

INTECOL - Bulletin

International Association for Ecology

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Greetings from INTECOL President



We are moving forward in some important ways. I am pleased to report progress on one of our major goals that we developed at our last Congress in Brisbane in 2009 regarding the need to encourage more communication among our new members, especially those beginning their careers in ecology. Our first workshop for early career ecologists in Brisbane highlighted the value of building social networks among our newer members and our more experienced colleagues. We look forward to increasing our connectivity through email and other emerging social media as well as with actual face-to-face meetings among all our members at the next Congress in London in 2013. This e-Bulletin includes a first report from a group of early career ecologists from around the globe who are developing new professional connections. Please help them spread the word and provide your suggestions on how best to use this network as we prepare for the next INTECOL Congress.

The frequency of extreme climate-related events is causing many problems throughout the world. Our earlier efforts to encourage more



ecological networking among ecologists to coordinate our responses to climate change will need to continue to grow. Although some goals during the meeting in Copenhagen have been slow to develop global support, many groups are beginning to understand the importance of ecological and economic impacts of sea-level rise and extreme weather events. For example, this April I participated in the 7th International SedNet meeting held in Venice that was organized by the European Sediment Network (www.sednet.org). The meeting brought together a diverse group of ecologists, economists and engineers to compare ideas on how the effects of storm surges and sea-level rise can be anticipated and mitigated. One session focused on the importance of sediments for biodiversity and the effects of sea-level rise on coastal ecosystems. When rising sea-levels are combined with other trends such as concentrating human populations in coastal zones, the potential losses of biodiversity in coastal ecosystems are enormous and will increase in many regions.

As the hurricane and typhoon seasons begins this month in the northern hemisphere, there are many reasons to be aware of how these types of major disturbances have caused important changes in the past to terrestrial and aquatic ecosystems and to people. While there is no way to link a particular hurricane or tornado to climate change, there is recognition that shifts in the intensities and frequencies of these extreme storm events may indicate a long-term trend in warming. The recent floods, earthquakes, tsunamis, droughts, fires and volcanic eruptions in both hemispheres give us many reasons to be concerned about the many likely societal and ecological impacts. The effects of these large-scale disturbances on ecosystems and the resulting losses of lives, as well as the losses of some goods and services provided by natural processes, are causing many challenges for managers and planners.

Understanding how to mitigate and adapt to these impacts will require coordinated efforts as we face an increasingly uncertain world. If these events occur more frequently and have cumulative impacts that are quite different from those we have observed previously, then our ecological concepts will need revision and updating as well as intensive monitoring. Making the essential connections between biodiversity and ecological processes more evident to the public and policy makers remains a major goal of increasing importance for INTECOL and our related national ecological societies.

Our members are experiencing other types of disturbances such as the earthquakes and related disasters that were reported in our last e-Bulletin. We have more details in this issue regarding some of the damages caused these recent events. We will continue to require improved communication and assistance as our colleagues confront major challenges in the months and years ahead. INTECOL will rely on our members for their suggestions on how to help each other in a world of increasing uncertainty.

Professor Alan P. Covich
President, INTECOL





Global Forum

A global network of next generation ecologists

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The worldwide growth in the number of ecologists, the globalization of society, and the increasingly important interplay between burgeoning human populations and ecological processes call for new ways for ecologists to communicate at the global scale. Understanding and ameliorating the complex problems we face as a global society stand to benefit from new and diverse perspectives. A new initiative aims to facilitate the growth of a global community of early career ecologists using the great potential of 21st century technologies.

The International Network of Next Generation Ecologists (INNGE, [in-jee]) is a newly established network that seeks to bring early career ecologists together from around the world, thereby strengthening international ties within a growing global community of ecologists. During the past decades, the world has grown steadily smaller. Amidst this, the numbers of students and early career researchers in the sciences have increased dramatically and academic communities have become increasingly international. The discipline of ecology is no exception. Ecologists are now routinely criss-crossing the world for fieldwork, collaborations, and meetings. As our community has grown, so has the challenge of keeping up with developments in the discipline on different continents.

For ecology students and early career researchers, the growth of the community also makes it more difficult to navigate the challenge of developing a career and engaging in professional societies.

The initiative to develop a network like INNGE was undertaken by early career ecologists who are already involved in various ecological societies. The main priority of INNGE is to further strengthen national and regional societies, and facilitate linkages between them that otherwise would not be made.

