

# APN

Asia-Pacific Network for Global Change Research

APN Newsletter  
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## Message from the APN Director

*First of all, let me wish you a Happy and Prosperous Year in 2004!*

I am confident that APN found fulfilment in its activities in 2003. Among the outstanding achievements of the year, the improved APN website and the launch of CAPaBLE rank high. We believe that the new website will help promote the exchange of information among member countries, and that CAPaBLE projects will enhance APN's presence in the global change research community and, in so-doing, contribute to APN's objectives. Taking this opportunity, I would also like to express my gratitude to all stakeholders who have supported APN. I hope that 2004 will be even more fruitful for APN, and in particular regarding the promotion of partnerships among member countries.

By the way, the 8<sup>th</sup> Steering Committee (SC) meeting was hosted by the National Institute of Water & Atmospheric Research (NIWA) in Wellington, New Zealand, from 11-12 December 2003. At the SC meeting many important items relevant to APN's future were discussed, including its 10<sup>th</sup> anniversary in 2005. Moreover, the SC approved that the evaluation of APN activities during the first phase and preparation of the APN new strategic plan for 2005-2010 will be entrusted to a consultant, and that work should commence as soon as possible.

Among other important issues discussed was the changing of umbrellas of APN (domestically in Japan) from the Association of International Research Initiatives for Environmental Studies (AIRIES) to the Institute for Global Environmental Strategies (IGES). Details of this change were provided by a representative of the Japanese government during the SC meeting. Incidentally, the Japanese Ministry of the Environment decided to transfer the body, which maintains an APN account, from AIRIES to IGES as of April 1st 2004. This change means that all the functions of AIRIES, with regard to APN, will simply be transferred to IGES. It should also be stressed that APN decision-making will be independent from IGES, and that the APN budget implementation will become more flexible and will thus strengthen the dynamics of Japan's contribution to APN funded activities. It was further explained that the Japanese MOE decided on this change during the course of the reform plan of public service corporations led by the national government. The SC meeting agreed that amendments to the "Framework of APN" will be proposed to the 9th IGM for approval.

The Secretariat believes that the aforementioned move will guide us on the most successful track, and enable APN to cope successfully with important situations. It is highly expected that amendments to the "Framework of APN" will be approved by the 9th IGM meeting, and thus be in harmony with the agenda for the APN's 10<sup>th</sup> anniversary in 2005.

—Sombo T. Yamamura

## NEWS FROM THE SECRETARIAT



**Update: APN Scientific Capacity Building/ Enhancement for Sustainable Development in Developing Countries (CAPaBLE) Programme**  
Following the launch of CAPaBLE on

April 16<sup>th</sup> 2003, there have been considerable developments which include: the launch of a Call for Proposals for Comprehensive Research Projects (CRPs); a CAPaBLE Programme Development Workshop; selection of reviewers and establishment of an in-

terim CAPaBLE Standing Committee; establishment of a review process for CRP proposals and a format for Capacity Building proposals; and the approval of CRP and CB projects by the Interim CAPaBLE Standing Committee (outlined overleaf).

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## About the APN

The Asia-Pacific Network for Global Change Research (APN) is an inter-governmental network whose mission is to foster global change research in the Asia-Pacific region, increase developing country participation in that research, and strengthen interactions between the science community and policy makers. The APN cooperates closely with various scientific programmes and other networks to achieve these purposes.

**Title:** Enhancement of National Capacities in the Application of Simulation Models for the Assessment of Climate Change and its Impacts on Water Resources and Food and Agricultural Production

**PI & Country:** Dr. A. M. Khan, PAKISTAN

**Title:** Integrated Assessment Model for Developing Countries and Analysis of Mitigation Options and Sustainable Development Opportunities

**PI & Country:** Prof. P. R. Shukla, INDIA

**Title:** Building Capacity of Mekong River Countries to Assess Impacts from Climate Change—Case Study Approach on Assessment of Community Vulnerability and Adaptation to Impact of Climate Change on Water Resources and Food Production

**PI & Country:** Mr. S. Chinvano, THAILAND

**Title:** Training Institute on Climate and Extreme Events in the Pacific

**PI & Country:** Dr. K. Koshy, FIJI

**Title:** Capacity Building for Greenhouse Gas Inventory Development in Asia-Pacific Developing Countries

**PI & Country:** Dr. H. Nakane, JAPAN

**Title:** Capacity Building Workshop on Climate Change Mitigation with Locally Owned Technology and Systems

**PI & Country:** Dr. M. Naito, JAPAN

APN is also delighted to announce its first joint project with our sister network, the Inter-American Institute for Global Change Research (IAI) under CAPaBLE and the IAI's Small Grants Programme. Details of this project will soon be available on the APN website. For more information on CAPaBLE, contact Linda Stevenson [l Stevenson@apn.gr.jp](mailto:l Stevenson@apn.gr.jp) at the Secretariat.

### New and Improved APN Website

The new APN website was launched on 14 November 2003. This website is more user friendly and offers a more professional outlook. Features include site map, search option, access counter, member country map, updated information about the Call for Proposals, CAPaBLE programme, and other APN

activities. Links to global change organisation websites and acronyms have also been updated. The APN products section includes PDF versions of IGM proceedings and newsletters, as well as the APN brochure in Chinese, English, Hindi, Indonesian, Japanese, Russian and Thai. There will also shortly be a Japanese APN homepage available.

### 2003 Open Meeting of the Human Dimensions of Global Environmental Change Research Community, Montreal, Canada. 16-18 October 2003.

This Open Meeting marked a decade of sustained interdisciplinary research on the human dimensions of global change, and thus the need to assess efforts made. For example, are we achieving cumulative, progressive research findings? Are we enhancing the set of methodologies at our disposal? Are we generating useful knowledge for decision-makers? Are we developing effective mechanisms for bridging disciplinary divides? Within this general framework of inquiry the organizers of the meeting proposed to examine three themes in particular. Transitions and Change: how does the view that the world is made up of complex coupled systems influence our research? Governance, Markets, and Ethics: what do we know about the institutions that mediate between human behavior and global change? Poverty and security: how does global change affect those already vulnerable and how does it increase the vulnerability of others. Plenary speakers also addressed these questions in the context of major areas of human dimensions research.

APN funded the participation of twelve (12) Asia-Pacific participants from China, Fiji, India, Indonesia, Philippines and Viet Nam. At the meeting presentations covered a variety of topics ranging from human dimensions research such as land use/land cover change, integrated assessment, population and the environment, environmental security, industrial transformation, institutions, environmental economics, and others. Overall, APN funded participants felt that they were given a unique opportunity to network with a new group of contacts in the field of

human dimension of global environmental change, and now look forward to follow-up activities and joint collaboration.

The APN was also given the opportunity to present a statement at the meeting of the International Human Dimensions Programme (IHDP) national committee representatives. This statement stated that “a key plank of the work of the APN is to facilitate the development of human capability in the Asia-Pacific region in the multi-disciplinary field of global change. Moreover, the “human dimension” is a key component of achieving our goals. Thus, the wealth of experience and linkage that the IHDP national committees have could be leveraged to assist our networks.”

