can now be viewed online** in two parts. The first part of the video highlights the keynote speakers Maurice Tivey (Department Chair, Geology and Geophysics, WHOI), Nii Allotey Odunton (Secretary-General, International Seabed Authority), Caitlyn Antrim (Executive Director, Rule of Law Committee for the Oceans), and Rod Eggert (Division Director, Economics and Business, Colorado School of Mines). The second part contains the panel discussion (consisting of the keynote speakers plus Chris German (ChEss, WHOI), Samantha Smith (Nautilus Minerals) and Sabine Christiansen (World Wildlife Fund). In all, the video length is roughly three hours. The videos are available on the ChEss website. Please note that Realplayer is required to view the video.

Arctic: Arctic Ocean Diversity (ArcOD)

ArcOD has facilitated the translation, from Russian to English, in a planned series of **identification keys to twelve taxonomic groups of Arctic invertebrates**. It is the first book of a series which will provide the international science community with tools to identify species of Russian seas. The recently released "Illustrated Keys to Free-Living Invertebrates of Eurasian Arctic Seas and Adjacent Deep Waters, Vol. 1" is part of a series of ArcOD synthesis products. The series editor is ArcOD member Boris Sirenko, assisted by two volume editors, Stella Vassilenko and Viktor Petryashov. This volume is available from Alaska Sea Grant.



Collections and descriptions funded by ArcOD and NaGISA are highlighted in the 6 July 2009 volume of *Zootaxa*. The article, "Two new *Cumella* (Crustacea: Cumacea: Nannastacidae) from the North Pacific, with a key to the North Pacific *Cumella*" by Sarah Gerken, University of Alaska, Anchorage, discusses specimens which were collected from Alaskan waters in Kodiak, Kachemak Bay, and Prince William Sound. **Surprisingly, two new species of *Cumella* were collected as part of the NaGISA samples** from

the East Pacific. Species of *Cumella* in boreal-arctic waters is somewhat unusual, as *Cumella* is a genus that is commonly found in tropical areas. To learn more, please visit the *Zootaxa* website.

ArcOD, along with CAML and many other projects, **celebrated the end of the International Polar Year (IPY)** in March 2009 in various ways. ArcOD and CAML's joint CoML press release on the occasion was reported in 20 languages in over 50 countries. ArcOD's Rolf Gradinger contributed to a major IPY event in Paris, France, during IPY week through live interviews from his Bering Sea location onboard the U.S. icebreaker *Healy*, where he and team members studied the biology of sea ice. ArcOD's Russ Hopcroft participated in the IPY Polar Oceans Day video conference between the Antarctic, Canada, Mexico, and the USA. ArcOD's Rolf Gradinger, Russ Hopcroft and Falk Huettmann were also featured as IPY scientists on the official IPY web site.

ArcOD's steering group member Paul Wassmann at the University of Tromsø **succeeded in getting Arctic Marine Biodiversity on the agenda of the Arctic Frontiers Meeting** in January 2010. In recent years, this relatively new conference series has established itself as a main focal meeting for cutting-edge Arctic natural and social sciences. ArcOD is now preparing the agenda, list of invited speakers and themes for the meeting. The meeting, along with an associated special issue, will be a major ArcOD synthesis product.

Antarctic: Census of Antarctic Marine Life (CAML)

CAML would like to thank everyone, including the Canadian Centre for DNA Barcoding (CCDB), who was involved in **helping CAML Barcoding identify more than 10,000 Antarctic marine DNA sequences**. Another 8000 sequences are in the pipeline, and expected within the coming year. This accomplishment was achieved by a high level of co-operation from the Antarctic community! CAML established a supply agreement with the CCDB in Guelph. Additional Antarctic samples will be processed in Guelph over the coming year, in the following groups: Echinoderms (including crinoids and asteroids), Ascidians, Crustaceans and Arthropods (sea-spiders) and gastropod molluscs. Anyone with additional Antarctic material that they would like to be sequenced at Guelph should contact Rachel Grant as soon as possible.