Working topics of INNGE

By coordinating activities of early career ecologists in one place, INNGE will work to establish better communication between people involved in their national or regional ecological societies (Figure 1). Knowing how other groups of ecologists are growing the field of ecology will help to expand the goals of each ecological society and will aid in inspiring new activities (Figure 2). The ultimate goal of INNGE is to spur the enactment of these new activities by forming a worldwide network of young scientists.

INNGE hopes to be a network where early career ecologists can go to seek advice on international topics in ecology and particularly in cases where the early

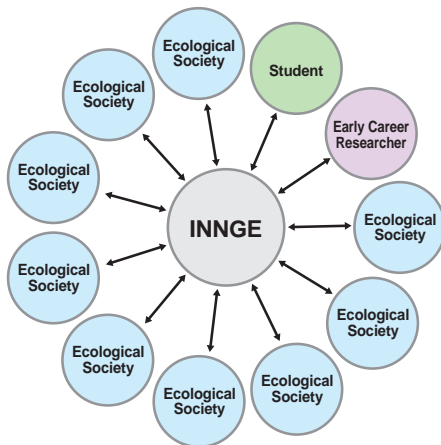


Fig. 1 The aim of INNGE is to act as a coordinating hub for activities of early career ecologists, from individual students and researchers to groups in national and regional ecological societies.

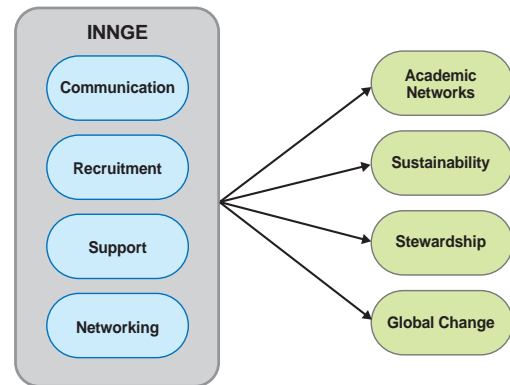


Fig. 2 INNGE seeks to facilitate and encourage new initiatives, such as the ones illustrated here, by acting as an international network of active and visionary next generation ecologists.

career section of their own national societies may have limited knowledge or experience. While there are quite a few established bodies of communication that provide an overview of career opportunities at the national and regional scale, it is hard to find a forum focused on international opportunities like international education programs, open job positions, and travel grants. INNGE wants to build the first such forum directed at and run by early career ecologists.

INNGE specifically aims to:

- 1) Enhance
 - a. International knowledge about ecological topics
 - b. The ability to build academic networks for early career scientists locally and regionally
- 2) Foster
 - a. Cross-continental initiatives between ecological societies and their early career ecologists
 - b. Local stewardship and sustainability efforts via global coordination
- 3) Communicate
 - a. On-going initiatives from ecological societies to ecologists in other parts of the world so as to ensure synergy and avoid unnecessary redundancy
 - b. International career opportunities for early career ecologists
 - c. Across disciplines, by engaging with networks of early career researchers in other areas of study

Communication

Electronic communication provides a powerful means of bringing people on different continents together with little to no expense and without the environmental harm inherent in international travel, and so constitutes a near-perfect tool for the aforementioned goals. Thus, INNGE will primarily achieve its aims as a web-based community. List-serve based announcements and fora will offer fast communication and a place for discussion. In addition, social media provide a means to communicate among members and visualize the people behind the names. We will use social media such as Facebook, LinkedIn and Twitter to connect and grow the member base

In addition to web-based communication, ecological meetings and conferences will serve as opportunities for people involved in INNGE to meet and organize future INNGE enterprises in person.

INNGE and INTECOL

The need for an international body for early career ecologists to interact has been recognized for some time. At the latest INTECOL congress in 2009 in Brisbane, Australia (organized in collaboration with the Ecological Society of Australia and the New Zealand Ecological Society) early career ecologists restated this need. As the natural place for ecological societies to build initiatives and share experiences at a global scale, INTECOL will be a key partner in INNGE's effort to establish a global community of early career ecologists.



"This new network will enhance communication among the increasing number of early career ecologists in INTECOL. The initial success at our Brisbane meeting with a workshop dedicated to networking among early career ecologists indicates this expanded effort to connect our members globally will be appreciated by many. I look forward to meeting many of our new members in London in 2013 and to following the growth of this network online (INTECOL president, Alan P. Covich)."