More details of the open meeting program are on <http://sedac.ciesin.columbia.edu/openmeeting/>

### 15th IGFA Meeting, Cape Town, South Africa. 29-31 October, 2003

The 15th Meeting of the International Group of Funding Agencies for Global Change Research (IGFA) was held in Cape Town, South Africa and was hosted by the National Research Foundation of South Africa (NFR). The meeting was attended by representatives from Belgium, Canada, China, Chinese Taipei, Finland, France, Iceland, Netherlands, Norway, South Africa, Sweden, UK, and USA. In addition, representatives of Global Change Programmes, DIVERSITAS, IGBP, IHDP, WCRP; IAI, ICSU, START, and the EC attended. This meeting provided APN with an opportunity to disseminate information on its activities, in particular those activities that have taken place since the previous IGFA Meeting in September, 2002 and the CAPaBLE Programme.

At this meeting strategic sessions were part of the agenda. The idea behind the arrangement of the strategic sessions was that they would be highly useful both for the 15th IGFA meeting discussions on structural options, as well as for the opening up for follow-up activities in other, more or less IGFA-related, wider settings in 2004 and later. The strategic session covered the following themes 1) “North-South” issues in the





Mr. Toshizo Ido (centre), Governor of Hyogo Prefecture, Japan with Asia-Pacific Forum (EMECS 2003) Presenters (left to right) Mimura, McLean, Nunn, Menasveta and Yamamura

global change context, with the outcome of the Johannesburg WSSD meeting as a framework; 2) Integration; 3) Global change and observation systems; and 4) Funding issues.

**Asia-Pacific Forum (EMECS 2003). Bangkok, Thailand. 19 November 2003**

At the Asian Forum (Environmental Management for Enclosed Coastal Seas, EMECS 2001) a Comprehensive Environmental Assessment for the Asia-Pacific Coastal Zones was proposed, and has since been planned and implemented. At the same time, the APN, which co-sponsored and organized the Asian Forum (EMECS 2001) and this Asia-Pacific Forum (EMECS 2003), initiated a global change coastal zone management synthesis project (see report below).

In Bangkok at the Asia-Pacific Forum (EMECS 2003)—following opening addresses by Mr. Sombo Yamamura (Director, APN Secretariat) and Dr. Piamsak Menasveta (Dean, Faculty of Science, Chulalongkorn University) and attendance by Mr. Toshizo Ido, Governor of Hyogo Prefecture, Japan—keynote presentations featured problem coasts: scientific challenges to address coastal problems in the Asia-Pacific region (Professor Nobuo Mimura); needs and requirements for coastal zone management (Dr. Maitree Duangsawadi); management and mismanagement of island coasts in the Pacific (Professor Patrick Nunn); and APN-coastal research and new directions for integrated coastal management in the Asia-Pacific region (Professor Nick Harvey). The presentations, therefore, covered a variety of important issues ranging from problems versus scientific challenges; needs versus requirements; management versus mismanagement;

and local versus national versus global.

This paved way for an interactive panel session which addressed research gaps and the way forward for coastal zone research. The panel session highlighted that earth system teleconnections and human health are important issues that need to be included in future coastal zone research. We also need to look at traditional methods of coping with environmental problems. The panel session also highlighted the importance of science-policy interface, and in particular the need for policy relevant science. In particular, the Forum realized that coastal zone problems are not seen as being difficult to understand—the difficulties in solutions are more political and motivational, and not scientific. Solutions should also have community involvement and should be a mixture of both top-down and bottom-up approaches as appropriate.

**First APN Global Change Coastal Zone Management Synthesis Workshop. Bangkok, Thailand. 18-19 November 2003**

Back-to-back with EMECS 2003 this APN global change coastal zone management synthesis workshop focused on two major themes, 1) synthesis deliverables/outputs, and 2) timeline and work plan. In particular, the main synthesis deliverables will be a book and a summary report for policy makers and coastal zone managers. Other possible deliverables include website, CD ROM, poster and educational pamphlet for schools. The synthesis book and summary report is expected to be completed in time for APN's tenth anniversary in 2005. It is also planned to launch a tandem book series with EMECS. Overall, the goal of the global change coastal zone management synthesis project is to identify research

gaps and future directions needed to promote the sustainable development of the region's coastal zone.

**1st International Young Scientists' Global Change Conference, Trieste, Italy. 16-19 November 2003**

The International Young Scientists' Global Change Conference was organized by the START International Secretariat at the request of the International Global Change Research Programmes under the ESSP partnership at the First Open Science Conference on Global Change which was held in Amsterdam in July 2001. The conference received worldwide sponsorship from APN, IAI, ICSU, TWAS and the USGCRP. Additional information on the Young Scientists Conference can be downloaded from the conference website at [http://www.start.org/links/cap\\_build/young\\_scientist/ys\\_conference/ys\\_conf\\_overview.html](http://www.start.org/links/cap_build/young_scientist/ys_conference/ys_conf_overview.html).

The main purpose for holding a Young Scientists International Conference was to:

- Stimulate competition among today's leading young global change scientists;
- Encourage excellence in research and capacity building activities spearheaded by promising young scientists from developing countries to facilitate their development into roles of scientific leadership;
- Reward outstanding performance and recognise excellent global change research and capacity building efforts conducted by young scientists from developing countries; and
- Encourage the development of personal and institutional networks by facilitating interaction, and possible collaboration between young scientists, and with more senior scientists to encourage their integration into the global change science community.

The conference was held over 3 days in which 12 sessions incorporating 10 the-



*cont'd on page 4, News from the Secretariat*



APN Programme Manager, Linda Stevenson and APN Liaison Officer for SEA, Anond Snidvongs, networking with APN-funded participants at the Young Scientists' Conference

matic research areas in global environmental change research were highlighted. Two poster sessions were also included in the agenda and over 40 posters were presented at these sessions. In addition, APN was asked to be one of the judges for the poster merits. The research themes covered at the conference were

land-use change; terrestrial and aquatic ecosystems; polar studies; paleoclimatology; impacts of global change; the global carbon and nitrogen cycles; global change, variability, and agricultural systems; aerosols; climate modelling; and human dimensions of global change.

Of the 1100 applications received for the Young Scientists Conference, 80 were selected. Of these, 17 participants from the Asia-Pacific region were directly funded by APN. The poster presentation sessions and the social gatherings provided an opportunity for APN (Linda Stevenson, Programme Manager, APN Secretariat and Anond Snidvongs, APN Liaison Officer for Southeast Asia) to interact with the participants and discuss their work.

Overall, the Young Scientists Conference was a tremendous success. The quality of the science presented in poster and oral presentations as well as the enthusiasm of the participants in relaying their research to their peers

was excellent. Moreover, the interactions among the participants from the entire spectrum of global change sciences, including both natural and social scientists were also very impressive.

