



Network Newsletter

Volume 17, Number 3

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International Network

Climate-Related Impacts

Editorial

*The More Things Change,
The More They Stay the Same
But then... There's DEEP Climate Change*

After ten years of focused international research on global warming (most often referred to as climate change), I have come to believe that, aside from those groups dealing specifically with these scientific issues on a more or less daily basis, most people do not know what is meant by climate change. I say this because atmospheric scientists frequently remind us that climate is constantly changing on all time scales: yearly, decadal, century, and beyond.

So, when climate change issues reach the public, the media, and elected policy makers, it is often unclear what type of change in climate they are referring to, what the possible impacts might be, and what the concerns are. The problem lies in the various meanings people attribute to the word "change." The public often refers to climate change when they are really talking about climate variations on seasonal, interannual, and decadal time frames. So "change" in reference to climate is mixed up with "variability."

Depending on where one lives, change may be welcomed. A somewhat warmer winter to many Minnesotans might not seem so bad, and might even be favored. However, reactions to that possibility might not take into account other ramifications of a warmer winter (e.g., what happens to the other seasons? To ecosystems, recreation, agricultural pests, etc.?). Also, depending on the possible intensities and durations of the various climate changes, the perceived severity of impacts on society and environment will differ. At some level, change may favor some places, at other levels not.

Most societies have plenty of expressions about change, such as: "Any change, even a change for the better, is always accompanied by drawbacks and discomforts" (Arnold Bennett). "Progress is a nice word. But change is

the motivator. And change has its enemies" (Robert F. Kennedy). "It is not necessary to change. Survival is not mandatory" (W. Edwards Deming).

I propose a re-labeling of the most dire changes in the global climate regime associated with global warming. They should be referred to as "deep changes." The notion of deep changes has been defined (in a non-climate context) as when "one system of change yielded to another" (Fischer, 1996, p. xv). Fischer used this notion in his study of price revolutions in history. He observed that "every period of the past has been a time of change. The world is always changing, but not in the same way." He also noted that "the history of prices is a history of change ... Price inflation has been a continuing problem in the past, but it has not been constant in its rhythm, rate, or timing." Similar observations can be made about the global climate regime.

For these reasons, among others, it is time to draw that long-needed line of separation between those climate "changes" that we have been living with and have adjusted to over seasons, years, and decades, to those that societies have not seen in centuries or millennia. "Deep change," according to Fischer, "may be understood as a change in the structure of change itself." For this reason I propose the use of the notion of "deep" climate change to represent the profound type of change that many scientists now say that future generations will likely need to adjust to, as a result of the increased emissions of greenhouse gases.

NB: I would like to note that my belief in the need for such a new term was inspired by Fischer's book on price revolutions, and not by Deep Ecology literature.

--Michael H. Glantz

Fischer, D.H., 1996: *The Great Wave: Price Revolutions and the Rhythm of History*. New York: Oxford University Press.

Environmental & Societal Impacts Group (ESIG)
National Center for Atmospheric Research (NCAR)
Boulder, CO 80307



NCAR

Office of Global Programs (OGP)
National Oceanic & Atmospheric Administration (NOAA)
Silver Spring, MD 20919



LET'S HEAR FROM YOU!!

This newsletter depends on YOUR input. Please send relevant information that comes across your desk, whether it is a news item, meeting, job opening, or publication, to the address on the back cover. Information to be included in the next newsletter must be received by **30 September 2002**. If you prefer to receive the newsletter on line, please let us know at www.esig.ucar.edu/newshp and you will be reminded when a new issue is released. Thanks for your input!

IBOY 2001–2002

The International Biodiversity Observation Year 2001–2002 (IBOY) is a grassroots effort to increase the communication of important science-based information about biodiversity to a broad audience. Biological diversity is being lost across the planet to the extent that some experts predict that up to two-thirds of all plant and animal species may be lost by the end of this century, which represents a serious threat to the functioning of the earth's systems and the well-being of human societies. A concerted effort is required to focus attention on biodiversity. Knowledge about biodiversity, its status, trends and interrelationships with societies must be transferred from scientists to the public and policy decision-makers. IBOY is an initiative of DIVERSITAS, an international program of diversity science. For more information, see www.nrel.colostate.edu/projects/iboy or write to the Secretariat, Gina Adams, Natural Resource Ecology Laboratory, Colorado State University, Fort Collins, CO 80523-1499; tel: 1-970-491-3552; email gadams@nrel.colostate.edu

30 YEARS OF WORLD ENVIRONMENT DAY

World Environment Day (WED) is celebrated every year on 5 June and was established by the United Nations General Assembly in 1972 to mark the opening of the Stockholm Conference on the Human Environment. The city of Shenzhen, China, was chosen for the main international celebrations of the 2002 World Environment Day, with the theme "Give Earth a Chance." The main agenda for WED is to inspire political and community action. Governments and individuals are encouraged to undertake activities aimed at renewing their commitment to environmental protection. For more information, contact Ms. Elisabeth Guilbaud-Cox, Coordinator, Outreach and Special Events, UN Environment

Programme, Nairobi, Kenya; tel: 254-2-263401; email elisabeth.guilbaud-cox@unep.org or the website at www.unep.org/wed/2002/WED2002/