Antarctic octopod research conducted by CAML has produced a number of new species, but it has also **contributed to cephalopod venom investigations**, which may have implications in the search for future biomedicines. Australian researcher Bryan Fry of the University of Melbourne's Department of Biochemistry, has found that all octopuses, cuttlefish, and some squid are venomous and share a common ancient ancestor. His research has uncovered a wide range of venom compounds that have not yet been encountered, which may prove to be a treasure trove for research pursuing future biomedicines. Fry's work was published in the *Journal of Molecular Evolution* and has been highlighted by ABC Science.

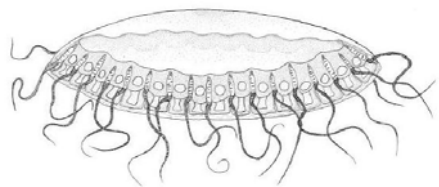
CAML's barcoding work will be highlighted in the journal *Polar Biology*. The article, entitled "Barcoding Antarctic Biodiversity: current status and the CAML initiative, a case study of marine invertebrates", is currently in press. **The article will give updates on CAML's barcoding work, as well as the status of the barcoding initiative in marine invertebrate species.** It also identifies gaps in our knowledge with the hope of encouraging barcoding efforts in those areas.

Top Predators: Tagging of Pacific Predators (TOPP)

The Great Marlin Race is underway. The Great Marlin Race was established to celebrate the 50th anniversary of the Hawaiian International Billfish Tournament (HIBT). HIBT is collaborating with Stanford University's Dr. Barbara Block, allowing teams competing in the HIBT to sponsor a pop-up satellite archival tag. The tags, placed on marlin, will detach from the fish at a pre-programmed date and float to the ocean surface. The tags will then transmit data via the Argos satellite system back to the lab. For the Great Marlin Race, the tags are programmed to pop off after 180 days. At that time, the fish that has traveled the farthest distance will be declared the winner! The team that sponsored the tag on the winning fish will receive free admission to next year's tournament. To learn more about the race, or view how far the marlin have traveled, please visit the Great Marline Race online.



Zooplankton: Census of Marine Zooplankton (CMarZ)



CMarZ researchers have been **working diligently to publish descriptions of the many new marine zooplankton species** they have recently discovered. These new species are showcased on a gallery page on the CMarZ website. Many stunning images and original pdf's are available for download. To view the gallery, please visit the CMarZ website.

Microbes: International Census of Marine Microbes (ICoMM)

ICoMM will produce a collection of papers, which will amass over time, in PLoS-ONE. The **first paper has already been published** and discusses a method for studying protistan diversity using V9 tag sequences. The full open-access paper can be found at the PLoS-ONE website.

National and Regional Activities

Australia

The Australian resources company, BHP Billiton, has a growing pool of marine science knowledge and appreciation in its ranks, thanks to a successful employee engagement program in the Australian node of the international CReefs project. BHP Billiton is a partner in the four-year, \$3.4 million project, along with the Great Barrier Reef Foundation and AIMS. CReefs is the coral reef component of the Census of Marine Life, a global scientific initiative to assess and explain the diversity, distribution and abundance of marine life. For more details, please visit the Australian Institute of Marine Science website.

Canada

Philippe Archambault and a few of his Canadian Healthy Oceans Network (CHONe) students **participated in an interactive class on benthic ecology** organized by the Benthic Ecology Lab of the Institute de Science de la Mer de Rimouski (ISMER). Sixth year high-school students learned about the different habitats of the St. Laurence Estuary and completed in-situ experiments on sediment biodynamics. The students had a great time and professed an interest in returning to the lab to conduct more research. To read more, please read the press release.

The July 2009 **Canadian Healthy Oceans Network (CHONe) newsletter is available online**. In the second issue, includes updates on research and the launch of the CHONe website, as well as information on CHONe's 2009 Network meeting and profiles on current students. To learn more, please read the newsletter online.