### APN Steering Committee Meeting

The 8<sup>th</sup> APN Steering Committee meeting was hosted by Dr. Andrew Matthews, Scientific Planning Group Co-Chair, at the National Institute for Water and Atmospheric Research (NIWA) in Wellington, New Zealand from 11-12 December 2003. The agenda included APN activities since the 8<sup>th</sup> APN Inter-Governmental Meeting in March 2003; financial resources; the proposals process; funded projects; the land use and cover change synthesis report and the progress of the coastal zone management synthesis; future activities; communications; membership/partnership development; an update of the CAPaBLE programme; and preparation for APN's tenth anniversary (evaluation and review). The Steering Committee summary report will shortly be available on the APN website <www.apn.gr.jp> [APN](#)

## GUEST ARTICLE



## TAKING A CONSUMPTION PERSPECTIVE ON GLOBAL ENVIRONMENTAL CHANGE

Louis Lebel, Unit for Social and Environmental Research, Chiang Mai University (louis@sea-user.org; www.sea-user.org)

Consumption is the idea of "using" and "using-up". A consumption perspective [1] on global environmental change involves at least two critical components.

First it looks at the chain of processes involved in the production of commodities and services that involve significant use of natural resources and ecosystem services, and investigates the exchanges at various points along that chain from the perspective of consumption. Commodity chains, for some products, like aquaculturally-produced shrimp, span several countries and ecosystems. Shrimp meal used in Thailand to produce feed may be imported from as far away as Peru. Most of the shrimp grown are exported and sold to Japanese and North American markets. A consumption perspective is complimentary to the more conventional emphasis on production methods found in technologically oriented ap-

proaches to reducing pollution and improving efficiencies. This perspective asks questions about demand and why it is the way it is. Consumption is in many ways the flip-side of production.

Second, and perhaps more important is that it calls attention to those consumption processes that dominate the ends of commodity and service chains, whether it be the actions of retailers and resorts, or households as final consumers. How are wants created? Why do people desire greater mobility? Why do people aspire for more than they can afford? In the case of shrimp this means examining the behavior of people in hotels, restaurants and supermarkets in Japan, USA or Europe. It is also helpful to look at the system of importing, distribution and marketing to understand how demand is created and met. A consumption perspective also means digging deeper into understanding cul-

ture, values and attitudes that frame consumer's expectations. Shrimp in many countries have symbolic value to those that consume them—making them feel and labeling them as wealthy, powerful and otherwise of high social status. Trying to understand land-use changes in the coastal zone mangroves and wetlands of Thailand or Viet Nam requires linking the decisions of shrimp farmers with those of consumers that set the parameters of volumes to be traded, their size and quality.

Consumption perspective is important for understanding how the global food system works, especially for higher value, traded goods. These are especially important for global environmental change because they involve significant intensification of production methods with aggregate consequences for water, ocean ecosystems, the atmosphere and biogeochemical cycles.

Energy consumption is one of the better studied areas of consumption at different levels of organization and linking through to production and distribution systems. Understanding what drives energy system evolution is paramount for studies of the carbon cycle [2]. Mitigation research as well as work on energy conservation and alternative fuels has built up a large body of useful information. Even here, however, our understanding of how changes in values, beliefs and attitudes affect people's desires and consumption decisions about mobility, comfort and convenience are still modest and restricted mostly to studies of advanced industrialized societies.

A consumption perspective, is clearly useful for the analysis of the challenges posed by negative global environmental changes (Figure 1). In this short article I hope to also argue that it is also critical for integrated studies to develop policy solutions.

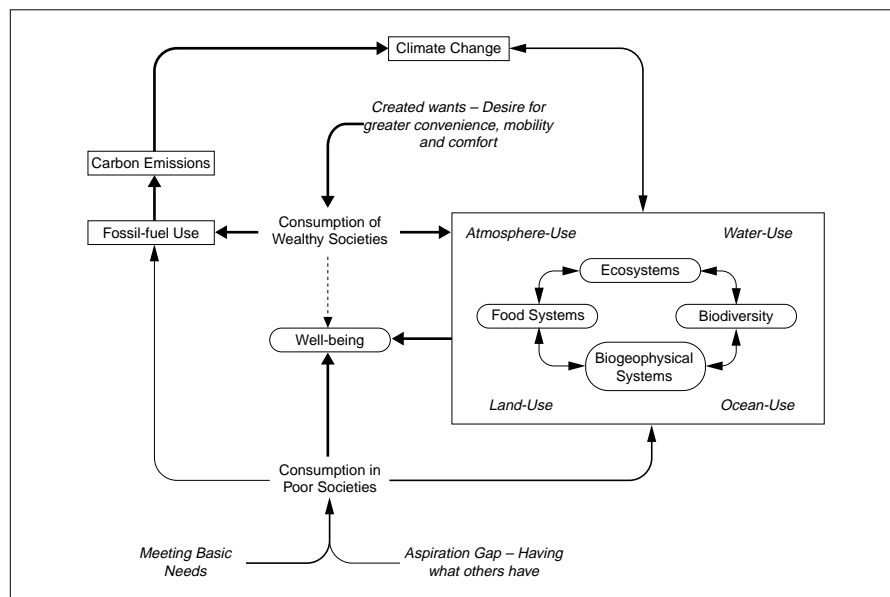
### Over and under

A consumption perspective reveals huge differences between the per-capita consumption levels of the wealthy and poor. Over- and under-consumption both pose problems for sustainable development.

Consumption in wealthy societies often involves large impacts on local and more distant resources. Consumption growth has little impacts, however, on improving well-being (Figure 1). Making more money and pursuing materialistic values does not make people happier [3].

In poor societies energy use, and consequently, carbon emissions are low. Low consumption hinders asset accumulation, market development and innovation. Intensities of use of land and fisheries, on the other hand may be fairly high in total, if not in per capita terms. Consumption growth will often be associated with improvements in well-being, but points of diminishing returns are reached quickly.

For the developing and transitional economies domestic and foreign consumption processes are both important. First, agricultural, aquaculture, fisheries



**Figure 1. Consumption processes are underlying causes of, and sources of responses to, global environmental change. At their extremes the history of, and growth in, consumption of wealthy and poor societies involve distinct processes.**

and timber exports are often very important sectors in these economies. Demand for timber, shrimp, coffee, cocoa, bananas, rubber and other commodities, however, often results in significant transformation of ecosystems and landscapes in the tropics. In some cases the transformations have produced serious ecological problems, and the social development benefits have been marginal or biased towards the powerful and wealthy. Second, manufacturing, such as textiles and plastics, and service sectors like tourism also have multiple effects in these countries, affecting freshwater, air quality and coastal ecosystems.

In the mature economies, like the US, Japan or in Europe, consumption of household goods, energy and other materials has reached very high aggregate levels and for many environmentally significant pathways continues to grow. Dematerialization as a result of efficiency gains is often observed, but for some sectors and behaviors, such as transport, there is little sign of slowing, with air transport for leisure and work becoming a major use of energy.

### Towards the final consumer

The consumption end of production—consumption chains, the focus of much marketing research, has lain outside the scope of most global environmental research. The structures and processes surrounding consumer decisions are, however, crucial to understanding the

human driving forces of global environmental change.