Session at INTECOL 2013

One of the activities already planned by INNGE is to organize a session in connection with the 11th INTECOL congress in London, 2013. The session will further explore the role of next generation ecologists and ecological societies in driving forward stewardship efforts and international initiatives in the field of ecology.

INNGE as a resource for ecological societies

Acting as a global contact point for early career ecologists, INNGE will be a resource for ecological societies by being (1) a place to recruit members with an international focus; (2) a place for seeking advice and experiences from other networks of early career ecologists; and, (3) a place to find collaboration partners in other ecological societies (Figure 3).

Where are we now

At this point INNGE is still in its infancy. During the past six months, the primary effort has been focused on engaging national and regional societies in the effort.

The response so far has been overwhelmingly positive and has strengthened the case for a global network.

Thus far, INNGE consists of a working group of early career ecologists representing three continents and a number of ecological societies (the British Ecological Society, Ecological Society of America, Ecological Society of Australia, the French Ecological Society, and Italian Ecological Society). We are currently working on developing an INNGE website and increasing the societal and geographical coverage of participants in the working group.

We encourage all ecological societies and early career ecologists interested in the effort to build this next generation global community to become a part of the working group.

Contact us at: nextgenecologists@gmail.com.

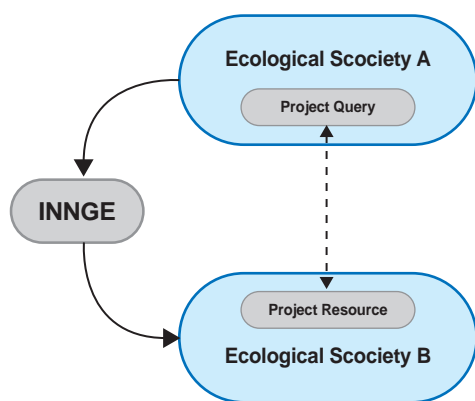


Fig. 3 INNGE will be a resource for ecological societies by being (1) a place to recruit members with an international focus; (2) a place for seeking advice and experiences from other networks of early career ecologists; and, (3) a place to find collaboration partners in other ecological societies.



Future of Ecology: Learning from natural disasters

1. The Great East Japan Earthquake and Tsunami, 11th March 2011 News from the Ecological Society of Japan

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A magnitude 9.0 earthquake struck North Honshu, Japan at 14:46 JST (05:46 UTC) on Friday, 11th March 2011, which was named as “Great East Japan Earthquake”. It was the most powerful earthquake to have hit Japan, and one of the five most powerful earthquakes in the world since modern records began in 1900. The epicenter was approximately 70 kilometers east of the Oshika Peninsula and hypocenter was at an underwater depth of approximately 32 kilometers. The earthquake triggered extremely destructive tsunami waves up to 38.9 meters. The Japanese National Police Agency confirmed 15,270 death, 8,499 people missing as well as over 125,000 buildings damaged: most of the victims suffered from tsunami waves. Tsunami swept out almost all the towns in Ohtsuchi and Rikuzentakada, and about 10% of residents were drowned. This tremendous disaster is called as “Disaster in Tohoku (Northeast) Japan 2011”.

The tsunami also caused a number of nuclear accidents in the Fukushima Nuclear Power Plant. The most serious situation was an ongoing level 7 event on the International Nuclear Event of Scales (INES). Twenty kilometer evacuation zone around the power plant was set. Quite recently (on 12th May), the Tokyo Electric Power Company, Inc. made an announcement that three nuclear reactors suffered meltdown which began just 4 hours after the tsunami waves reached. The spokesman of the company repeated that the force of the quake was "statistically unlikely" to occur, and the height of tsunami waves was "out of assumption". A team from IAEA (International Atomic Energy Agency) visited Fukushima Nuclear Power Plant on 27th May to inspect the damages.

Japanese Prime Minister declared the shipping

regulations of some vegetables and fishes due to the detection of radioactive contaminants. Moreover, serious damages caused by rumors were reported. Consumers boycott vegetables, milk and fish without radioactive contaminants, and even clothes, electric appliances and so on which were produced in Fukushima Prefecture.

Thousands of volunteers who want to help the suffered rushed into the Tohoku area at the end of April when facilities of travel recovered and golden week (a week long Japanese holidays) began. Most of them engaged in cleaning up the debris which was carried in by tsunami, and some cooked warm meals for people in the shelters who lost their houses. Donation to Japanese Red Cross Society for the suffered amounted up to 120 billion Japanese Yen. More than 50 countries offered to send rescue teams.