Caribbean

Juan Diaz, CoML Caribbean member, recently published an article with C. Torres and F. Gast on **“Rediscovery of the “living fossil” Pholadomya candida Sowerby, 1823 (Bivalvia: Anomalodesmata: Pholadomyacea)”** in *The Nautilus* (Volume 123(1)). *The Nautilus*, ‘A Quarterly Devoted to Malacology’, is a peer-reviewed journal that publishes articles on biology, ecology, and the systematics of mollusks. It is published by a non-profit organization, The Bailey-Matthews Shell Museum. To learn more about *The Nautilus*, please visit the shell museum website.

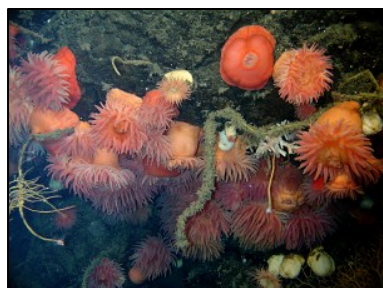
Patricia Miloslavich and Eduardo Klein have published an article entitled **“The World Conference on Marine Biodiversity: current global trends in marine biodiversity research”** in the May 2009 issue of *Marine Biodiversity*. The article contains an analysis of the communications presented at the World Conference on Marine Biodiversity in Valencia, Spain, in November 2008. The meeting was a very important event for the scientific community as the Valencia Declaration, a plea for the protection of marine biodiversity, was discussed at length. Miloslavich and Klein were interested in current global trends in marine biodiversity research in terms of which areas, ecosystems and functional or taxonomic groups receive the most attention from researchers, what countries are actively involved in research in this field, and what networks are established internationally to foster marine biodiversity research. To read more, please visit *Marine Biodiversity* online. The application that Miloslavich and Klein developed for the paper to visualize the network of countries involved in marine biodiversity research is also available

online. The site launches an application to explore the collaborative interconnections among the WCMB participant countries, and allows the user to control the visualization of this network.

CoML Caribbean researcher and Senior Scientist Patricia Miloslavich has translated the *Census of Marine Life Overview* and *Observing a Water Planet* animations into Spanish. The animations provide a concise description of CoML and Partnership for Observation of the Global Oceans (POGO). Patricia **treated a group of 80 4th grade children to a “world premiere” of the Spanish version** of the CoML video as part of an interactive lecture about animals. She ended the lecture with the CoML video and noted the children loved it! The CoML animations are available for viewing in both English and Spanish on the CoML Portal Video Gallery.

Europe

Dr. Henn Ojaveer and EuroCoML were highlighted in an April 2009 Baltic Organisations Network for Funding Science EEIG (BONUS) newsletter. The article detailed the goals of EuroCoML and many of the synthesis products currently in production. To read more, please visit the BONUS newsletter online.



The 12th Deep-sea Biology Symposium will be held in Reykjavík, Iceland, 7-11 June 2010. The symposium will be hosted by the University of Iceland and convened by Professor Jörundur Svavarsson, University of Iceland. The organizers welcome oral presentations and posters in any field of deep-sea biology. Sessions will be organized on a variety of interesting themes, such as diversity, reproduction, human impact in the deep-sea and sessions dealing with the recent outcome of the CoML projects. Registration will open in January 2010. Please visit the symposium website for additional details.

Indonesia

CoML was represented at the World Ocean Conference (WOC) series of events, 11-15 May 2009 in Manado, Indonesia, by Ian Poiner (Chair, SSC), Tonny Wagey (NRIC, Indonesia) and Meryl Williams (SSC). The Indonesian National Committee received good press coverage for its announcement of the research cruise in the Makassar Strait and it also released the overview of the marine biodiversity of the Arafura and Timor Sea region. No specific CoML side events were held, however, the WOC created valuable policy connections for the CoML. The conference events, such as the Global Ocean Policy Dialogue, focused on climate change and the oceans and/or on the launch and format of new conservation partnerships for the Coral Triangle (Indonesia, eastern Malaysia, Philippines, Papua New Guinea, Solomon Island and Timor Leste).