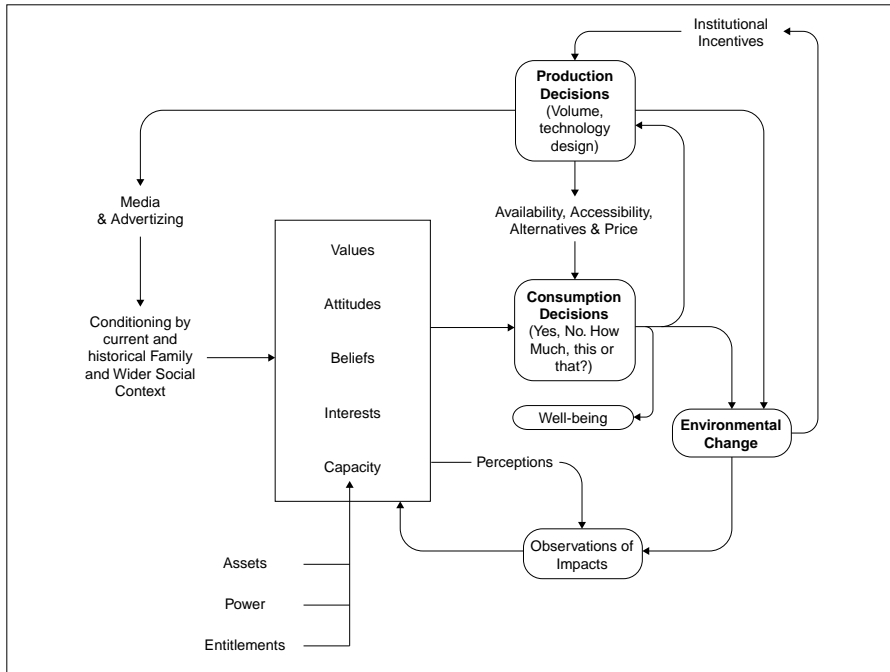
A small but growing body of work on the political economy of consumption, for example, is unpacking some of the more common myths like consumer sovereignty. Consumer choice is constrained by many factors; producers don't just make what consumers want! Consider the role of advertising, the size of marketing budgets, television programming, and the media in defining what is a desirable, or normal, "household". Corporations have a vested interest in widening the *aspiration gap*—the distance between what people currently have and what they feel they need [8].

There is still relatively little consensus on how to conceptualize consumption processes that can take into account both individual behavioral decisions and institutions. Here I pose a draft framework (Figure 2) illustrating some of the key variables that research from a consumption perspective must measure [9]. This framework was developed with households in mind as final consumers, but in reality the purchasing decisions of private corporations and government agencies can be as important and also need to be analyzed with their own version of the framework.

### Unfashionable research

Although I argue that consumption is greatly under-represented in the current

*cont'd on page 6, Guest Article*



**Figure 2. Unpacking the drivers of consumption underlines the role of social institutions in forming the values, beliefs and attitudes that underlie consumption decisions.**

research agenda and activities of the global environmental change programmes, there is nevertheless significant groundwork already in place [e.g. 7]. For example, the Science Plan and activities of the Industrial Transformations project of IHDP, deals in many parts with ideas about social transitions, dematerialization, declining pollution intensities, and the tools for analyzing the decoupling economic progress and pollution or resource-use [4]. More recently the Implementation Plan of the Global Carbon Project makes several explicit references and calls for research on consumption-related processes [5].

These are a start, but there is clearly much more thought needed in articulating the kind of penetrating research questions that would really open up the “consumption” black box, especially as it moves towards the final consumer end of chains and explanations are sought about underlying reasons for societies promoting particular values, beliefs and attitudes [6]. We need to address questions like:

What are the institutional and behavioral changes required to move away from a carbon-culture? What are the underlying processes reinforcing beliefs that increasing and high levels of mobility lead to improved well-being? What kinds of policies have been effective at decoupling improvements in well-being from increasing energy consumption

and CO2 emissions of households, firms and government departments?

What are the primary determinants, and their interactions, driving wasteful, over-consumption in wealth societies? How can values that emphasize environmentally significant consumption be changed? What policies can help bring about these value changes over time?

How will the rising growth in consumption of water to serve interests of intensified agriculture, residential, recreational and industrial uses interact with altered patterns in absolute supply arising from changes in climate variability? How does consumption of high-valued agriculture and fisheries products from developing countries influence environmental management of resources?

Research on consumption and global environmental change provides some splendid opportunities for reversing the traditional teacher-student relationships of the north and south. Researchers with “south” values are very much needed to help analyze and explain the behaviour of “north” societies and suggest policies for improving well-being. Ultimately “value-transfers” may be more important for sustainability of the earth system than “technology-transfers”.

I end this article with an uncomfortable question:

*Why has consumption been largely absent from global environmental change research agendas?*

Compare the attention given in research journal articles and the media to population, deforestation and the weak environmental management capacities of the state in development countries with the handling of consumption. This is not to downplay demography, a vitally important field of study, or studies of poor land management practices, but to emphasize the *convenient* blind-spot. Studies of consumption behaviour of scientists and their society, living in the wealthiest nations or strata of developing nations, would make many people feel uncomfortable, even hypocritical. And that just doesn't sell. **APN**

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- [9] USER will host a workshop in Chiang Mai on Sustainable Consumption in May/June 2004 to follow-up a web-based conference on this topic held in Sep-Oct 2003. For additional information please contact [louis@sea-user.org](mailto:louis@sea-user.org) or visit [www.sea-user.org/e-conference.php](http://www.sea-user.org/e-conference.php)

## APN SPONSORED PROJECT 2003-10 “BUILDING LOCAL CAPACITY FOR GLOBAL CHANGE RESEARCH: THE MILLENNIUM ECOSYSTEM ASSESSMENT SUB-GLOBAL ACTIVITIES IN THE ASIA-PACIFIC REGION”



Global change is increasingly understood to have causes and effects that span multiple scales, from the local to the global, but information tends to be concentrated on global concerns. Decision-makers at other scales often lack credible scientific information about ecosystem change in their communities.

Underlying this is the need to build the capacity of institutions and individuals to undertake assessments of relevant scientific information. In recognition of this, stakeholders from many countries within the Asia-Pacific have become involved in sub-global assessment activities under the Millennium Ecosystem Assessment (MA).

The MA is an international scientific assessment designed to meet the needs of decision-makers and the public for information concerning the consequences of ecosystem change for human well-being, and the options for responding to those changes. It will help to meet the assessment needs of the Convention on Biological Diversity (CBD), the Convention to Combat Desertification (CCD), the Ramsar Wetlands Convention, and the Convention on Migratory Species (CMS), as well as the needs of other users such as the private sector and civil society.

The MA focuses on ecosystem services, how ecosystem changes have affected human well-being, scenarios of how changes might affect people in the future, and response options that might be adopted at local, national or global scales to improve ecosystem management, and thereby contribute to human well-being and poverty alleviation.

The MA is a “multi-scale” assessment. In addition to the global assessment, the MA consists of interlinked sub-global assessments undertaken at scales ranging from local to national to regional. These sub-global assessments directly meet the needs of decision-makers at the scale at which they are undertaken. At the same time, each assessment is strengthened by information and perspectives gained from one another, and from the global assessment.