PDR-SEA

PDR-SEA (Partnerships for Disaster Reduction Southeast Asia) is a regional project implemented by the Asian Disaster Preparedness Centre (ADPC), with funding from the European Humanitarian Aid Office (ECHO). A one-year project was begun in 2001 to develop community capacity to prevent or mitigate the impact of disasters through training and information exchange among partners in the target countries: Cambodia, Indonesia, Laos, the Philippines, and Vietnam. The project is developing an information exchange strategy, strengthening networking among national disaster management organizations, and capacity building. For more information about PDR-SEA, please contact Rustico Binas, PDR-SEA Project Manager, ADPC, PO Box 4, Klong Luang, Pathumthani 12120, Thailand; or see the website at www.adpc.ait.ac.th/pdr-sea/pdr-sea.html (from *ADPC News*)

REPSI

REPSI (Resources Policy Support Initiative) is intended to improve the basis for decision-making about development and natural resource use in mainland Southeast Asia: Cambodia, Laos, Thailand, Vietnam, and the Yunnan Province of China. REPSI fosters knowledge networks between these countries that have been experiencing pressure on and degradation of their natural resource base. It is a collaboration between the World Resources Institute (WRI) and many local and international organizations. The Stockholm Environment Institute became involved in 1999 and has gathered together relevant information on a website at www.sei.se/policy/repsi.html in order to foster regional exchange, policy dialog, and capacity building. Many brochures and reports are downloadable from this website, as the second phase of REPSI is being concluded during 2002. For more information, see the website or write to Måns Nilsson, Stockholm Environment Institute, Box 2142, SE-103 14 Stockholm, Sweden; tel: 46-8-412-1415; email mans.nilsson@sei.se

EMBARQ

The World Resources Institute (WRI) and the Shell Foundation have established a new center called EMBARQ: The WRI Center for Transport and the Environment (based in Washington, DC, USA). EMBARQ will act as a catalyst for socially, financially,

and environmentally sound solutions to the problems of urban transport. The focus of its first five years of operation will be on cities in developing countries where air pollution, traffic congestion, and the lack of access to transportation is more acute. To launch EMBARQ, the Shell Foundation gave WRI an initial startup grant of US\$3.75 million over a 5-year period. EMBARQ is an integral part of the WRI's Climate, Energy, and Pollution Program, co-directed by Lee Schipper and Nancy Kete. Results of EMBARQ's projects will be shared with other cities through a website, www.embarq.org or write to WRI, 10 G Street NE #800, Washington, DC 20002 USA; tel: 1-202-729-7600; or email embarq@wri.org

JOSE LUTZEMBERGER 1926–2002

One of Brazil's best-known environmentalists, Jose Lutzemberger, 75, passed away on 14 May 2002. An agricultural engineer from Rio Grande do Sul, Lutzemberger, considered by some as the father of Brazil's environmental movement, led a campaign against pesticides and for renewable agriculture when he left a multinational chemical corporation in 1970. At that time he founded the country's first non-profit organization, the Gaucho Association for the Protection of the Natural Environment. In 1976, he denounced consumerism in a book entitled, *The End of the Future: a Brazilian Ecological Manifesto*. He became president of Brazil's Gaia Foundation in 1987, which was aimed at promoting regenerative agriculture and garbage recycling. In 1988, he was awarded the "Right Livelihood Award," which has been called an alternative to the Nobel Prize. It was one of 85 awards for his work in defense of the environment. He was Brazil's Minister of the Environment from 1990–92 and ran a campaign to protect indigenous tribes in the Amazon forest and attempted to stop deforestation in the Amazon. He devoted his life to promoting sustainable agriculture and denouncing what he said was the social and environmental havoc being wrought by modern farming methods. He is also credited with being instrumental in Brazil's decision to abandon its quest for the atom bomb. Jose Lutzemberger is survived by two daughters, both of whom are biologists.

JOHANNESBURG UPDATE

The fourth and final preparatory meeting (PrepCom IV) for the upcoming World Summit on Sustainable Development (WSSD) took place in Bali, Indonesia, 27 May–7 June. The WSSD will be held in Johannesburg, South Africa, 26 August–4 September 2002. PrepCom IV included a multi-stakeholder dialogue segment on 27–29 May, involving governments of all 9

major groups of Agenda 21. The segment consisted of 4 sessions, starting with a Plenary discussion on sustainable development, continuing with 2 parallel discussion groups, one on "Capacity Building for Sustainable Development," and the other on "A Major Group Framework for Partnership Initiatives." A final session was held to identify the group priorities for the future. The entire summary is available on line in PDF at www.johannesburgsummit.org in 6 languages, or write to Johannesburg Summit Secretariat, Division for Sustainable Development, UN Dept. of Economic and Social Affairs, Two United Nations Plaza, DC2-2220, New York, NY 10017 USA.

