

APN

Asia-Pacific Network for Global Change Research

APN Newsletter
Vol.8, No.3
July 2002

Message from the APN Director

The world's largest sporting event, FIFA world cup football, was held in Korea and Japan. Kobe, which is the location of the APN Secretariat, was one of the venues of the games. The citizens, as well as Secretariat staff, were extremely excited about this global festival. On the other hand, another exciting event for sustainable development, the 4th Preparatory Committee of the Johannesburg Summit, was held in June 2002 in Bali, Indonesia. It was expected to reach consensus on a document titled "Bali Commitment" in order to implement further AGENDA 21. However, until the final day negotiations at ministerial level continued and several controversial issues remained unsolved. The concept of

sustainability was, however, further elaborated into three pillars—social, economic and environmental. Several scientific side events were also organized in conjunction with the 4th PrepCom, and science and technology for sustainable development was discussed as a new research area. I would like to consider the new trends regarding global change research for further development of APN activities. The secretariat is now working on the proposal process, particularly pre-proposals, as well as preparing several scientific workshops. We look forward to receiving quality proposals and a fruitful harvest in autumn this year.

—Ryutaro Yatsu

NEWS FROM THE SECRETARIAT

APN CALL FOR PROPOSALS 2002

The deadline for full proposals is **Wednesday, 25 September 2002, mid-night Japanese time.**

Proponents should use the "The APN Call for Proposals 2002—Guide for Proponents" in making their application, as changes have been made to previous versions. The updated 2002 guide can be found on the APN homepage

<www.apn.gr.jp>. Alternatively, information and guidelines can be obtained from Dr. Linda Stevenson, APN Programme Manager <l Stevenson@apn.gr.jp>.

APN SYNTHESIS SYMPOSIUM AND WORKSHOP

On 9-11 September 2002 the APN will host a synthesis workshop on "Land Use and Land Cover Change" in Kobe, as part

of efforts to catalogue APN scientific products in the forthcoming annual report. The workshop will be lead by Professor Sharifah Mastura Syed Abdullah of the Universiti Kebangsaan Malaysia. Sharifah was the project leader of successful APN project (2000-13) "Land Use and Land Cover Change for Southeast Asia." There will also be a half-day symposium open to local stakeholders in Hyogo Prefecture, where the APN Secretariat is based.

cont'd on page 2, News from the Secretariat



Message from the Director	1
News & Announcements from the Secretariat	1
Featured Organisation:	
East West Center (EWC)	2
State Key Laboratory of Resources and Environmental Information System (LREIS)	5
Framework of APN	7
Regional News	8
APN Liaison Officers	10
People and Projects	11
Calendar	12

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.

WANTED: COLLABORATORS

The following table lists some of those proponents who submitted a pre-proposal in June 2002, and who are now seeking collaboration. Contact details (by e-mail) are provided should any project be of interest. (Please note that the deadline for full proposals is 25th September, midnight, Japanese time.) [APN](#)

Title	Regional Focus	Proponent Details	Proponent Requests
Baikal Region at the Turn of the Centuries: Environmental Change and Sustainable Development on the Territory of the Republic of Buryatia	TEA	G. G. Golubev, Russia ggolubev@mtu-net.ru	Seeks cooperating countries as a first step in the implementation of the project
3rd APN Workshop on Climate Variability & Trends in Oceania	Oceania	J. Salinger, New Zealand j.salinger@niwa.co.nz	Seeks Human Dimension partners in which direct input from this workshop can be provided and other APN partners outside Oceania in which to collaborate and share ideas
Climate Prediction and Agriculture	SA	M. Khan, Bangladesh drmasumkhan@yahoo.com	Seeks collaborators
Landscape Dynamics and its Relation with Functional Aspects of Forest Ecosystem	SA	S. Ravan, India shirish.ravan@cdac.ernet.in	Seeks assistance in identifying suitable collaborators in Sri Lanka, Bangladesh and Nepal
Building Adaptive Capacity to Climate Change in Semi-Arid and Arid Lands in Central Asia: Integrating Research and Application for Sustainable Development Strategies	CA/TEA	Q. Ye, USA ye@ucar.edu	Seeks suitable collaborators in the region, particularly experts with good knowledge of Kazakhstan, Uzbekistan, Tajikistan, Kyrgyzstan and Afghanistan
Seminar/Workshop on Terrestrial Biodiversity Monitoring of South Pacific Nations in the Face of Global Climate Change	SP	E. L. Webb, Thailand ewebb@ait.ac.th	Seeks to broaden contributions to terrestrial monitoring activities in the South Pacific
Development of Land Cover Ground Truth Database in Asia and Pacific regions	Across Asia	R. Tateishi, Japan tateishi@ceres.cr.chiba-u.ac.jp	Seeks suitable collaborators in APEC, ASEAN, SPREP and also from Bangladesh, Cambodia, Laos, Malaysia, Thailand
A Biodiversity User's Guide to the Nam Ngum Basin, Laos	SEA	A. Potkin, Laos alan.potkin@laonet.net	Seeks APN developing country for participation
Energy and Climate Change in Asia: Planning, Modeling and Policy	Austral-Asia	T. Lefevre, Thailand t.lefevre@ceerd.net	Seeks collaborating countries and appropriate institutions that can participate in this project
Adaptation of Coastal lands to Global Change: Suggesting Policies Linking Social, Institutional and Environmental Resource Management	SA	S. Sonak, India sangeetas@teri.res.in	Looking for collaborators and assistance in developing a full proposal with respect to research initiatives in pre-proposal
Past Environmental Variability in Austral-Asia: PAGES-PEP2	Austral-Asia	P. Hesse, Australia phesse@laurel.ocs.mq.edu.au	Seeks contact information for any active paleoenvironmental researchers not already in the online PAGES database and researchers interested in bringing a paleo perspective to their work
Coping with Changing Environment: Human Dimensions of Land Cover Change and Loss of Biodiversity	SA/SEA	S. Sreekesh, India sreekesh@teri.res.in	Seeks help in finding appropriate partner institute for this study
Environmental Impacts of International Trade Between Asia-Australia	Austral-Asia	S.M.N. Islam, Australia sardar.islam@vu.edu.au	Seeks possible collaborators in the region
Exports, production and Greenhouse Gas Emission in Southeast Asia: Implication for Greenhouse Gas Emissions Target Setting	SEA	M. Clarke, Australia sardar.islam@vu.edu.au	Seeks possible collaborators in the region
Workshop on the Global Land Cover—2000 for Asia	Across Asia	C. Giri, USA cgiri@ciesin.columbia.edu	Seeks linkage of the proposed initiative with on-going and/or completed APN funded land use/cover projects
Urbanization in Asia and its Impacts on Regional Climate Change: A Remote Sensing Perspective Coupled with Atmospheric Modeling	EA/SEA	Y. Yasuoka, Japan yyasuoka@iis.u-tokyo.ac.jp	Seeks participating organisations in the region
The Impacts of Global Change and Growth Scenarios on Coastal Ecosystems and Human Settlements: Studies on the Palawan and Langkawi Island Ecosystems	SEA	F. Ballesteros, Philippines balleste@engg.upd.edu.ph	Seeks possible opportunities for combining the proposal with other projects/collaborators in the region
Workshop on "Response of Atoll Islands to Global Change"	Asia-Pacific	H. Kayanne, Japan kayanne@eps.s.u-tokyo.ac.jp	Seeks collaborators in coastal zone and coral reef research from Pacific & Indian Ocean Countries



The East-West Center was established in 1960 by the United States Congress "to promote better relations and understanding between the United States and the nations of Asia and the Pacific through

FEATURED ORGANIZATION

ENVIRONMENTAL RESEARCH AT THE EAST-WEST CENTER

Jefferson Fox and Eileen Shea

cooperative study, training and research." Principal funding for the East-West Center comes from the U.S. government, with additional support provided by private agencies, individuals and corporations and over twenty (20) Asian and Pacific governments. Through research, education and dialogue programs, the

East-West Center is dedicated to a mission of strengthening understanding and respect among cultures, relations between countries and a sense of community in the Asia-Pacific region. The Center's multi-disciplinary Research Program is designed to address issues of contemporary concern in the Asia-Pacific region

and includes investigations of economics, population and health, politics and security and the environment.