The Asia-Pacific region features prominently in the set of MA sub-global assessments. Presently, there are activities planned or underway in China, Fiji, India, Indonesia, Kazakhstan, Mongolia, Nepal, Papua New Guinea, Philippines, and Viet Nam. There are experts involved from those countries, as well as from Australia, Malaysia, and Thailand. As part of the sub-global assessment programme, the MA endeavors to build the capacity of institutions and individuals involved in the various sub-global assessments to conduct global change research.

Each sub-global assessment is developing scenarios that describe how ecosystem services and their impacts on human well-being could change under various plausible future changes in driving forces. Scenarios are not meant to predict the future, but rather to explore the consequences of different decisions that could be taken in the present.

In April 2003, the MA held a four-day workshop on scenarios and modeling in Penang, Malaysia. There were thirty participants from the various MA sub-global assessment activities, including thirteen from the Asia-Pacific who were supported by APN. The workshop was designed to provide training on the process of developing scenarios, including the use of quantitative models on the impacts of changes in driving forces on ecosystems and human well-being, as well as developing plausible storylines. Structured to be highly interactive, the workshop included exercises that utilised discussion time in breakout groups, as opposed to mostly lectures. Participants from the various sub-global assessments also shared approaches they are using for their scenarios, and learned about approaches being applied at the global level. This exchange yielded important insights on scenario-building at both the local and global levels.

During the workshop, participants were introduced to the strengths and weak-



Participants of the APN-supported MA workshop on scenarios and modelling. Penang, Malaysia

nesses of various approaches to scenarios (e.g. qualitative vs. quantitative, exploratory vs. anticipatory). They discussed specific types of scenarios and modeling approaches, including those used for climate change (e.g. the Intergovernmental Panel on Climate Change emissions scenarios), land use and land cover change, socio-economic change (e.g. Shell), and UNEP's Global Environmental Outlook-3 scenarios. Specific methods used by the sub-global assessments, such as the local village assessments in India, were presented. Scenarios were also discussed as a tool for engagement with stakeholders. Participants then joined small group exercises to gain

more experience in building scenarios. Participants' feedback on the workshop was very positive. Most felt that the workshop achieved the original aims and had fulfilled their expectations. Materials used in the workshop have been compiled into a training module that is available from the MA website ([www.millenniumassessment.org](http://www.millenniumassessment.org)). The MA has encouraged participants to share their experiences and learning with other members of their sub-global assessment teams, and to use the training module as a tool to train others.

During 2004, the MA will hold two meetings of the Sub-Global Working

Group, which groups all the MA sub-global assessments. The meetings will focus on the exchange of information and substantive findings from each of the sub-global assessments, providing opportunities to share lessons learned and best practices for conducting multi-scale assessments. The contributions to this report by the assessments being undertaken in Asia Pacific will be significant. Representatives from these assessments will join other authors in writing the sub-global technical synthesis report as part of the core set of MA publications, with a Summary for Decision-Makers written for a broad audience. **APN**



## OCEANIA

**8-11 December 2003.**

### **Third APN Workshop on Climate Variability and Trends in Oceania. Auckland, New Zealand**

The APN Workshops on climate variability and trends in Oceania are contributing to increased understanding by searching and extending historical climate data back over long periods, and refining these for changes in site, exposure and instrumentation. The description of climate variability and trends provides answers that IPCC assessments will address, and extends previous knowledge on regional climate variability. The compilation of high-quality series of climate data allows the monitoring, detection and attribution of climate change, particularly in Oceania. The first Workshop from 13-15 September 2000 had wide involvement of Pacific Island Countries and national meteorological services in the region. Fiji, Tuvalu and Tonga are key collaborators with New Zealand and Australia, with involvement from nine other Pacific Island Countries, in collaboration with the South Pacific Regional Environment Programme (SPREP) and the WMO Sub-Regional Office in Apia. The second Workshop, from 5-9 November 2001 had partici-

pants from eleven Pacific Island Countries, Australia, New Zealand, and the WMO Sub-Regional Office.

The aims of the Third Workshop in Auckland, led by Dr. Jim Salinger at the National Institute of Water & Atmospheric Research (NIWA), were to widen involvement to thirteen Pacific Island Countries, and introduce new techniques and software for metadata compilation, documentation and interpretation. Capacity building continued through training of software specifically designed for storing metadata information. Climate trends were updated, and workshop participants discussed how comprehensive climate data sets can contribute to a regional climate information service for Oceania.

Overall, the workshop made a significant contribution towards providing methods and techniques, and to develop a simple database to document and store metadata within Oceania countries. Training and software were provided to the participants. Use of the information to contribute to a regional climate information service was explored, and capacity building continued through the on-going technical support before, during and after the workshop. This enhances both the regional and national capacity for Oceania countries to determine and understand their own climate variability and trends, and for regional participation in studies to monitor and detect climate variability and trends.

## SOUTH ASIA

**6-9 October 2003.**

### **Training Workshop on Preparation of Dhaka City State of Environment (SoE) Report and Launching the SoE Report of Bangladesh (Bangla Version). Dhaka, Bangladesh**

A four day training workshop was jointly organized by Bangladesh Centre for Advanced Studies (BCAS), Department of Environment (DoE) and United Nations Environment Program (UNEP) to assess the national capacity of Bangladesh to make accurate environmental decisions regards sustainable development, enhance the availability of information on all aspects of the environment and socioeconomic development, as well as to establish a strong information network with a uniform format of data. Details of this workshop are available on <<http://bcas.net>>.

**11-13 November 2003.**

### **Indo-US Workshop on Modeling of Transport of Air Pollutants. Nagpur, India**

This Indo-US Workshop was sponsored by the Indo-US S&T Forum of Department of Science and Technology and the Council of Scientific & Industrial Research. During the workshop a number of available modeling tools, which could help in the estimation of the distribution of atmospheric pollutants were discussed as well as studies related to the impacts of atmospheric pollutants on human health and the

agriculture sector were also discussed. Details of this workshop are available on <[www.osc.edu/research/pcrm/indous-workshop/](http://www.osc.edu/research/pcrm/indous-workshop/)>.

#### **New Publication:**

“Climate Change and India: Vulnerability Assessment and Adaptation” Edited by P.R. Shukla, Subodh K. Sharma, N.H. Ravindranath, Amit Garg and Sumana Bhattacharya, Published by Universities Press (India).

*Compiled from report by APN Liaison Officer, Dr. C. Sharma*

## **SOUTHEAST ASIA**

### **21-22 October 2003.**

#### **High Level Consultation Meeting for SEAGOOS. Petaling Jaya, Malaysia**

High level officials from eight South-east Asian countries met at the Malaysian Meteorological Service Headquarters to strengthen the development of Southeast Asian Global Ocean Observing System (SEAGOOS). The Meeting, chaired by Professor Ho Sinn Chye, Director General, Malaysian National Oceanographic Directorate, arrived at the decision to establish the SEAGOOS Regional Alliance with an office based at the National University of Singapore. Its objective is to promote operational oceanography throughout Southeast Asia. The Meeting also appointed Dr. Liew Soo Chin as the SEAGOOS Coordinator, and an Interim Steering Committee was formed.