EARTH SUMMIT 2002 AWARDS

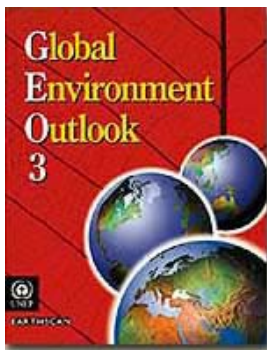
Nominations are being sought for individuals from any geographical region who have been integral to initiatives and projects undertaken since 1992 that have successfully integrated the economic, social, and environmental aspects of sustainable development. The RSA (Royal Society for the Arts), in partnership with the Stakeholder Forum for Our Common Future will recognize those individuals or groups that have made a significant contribution to the implementation of sustainable development during the past decade. Entries should broadly fit into the 3 main themes identified for the decade at the Rio Summit: (1) environmental protection; (2) economic development that does not compromise future generations; and (3) social equity. SAGE (Sustainability Action Group Exchange) will publicize the nominees through a website and e-newsletter at www.environmentawards.net or write to Anita Beardsley, Awards Forum Manager, RSA at Bristol, Leigh Court, Abbots Leigh, Bristol BS8 3RA, UK; tel: 44-1275-371145; fax: 44-1275-371146; email anita.beardsley@rsa.org.uk

HAVE EXPERTISE, WILL CONSULT: NEW REFERRAL SERVICE

The Natural Hazards Center in Boulder, Colorado, is now poised to refer inquiries about different facets of sustainable recovery from disaster to those who have expertise and/or practical experience. The Center has compiled an in-house database of "experts" in local disaster recovery, economic vitality, environmental quality, social equity, livability, disaster resilience, and the art of combining those attributes in a local context. The experts listed have indicated a willingness to respond to queries of this nature. Those needing such information can query the Hazards Center by telephone at 1-303-492-5787 or by email, wanda.headley@colorado.edu. A staff person will search the database to see who might have the expertise needed. The Center's website, www.colorado.edu/hazards will have a link as well. (from *Natural Hazards Observer*)

IPEN 2002

The International POPs (Persistent Organic Pollutants) Elimination Network (IPEN) is a worldwide network of over 300 participating organizations from all regions of the world. IPEN calls on governments to ratify the Stockholm Convention before September 2002 to ensure that this treaty will enter into force and become internationally binding 90 days later, on the new year 2003. A full year has now passed since the Stockholm Convention on POPs was adopted and opened for signature. Over 120 governments have signed this treaty, but only a handful of countries have ratified it. The Stockholm Convention is urgently needed to protect the public's health and the environment from dangerous toxic chemical pollutants. It will enter into force when it has been ratified by 50 or more governments. IPEN has created a new website with information to give activists the needed tools to move forward. See the website at www.ipen.org to read the Stockholm Convention or write to Morag Carter at mcarter@ipen.org



GLOBAL ENVIRONMENTAL OUTLOOK 3

GEO-3 (*Global Environmental Outlook 3: Past, Present, and Future Perspectives*) was recently released by the UN Environment Programme. GEO-3 looks at some of the options for the future by exploring 4 scenarios: (1) *Markets First*, where trust is placed in economic approaches to fix social and environmental problems; (2) *Policy First*, where governments take the initiative to reach specific social and environmental goals; (3) *Security First*, where inequality and conflict prevail, and social and environmental stresses create division; and (2) *Sustainability First*, where improved efficiency and behavioral changes result in a rapid leveling of carbon dioxide emissions. GEO-3 emphasizes that the next 30 years will be crucial for shaping the future of the environment. This report is fully downloadable from the UNEP website, or can be purchased from Earthprint at www.earthprint.com. The UNEP website has several mirror sites for worldwide availability, at www.unep.org/geo/geo3/ or write to Division of Early Warning and Assessment, UNEP, PO Box 30552, Nairobi, Kenya, tel: 254-2-623562; fax 254-2-623943; email geo@unep.org

WATER VARIABILITY: BENEFITS AND CHALLENGES

A special interdisciplinary symposium on "Impacts of Water Variability: Benefits and Challenges" will be held at the American Meteorological Society's (AMS) Annual Meeting, to be held 9–13 February 2003. The organizers of the symposium are soliciting proposals from the social and natural science disciplines not frequently represented at AMS meetings. Papers may address the impacts of current water variability or the potential impacts of long-term climate change in any area of the world. The symposium will focus on (1) the use and value of hydrometeorological information, and (2) factors affecting the impacts of and responses to water cycle variability. Proposals are requested by 1 July, but those submitted later will also be considered. Late proposals may be sent directly to the symposium organizers: Kathleen Miller, tel: 1-303-497-8115, email kathleen@ucar.edu, or Thomas Graziano, tel: 1-301-713-0006, Ext. 137, email thomas.graziano@noaa.gov

IGBP PHASE II

The International Geosphere–Biosphere Programme (IGBP) is now entering its second decade of global change research. IGBP is evolving toward a new structure, to be launched in early 2003. Six research activities will center on 3 major earth system components: ocean, land, and atmosphere, as well as the interfaces between them. The next decade of IGBP research will be undertaken in greater collaboration with IHDP (International Human Dimensions Programme) and the WCRP (World Climate Research Programme). The challenge is to build on the existing foundation of earth system science and global sustainability, driven by a common mission and common questions. The next issue of the IGBP's *Global Change Newsletter* will focus on the transition of IGBP toward its new set of questions, new structure, and research approaches. See the website at www.igbp.kva.se for more information, or write to the IGBP Secretariat, The Royal Swedish Academy of Science, Box 50005, S-104 Stockholm, Sweden; email sec@igbp.kva.se