Environmental research at the East-West Center focuses on critical interactions and interdependencies between environment and society. East-West Center researchers explore questions such as:

- How do environmental conditions and natural resources help shape development in the Asia-Pacific region?
- How do human activities in the Asia-Pacific region affect critical natural resources and ecosystems?
- How do changes in local, regional and global environmental conditions affect public health, community planning and economic development in the Asia-Pacific region?
- How do local, national, and international communities organize the management of environment-society interactions?
- How can improved information about the links between environment, development and society be used to support the development of public policy that is responsive to changing conditions and emerging issues?

Within this intellectual framework, individual projects in environmental studies respond to current issues of regional significance (e.g., climate change, biodiversity, urban pollution), illuminate critical gaps in scientific understanding, and explore innovative approaches to establishing more effective partnerships within the Asia-Pacific community that will sustain both people and the environment. Like the East-West Center as a whole, studies of environment and development embrace a three-pronged approach involving:

- *Research* to provide policymakers and stakeholders the information they need to make informed decisions;
- *Dialogue* focused on shared learning and joint problem-solving; and
- *Education and training* to enhance the cadre of scientists and decision makers informed about critical issues in the region.

Currently, environmental research at the East-West Center focuses on issues related to environmental change, vulnerability and governance. For the past couple of decades many parts of the Asia/Pacific re-



1997-1998 El Niño public education campaign in the Federated States of Micronesia

gion have undergone rapid social, economic, and environmental transformations. Industrialization, urbanization, and high rates of population and economic growth, together with ongoing loss of biodiversity and modifications to coastal areas and tropical rainforests, make the Asia region a 'hot spot' from both global change and sustainable development perspectives. Both perspectives are inherently linked and their analyses need to be addressed as a set of integrated scientific and socioeconomic issues.

One emerging aspect of the East-West Center's work involves a focus on assessing the vulnerability of Asia-Pacific communities and ecosystems to changing environmental, socio-economic, demographic and political conditions. In this context, the East-West Center seeks to assess (both quantitatively and qualitatively) environmental change and vulnerability in the Asia-Pacific region and to facilitate appropriate policy responses. This work emphasizes the identification of both barriers and opportunities associated with enhancing the resilience of Asia-Pacific communities, economies and ecosystems to large-scale environmental change and will focus, initially, on climate-related extreme events.

Environmental management has always been and will likely always be characterized by decision making under uncertainty. Experience and research suggests the need for a new kind of collaboration between scientists and decision makers or managers, one which assumes a continuous, two-way flow of information and periodic evaluations and policy adjustments based on new insights that are gained from the field. East-West Center projects in the area of environmental change, vulnerability and governance strive to understand the links between science and pol-

icy at all levels. In so doing, the East-West Center seeks to develop regional communities of scholars, resource managers, government officials, and community leaders with a shared understanding of these inter-related issues and the ability to translate research findings into information relevant to international, regional, national, and sub-national policymaking.

Current environmental research at the East-West Center focuses on several critical aspects of the human-environment nexus in the Asia-Pacific Region:

Air quality. Raw coal and biomass, the most polluting of all fuels, make up more than three-quarters of the total burned by Asia's population—both urban and rural. The burning of these fuels is increasingly credited with playing a major role in damaging public health and in global warming. The health, social, and economic costs of pollution in Asia exceeds \$75 billion annually, and the outlook is for a doubling of some of these energy-related pollutants within a quarter-century. There is an urgent need to analyze air pollution related risks that societies face, to quantify them, and to examine their policy significance. There is also a dire need to develop tools that can help decision makers at all levels prioritize their problems and to find cost-effective solutions to improving public health.

Climate variability and change. Year-to-year climate variability (e.g., El Niño and monsoons) and extreme events (e.g., droughts, floods and tropical storms) already pose significant challenges for water resources, public health and safety and key economic sectors in the region including agriculture, tourism and fisheries. Scientists predict that future impacts of climate change will also be particularly acute in Asia-Pacific countries, especially for is-

lands and coastal areas. In addition, projections indicate that greenhouse gas emissions in developing countries are increasing rapidly, particularly China and India where industrialization and urbanization are strong. Clearly, balancing the demand for energy to fuel economic growth with the urgency of mitigating potential impacts of climate change presents an enormous climate policy dilemma, not simply for the Asia-Pacific region but for the entire world. Countries in the Asia-Pacific region urgently need to analyze the options, risks and uncertainties in mitigating and adapting to climate change and variability.

In February 2001, with support from APN, the International START Secretariat and the U.S. National Oceanic and Atmospheric Administration (NOAA), the East-West Center organized a three-week Training Institute on Climate and Society in the Asia-Pacific Region (APN 2000-03). Twenty participants were selected through a competitive process from universities, research and educational institutions, government agencies, non-governmental organizations and private-sector enterprises in a number of Asia-Pacific countries including Australia, Bangladesh, China, Cook Islands, Fiji, India, Indonesia, Pakistan, Philippines, Papua New Guinea, Sri Lanka, Thailand and Viet Nam. The Training Institute was organized as an intensive, interactive program of lectures, small working group discussions and hands-on research projects designed to:

- Increase understanding of the regional consequences of climate variability and change;
- Review existing climate forecasting and assessment capabilities and explore the application of those tools to support decision making in the Asia-Pacific region;
- Explore regionally-relevant and appropriate options for adaptation, mitigation and capacity building related to climate variability and change;
- Enhance the cadre of individuals in the Asia-Pacific region knowledgeable about emerging climate forecasting capabilities and applications tools which could yield substantial economic and societal benefits in a variety of sectors; and
- Enhance the dialogue between the scientific community and decision makers concerned with responding to the societal challenges of climate variability and change in the Asia-Pacific region.

During the past year, East-West Center scientific staff have been working with a number of national, regional and international organizations to use the experience gained at the February 2001 Training Institute to support a long-term program of climate education in the Asia-Pacific Region. For example, the East-West Center is worked closely with the Asian Disaster Preparedness Center in the development and implementation of the first Asian Climate Training (ACT) program in May 2002 in Bangkok. Information on the February 2001 Training Institute and related programs in climate research and education at the East-West Center can be obtained by contacting Eileen Shea at (SheaE@EastWestCenter.org).