### **4 November 2003.**

#### **Application of Climate Prediction in Rice Production in the Mekong River. Ho Chi Minh City, Viet Nam**

The Meeting was held at the Sub-Institute of Hydrometeorology of South Viet Nam to conclude a regional research project led by Mrs. Nguyen Thi Hien Thuan, and funded by the START Advanced Institute on Climatic Variability and Food Security. During the meeting, participants discussed the impacts of ENSO on temperature and rainfall in the Mekong River delta, as well as the operational seasonal prediction of climate variability and rice production using DSSAT crop simulation software.

### **11-13 November 2003.**

#### **2003 International Symposium on the Climate System of Asian Monsoon and its Interaction with Society. Khon Kaen, Thailand**

The Symposium was sponsored by the WMO Project on Global Energy and Water Experiment (GEWEX), Asian Monsoon Experiment in the Tropics (GAME-T) and hosted by the National Research Council of Thailand. The four main themes of the Symposium were: Asian Monsoon System Studies; SKYNET Atmospheric Radiation and Weather Observation at Asian Sites; Monsoon and Society, and Hydrology; and Water Resources in Southeast Asia. Over 70 oral presentations and almost 30 posters were presented, many of which were by young scientists from East and Southeast Asian countries.

### **1-5 December 2003.**

#### **Professor Paul J. Crutzen visited Thailand**

Professor Paul J. Crutzen, the 1995 Nobel Laureate for Chemistry and an expert on earth climate, the ozone layer and the environmental consequences of a nuclear war, visited Thailand as a part of a series of 6-month events entitled “Bridges: Dialogues Towards a Culture of Peace.” The program was hosted by the International Peace Foundation in partnership with various national, international organizations, and other institutes and corporations. The series of 6-month events between November 2003 and April 2004 were organized in contribution to “The Decade for a Culture of Peace and Non-Violence,” initiated and promoted by the United Nations General Assembly.

During the week of 1-5 December 2003, Prof. Crutzen gave lectures and keynote speeches on “Air pollution in Asia and its impact on regional and global climate” at Chulalongkorn University, the Ministry of Natural Resources and Environment, and at Chiang Mai University. In his speech Prof. Crutzen explored pathways as to how to meet these challenges. Apart from these events, Prof. Crutzen also spoke at the Foreign Correspondents Club of Thailand; at the Asian Institute of Technology on “The Antarctic ozone hole—A manmade chemical instability of the stratosphere—What should we learn from it?”; and at Khon Kaen University

on “The Anthropocene: Human activities as a new geological factor”.

The visit of Prof. Paul J. Crutzen was presented by Kasikornbank PCL and co-sponsored by Austrian Airlines, the Dusit Thani Hotel, and Ogilvy Asia Pacific and Unocal. (for more information please visit website: [www.peacefoundation.net](http://www.peacefoundation.net))

### **8-9 December 2003.**

#### **Applying Climate Information to Enhance the Resilience of Farming Systems Exposed to Climatic Risk in South and Southeast Asia: APN Project Meeting; and 10-11 December 2003 Capacity Building Workshop. Hanoi, Viet Nam**

These two events were integral component of APN Project #2003-03, led by Dr. Holger Meinke, Queensland Department of Primary Industries, Australia. The project involved study sites in India, Indonesia and Pakistan. During the Project Meeting, principle investigators and international experts from Australia, Netherlands, Thailand and U.S.A. discussed project implementation and future activities, including the future of the WCRP/IGBP/IHDP/START Climate Prediction and Agriculture (CLIMAG) Program.

Immediately after the Project Meeting, a Capacity Building Workshop convened with approximately 30 invited Vietnamese delegates. Participants were briefed by the project PI and main collaborators on the latest findings from regional and local climate variability modeling, and impacts on crops, as well as operational information dissemination to farmers. The Workshop also discussed the possibility of adding more study sites in Viet Nam, such as in Long An or Quang Tri Provinces.

*Compiled from report by APN Liaison Officer, Dr. Anond Snidvongs*

## **TEMPERATE EAST ASIA**

### **9 September to 3 October 2003. The World Climate Change Conference 2003. Moscow, Russian Federation**

The World Conference on Climate Change, supported by Russian President Vladimir Putin, UN and G8 leaders, convened in Moscow with the main goal of providing a comprehensive dis-

*cont'd on page 10, Regional News*

cussion of the scientific aspects of both the natural and human impacts on climate change. The major topics for discussion were science of climate change; ecological, social and economic impacts of climate change; mitigation of and adaptation to climate change and the role of technology; and stakeholders' dialogue (governments, NGO's, business, scientific community and civil society), the UNFCCC, and the Kyoto Protocol and their evolution.

The conference was attended by 1,200 people representing governments, scientific communities and business circles from over 52 countries. The committee invited 50 scientists, who are well-known in the field of climate change, to present papers at the plenary sessions.

#### 7-10 October 2003.

#### **APEC Climate Network (APCN) Symposium on the Multi-Model Ensemble for Climate Prediction. Jeju, Republic of Korea**

The objective of the symposium was to derive suggestions for the future direction of research and development for better SI forecasts, underscoring the limitations of the current state-of-the-art climate dynamic prediction system. Symposium topics included multi-model ensemble climate prediction activities; multi-model ensemble techniques; climate and ocean modelling; sensitivity and predictability of the climate dynamic prediction system.

The APEC Climate Network (APCN) project is for the real-time exchange of climate prediction information among the APEC member economies in order to mitigate the effects of natural disasters, and to benefit industries and socio-

economic activities in the Asia-Pacific region. The APCN project is focused on regional climate monitoring and prediction aimed at integrated preventive strategy development. In particular, the APCN project is geared towards developing a multi-model ensemble system for better seasonal predictability, and promoting ongoing research and development of the science and methodologies underpinning seasonal prediction.

#### 14-19 October 2003.

#### **TWAS 9th General Conference and 20th Anniversary Celebration. Beijing, China**

The Third World Academy of Sciences' (TWAS) 9th General Conference and 20th anniversary celebrations, convened by TWAS and TWNSO in collaboration with the Chinese Academy of Sciences (CAS) and other scientific organizations and governmental agencies of China convened in Beijing. More than 3000 delegates from 77 countries attended the event, including 13 government ministers. Highlights of the conference included an address by China's President Hu Jintao, given during the Opening Ceremony, and presentations by two Nobel Laureates.

The Opening Ceremony of the Conference took place at the Great Hall of the People on 16 October 2003, at the presence of H.E. Hu Jintao, President of People's Republic of China.

New members and prize winners were announced at this TWAS Conference. Forty-nine scientists from 20 countries were elected new members of the Academy, bringing TWAS's total membership to more than 700. For the first time, scientists from Tajikistan and

Uzbekistan were elected, raising the number of countries represented in the Academy to 81.

TWAS publications issued at the conference included: the TWAS Yearbook 2003; the TWNSO Yearbook 2003; a 20th anniversary celebration book containing congratulatory messages from over 100 heads of state, ministers of science, heads of national and international organizations and distinguished scientists. Drafts of the 20-year history of TWAS and the Academy's Third Strategic Plan were also circulated to the membership.

Full proceedings of the conference will be published and distributed by TWAS as soon as possible.