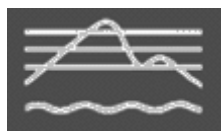
IHOP_2002

The International H₂O Project (IHOP_2002) weather field project, held from 13 May to 25 June 2002, was designed to obtain more accurate and reliable measurements of humidity, to help understand when, where, and how storms form and to enable better prediction of actual rainfall amounts associated with those storms. Over 80 scientists from the United States, France, Germany, the Netherlands, and Canada

participated. IHOP_2002 is comprised of four main research components: (1) quantitative precipitation forecasting, (2) convection initiation, (3) atmospheric boundary layer, and (4) instrumentation. For more information, contact Dave Parsons at parsons@ucar.edu, tel: 1-303-497-8749, or see the website at www.atd.ucar.edu/dir_off/projects/2002/IHOP.html

ICSU ON-LINE LIBRARY

The International Council for Science (ICSU) is creating an on-line library, ICSU Central, with General Assemblies & Resolutions, ICSU Statutes and Statements, as well as regular publications. As of August 2002, ICSU Annual Reports will be available on line only. ICSU is a non-governmental organization founded to bring together natural scientists in an international scientific endeavor. It is comprised of 98 multi-disciplinary scientific research councils or scientific academies and 26 international single-discipline scientific unions, as well as 28 scientific associates. See the website at www.icsu.org/Library/ for more information. ICSU also publishes a Yearbook containing an address list of more than 2,500 leading scientists around the world, and a comprehensive calendar of international scientific meetings through 2006. It is distributed free of charge to ICSU family members, as well as to any individual scientist or groups from developing countries. Write to Portland Press Ltd., Commerce Way, Whitehall Industrial Estate, Colchester, CO2 8HP, UK; tel: 44-1206-796351; fax 44-1206-799331.



PACIFIC INSTITUTE OPENS NEW OFFICE

The Pacific Institute for Studies in Development, Environment, and Security, an independent, non-partisan, nonprofit organization was created in 1987 to conduct research and policy analysis in the areas of the environment, sustainable development, and international security. The Pacific Institute remains in its Oakland, California, office, but recently opened a new office in Boulder, Colorado, under the direction of Senior Research Associate Michael Cohen. Mr. Cohen can be reached at his new location by phone, 1-720-564-0651; fax, 1-720-564-0653, and by email at mcohen@pacinst.org

In other Pacific Institute news, Cohen has spearheaded studies of California's Salton Sea for the past four years,

and recently hosted representatives from 5 environmental organizations in briefings on the Salton Sea and the proposed Imperial Irrigation District-San Diego water transfer. For more information on the proposed transfer, see the website at www.pacinst.org/salton_sea.html

NEW ADDRESS

The Georgetown campus of the National Academies and its staff are relocating. As of 10 June 2002, please send all correspondence to the new address at: Ocean Studies Board, The National Academies, 500 Fifth St. NW, Mail Stop 5-752, Washington, DC 20001 USA. The phone and fax numbers, and email addresses for the staff, will not change. For any questions, please call 1-202-334-2714; web: www.national-academies.org/osb

KISTLER PRIZE GOES TO CAVALLI-SFORZA

The Kistler Prize is awarded to individuals or organizations for outstanding achievement in identifying the genetic factors that may have a decisive impact on the survivability of a human population. This year's winner is Dr. Luigi Luca Cavalli-Sforza, Professor Emeritus of Genetics at Stanford University. Beginning in the 1950s, he first had the idea that one could use genetic information to trace the genealogical trees of species, of human habitats and language. This method led to the understanding of how humans left Africa and populated the rest of the world. It also helped clarify how farming spread from its area of origin, the Middle East, to Europe and helped reconstruct the evolution of languages. The Kistler Prize will be awarded on 23 August 2002 in Seattle, Washington, USA. The Prize is awarded by the Foundation For the Future. Next year's deadline for nominees is 15 March 2003. See the website at www.futurefoundation.org for details or write to Foundation For the Future, 123-105th Ave. SE, Bellevue, Washington, USA 98004; tel: 1-425-451-1333; Email: info@futurefoundation.org

PROJECT ON ENVIRONMENTAL CHANGE AND FOREIGN POLICY, PHASE III

The Project on Environmental Change and Foreign Policy began in early 1998. The objectives of the project include gaining a better understanding of the role of foreign policy processes in international efforts to address adverse environmental changes at the local, regional, and global levels, and to critically assess environmental foreign policies. Phase I of the project examined the United States. Phase II is dedicated to environmental change and foreign policy in East Asia.

Chapter proposals are invited for contributions to Phase III of the project, which will be dedicated to understanding the role of foreign policy processes in shaping European and European Union responses to environmental change. All chapters accepted for inclusion in the project should explore the role of foreign policy processes as variables in national responses to environmental changes and/or international environmental cooperation. Potential contributors should contact the Project Director, Paul G. Harris, at pharris@ln.edu.hk by 15 August 2002. For accepted proposals, completed chapters for full consideration and external review will be due in January 2003. All correspondence and exchange of papers will be conducted via email. Please include the following in your proposal: name, title, institutional affiliation, email address, telephone, fax, and postal address, along with a 1–2 page summary of the proposal chapter, including the primary research question(s) and a summary of what the paper will say about environmental foreign policy in Europe.