Researchers at the Center are working with colleagues at the University of Hawaii, the Fiji School of Medicine and the Ministries of Health and Meteorological Services in Fiji and the Cook Islands on an APN and NOAA sponsored research project aimed at getting a better understanding of the place-specific relationship between climate variability and health in the Pacific Islands. It is expected that the results of this research will have applicability in the rest of the Pacific and beyond. In July 2001, APN sponsored a workshop held in Nadi, Fiji and are also sponsoring the phase III dissemination meeting (APN 2002-13) planned for early 2003. Information on this project and related work in the area of climate and health at the East-West Center can be obtained by contacting Nancy Lewis, EWC Director of Studies at (LewisN@EastWestCenter.org).

Environmental economics. Research focuses on evaluating market-based environmental policy instruments, in particular environmental taxation, emissions trading, and clean development mechanism; economic model-based analysis of energy, climate and environmental policies; interactions between trade and the environment, in particular multilateral environmental agreements and the World Trade Organization; cost-effective analysis of energy supply and emission abatement options; valuing environmental goods; the economics of sustainable development and comparative study of environmental policies in the Asia-Pacific region.

Land-use and land-cover patterns. Land-use and land-cover change are widely considered as sources and sinks of biogeo-

chemical elements and biological diversity. Human driving forces of land-use/cover change include demographic factors such as population size, growth rate, and migration; cultural values; technology; level of affluence and economic structure; and political systems. A better understanding of how these factors affect land-use decisions and drive land-cover changes is critical for projecting future patterns of land use and future states of land cover. Options for adaptive management are explored through workshops, small group meetings, and other dialogue activities that engage scientists and decision makers in a continuing process of shared learning and joint problem solving. The East-West Center has a particular interest in linking social science data collected at household and community levels with remotely sensed and other spatial data to study both the driving forces of land-use/cover change as well as the impacts these changes have on deforestation, biodiversity, carbon sequestration, and local communities.

In January 2002 the East-West Center organized a workshop entitled: "People and the Environment: Approaches for linking household and community surveys to remote sensing and GIS." The Workshop was funded by the U.S. National Science Foundation and sought to address both theoretical and practical issues involved in linking (and collecting) social science data from households and communities with remotely sensed data to study land use and land cover change. Creating a direct link between spatially explicit land cover information, as derived by remote sensing and/or other spatial digital technologies, and information on land use change processes requires the development of new methods and models that merge landscape data with data on human behavior. A major issue concerns the definition of appropriate spatial units (or levels of aggregation) to establish the correspondence between biophysical and socio-economic variables. This has to take into account the unit of decision-making, human mobility, units of landscape transformation, the spatial scale of ecological processes, and data availability. An edited volume of papers prepared for the workshop is scheduled for publication in the fall of 2002. Information on this project and related work in the area of land use/land cover change can be obtained by contacting Jeff Fox at (FoxJ@EastWestCenter.org). [APN](#)



FEATURED ORGANIZATION

STATE KEY LABORATORY OF RESOURCES AND ENVIRONMENTAL INFORMATION SYSTEM (LREIS), CHINESE ACADEMY OF SCIENCES, CHINA



As tools to link spatial databases with attribute databases relative to global change study, Geographical Information Systems (GIS) efficiently processes large amounts of spatially registered information utilised in global change research. Remote Sensing (RS) also provides a powerful tool for assessing the dynamics of the biosphere. Thus, it is very important to apply GIS and RS techniques to analyze global change issues.

The State Key Laboratory of Resources and Environmental Information System (LREIS), affiliated to the Institute of Geographic Sciences and Natural Resources Research at the Chinese Academy of Science, was established jointly by the State Planning Commission and Chinese Academy of Science in 1985. Thus, making LREIS

one of the earliest 25 state-level laboratories. Since then, it has been a pioneer, paving the way for a better future for the Chinese geographical information society, a leader, helping guide the development of GIS in China, and the world, and also an educator, being the cradle of high-level GIS professionals.

LREIS joined the National Remote Sensing Center of China, Department of Geographic Information System (DGIS), in 1991. Its responsibility is to assist the formation of a strategy for Chinese GIS development, and coordinate GIS activities among various agencies all over China. In June, 1997, the Chinese Academy of Science and the Chinese University of Hong Kong jointly established a Joint Lab for GeoInformation Science to promote the development of GeoInformation science with world-famous scientists, and in so doing, formed the basis for scientific cooperation, academic exchange and education. In June, 1998, Eastern Michigan University (EMU) and the Institute of Geographical Sciences and Natural Resources Research cooperatively founded the joint center for Environmental Technology and

Information Analysis to promote collaboration in the field of environmental information technology.

Past and current research projects relative to global change at LREIS in China include:

1) *Natural disaster monitoring and evaluation*
Natural disasters are extremely frequent in China, especially floods, droughts, dust storms, and so on. Hence, natural disaster monitoring and evaluation became the research direction of LREIS. For example, LREIS successfully provided a great amount of valuable information for policy decisions during two heavy floods in 1991 and 1998. Desertification is a serious environmental question. Based on Landsat TM images, the land desertification of the western plain was studied from 1988 to 1998 in Northeast China.

2) *Land use /land cover change*
LREIS carried out a lot of inspecting of land use change by remote sensing in China. Data sets utilized were Landsat TM from the 1980s to 2000. Meanwhile, LREIS developed a prototype of an inte-

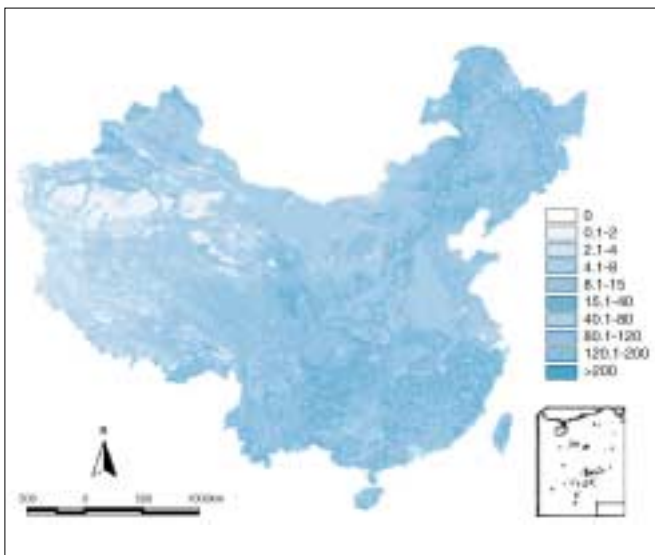


Figure 1. Distribution of Terrestrial Biomass in China (July, 1997)

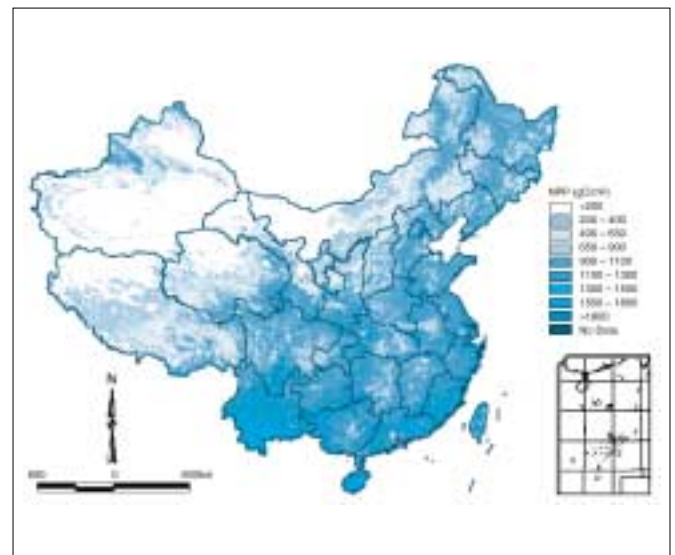


Figure 2. The Distribution of Net Primary Productivity of China

grated environmental spatial decision-making supporting system (SDSS) to meet the needs of urban environmental management and regulation. The framework was put into application in urban pollution source management, air pollutant dispersion simulation and land use/land cover change analysis induced by urbanization, with the Xiamen Economic Special Zone as a case study.