The Science Council of Japan launched the Executive Committee of “Disaster in Northeast Japan and Nuclear Emergency” and published a statement. In the statement, three urgently needed missions were identified in order to overcome and regenerate from consequences of the disaster. First, preventive measures to minimize the effect of radioactive leakages on the people’s lives and health are of paramount importance, apart from the issues of investigating into the causes and counter measures of the nuclear power plant accident. Second, as the sense of insecurity of people feel in the face of unprecedented disaster is often attributed to a lack of accurate information about the risks, accurate information should be given to the public, with honesty based on the cool recognition of the extreme danger of the situation. Third, it is essential to re-inspect and re-evaluate the relevance of socio-



economic systems of Japan in countering the shock of hazards, and to re-think calmly how far science can actually contribute to prediction and prevention of disasters, because we have to accept the fact that Japan failed to design new socio-economic systems based on the bitter lessons of the Great Hanshin-Awaji Earthquake of 16 years ago.

Of course, we, Ecological Society of Japan, would like to make every effort for the recovery from the disaster. Now the public health, job opportunity, housing are prioritized. But the expertise of ecologist will be needed in near future, as recovery might be a long process.



Fig. 1 Swept town, Ohtsuchi. (Photo: Tomoya AKIMICHI, 27 March 2011)



Fig. 2 Tsunami carried tourist ship over the house. (Photo: Tomoya AKIMICHI, 2 May 2011)



Fig. 3 A famous pine forest was all swept out by tsunami waves. Only a pine tree survived. (Photo: Tomoya AKIMICHI, 3 May 2011)

2. News on the February 22nd Christchurch Earthquake from the New Zealand Ecological Society

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A Board Member of INTECOL
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In February 2011 a magnitude 6.3 earthquake struck Christchurch, New Zealand's second largest city. The earthquake killed 181 people, making it the second-deadliest natural disaster recorded in New Zealand. People from more than 20 countries were among the

victims, including students from Japan, China, the Philippines, Thailand, Saudi Arabia, Taiwan and Korea.

The earthquake was centered 10 kilometers south-east of the centre of Christchurch and was only 5 km in

depth. It caused widespread damage across Christchurch, especially in the central city and eastern suburbs. It occurred at lunchtime on a weekday when the Central Business District was busy, and many buildings were already weakened from the previous quakes. Significant liquefaction affected the eastern suburbs, producing around 200,000 tons of silt.

The earthquake was classed as an aftershock because of its relationship to the ongoing activity since a 7.1 earthquake in September 2010. It occurred on a 'blind' or unknown fault. While New Zealand is known as the "shaky isles", Christchurch was not known to be at significant risk from earthquakes. The North and South Islands of New Zealand lie on the margin of two colliding tectonic plates, the Pacific and Indo-Australian Plates. Earthquakes are common, particularly in the southwest of the South Island and in the central North Island. The North Island also contains many active and dormant volcanic cones.

The peak ground acceleration (PGA) of the February earthquake was extremely high, with simultaneous vertical and horizontal ground movement. The force of the quake was "statistically unlikely" to occur more than once in 1000 years. It was almost impossible for buildings to survive intact. The PGA was also one of the greatest ever ground accelerations recorded in the world, and was unusually high for a 6.3 quake, and the highest in a vertical direction. The fault line runs deep under the Port Hills at a 65 degree angle, which moved 1.5m up along this angle; generating 3G's of force, raising the Hills vertically up to 20cm.

The search and rescue (SAR) effort and assistance from around the world were immense. The New

Zealand Fire Service coordinated the teams with specialists from New Zealand, Australia, UK, USA, Japan, Taiwan, China and Singapore. These included 150 New Zealand and 429 overseas specialists with firefighters, paramedics, doctors, coastguard, police and engineers. Japan sent 70 specialists as well as three sniffer dogs. Their team had to leave New Zealand earlier than planned due to the devastating 9.0 earthquake which struck their homeland on 11 March. The photos attached to this article were taken by my cousin John Taylor who was part of a SAR team.

Support and fundraising efforts were established nationwide, with many individuals, community groups and companies providing food and services to the city. Thousands of people helped with the cleanup efforts, involving the removal of liquefaction silt. The Canterbury University's Student Volunteer Army was an important part of this effort.