IPCC FOURTH ASSESSMENT REPORT

The new chairman of the Intergovernmental Panel on Climate Change (IPCC), Rajendra Pachauri, outlined the future work program for the IPCC's Fourth Assessment Report (FAR), to the 16th Session of the Subsidiary Body for Scientific and Technological Advice (SBSTA) of the UN Framework Convention on Climate Change. The FAR will begin in 2003. Working Group I will aim to complete its report in the first quarter of 2007, followed by Working Groups II and III in mid-2007, with a Synthesis Report at the end of 2007. This will allow for incorporation of further advances in the scientific knowledge of climate change in order to present updated scientific and technical information. The FAR may possibly be shorter and more focused than previous reports. The IPCC is also considering the preparation of other special reports and technical papers. For more information, contact the IPCC Secretariat, c/o WMO, 7, bis de la Paix, CP 2300, Ch-1211, Geneva 2, Switzerland; email ipcc_sec@gateway.wmo.ch

Job Opportunities

The UN Development Programme (UNDP) is looking for a **Manager, Bureau for Development Policy, Environmentally Sustainable Development Group** in Bangkok, Thailand. The Manager and the rest of the Energy Account specialists will respond to demands for advice from developing countries and will also contribute

to developing global consulting services in UNDP's practice area of Energy and Environment. The Manager will have responsibility for UNDP products and services in the areas of energy efficiency, renewable energy, and next-generation technologies. The successful candidate will be an internationally recognized expert in energy, with extensive project experience in developing countries on sustainable energy issues, as well as strong analytical abilities, communication and advocacy skills, work well in teams, and be able to apply a comprehensive development approach. Fluency in English with working knowledge of another UN language is helpful, and the position requires an advanced degree in engineering, earth or environmental sciences focusing on energy. For more information, see the website at www.undp.org/jobs or write to UNDP, 12th Floor, UN Bldg., Rajdamnern Nok Ave., Bangkok 10200, Thailand.

The UNDP is currently recruiting for posts around the world. As the developing countries' development agency, UNDP values geographical diversity in its workforce. It also encourages women to apply. It is now in the midst of a major recruiting campaign. Please be aware that only applications for announced vacancies will be accepted. In other words, please apply for a specific job, rather than simply sending in a resumé. There are positions for internships, consultants, expert practitioners, and more. For inquiries, see the website at www.undp.org/mainundp/jobs, or email ohr.recruitment.hq@undp.org

The International Research Institute for climate prediction (IRI) is seeking an **Associate Research Scientist: Climate Applications in Agriculture and Food Security**. Current and emerging areas of activity at the IRI in agriculture and food security include smallholder rain-fed farming systems in South Asia; food security early warning in the Greater Horn of Africa; work with a farmer association in Argentina; and methodological research on such things as communication of probabilistic climate information to farmers, linking climate forecasts to crop simulation, and model-based agricultural decision analysis. Qualifications include a PhD in a relevant field of agriculture, at least two years of relevant experience, and excellent written and verbal English skills. Please send a letter of application, a CV that includes an email address and statement of research interests and career objectives, and names, addresses and telephone numbers of 3 references to ARS/AG, Mary Mokhtari, Human Resources Manager, Lamont-Doherty Earth Observatory of Columbia University, PO Box 1000, Palisades, NY 10964, or by email to personnel@admin.ldeo.columbia.edu by **15 July 2002**.

Past Meetings

The International Expert Workshop on the Analysis of Economic and Public Health Impacts of Air Pollution was held *6 September 2001* in Garmisch-Partenkirchen, Germany. The workshop addressed specific methodological issues faced by air quality/public health researchers in developing countries such as application of dose-response relationships and exposure models from developed countries, analysis of susceptible populations, and economic valuation of health effects. Attendees included a range of internationally recognized experts from both developing and developed countries specializing in analysis of environmental and public health effects of air pollution. This workshop was the first in a series of meetings to improve international collaboration and harmonization of methodologies to analyze the health effects of air pollution in developing countries. This meeting was the initial step towards establishing a process to compile state-of-the-art information on the health benefits of improved air quality from technologies that reduce fossil fuel use. For more information on this meeting and for a full summary report, visit the website at www.epa.gov/globalwarming/events/epa/index.html#recent

The Global Environment Facility (GEF) Roundtable on Sustainable Energy was held *30 January 2002* in New York, New York. The roundtable offered a vision and set of actions to promote clean energy for sustainable development. The roundtable was one of four sponsored by GEF to address critical environmental and sustainable development issues as a contribution to the World Summit on Sustainable Development. Panelists identified the following priorities for incorporating clean energy into sustainable development: expanded markets in developed countries, moderated fossil-fuel subsidies, credit channeled to those who need it, market access in power sector regulatory frameworks and policies, cleaner cooking fuels, productive uses of renewable energy, efficiency improvements, rural entrepreneurship, green consumerism, and socially and environmentally responsible investment funds. For more information, contact Hutton Archer, Senior External Affairs Coordinator, Global Environment Facility, 1818 H St. NW, Washington, DC 20433; tel: 1-202-473-0508; fax: 1-202-522-3240; email: harcher@worldbank.org; web: www.gefweb.org