3) Vegetation biomass and NPP

On the basis of RS and GIS, the vegetation biomass and net primary production of terrestrial vegetation of China every ten days using the NOAA AVHRR data, with five channels and 8km×8km resolution, is calculated (Fig. 1 and Fig.2). The result shows that the total NPP of terrestrial vegetation of China is 6.13×10^9 t/a in 1990. According to this result, the spatial distribution of biomass and NPP shows a decreasing trend from south-east China to north-west China. The distribution may have a close relationship with the distribution of vegetation.

4) Soil carbon cycle

Based on 2473 typical soil profiles of the second national soil survey of China, the stocks and spatial distribution of soil organic carbon and nitrogen were estimated and analyzed (Figs. 3 and 4.) The study of soil carbon sequestration is also developing. We integrated the synthesis research of terrestrial ecosystem carbon cycle and land-use/land-cover change in Northeast

China by using Remote Sensing data.

5) Monitoring, Forecasting and Harnessing of Land Salinization

Land salinization in the Yellow River Delta was dynamically monitored by RS. The situation and evolution process of saline land was evaluated and its driving forces were comprehensively analyzed based on regional water balance and ground water dynamic analysis. A ground water dynamics model was developed for simulation and prediction. The trends of land salinization was prognosticated using cause of formation models.

6) International cooperation

From 1996 to 2002, LREIS made great efforts to promote extensive international and regional research cooperation, and was the driving force behind the establishment of fourteen cooperative projects on Remote Sensing and GIS. Co-operators include the United Nations Development Program (UNDP), countries and regions such as Canada, Holland, Hong Kong, Japan, Taiwan and the USA. In recent years we successfully completed international programs, such as:

- the Dongting Lake flood prevention project, supported by the International Development and Research Centre;
- environment assessment and monitoring of the Yellow River delta area, funded by China and Japan;

- research on land coverage with multiple map scale in typical demonstration area, supported by Japan;

- ADEOS data application in regional sustainable development funded by UNDP; and

- synthesis analysis of land-use/land-cover changes on terrestrial carbon cycle using RS and GIS in northeast China and using Remote Sensing to accomplish full carbon accounting supported by RITE of Japan. **APN**

Further information about LREIS can be obtained by e-mailing <zhouch@lreis.ac.cn> or accessing website <www.lreis.ac.cn>

Dr. Chenghu ZHOU

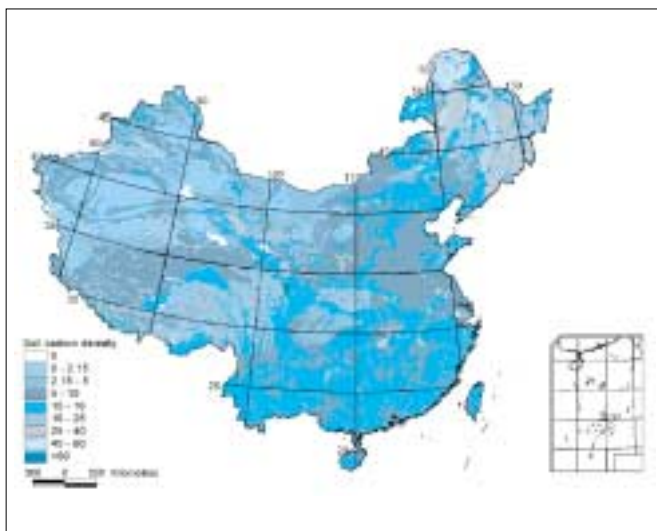
LREIS

Institute of Geographic Sciences and Natural Resources Research
Datun Road, Anwai, Building 917
Beijing, 100101
P.R.China
E-mail: zhouch@lreis.ac.cn

Dr. Shaoqiang WANG

LREIS

Institute of Geographic Sciences and Natural Resources Research
Datun Road, Anwai, Building 917
Beijing, 100101
P.R.China
E-mail: wangsq@lreis.ac.cn



Framework of the Asia Pacific Network for Global Change Research

Introduction

Recognising that international cooperation among governments and scientists will help increase the understanding of the complex mechanisms and impacts of global change on ecosystems and human society in the Asia-Pacific region. The Asia-Pacific Network for Global Change Research (hereinafter referred to as the 'APN') was established as an inter-governmental network in 1996.

The purpose of this document is to define the framework and organisational arrangements and procedures of the APN.

Mission

1. The 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.

Goals

2. The specific goals of the APN include, but are not limited to:

Goal 1. supporting regional cooperation in global change research on issues particularly relevant to the region;

Goal 2. strengthening the interactions among scientists and policy makers, providing a scientific input to policy decision-making and scientific knowledge to the public;

Goal 3. improving the scientific and technical capabilities of nations in the region;

Goal 4. facilitating the standardisation, collection, analysis and exchange of scientific data and information relating to global change research;

Goal 5. cooperating with other global change networks and organisations; and

Goal 6. facilitating the development of research infrastructure and the transfer of know-how and technology.

Activities

3. The activities of the APN to achieve the aforementioned goals include, but are not limited to:

a. funding of regional cooperative research projects through a competitive process according to the "Procedures and Criteria for Selecting Activities to be

Funded by APN" are formulated by the Inter-Governmental Meeting;

- b. providing scientific information on global change and related environmental issues to policy makers;
- c. organising scoping workshops;
- d. developing fora for discussion between scientists and policy makers;
- e. providing financial support for capacity building projects;
- f. circulating publications relating to APN sponsored projects;
- g. organising cooperative projects with other networks and organisations on areas of common interest; and
- h. encouraging wide participation of Asia Pacific countries in APN activities.

Membership

4. Current member countries of the APN are as listed in the *Annex.

5. Each member country appoints:

- a. a national Focal Point, who coordinates national activities and participates in the annual Inter-Governmental Meeting; and
- b. a scientist, who acts as the scientific contact in the respective country and participates in the annual Scientific Planning Group meeting.

6. Following an official governmental written request from a country in the region, this country may become a new member subject to the approval of the Inter-Governmental Meeting. A member country may withdraw from the membership of the APN at any time by submitting a written notice to the Secretariat.

Organs

7. The organs of the APN are:

- a. the Inter-Governmental Meeting;
- b. the Scientific Planning Group;
- c. the Steering Committee; and
- d. the Secretariat.

8. The operation of APN organs is subject to the *Organisational Arrangements and Procedures formulated by the Inter-Governmental Meeting.

9. APN Liaison Officers:

- a. act as regional representatives in Oceania, South Asia, Southeast Asia, and Temperate East Asia; and
- b. coordinate the flow of global change information.