Indian Ocean

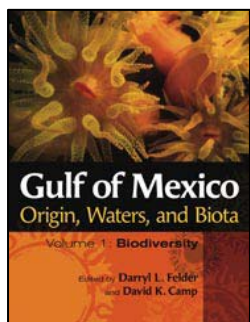
The Centre for Advanced Studies in Marine Biology in India organized a **two-day workshop on DNA Barcoding of Marine Life on 30 – 31 March 2009**. The objective was to create awareness among teaching faculty and to attract them into the barcoding stream, as well as to create more awareness among research students. The workshop was attended by nearly 20 college teachers and 80 doctoral students. The CoML Indian Ocean NRIC was present at the workshop. Dr. Chandramohan spoke about the usefulness of barcoding in the global context, Dr. Mohideen Wafar spoke on the National initiative to develop marine barcoding and Dr. Achutankutty spoke about OBIS and INDOBIS, in particular. Many research students expressed a request for CoML to organize an additional training on barcoding. CoML-IO agreed to look at the possibility of organizing another training with CoML support.

USA

CoML U.S. National Committee (USNC) Chair and History of Marine Animal Populations (HMAP) investigator Dr. Andrew Rosenberg presented on the proposed establishment of a Regular Global Marine Assessment Process at the World Wildlife Foundation headquarters in Washington, DC on 29 June 2009.

A panel of experts discussed the 'Assessment of Assessments' (AoA) which was endorsed by the United Nations (UN) General Assembly in 2002. The AoA is the **first step of an international initiative to improve our global understanding of the oceans and to develop a mechanism for delivering science-based information to decision makers**. The process builds on the work done by other international forums and by national authorities concerned with the marine environment. The start-up phase of the AoA established an international Group of Experts, including presenters Dr. Rosenberg and Dr. Lee A. Kimball, to produce an "assessment of assessments" report. The report reviews existing marine data collection and assessment activities in order to: (1) assess building blocks and assessment capacity for a regular, global marine assessment, and (2) identify a framework and options for the Regular Process, including best practices and institutional arrangements. The recently-completed report will be considered at a one-week ad hoc meeting of the UN General Assembly in early September 2009. The meeting participants will then recommend a course of action to the General Assembly at its 64th session this fall.

Members of the USNC participated in Capitol Hill Ocean Week (CHOW), 9-11 June 2009 in Washington, DC. Dr. Judith Kildow, of the Monterey Bay Aquarium Research Institute and Social Scientist for the National Ocean Economic Program (NOEP), introduced the **first independent report on the U.S. economy and the ocean** at the Capitol on Monday, June 8th to kick off this year's CHOW. This report aims to heighten appreciation for the value of the ocean and our nation's coasts. Dr. Kildow and Charles Colgan wrote the report and explained why the correlation between the coastal and ocean economies is fundamental to the health of the U.S. economy. To read the report titled "State of the U.S. Ocean and Coastal Economies," please visit the NOEP website. USNC member Dr. Paul Sandifer, of the National Oceanic and Atmospheric Administration, also participated in CHOW, moderating a session on "Drugs from the Deep: The Ocean's Role in Modern Health Care." Panelists discussed examples of potential drugs and how best to protect the marine resources that may help cure human diseases.



In June, Biodiversity of the Gulf of Mexico Project leader, and USNC Vice-Chair, Dr. Wes Tunnell was proud to announce the publication of ***Gulf of Mexico: Origin, Waters and Biota – Volume 1, Biodiversity***, edited by Darryl L. Felder and David K. Camp. Volume 1, of seven, contains a listing of all known species in the Gulf of Mexico - some 15,419 species in 40 phyla listed by 140 authors/taxonomists from 80 institutions in 15 countries. This volume is only Phase I of a large project which received funding from NOAA's National Centers for Coastal Ocean Science and the Alfred P. Sloan Foundation. More information is available on the Harte Research Institute for Gulf of Mexico Studies (Texas A&M University) web site.

For more USNC news, **view the latest newsletter** online.