Living with the Genie: Governing the Scientific and Technological Transformation of Society in the 21st Century was held *5–7 March 2002* in New York, New York. The meeting was organized by Columbia University's Center for Science, Policy and Outcomes

and aimed to catalyze a national discourse on how to think about and respond to the increasingly complex interactions between societal aspirations and technical advances. The profoundly important dilemmas that confront a society struggling to understand and manage the implications of its own ingenuity were considered openly and thoughtfully. Other questions, such as how the unrestricted pursuit of knowledge and innovation can best fulfill basic human needs and advance fundamental goals such as equity, justice and freedom were also considered. For more information, please contact the Center for Science, Policy, and Outcomes in Washington, DC, tel: 1-202-776-0370; email: cspo@cspo.org; web: www.livingwiththegenie.org/

The Third Summit Preparatory Committee (PREPCOM 3) for the World Summit on Sustainable Development was held *25 March-5 April 2002* in New York, New York. The meeting aimed to complete the WSSD implementation text, to begin detailed discussions on the sustainable development governance text, and to discuss Type II initiatives. The implementation text grew to more than 100 pages when all proposals were compiled into a new text. During the second week, the language of the text was clarified and clear drafting instructions determined. A new version of the text was made available on 1 May. Additional information on this meeting and other Johannesburg-related activities can be obtained from the Johannesburg Summit Secretariat, Division for Sustainable Development, UN Dept. of Economic and Social Affairs, Two United Nations Plaza, DC2-2220, New York, NY 10017; email: dsd@un.org; web: www.johannesburgsummit.org/html/documents/prepcom3.html

An Informal Planning Meeting (IPM) on **Climate-Related Flashpoints** was held *4–5 April 2002* at Columbia University in New York, New York. The participants were drawn from a wide range of disciplines, including public health, political science, meteorology, water resources, atmospheric science, engineering, philosophy, geography, oceanography, and public policy. Areas of concern included conflict, water, food security, public health and safety, environmental degradation, intelligence, political, economic, and cultural stability. The IPM discussed the potential value for early warning to decision makers of potential climate and climate-related problems they might have to face. Concepts such as flashpoint, firepoint, disaster diplomacy, static versus dynamic risk generated useful discussion and “food for thought” for those interested in further pursuit of these concepts. An online report is available on the web at www.esig.ucar.edu/flash/summary.html

A Workshop on Sea-Ice Extent and the Global Climate System was held *15-17 April 2002* in Toulouse, France. The workshop identified diagnostic opportunities

provided by sea-ice data sets in the context of climate variations over interannual to century timescales; examined the limitations of these sea-ice data sets; sought strategies for minimizing limitations of diagnostic applications and future monitoring; and highlighted potential uses of available sea-ice data in applications ranging from sea-ice forecasting to the simulation of climate by global coupled models. Of particular interest were issues relating to the synthesis of data sets from different sources, and the assimilation of sea-ice data into re-analyses and other reconstructions of historical- and paleo-climate variations. For more information, contact the International ACSYS/CLIC Project Office, Polar Environmental Centre, NO-9296 Tromsø, Norway; tel:47-77-750150; fax:47-77-750501; email: tordis@npolar.no; web: acsys.npolar.no/meetings/toulouse/ice.htm

The South Asia Expert Workshop on Adaptation to Climate Change for Agricultural Productivity was held 1–3 May 2002 in New Delhi, India. More than 220 participants, including government officials, representatives of international organizations, research institutions and NGOs, from countries including Bangladesh, Bhutan, Nepal, Sri Lanka, and India attended. The workshop addressed the fact that climate change is expected to exhibit strongly negative effects, especially for populations in developing countries. In its final panel discussion, the following recommendations were drawn: a) sustainable development policies should focus on “no-regret” options; b) adaptation science and policies should be holistic and not focus on single crops or disciplines; c) a policy framework based on best practices needs to be developed to assist countries in strategic planning; d) there is a need to adopt an action-based approach; e) link closer adaptation and mitigation activities in agriculture and ensure better access of small-scale farmers to opportunities offered by Clean Development Mechanism; and f) obtain international funding support to operationalize necessary measures. For more information, contact UN Environment Programme, United Nations Ave., Gigiri St., PO Box 30552, Nairobi, Kenya; tel: 254-2-621234; fax: 254-2-624489; web: www.unep.org/dpdl/IndiaWorkshop

The UNDP Roundtable on Vulnerability and Small Island Developing States (SIDS) was held 9–10 May 2002 in Montego Bay, Jamaica. It brought together over 50 representatives from the Alliance of Small Island States (AOSIS), donor countries, UN agencies, the private sector and NGOs. A technical-level meeting took place on 9 May to review the findings of three technical reports on vulnerability in SIDS prepared by inter-regional teams of experts. Presentations at a roundtable stressed the need for urgent action by and on behalf of SIDS to mitigate a range of social, economic, and environmental vulnerabilities to external forces, such as globalization, over which SIDS have little or no control.