*Annex and Organisational Arrangements and Procedures can be found on APN website <<http://www.apn.gr.jp/Framework.htm>>



OCEANIA

Conservation Training Course

15 Apr-10 May, USP

The first phase of the Pacific Islands Community-based Conservation Training Course was run at the University of the South Pacific from 15 April-10 May, attracting key environmental management personnel from 9 Pacific nations. The aim of the course was to enhance the skills and knowledge of participants, in order to build their confidence and expertise in supporting community-based conservation management. The University of the South Pacific's Institute of Applied Sciences, The Pacific Environment Centre and START-Oceania secretariat played a key role in organising to build capacity at the community level to deal with climate change impacts and protect biological diversity. Participants have returned to their respective countries to work on a six-month project before reconvening in October for the final phase of the course.

Climate Change Roundtable Meeting

17-18 May, Nadi

The second roundtable meeting, hosted by the University of the South Pacific, enabled regional and international organisations and agencies involved in climate change research and funding activities to provide updates of activities in the region. A matrix of activities was compiled and distributed during the meeting. The matrix, comprising of ongoing and proposed projects in the region, was aimed at avoiding duplication of projects, identifying gap areas of research and fostering collaboration among donors. A revised guideline for the roundtable was also compiled during the meeting. A follow up meeting of the 2nd roundtable meeting convened in July in Rarotonga to deliberate further on the completed matrices of activities and guidelines for the roundtable.

'ENSO Impacts on Sugarcane in Fiji'

Project Meeting 22-24 May, Nadi

Representatives from CSIRO, Fiji Mete-

orological Services (FMS), The Fiji Sugar Corporation and USP met in Nadi to finalise statistical outputs of the data and the corresponding interpretations. Models were also run to address the key management decisions in climate prediction. The project is nearing completion and a major workshop relating to 'Sugarcane and Climate Change' for the latter part of the year is planned. This workshop will be open to wider participation, including representatives from sugar producing countries.

AIACC Training Workshops

Under the International Research Programme for the *Assessment of Impacts and Adaptation to Climate Change (AIACC)*, two special training workshops convened: (i) Computer based Climate Change Scenario Generation, 15-26 April in UK, attended by Dr. Jito Vanualailai, USP. (ii) Climate Change Vulnerability and Adaptation Training Workshop 3-14 June, Italy, attended by three regional participants; Mr. Seremaia Tuqiri, USP, Ms. Eva Lewenikuruwai, Fiji, Ms. Pasha Caruthers, Cook Islands. Dr. Koshy, project leader for the Pacific project, *Integrated Methods and Models for Assessing Coastal Vulnerability and Adaptation to Climate Change in Pacific Island Countries*, also attended the workshop.

Compiled from report by APN Liaison Officer Ms. Leigh-Anne Buliruarua

SOUTH ASIA

1. Preparatory Meeting of RWC and GCTE:

A 'Preparatory Meeting' for a detailed research planning workshop on 'Climate Variability and Rice-Wheat Productivity in the Indo-Gangetic Plains' has been co-convened by the Rice Wheat Consortium (RWC) and GCTE in Delhi, on 13 & 14 March 2002. The objective of this meeting was to ensure an effective and efficient workshop that has been proposed to be organised in October 2002 in Delhi with the support of APN. This meeting was co-sponsored by RWC, IGBP-GCTE and UK-NERC. In this meeting 12 RWC scientists from Bangladesh, India and Nepal were joined by 7 GCTE scientists from Australia, Canada, Denmark, Japan, New Zealand and UK to discuss overall research objectives and

identify data and modelling needs for project development.

The preparatory meeting has been successful in establishing overall Project Goals, which are now proposed as:

1. Develop models which (i) apportion yield gap between management and weather (ii) simulate diversified systems
2. Develop modelling capabilities in line with conservation technologies
3. Link models to Remote Sensing for (i) real assessment and (ii) calibration.

Workshop output and further details are available on the web sites of RWC (<http://www.rwc-prism.cgiar.org>) and GCTE Focus 3 (<http://mwnta.nmw.ac.uk/GCTEFocus3>). Further information can also be obtained from: Dr. Raj Gupta, RWC Facilitator (r.gupta@cgiar.org) and John Ingram, GCTE Agroecology Focus Officer (jsii@ceh.ac.uk).

2. Workshop on Water Resources in South Asia:

A workshop under APN sponsored project on 'Water Resources in South Asia: an Assessment of Climate Change, Associated Vulnerabilities and Coping Mechanisms' (2001-12) convened in Dhaka, May 23-26th, 2002. During the workshop, participants had elaborate discussions on various components of the project and devised a plan to accomplish the project objectives. They identified the kind of data needed, focussed options for conducting case studies for feasibility purposes and prepared a road map for further action. Broadly, workshop participants have agreed to select two sites (one in Pakistan in the Sindh region and another in India in Gujarat) for studying problems related to water scarcity and three sites (one each in Nepal, India and Bangladesh) for studying flood related problems. It has also been agreed upon that each country group will have another round of discussions in their respective countries with other concerned scientists for locating the best suitable sites. The workshop participants appreciated the APN's decision to support this project in view of the immense importance of issues related to water in the South Asian region.

New Publications:

1. 'Global Change and Himalayan Mountains: Proceedings of a Scoping

Workshop' held in Kathmandu, Nepal 2-5th October 2001 which was sponsored by APN and edited by Dr K.L. Shrestha. (Further information can be obtained from Dr K.L. Shrestha, klshrestha@wlink.com.np).

2. 'Land Use—Historical Perspectives; Focus on Indo-Gangetic Plains' edited by Drs Y.P. Abrol, S. Sangwan and M.K. Tiwari. This is a product of a START/SASCOM sponsored workshop on 'Historical Perspective of Land Use/Cover Change with Particular Focus on Indo-Gangetic Plains Region'. (Further information can be obtained from Dr M.K. Tiwari, mktiwari@csnpl.ren.nic.in).

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

SOUTHEAST ASIA

April 14-27. Dr. Nguyen Kim Chi from CSIRO Division of Atmospheric Research, Australia, and Dr. Rizaldi Boer from Bogor Agriculture University, Indonesia, represented Southeast Asia Regional Studies to participate in the AIACC Scenarios Training Workshop at the University of East Anglia, UK. The workshop provided technical training on the development and modeling of the climate scenarios to be used in the regional assessments of impacts of climate change on different environmental, social and economic sectors. Two of these regional assessments will be conducted in Southeast Asia.

April 22-24. the Centre for Marine and Coastal Studies of Universiti Sains Malaysia, Penang, conducted the Workshop on Environmental Study and Design for participants from Southeast Asian countries. Some of these participants were financially supported by SEA START RC.

April 26. SEA START RC arranged a meeting at the Center for climate scientists based in Thailand to meet and discuss with Dr. Andrew Gettelman from the National Center for Atmospheric Research, USA, on "Assessing the 'Information Divide' for Climate Science." The meeting has an objective to understand and reduce the gap of the

Information Divide in climate sciences between developing and developed countries to enhance the communication and dissemination of climate analysis and forecasts in the developing world in responding to understanding climate variability and its impact.

The Coastal Zone Asia Pacific 2002 Conference was held in Bangkok from May 12-16, 2002 on the topic of "Improving the State of the Coastal Areas." In this Conference over 200 participants from all over the world presented recent findings and discussed and made recommendations on sustainable coastal activities and ecosystem management in relation to integrated coastal policy/planning.