Barcode of Life

The **third International Barcode of Life Conference will take place in Mexico City** from 7-13 November 2009. The conference website has been updated to include the following: registration form; online abstract submission, application for travel bursaries, hotel reservations and travel information. The deadline for submission of abstracts and applications for travel bursaries has been extended to 3 August 2009. Discounts for early registration are available until 11 September 2009. If you have any questions about the conference, please write to inquiries.dnabarcodes2009@si.edu.



Encyclopedia of Life

The **Encyclopedia of Life (EoL) recently announced the opening for a Marine Theme Coordinator position**. The half-time biologist position will work with EoL and CoML to populate marine species pages as well as represent and promote EoL within the marine community. Successful candidates for the position will have an advanced degree in biology or a related field and have an excellent knowledge of the marine science community and its organizations. The Marine Theme Coordinator will be a member of the Species Pages Group which is hosted, along with the Secretariat, by the National Museum of Natural

History of the Smithsonian Institution in Washington, DC. For more information about the Species Pages Group or this position please visit CoML's Secretariat or contact EoL Director, Cynthia Parr.

SCOR

SCOR held its 3rd Summit of International Marine Research Projects from 30 March – 1 April at the University of Delaware, USA. Representatives from major global ocean research and ocean observing projects met to discuss common issues including data management and capacity building. To learn more about the summit, please read the article available via University of Delaware.



The **SCOR Technology Panel website is now upgraded and expanded**. The new website features a video gallery, links to educational resources, publications, and meeting summaries.

The **latest issue of the Scientific Committee on Oceanic Research newsletter is now available**. This issue features stories on SCOR's capacity building activities, the products of the High CO₂ Symposium, the SCOR Panel on New Technologies for Observing Marine Life, and the activity of SCOR Working Groups. Also included in this issue are information on current large scale ocean research projects, recent publications, and SCOR annual meetings. The newsletter is available for download as a PDF on the SCOR website.

Ocean Tracking Network

The Western Australian Government recently provided additional funding for monitoring the occurrence of “tagged” white (pointer) sharks off beaches in Perth, Australia. The **Australian Acoustic Tracking and Monitoring System (AATAMS) is part of OTN**, as well as the Integrated Marine Observing System (IMOS). Researchers hope to collect information on the movements and behavior of white sharks in the region, partly in an attempt to help to reduce the risk of attacks on people. To read the news item, please visit World Fishing Today.

Funding & Employment Announcements

Information regarding Calls for Proposals and other opportunities (jobs, fellowships, post-docs, etc.) can be found at the CoML Secretariat website, under “**Announcements of Opportunity**.”

Calendar of Upcoming Events

This is a snapshot of upcoming events relevant for the Census of Marine Life. Please view the full calendar online.

August

- 4-8 First World Congress of Environmental History, Copenhagen, Denmark
- 20-21 Synthesis Group meeting, Woods Hole, Massachusetts, USA

September

- 1-5 2nd European Congress of Conservation Biology, Prague, Czech Republic
- 16-18 SCOR Panel on New Technologies for Observing Marine Life Workshop on Ocean Biology Observatories, Mestre, Italy
- 21-23 CoML U.S. National Committee Meeting, Honolulu, HI, USA
- 21-25 OceanObs'09- Ocean Information for Society: Sustaining the Benefits, Realizing the Potential, Venice, Italy

October

- 4-9 Gulf of Maine Science Symposium, St. Andrews, NB, Canada
- 8-9 Synthesis Group meeting, Monaco
- 10-12 CoML SSC Meeting, Monaco

11-14 BioMarine 2009, Vancouver, Canada
13-16 Diversitas OSC2, Cape Town, South Africa
20-22 39th SCOR Executive Committee Meeting, Beijing, China
26-29 Oceans '09 MTS/IEEE, Biloxi, Mississippi, USA

November

17-18 Group on Earth Observations (GEO) VI, Washington, DC, USA

December

8-11 2nd Oceanographic Basis of Marine Predator Movements Workshop, Halifax, Nova Scotia