Participants noted the predominance of specialized agriculture, such as sugar cane, as well as tourism, within the economies of the SIDS and stressed the need to preserve natural resources, especially fresh water. They also noted risks related to climate change. The roundtable laid the foundation for establishing a new interregional mechanism to transfer technologies and skills. The results of the meeting will be presented at the WSSD. For more information, contact patrice.boothe@undp.org; web: www.undp.org/wssd/regional_roundtables_sids.htm

Environmental Conflict Resolution: The State of the Field and Its Contribution to Environmental Decision-Making was held 14–16 May 2002 in Tucson, Arizona. More than 500 delegates exchanged ideas in and about the field of environmental conflict resolution. Attendees included federal, tribal, state, and local government representatives, resource users, environmental advocates, scientific experts, property owners, attorneys, and land managers. Discussions were organized along three tracks: progress in the profession, evolving institutional capacity, and enhancing environmental decision-making. For more information, contact BSC Management, Meeting Registrar, 2716 Ocean Park Blvd., Suite 3075, Santa Monica, CA 90405; tel: 1-310-314-2536; fax: 1-310-314-2589; email: ecr@bscmanage.com; web: conference.ecr.gov

The World Ecotourism Summit took place 19–22 May 2002 in Québec, Canada. Organized by the UN Environment Programme, the World Tourism Organization and Environment Canada, the Summit attracted 1200 delegates and representatives of the tourism industry from 133 countries. The 4 themes of the summit were: (1) ecotourism policy and planning; (2) regulation of ecotourism; (3) product development, marketing and promotion of ecotourism; and (4) monitoring costs and benefits of ecotourism. Participants also considered the sustainability of ecotourism from environmental, economic and socio-cultural points of view, and involvement and empowerment of local communities and indigenous people in the ecotourism development process. The Summit produced the “Quebec Declaration” on Ecotourism, which will be officially tabled at the WSSD. For more information, contact Ecotourisme 2002 – JPdL Secretariat, 51, rue d’Auteuil, Québec, Québec, G1R 4C2, Canada; tel: 1-418-692-1699; fax: 1-418-692-5587; email: ecotourism2002@jpd.com; web: www.ecotourism2002.org

The Conference on Global Ethics for a Humane World III was held 20 June 2002 in The Hague, Netherlands. The conference produced recommendations for the meeting of the National Platform of 21 June and contributed to the moral debate relating to the UN Conference on Sustainable

Development, including issues such as, the need for establishing norms and values for shared ethics; strengthening the implementation of national and international law; consolidating the partnerships of the different actors at different levels and emphasizing a multi-disciplinary and multi-cultural framework for global ethics. For more information, contact Patricia Morales at ahumaneworld@kub.nl or fax: 32 2 657 7717 or visit the conference website at: fsw.kub.nl/globus/conference/default.htm

Upcoming Meetings

A one-day workshop on **Managing Water Related Issues on Climate Variability & Climate Change** will be held *24 July 2002* in Pietermaritzburg, South Africa. The workshop will highlight issues surrounding shorter-term climate variability (in particular floods and droughts) and also longer-term climate change. Those responsible for water affairs, disaster management, environmental affairs, weather services and health on a national and provincial level are encouraged to attend, as well as scientists and engineers involved in studies on climatic phenomena and their hydrological impacts. For more information on this workshop, contact Roland Schulze, School of Bioresources Engineering & Environmental Hydrology, University of Natal in Pietermaritzburg, P. Bag X01, 3209 Scottsville, South Africa; tel: 33-260-5815; fax: 33-260-5489; email: schulzer@nu.ac.za

A national conference on **Litigation, Ethics, and Public Awareness** will be held *5–7 August 2002* in Washington, DC USA. The event is sponsored by the National Groundwater Association. Expert groundwater witnesses, lawyers, public officials, and other interested individuals are encouraged to attend. The conference will feature continuing-education workshops and a mock trial. Conference topics include obtaining an expert witness, ethical boundaries of expert testimony, responsible parties management, managing public expectations, and regulatory changes. For more information, contact Julie Shaw, National Groundwater Association; tel: 1-800-551-7379; email: jshaw@ngwa.org; web: www.ngwa.org/education/litconf.html

The **European Conference on Severe Storms** will be held *26–30 August 2002* in Prague, Czech Republic. Organized by the Czech Hydrometeorological Institute, in cooperation with the Institute of Atmospheric Physics of the Czech Academy of Sciences, under the auspices of the Czech Meteorological Society. The main topics are: types and conceptual models of severe convective storms; terminology of severe convective weather; climatology of severe convective storms and related weather phenomena in Europe; detection, monitoring and research of severe convection by remote sensing

techniques; numerical modeling and forecasting of severe convective storms; and synoptic and mesoscale processes associated with deep convection. For more information, contact Dr. Petr Pospíšil, CHMI, Na Šabatce 17, CZ-14306 Praha 4, Czech Republic; fax: 420-2-4403-2710; email: ECSS2002@chmi.cz; web: www.chmi.cz/ECSS2002/