Ecologists in Christchurch who have been affected by the quake include staff from Department of Conservation (DOC), Landcare Research, the Regional Council and City Council, universities and private consultancies. Many were located in buildings in the central city which were badly affected. For example, the building where DOC was located will have to be demolished. They are hoping that research data and equipment which is held in the building can be retrieved. Canterbury University held many lectures in tents and marquees while repair work was carried out on university buildings.

The city is now focused on recovery. The Canterbury Earthquake Recovery Authority has been established and this will lead the earthquake recovery. It is anticipated to last at least five years.



Fig. 1 Damage to Christchurch Cathedral in the heart of the city, including collapse of spire
(<https://picasaweb.google.com/RossBeckerNZ/2011April27IntoTheChristchurchRedZone#slideshow>)

My aroha (love) and condolences go out to all of my colleagues, relatives and friends who are in Christchurch and affected by the quake. It has been a very difficult time. On behalf of New Zealand Ecological Society, I would also like to express the Society's deep and sincere condolences to our colleagues in Japan, following the devastating earthquake and tsunami in March. Kia kaha (stand strong).

Local New Zealand poet Gary McCormack has written a poem about the Christchurch earthquake which includes the words:

...I saw you the other day run up a blind alley full of hatred and dark breath. Black clouds only pity us.

You held us down on the jagged ground. You shook the streets and the city buildings. You tore the spire from the cathedral.

And all those people.

The tourists taking photographs, the babies taken in pairs, the hikers in the hills.

The ones buried beneath us still...



Fig. 2 Search and rescue team working at collapsed Canterbury Television building where over 100 people lost their lives (Photos: John Taylor)



Fig. 3 Representatives from New Zealand and Chinese SAR teams (Photo: John Taylor)



Fig. 4 Damage in a central Christchurch street (Photo: John Taylor)



Meetings and Congresses

1. *9th INTECOL International Wetlands Conference* *“Wetlands in a Complex World”*



Mission

The mission of the 9th INTECOL International Wetlands Conference is to provide a platform to review advances in the physical, biogeochemical, and social sciences as they are related to wetlands, to provide integrated solutions for sustainable management of wetland resources in a complex world, and to facilitate professional relationships at regional to international scales.

Overview

Wetlands exist at the interface between terrestrial and aquatic environments. The 2 billion acres (approximately 800 million hectares) of wetlands on Earth are spread throughout all climates except the Antarctica. Although wetlands occupy only about 6% of the total landscape, their overall role from the regional to global scale is much greater than their area.

Wetlands are sources, sinks, and transformers of materials and habitats for diverse life forms. They are a source of food, fiber, and clean water for humans, a carbon sink and source, may reduce flood damage, be a site for groundwater reservoirs, be a sink for pollutants, an agent of chemical transformation, a buffer for climate change, and a corridor for migrating animals. Wetlands are complex ecosystems because they are

driven by many physical, chemical, and biological processes. This complexity means that understanding wetland ecosystems requires an interdisciplinary approach that engages many specializations, including biology, chemistry, biogeochemistry, ecology, hydrology, pedology, to mention a few.

While many management practices are compatible, not all are adequate to protect wetland resources and sustain wetland values and functions. Climate change, in particular, is one of the major threats to the sustainability and integrity of many ecosystems, including wetlands. Some questions of immediate concern are: (1) how will wetland ecosystem services be affected by changing climatic condition, and (2) are the current adaptive management practices used compatible or adequate to sustain, protect and preserve wetlands and its functions and values?

The 9th INTECOL International Wetlands Conference will provide an opportunity to review and collaborate on advances in wetland science in ecological, physical, biogeochemical and social sciences pertinent to wetland management and policy. The conference will be a forum to discuss threats, challenges and integrated solutions for sustainable restoration and management of wetlands in our changing world.



Important Dates:

- Session Proposal Deadline: August 1, 2011
- Abstract Submission Deadline: December 16, 2011
- Early Registration Deadline: February 29, 2012
- Hotel Registration Deadline: May 2, 2012



For More Information:

Please visit the conference website, www.conference.ifas.ufl.edu/intecol

Contact: Ms. Mandy Stage, Conference Coordinator
University of Florida, IFAS, Office of Conferences
& Institutes, PO Box 110750, Gainesville, FL 32611, USA

Tel: +1-352-392-5930 **E-Mail:** mstage@ufl.edu



2. World Conference on Marine Biodiversity

26 - 30 September 2011

Aberdeen Exhibition and Conference Centre, Aberdeen, Scotland (UK)



Aim of the Conference

The World Conference on Marine Biodiversity has the overall aim of bringing together scientists, practitioners and the public to discuss and advance our understanding of the issues surrounding the importance of biodiversity in the marine environment. The conference will address issues of marine biodiversity across a deliberately wide range of relevant spheres and interacting topics.