16-22 May 2002. SEA START RC provided special training for 5 Scientists from Indonesia and Philippines on regional hydrological scenarios under climate change using the SEA-BASINS integrated modeling system recently developed by SEA START RC with technical assistance from the University of Washington.

23-25 May 2002. the AIACC Regional Study AS07 (Mekong River) organized a meeting on the "Impacts of Climate Change on Water Environment of the Mekong Basin" in Chiang Rai, Thailand. The conference covered the presentation on environmental setting of the Mekong Basin, the climate scenario for Southeast Asia and projected hydrological changes. Participants in the meeting included regional experts and some GEF Focal Points from riparian countries of the Mekong River.

June 3-14. AIACC organized the Climate Change Vulnerability and Adaptation Workshop, Trieste, Italy. Six participants from Southeast Asia (Indonesia, Philippines and Thailand) attended this workshop. The workshop provided knowledge on vulnerability and adaptation issues as well as to introduce climate outlooks and their links to adaptation. In addition, the workshop also developed participant's skills in vulnerability assessment as well as adaptation strategies for each sector.

CALENDAR OF ACTIVITIES PLANNED IN SEA REGION

Date: August 7-9, 2002, Bangkok, Thailand

Meeting: Map Asia 2002: Conference and Exhibition on GIS, GPS, Aerial Photography and Remote Sensing

Contact: <http://www.mapasia.org> Wutjanum Muttitanon (nitinkt@ait.ac.th)

Date: September 9-13, 2002, Perth, Australia

Meeting: The 5th Session of the IOC Sub-Commission for the Western Pacific (WESTPAC-V)

Contact: IOC Regional Secretariat for the Western Pacific (westpac@samart.co.th)

Date: September 25-28, 2002, Hanoi, Vietnam

Meeting: International Symposium on GeoInformatics for Spatial Infrastructure Development in Earth and Allied Sciences (GIS-IDEAS)

Contact: Hoang Minh Hien (hnh@netnam.vn) <http://gisws.media.osaka-cu.ac.jp/gisideas/>

Date: 7-10 October 2002, Kuala Lumpur, Malaysia,

Meeting: Bringing Back the Forests: Policies and Practices for Degraded Lands and Forests

Contact: <http://apafri.upm.edu.my/reconf/index.html>

Alias Abdul Jalil, APAFRI Secretariat, Tel: +6-03-6272 2516

E-mail: foreconf@apafri.upm.edu.my

Date: 12-13 October 2002 (tentative), Hanoi, Vietnam

Meeting: Southeast Asia Regional Council for START (SARCS) and Southeast Asia Regional Scientific and Technical Committee for SARCS (RSTC) Meeting

Contact: SARCS Secretariat (sarcs@sarcs.org.tw)

Date: 14-16 October 2002, Hanoi, Vietnam

Meeting: 16th START Scientific Steering Committee (SSC) Meeting

Contact: Roland Fuchs (rfuchs@agu.org)

News

22-23 April 2002. First Annual Mekong Flood Forum, Phnom Penh, Cambodia.

The Forum was held between April 22-23 in Phnom Penh, Cambodia, by the Mekong River Commission. The theme for this year was Flood Preparedness, Regional Strategy on Flood Management and Mitigation. There were about 100 participants from government line agencies, disaster management organizations and civil society organizations in Cambodia, Lao PDR, Thailand and Vietnam to exchange information on flood preparedness measures. Participants had cooperated to map out their planned activities to ensure the best possible coordination of flood management, including relief activities, for this coming 2002 flood season.

13-14 May 2002. Southeast Asia Millennium Ecosystem Assessment Planning Meeting, Malaysia.

The meeting was arranged at the University of Kebangsaan, 13-14 May, in a workshop format with an objective to obtain information about other proposed MA (Millennium Ecosystem Assessment) Sub-global assessments within the SE Asia region. During the meeting participants explored the opportunities for (and costs/benefits of) linking the SE Asia sub-global assessments together as a "multiscale" assessment and discuss an appropriate governance arrangement if that were to be done; and identified fundraising opportunities and develop a fundraising strategy. There was also discussion on specific methodologies for the

condition, scenario, response components of the various sub-global assessments in SE Asia; and, concerning assessments, ways in which the process could more directly respond to user needs at local, national, and regional scales.

Compiled from report by APN Liaison Officer Dr. Anond Snidvongs

TEMPERATE EAST ASIA

(1) 3rd Coordinated Enhanced Observing Period (CEOP) Asia Australia Monsoon Experiment (CAMP) conference took place on 9 April 2002 in Tokyo. CAMP members from Australia, China, Japan, Korea, Mongolia, and Thailand participated in this conference and exchanged general information about their respective research areas. The research areas of the participants, so far, has covered North-East Thailand, Tibet, Korean Peninsula, Korean Haenam, Mongolia, Inner Mongolia, Himalayas, Equatorial Islands, Yangtze river, Siberia, Western Pacific Ocean, Northern South China Sea- Southern Japan, and the Chao-Phraya river. This conference provided an opportunity for CAMP members to know what stage they are at and establish future research tasks.

(2) **April 8-14 2002.** The exploratory search on establishing an observation station for project "Predictive Study of Aridification in Northern China in Association with Life-supporting Environment Changes" (National Key Basic Development Program of China). A working group of 6, including chief scien-

tist of this national project, Prof. Congbin Fu, viewed ecological observations in Tongyu, Lishu and Qianan city of the west Jilin Province, and primarily chose Tongyu city from the three. Two observation points will be set up initially, focussing on semi-arid agriculture and degraded grassland ecosystems. This observation station will provide first hand reference for orderly human activity studies and has been included in the network of CEOP motivated by the Global Energy and Water Cycle Experiment (GEWEX), which, out of 30 throughout the World, is the only observation station run by China.

The purpose of establishing this observation station in northeast China is to study the impact of human activities (mainly land use and water resource use) on regional environmental change and aridification in northern China, which can be the scientific experimental basis for trend prediction and recommendations for decision-making of aridification in northern China and improve scientific methods for human adaptation to ecological environmental changes. The observation station will have long-term examination and an enhanced observing period of different ecological periods. The Chinese government places great importance on this observation station and the Governor of Jilin Province, Honghu, expressed that they would give all-out support for this station linked with the development of the "ecological province" of Jilin as well as to enhance international cooperation in this field. [APN](#)

Compiled from report by APN Liaison Officer Ms. Yang Ying

APN Liaison Officers

Southeast Asia

Dr. Anond Snidvongs

Southeast Asia START Global Change Regional Center
Room 508, 5th Floor, SWU Pathumwan Building Number 5
Chulalongkorn University
Henri Dunant Road, Bangkok, Thailand 10330.
Tel: +66-2-218-9464 to 7
Fax: +66-2-251-9416
Email: apnsea@start.or.th

SASCOM (South Asia)

Dr. C Sharma

National Physical Laboratory
Dr K. S. Krishnan Marg, New Delhi 110 012, India
Tel: +91-11-574-5298
Fax: +91-11-585-2678
Email: csharma@csnpl.ren.nic.in

START-Oceania

Ms. Leigh-Anne Buliruarua

c/o SPAS, University of the South Pacific
PO Box 1168, Suva, Fiji

Tel: +679-3212-446

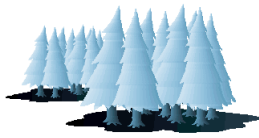
Fax: +679-3302-548

Email: startoceania@usp.ac.fj

TEACOM (Temperate East Asia)