CAS also published a 494-page hard-back book to commemorate the conference: 'Science Progress in China', edited by CAS President Lu Yongxiang.

#### 1-3 December, 2003.

#### **International Workshop on Flux Observation Research in Asia. Foreign Experts Building Beijing, People's Republic of China.**

The workshop discussed the basic theories and application techniques on flux observation in order to improve the study level of flux observation of the countries in Asia. Topics of the workshop included micrometeorology on flux observation; eco-physiology of the carbon cycle; and soil respiration of the ecosystem.

*Compiled from report by APN Liaison Officer, Ms. Yang Ying*

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#### **To be arranged**

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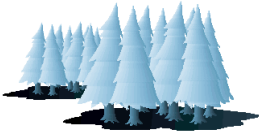
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**Prof. Roland Fuchs (SPG)**

### START OCEANIA

**Dr. Kanayathu Koshy (SPG)**

### TEACOM

**Prof. Congbin Fu (SPG)**

\* Indicates Co-Chair of SPG

## PROJECTS FUNDED BY APN IN 2003/2004

The APN's 8<sup>th</sup> Inter-Governmental Meeting decided to fund 17 projects from an APN funded activities budget of approximately 750,000 US dollars contributed by the Ministry of Environment of Japan; the National Science Foundation on behalf of the U.S. Climate Change Science Program (NSF/USCCSP); and Hyogo Prefectural Government. Projects may also be funded from other sources not noted here, including in-kind support from countries.

### #2003-01: Indices and Indicators for Monitoring Trends in Climate Extremes

Project Leader: Michael Manton, Bureau of Meteorology Research Centre, Australia  
 Email: m.manton@bom.gov.au

### #2003-02: Applying Climate Information to Enhance the Resilience of Farming Systems Exposed to Climatic Risk in South and Southeast Asia

Project Leader: Holger Meinke, Department of Primary Industries, Australia  
 Email: Holger.Meinke@dpi.qld.gov.au

### #2003-03: Global Change Impact Assessment for the Himalayan Mountain Region for Environmental Management and Sustainable Development

Project Leader: Kedar Lal Shrestha, Institute for Development and Innovation, Nepal  
 Email: klshrestha@wlink.com.np

### #2003-04: Water Resources in South Asia: an Assessment of Climate Change—Associated Vulnerabilities and Coping Mechanisms

Project Leader: Amir Muhammed, National University for Computer and Emerging Sciences, Pakistan  
 Email: amir@nu.edu.pk

### #2003-05: Inventory of Glaciers and Glacial Lakes and the Identification of Potential Glacial Lake Outburst Floods (GLOFs) Affected by Global Warming in the Mountains of India, Pakistan and China/Tibet Autonomous Region

Project Leader: J.G. Campbell, International Centre for Integrated Mountain Development, Nepal  
 Email: basanta@icimod.org.np

### #2003-06: PABITRA Network for Collaborative Research on the Ecology of Global Change in Island Landscapes of the Tropical Pacific

Project Leader: Dieter Mueller-Dombois, University of Hawaii, USA  
 Email: amdhawai@aol.com

### #2003-07: The 1st International Young Scientists Global Change Conference, November 16-19, 2003, Trieste, Italy

Project Leader: Roland Fuchs, International START Secretariat, USA  
 Email: rfuchs@agu.org

### #2003-08: Regional, Multi-scaled, Multi-temporal Land-use and Land Cover Data to Support Global Change Research, and Policy Making: a SEARRIN LUCC Project

Project Leader: David Skole, Michigan State University, USA  
 Email: skole@msu.edu

### #2003-09: Modelling Regional Climate Change for Southeast Asian Countries

Project Leader: John McGregor, CSIRO Atmospheric Research, Australia  
 Email: John.McGregor@csiro.au

### #2003-10: Building Local Capacity for Global Change Research: the Millennium Ecosystem Assessment Sub-global Activities in the Asia-Pacific Region

Project Leader: Walter Reid, Millennium Ecosystem Assessment, Malaysia  
 Email: reid@millenniumassessment.org

### #2003-11: 3rd Workshop on Climate Variability and Trends in Oceania

Project Leader: Jim Salinger, National Institute of Water and Atmospheric Research, New Zealand  
 Email: j.salinger@niwa.com

### #2003-12: The Mega-Deltas of Asia: a Conceptual Model and its Application to Future Delta Vulnerability

Project Leader: Zhongyuan Chen, East China Normal University, China  
 Email: Z.Chen@sklec.ecnu.edu.cn

### #2003-13: Capacity Development Training for Monitoring of POPs in the East Asian Hydrosphere

Project Leader: Zafar Adeel, United Nations University, Japan  
 Email: king@hq.unu.edu

### #2003-14: The 2003 Open Meeting of the Human Dimensions of Global Environmental Change Research Community

Project Leader: Ben Malayang, University of the Philippines, Philippines  
 Email: mmmm@laguna.net

### #2003-15: Travel Support for Asia Marine Scientists to Attend the Final JGOFS Open Science Conference

Project Leader: Mary Zawoysky, U.S. JGOFS Planning and Data Management Office, USA  
 Email: mzawoysky@whoi.edu

### #2003-16: Integrating Carbon Management into Development Strategies of Cities—Establishing a Network of Case Studies of Urbanisation in the Asia-Pacific

Project Leader: Rodel Lasco, University of the Philippines, Philippines  
 Email: rlasco@laguna.net

### #2003-17SG: Seed Grant for Proposal Development: Integrating Climate Variability and Human Activities in relation to Northeast Asian Land-Ocean Interactions and their Implications for Coastal Zone Management

Project Leader: Vladimir Kasyanov, Institute of Marine Biology FEB RAS, Russian Federation  
 Email: inmarbio@mail.primorye.ru



# CALENDAR OF GLOBAL CHANGE RESEARCH ACTIVITIES

Events in **bold** are APN or co-APN sponsored events.

2004	
12-29 JAN	<b>APN/CAPaBLE Training Course on Future Climate Scenarios and Impact of Climate Change on Hydrological Regime. Chonburi, Thailand. Contact: Suppakorn Chinverno &lt;suppakorn@start.or.th&gt;</b>
14-16 JAN	<b>Fifth International Conference on Asian Marine Geology. Bangkok, Thailand. Contact: Dr. Thanawat Jarupongsakul &lt;thanawat@sc.chula.ac.th&gt;</b>
15-20 JAN	<b>Joint International Conference and First Annual Meeting of IGCP-475 DeltaMAP and APN Project on the Mega-Deltas of Asia. Bangkok and Ayutthaya, Thailand. Contact: Dr. Thanawat Jarupongsakul &lt;thanawat@sc.chula.ac.th&gt;</b>
20-22 JAN	<b>International Workshop on Global Change, Sustainable Development and Environmental Management in Central Asia. Tashkent, Uzbekistan. Contact: Svetlana Nikulina &lt;Nikulina@envp.uzsci.net&gt;</b>
FEB TBA	<b>Workshop on Glacial Lake Outburst Floods. Kathmandu, Nepal. Contact: &lt;basanta@icimod.org.np&gt;</b>
4-28 FEB	<b>Electronic Conference on Integrating Carbon Management into the Development Strategies of Cities. Contact: Dr. Louis Lebel &lt;llebel@loxinfo.co.th&gt; &lt;http://www.sea-user.org/e_conference.php&gt;</b>
9-20 FEB	<b>APN/CAPABLE Training Course on Impacts of Climate Change on Rain-Fed Rice Production. Chiang Mai, Thailand. Contact: Suppakorn Chinverno &lt;suppakorn@start.or.th&gt;</b>
9-27 FEB	<b>Convention on Biological Diversity (CBD): 7th Meeting of the Conference of the Parties (COP 7) and 1st Meeting of the Parties to the Cartagena Protocol on Bio safety (MoP-1). Kuala Lumpur, Malaysia. Contact: Web: &lt;http://www.biodiv.org/meetings/cop-07/&gt;</b>
15-20 FEB	<b>2004 Ocean Research Conference. Hawai'i, USA. Contact Web: &lt;http://aslo.org/honolulu2004/&gt;</b>