More specifically the conference aims to:

- Review our knowledge of marine biodiversity and its role in marine ecosystem functioning
- Assess the most critical threats to marine systems and consider management strategies

- Discuss sustainable development and socio-economic impacts on the marine sector
- Identify future research priorities.

The conference will be aimed at the widest possible groups of participants and stakeholders from academics to industry and include elements specifically targeted at the public and school children.

The conference structure and format is designed to maximize interaction between participants mixing oral presentations, digital object displays, workshops and exhibition. The conference will have an interdisciplinary focus and is organized into generic themes rather than by species or habitats to maximize interdisciplinary linkages.

Conference Themes

- Taxonomy
- Changes in Biodiversity with Time
- Marine Technology: Platforms and Sensors for the 21st Century
- Blue Biotechnology
- Ecosystem Services
- Climate Change
- Marine Extremes



- Bioinformatics and Data Delivery
- Advances in Statistics in Relation to Marine Biodiversity Science
- Marine Policy and Law
- Marine Biodiversity and Human Health
- Integrative Frameworks of Linking Physical Dynamics and Biodiversity
- Linking Biodiversity - Ecosystem Function and Services
- Biodiversity, Education and Outreach
- Environmental Physiology
- Human Impacts of Biodiversity

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Website: www.marine-biodiversity.org

E-mail: marine-biodiversity@abdn.ac.uk



3. Plankton 2011

22-23 September 2011, Plymouth, Guildhall, UK

Plankton Biodiversity and Global Change -Past, Present and Future

Rationale

We live in a world influenced by a myriad of complex global processes including climate warming, ocean acidification, pollution events and varying fishing pressures. Plankton is influenced by all of these. They also provide us with key ecological services. Plankton fuel aquatic food-webs that produce fish; they generate half the oxygen we breathe; they help to control our climate. In fact, plankton is fundamental to sustaining life on our planet. We monitor plankton communities by a variety of observation programmes, many of which have operated for decades.

Some focus on freshwaters, others operate in marine waters. Some monitor the coastal waters, others work offshore. Some are geo-stationary while others survey across ocean basins. Some involve in-situ observations while others use remote sensing procedures. These





programmes are geographically widespread and often operate independently of one another. Yet all share a common aim: to understand long-term changes in plankton communities. The symposium will explore changes in diverse long-term plankton communities to determine their causes and consequences, and create a framework for testing global change hypotheses.

Objectives

To celebrate the 80th Anniversary of the Continuous Plankton Recorder Survey, The Sir Alister Hardy Foundation for Ocean Science (SAHFOS) will host Plankton 2011 - an international symposium on plankton biodiversity and global change in the aquatic systems. It will seek to identify causes and

consequences of long-term changes in plankton communities in fresh and marine waters.

- To bring together scientists working on long-term plankton time series in fresh and marine waters from across the world;
- To discern common themes and gain new understanding in long-term plankton time series;
- To celebrate the 80th Anniversary of SAHFOS' Continuous Plankton Recorder Survey;
- To enjoy artistic interpretations of plankton through paintings and photographs;
- To build a community that integrates regions and approaches for testing global hypotheses.

Website: www.plankton2011.org

E-mail: Plankton2011@sahfos.ac.uk

For more information about SAHFOS: www.sahfos.ac.uk





INTECOL, International Association for Ecology

INTECOL is affiliated with the ICSU family of scientific organizations as the section responsible for general ecology within the International Union of Biological Sciences (IUBS). The association will assist and/or support the development of the science of ecology and the application of ecological principles to global problems, especially by assisting international cooperation; the collection, evaluation and distribution of information about ecology; national, regional and international actions which will serve ecological research, training of personal, coordination of general publications of ecological principles and the recognition of the importance of ecology for economy and society; the organization of conferences, meetings, symposia, programs and projects, conduct of speaking-series, publication of manuscripts, and measures which are deemed necessary to reach the goals of the association.

Officers and Executive Board Members

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Deadline for sending information for next e-Bulletin

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