Ms. Yang Ying

c/o Institute of Atmospheric Physics
Chinese Academy of Sciences
Qi Jia Huo Zi, De Sheng Men Wai Street
Beijing, 100029 China
Tel: +86-10-6204-1317
Fax: + 86-10-6204-5230
Email: sec@tea.ac.cn



PEOPLE AND PROJECTS

APN Governmental Focal Points/Contacts (FP) and Scientific Planning Group Members (SPG)

AUSTRALIA Dr. Michael Stoddart (FP) Australian Antarctic Division Dr. Graeme Pearman (SPG) CSIRO Atmospheric Research	INDONESIA Dra. Liana Bratasida (FP) Ministry of Environment Mr. Bambang Tejasukmana (SPG) National Institute of Aeronautics and Space	MONGOLIA Ms. Radnaaragchaa Sarangoo (FP) Ministry of Nature and Environment Dr. Jamsran Tsogtbaatar (SPG) Ministry of Nature and Environment	SRI LANKA Mr. Thosapala Hewage (FP) Ministry of Forestry and Environment Mr. N.A. Amaradasa (SPG) Department of Meteorology
BANGLADESH Mr. Karim Gazi (FP) Ministry of Environment and Forests	JAPAN Mr. Hironori Hamanaka (FP) Ministry of Environment Prof. Shuzo Nishioka (SPG) National Institute for Environmental Studies	NEPAL Mr. Ashok Kumar Saraf (FP) Ministry of Population and Environment Dr. Madan Lal Shrestha (SPG) Department of Hydrology and Meteorology	THAILAND Mr. Suphavit Piamphongsant (FP/SPG) Ministry of Science, Technology and Environment
CAMBODIA Mr. Sophark Chou (FP) Ministry of Environment	KOREA Dr. Keumhee Jung (FP) Ministry of Environment Dr. Il-Soo Park (SPG) National Institute for Environmental Research	NEW ZEALAND *Dr. Andrew Matthews (FP/SPG) National Institute of Water and Atmospheric Research	U.S.A. Mr. Louis Brown (FP/SPG) U.S. Global Change Research Program
CHINA Mr. Xuedu Lu (FP) State Ministry of Science and Technology Prof. Zong-ci Zhao (SPG) National Climate Center	LAOS Mr. Phonechaleun Nonthaxay (FP) Science, Technology and Environment Agency Mr. Chanthanet Boulapha (SPG) Science, Technology and Environment Agency	PAKISTAN Mr. Khalid Khan Toru (FP) Ministry of Environment, Local Government and Rural Development Dr. Amir Muhammed (SPG) National University of Computer and Emerging Sciences	VIETNAM Mr. Nguyen Xuan Bao Tam (FP) Ministry of Science, Technology and Environment Dr. Dung Le (SPG) Ministry of Science, Technology and Environment
FIJI Mr. Bhaskaran Nair (FP) Local Government, Housing, Squatter Settlement and Environment Mr. Epeli Nasome (SPG) Local Government, Housing, Squatter Settlement and Environment	MALAYSIA Mr. Kok Kee Chow (FP) Malaysian Meteorological Service *Dr. Subramaniam Moten (SPG) Malaysian Meteorological Service	PHILIPPINES Mr. Samuel Peñañiel (FP) Department of Environment and Natural Resources Mr. Celso Diaz (SPG) Ecosystems Research and Development Bureau	SASCOM Dr. Amir Muhammed (SPG)
INDIA Dr. Subodh Sharma (FP) Ministry of Environment and Forests Dr. A.P. Mitra (SPG) National Physical Laboratory	RUSSIA Dr. Alexander Sterin (SPG) Russian Research Institute for Hydro-Meteorological Information	START 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 2002/2003

The APN's 7th Inter-Governmental Meeting decided to fund 18 projects from an APN funded activities budget of approximately 1.1 million US dollars contributed by the Ministry of Environment (Japan), the US Global Change Research Program (USGCRP), and Hyogo Prefectural Government. Projects may also be funded from other sources not noted here, including in-kind support from countries.

#2002-01 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	National Science Foundation, Sri Lanka Email: janakar@itmin.com	Email: meinkeh@dpi.qld.gov.au	Institute of Science and Technology, Republic of Korea Email: yjkim@kjist.ac.kr
#2002-02 A Continuation to the Regional Climate Model Intercomparison Project for Asia Project Leader: Congbin Fu, Chinese Academy of Sciences, China Email: fcb@ast590.tea.ac.cn	#2002-06 Third International Human Dimensions Workshop—Human Dimensions of Urbanisation and the Transition to Sustainability Project Leader: Yoshiki Yamagata, National Institute for Environmental Studies, Japan Email: yamagata@nies.go.jp	#2002-10 Climate Variability and Rice-Wheat Productivity in the Indo-Gangetic Plains Project Leader: R.K. Gupta, National Agricultural Science Centre, India Email: r.gupta@cgiar.org	#2002-15 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
#2002-03 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	#2002-07 International Workshop on Reducing Vulnerability of Agriculture and Forestry to Climate Variability and Climate Change, October 2002, Ljubljana, Slovenia Project Leader: Jim Salinger, National Institute of Water and Atmospheric Research, New Zealand Email: j.salinger@niwa.com	#2002-11 Joint Support for the Symposium on Adaptation of Asia and Pacific to Global Change in the 20th Pacific Science Congress Project Leader: Sun Shu, Chinese Academy of Sciences, China Email: sunshu@rose.nsf.gov.cn	#2002-16 Atoll Island Change and Linkages to Sea Level Variations in Oceania Project Leader: Nick Harvey, Adelaide University, Australia Email: nick.harvey@adelaide.edu.au
#2002-04 The Budgets of GHGs, Urban Air Pollutants, and their Future Emission Scenarios in Selected Mega-Cities in Asia Project Leader: H. Imura, Nagoya University, Japan/A.P. Mitra, National Physical Laboratory, India Email: imura@genv.nagaoya-u.ac.jp/apmitra@doe.ernet.in	#2002-08 A Training Workshop for the Pacific Island Countries to Enhance Skills in Global Change Negotiations and Synthesis Activities Project Leader: K. Koshy, Pacific Centre for Environment and Sustainable Development, Fiji Email: koshy_k@usp.ac.fj	#2002-12 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	#2002-17 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: amdhawaii@aol.com
#2002-05 an Assessment of Nutrient, Sediment and Carbon Fluxes, to the Coastal Zone in South Asia and their Relationship to Human Activities Project Leader: Janaka Ratnasiri,	#2002-09 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	#2002-13 Climate Variability and Change and Human Health in the Pacific Islands: the Cook Islands and Fiji—Phase III Dissemination Meeting Project Leader: Michael P. Hamnett, University of Hawaii, USA Email: hamnett@hawaii.edu	#2002-18 Sustainable Livelihoods and Biodiversity in the Uplands of Southeast Asia: a Multi-cultural Assessment of Resilience, Risks and Opportunities Project Leader: Louis Lebel, Chiang Mai University, Thailand Email: llebel@loxinfo.co.th