23-27 FEB	<b>International Workshop on the Role of Indian Ocean in Climate Variability over India. Pune, India. Contact: Dr. Rupa Kumar Kolli &lt;indoclim@tropmet.res.in&gt;</b>
22-24 MAR	<b>9th APN Inter-Governmental Meeting and Scientific Planning Group Meeting. Canberra, Australia. Closed Meeting.</b>
23 MAR	<b>Global Change Symposium. Canberra, Australia. Contact: APN Secretariat &lt;info@apn.gr.jp&gt;</b>
23-25 MAR	<b>Workshop on Indices and Indicators for Monitoring Trends in Climate Extremes. Melbourne, Australia. Contact: Michael Manton &lt;m.manton@bom.gov.au&gt;</b>
31 MAR-3 APR	<b>IOC-SCOR-GLOBEC Symposium on Quantitative Ecosystem Indicators for Fisheries Management. Paris, France. Contact: Philippe Cury &lt;curypm@uctvms.uct.ac.za&gt; or Willy Christensen &lt;v.christensen@fisheries.ubc.ca&gt;</b>
2-6 MAY	<b>Fourth World Fisheries Congress. Reconciling Fisheries with Conservation: The Challenge of Managing Aquatic Ecosystems. Vancouver, Canada. Contact: Congress Secretariat &lt;fish2004@advance-group.com&gt; Web &lt;www.worldfisheries2004.org&gt;</b>
3-21 MAY	<b>Advanced Institute on Vulnerability to Global Environmental Change. Laxenburg, Austria. Contact: Sara Beresford &lt;sberesford@agu.org&gt;</b>
17-26 MAY	<b>Training Program on DSSAT Version 4, Assessing Crop Production, Nutrient Management, Climatic Risk and Environmental Sustainability with Simulation Models. Georgia, USA. Contact: Art Cain or Kay Crawley &lt;conteduc@griffin.uga.edu&gt;</b>
21-22 MAY	<b>1st International Workshop on Human Dimensions of Climate and Environmental Change in Central Asia. Grand Rapids, Michigan, USA. Contact: Elena Lioubimtseva &lt;lioubime@gvsu.edu&gt; Web &lt;http://www4.gvsu.edu/lioubime/CentralA_files/a_call_for_papers_and_participat.htm&gt;</b>
26-28 MAY	<b>PAGES Open Science Meeting, Paleoclimate, Environmental Sustainability and our Future. Beijing, China. Contact: Web &lt;http://www.pages2004.org/&gt; Email &lt;osm@pages.unibe.ch&gt;</b>
MAY TBA	<b>Urban Dimensions of Environmental Change: Science, Exposures, Policies and Technologies. Shanghai, China. Contact: Web &lt;http://www.montclair.edu/globaled/shanghai/index.htm&gt;</b>
15-28 JUNE	<b>Pacific Island Training Institute on Climate and Extreme Events. University of the South Pacific, Suva, Fiji. Contact: Kanayathu Koshy &lt;koshy_k@usp.ac.fj&gt;</b>
20-25 JUNE	<b>Estuarine and Coastal Sciences Association (ECSA) and Estuarine Research Federation (ERF) International Conference (ECSA 37—ERF 2004 Conference). Ballina RSL, Australia. Contact: Karen</b>

21-25 JUNE	<b>CLIVAR 2004: 1st International CLIVAR Science Conference. Baltimore, USA. Contact: &lt;info@clivar2004.org&gt; Web: &lt;http://www.clivar2004.org/&gt;</b>
21-24 JUNE	<b>6th International Conference on Hydroinformatics. Singapore. Contact: Secretariat: &lt;hic2004@inmeet.com.sg&gt; Web &lt;http://www.eng.nus.edu.sg/civil/conf/HIC2004&gt;</b>
5-8 JULY	<b>The 2nd Asia Pacific Association of Hydrology and Water Resources (APHW) Conference. Singapore. Contact: Web &lt;http://www.secondaphw.org/&gt;</b>
5-9 JULY	<b>First Asia-Oceania Geosciences Society Annual Meeting and Exhibition. Singapore. Contact: Cheng-Hoon Khoo &lt;kch@meetmatt.net&gt;</b>
23-25 JULY	<b>Strategic Scientific Workshop, "Towards integrated multidisciplinary study of the Northern Eurasia climatic Hot Spots". Tomsk, Russian Federation. Contact: Web &lt;http://scert.ru/en/conferences/enviromis2004/&gt;</b>
1-3 SEP	<b>Climate Change in High Latitudes. Bergen, Norway. Contact: Web &lt;http://www.bjerknes.uib.no/conference2004/&gt;</b>
4-9 SEP	<b>8th International Global Atmospheric Chemistry Conference. Christchurch, New Zealand. Contact: Kim Gerard &lt;kim@conference.co.nz&gt; Web &lt;http://www.igaconference2004.co.nz/&gt;</b>
5-9 SEP	<b>Coastal Zone Asia Pacific. Brisbane, Australia. Contact: Web &lt;http://www.coastal.crc.org.au/czap04/index.html&gt;</b>
24 OCT-6 NOV	<b>IHDP-IAI Global Environmental Change Institute on Globalisation and Food Systems—Scientific Workshop and Science-Policy Forum. Costa Rica. Contact: Ms. Maarit Thiem &lt;thiem.ihdp@uni-bonn.de&gt; Web &lt;http://www.ihdp.org/&gt; (forms under "news" section)</b>
17-25 NOV	<b>IUCN World Conservation Congress. Bangkok, Thailand. Contact: Ursula Hiltbrunner &lt;ursula.hiltbrunner@iucn.org&gt; Web &lt;http://www.iucn.org/about/wcc/&gt;</b>
TBA	<b>Third Worldwide Chinese International Conference on Oceanic and Atmospheric Sciences Beijing, China. Contact: Bin Wang &lt;wab@lasg.iap.ac.cn&gt;</b>

2005	
JAN TBA	<b>2nd Annual Meeting of the IGCP-475 "Deltas in the Monsoon Asia-Pacific Region: DeltaMAP". Ho Chi Minh City, Viet Nam. Contact: Dr. Yoshiki Saito &lt;yoshiki.saito@aist.go.jp&gt;</b>

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