CALENDAR OF GLOBAL CHANGE RESEARCH ACTIVITIES



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

2002	
9-12 JULY	Western Pacific Geophysics Meeting. Wellington, New Zealand. Contact: Web < http://www.agu.org/meetings/wp02top.html >
15-18 JULY	Quaternary Climatic Changes and Environmental Crises in the Mediterranean Region. Madrid, Spain. Contact: Ana Vadeolmillos Rodriguez < climatic.changes@uah.es >. Web < http://www2.uah.es/qchange2002 >
18-26 JULY	START/IRI Advanced Training Institute on Climatic Variability and Food Security. New York, USA. Contact: START < http://www.start.org/What's_New/Packard_Training1.html >
22-26 JULY	Third International Conference on Water Resources and Environment Research (ICWRER) Subtitle: Water Quantity & Quality Aspects in Modelling and Management of Ecosystems. Dresden, Germany. Contact: < icwrer2002@mailbox.tu-dresden.de > Web: < http://www.tu-dresden.de/ighihm/hydrologie.html >
30 JULY-2 AUG	Twelfth Asia-Pacific Seminar on Climate Change. Bangkok, Thailand. Contact: Web < http://www.ap-net.org/apseminar/bangkok2002.htm >
26 AUG-4 SEP	World Summit on Sustainable Development. Johannesburg, South Africa. Contact: Web < www.johannesburgsummit.org >
AUG TBA	Training Workshop on Atoll Island Change and Linkages to Sea Level Variations in Oceania. Fiji. Contact: Nick Harvey < nick.harvey@adelaide.edu.au >
7-14 SEP	Climate Variability, Predictability and Climate Risks. Bernese Oberland, Switzerland. Contact: < nccr-climate@guib.unibe.ch > or Web: < www.nccr-climate.unibe.ch >
16-18 SEP	International Society for Photogrammetry and Remote Sensing

16-19 SEP	International Workshop on Vulnerability of Water Resources to Environmental Change. Beijing, China. Contact: Dr. Xia Jun < jxia_mail@263.net > and Dr. Yu Jingjie < yujj@igsnr.ac.cn >
18-25 SEP	10 th Scientific Conference of the International Association of Meteorology of Atmospheric Sciences (IAMAS) Commission for Atmospheric Chemistry and Global Pollution (CACGP) and 7 th Scientific Conference of the International Global Atmospheric Chemistry Project (IGAC). Crete, Greece. Contact: IGAC < igac2002@chemistry.uoc.gr > Web < http://atlas.chemistry.uoc.gr/IGAC2002 >
29 SEP-3 OCT	International Symposium: Land Use, Nature Conservation, and Stability of Rainforest Margins in Southeast Asia. Bogor, Indonesia. Contact: Jürgen Übener < symp2002@gwdg.de >. Web < www.gwdg.de/~symp2002 >
3-5 OCT	Fifth International Study Conference on GEWEX in Asia and GAME. Nagoya, Japan. Contact: Prof. Kenji Nakamura (Conference Secretary) < gio@ihas.nagoya-u.ac.jp >. Web < http://www.ihas.nagoya-u.ac.jp/game/ >
7-8 OCT	APN/START Global Change Awareness Raising Symposium. Vladivostok, Russian Federation. Contact: Vladimir Kasyanov < inmarbio@mail.primorye.ru >
7-9 OCT	International Workshop on Reducing Vulnerability of Agriculture and Forestry to Climate Variability and Climate Change. Ljubljana, Slovenia. Contact: Jim Salinger < j.salinger@niwa.com >
15-18 OCT	2nd GLOBEX Open Science Meeting. Qingdao, P.R. of China. Contact: Web < http://www.pml.ac.uk/globec/ >
18-22 NOV	Meeting on the Achievements of the World Ocean Circulation Experiment. San Antonio, Texas, USA. Contact: < woce2002@tamu.edu >. Web: < http://www.woce2002.tamu.edu/ >
20-22 NOV	International Conference on Impacts of Population, Consumption and International Trade on Sustainability of Marine and Coastal Resources in the Pacific Rim. Seoul, Republic of Korea. Contact: Dr. Pilsoo Jung < psjung@kmi.re.kr >
2 DEC	LUCC Contribution to Asian Environmental Problems. Hyderabad, India. Contact: Dr. K.S. Rajan < lucc2002@skl.iis.u-tokyo.ac.jp > Web < http://shiba.iis.u-tokyo.ac.jp/ >

2-6 DEC	LUCC/WS2002/> 16 th International Symposium on Ice. Dunedin, New Zealand. Contact: < nzice@physics.otago.ac.nz >. Web < http://www.physics.otago.ac.nz/~nzice/ >
DEC TBA	Workshop on Indices and Indicators for Monitoring Trends in Climate Extremes. Melbourne, Australia. Contact: Michael Manton < m.manton@bom.gov.au >
DEC TBA	Workshop on Water Resources in South Asia: An Assessment of Climate Change-Associated Vulnerabilities and Coping Mechanisms. Kathmandu, Nepal. Contact: Amir Muhammed < amir@nu.edu.pk >
2003	
JAN TBA	Regional Workshop on Assessment of Nutrient, Sediment and Carbon Fluxes, to the Coastal Zone in South Asia and their Relationship to Human Activities. Contact: Janaka Ratnasiri < janakar@itmin.com >
JAN TBA	International Open Science Meeting on Ocean Biogeochemistry and Ecosystems. Paris, France. Contact: Web: < www.igbp.kva.se/obe/ >
JAN TBA	Climate Variability and Change and Human Health in the Pacific Islands: The Cook Islands and Fiji—Phase III Dissemination Meeting. Nadi, Fiji. Contact: Michael Hamnett < hamnett@hawaii.edu >
FEB TBA	Summary Workshop: Regional Climate Model Intercomparison Project for Asia. Contact: Congbin Fu: < fcb@ast590.tea.ac.cn >
FEB TBA	Workshop and Symposium: The Budgets of GHGs, Urban Air Pollutants, and their Future Emission Scenarios in Selected Mega-Cities in Asia. Contact: H. Imura < imura@genv.nagaoya-u.ac.jp >
16-23 MAR	The 3 rd World Water Forum. Kyoto, Shiga and Osaka, Japan. Contact: Web < http://www.worldwaterforum.org/ >
17-21 MAR	Symposium on Adaptation of Asia and Pacific to Global Change in 20th Pacific Science Congress. Bangkok, Thailand. Contact: Sun Shu < sunshu@rose.nsf.gov.cn >
MAR TBA	Synthesis Workshop on Sustainable Livelihoods and Biodiversity in the Uplands of Southeast Asia: a Multi-cultural Assessment of Resilience, Risks and Opportunities. Contact: Louis Lebel < llebel@loxinfo.co.th >
16-18 APR	Framing Land Use Dynamics. Integrating knowledge on spatial dynamics in socio-economic and environmental systems for spatial planning in western urbanized countries. Utrecht, the Netherlands. Contact: Web < http://networks.geog.uu.nl/conference/ >

APN APN Secretariat

5th Floor, IHD Centre Building, 1-5-1 Wakinohama Kaigan Dori, Chuo-ku, Kobe 651-0073, Japan

Tel: +81-78-230-8017 • Fax: +81-78-230-8018

E-mail info@apn.gr.jp • Homepage <http://www.apn.gr.jp>

Views expressed in this newsletter do not necessarily represent those of the APN Secretariat.

APN Newsletter Editor: Martin Rice

Design and Layout: Asahi Media International