The World Weather Research Programme's (WWRP) **International Conference on Quantitative Precipitation Forecasting (QPF)** will be held *2–6 September 2002* in Reading, United Kingdom. The aim of the conference is to provide a state-of-the-art assessment of the needs and opportunities for improved determination of precipitation on all time scales from nowcasting to seasonal. Special emphasis will be placed on high-impact situations associated with flooding. The conference will cover a wide range of issues relating to QPF, from the measurement and forecasting of precipitation to the application and benefits of quantitative information on precipitation fields, and will conclude by identifying gaps in current knowledge, opportunities and key future areas of work. For more information, contact execsec@royal-met-soc.org.uk or write to The Royal Meteorological Society, 104 Oxford Rd., Reading RG1 7LL, UK; web: www.met.rdg.ac.uk/qpf/announcement.html

An **International Conference on Environmentally Sustainable Agriculture for Dry Areas for the 3rd Millennium** will be held *15–19 September 2002* in Shijiazhuang, Hebei, P.R. China. The conference objectives are: to identify new technologies for sustainable agricultural management; to develop procedures for integration of various technologies which will be beneficial to farmers and the environment; and to formulate recommendations for technology transfer in sustainable agricultural management. Scientists and specialists in a wide range of disciplines are invited to submit papers to integrate scientific sound crop production technologies, e.g., water saving (including irrigation), tillage method, optimum fertilization, weed control, pest control and reduction of agro-chemicals in the environment for the dry regions of the world. For more information, contact Catherine Vachon, Lethbridge Research Centre, Agriculture & Agri-Food Canada, Lethbridge, Alberta, Canada T1J 4B1; tel: 1-403-317-2257; fax: 1-403-382-3156; email: vachonc@em.agr.ca; web: res2.agr.ca/lethbridge/hebei/confindex.htm

An **International Workshop on Regional Integrated Assessment of Climate Impacts** will be held *16–20 September 2002* in Il Ciocco, Castelvechio Pascoli, Italy. This workshop will bring together those working on regional assessments, as well as theorists in the field of integrated assessments and related fields like seasonal forecasts and global and regional climate modeling, in order to discuss methods and approaches to the problem, share successes and failures, and discuss the

blending of academic research with policy influence. Contributions are solicited on all aspects of regional climate assessment, including but not limited to descriptions of integrated assessments of climate impacts, theoretical approaches, generation or use of seasonal forecasts and regional climate information, and policy dimension of climate information. Abstracts and early registration are due **7 August 2002**. For more information, contact Adrienne Karpov, Climate Impacts Group, Univ. Washington, Box 354235, Seattle, WA 98195; tel: 1-206-616-5350; email: cig@atmos.washington.edu; web: jisao.washington.edu/PNWImpacts/RIAworkshop/

A National Academies Forum Symposium on **Climate and Culture in Australia** will be held *25–27 September 2002* in Canberra, Australia. This symposium will draw together speakers from a range of disciplines to examine the experience of climate and our fascination with the weather. Links between history, meteorology, art, politics, literature, archeology and economics will be explored. Topics will include seasons and cycles, climate limits, El Niño, climate change, as well as the elements sun, wind and rain. For more information, visit the website at: ozhistory.info/weather/ or email weather@ozhistory.info

The **International Workshop on Quantifying Terrestrial Carbon Sinks: Science, Technology and Policy** will be held *25–27 September 2002* in Wengen, Switzerland. Improving our understanding of the functioning of the terrestrial carbon sink and our ability to accurately measure its strength will require substantial progress in modeling and monitoring. However, these advances will be critical for the conduct of further negotiations, for the purpose of reporting carbon sinks during the Kyoto Protocol verification period (2008–2012), and for the management of carbon trading. Because of the number and complexity of the issues at hand, scientific research, technological developments and information requirements for policy making need to be coordinated. This conference will address these issues and provide a unique opportunity to review the state of the art in relevant scientific and technological disciplines, as well as to bridge the gap between the modeling, monitoring, and policy communities. For more information, contact Martin Beniston, Director, Dept. of Geosciences, Univ. Fribourg, Perolles, CH-1700 Fribourg, Switzerland; email: Martin.Beniston@Unifr.CH; web: www.unifr.ch/geoscience/geographie/EVENTS/Wengen/02/Wengen2002.html

The **International Conference on Urban Hydrology for the 21st Century** will be held *14–18 October 2002* in Kuala Lumpur, Malaysia. The theme is “Urban Problems in the New Millennium.” The objectives are: to foster better coordination and information exchange; to encourage community in addressing local problems; and

to promote continued interaction between scientists and managers to promote networking among organizations at the regional level. For more information, contact the Secretariat, International Conference on Urban Hydrology for the 21st Century, The Regional Humid Tropics Hydrology and Water Resources Centre for Southeast Asia and the Pacific (HTC Kuala Lumpur), Dept. of Irrigation and Drainage Malaysia, Km. 7, Jalan Ampang, 68000 Ampang, Kuala Lumpur, Malaysia; tel: 603-42552-502; fax: 603-4256-1894; email: icuh2002@did.moa.my; web: htc.moa.my/htc/icuh2002/icuh2002.html

The **International Ecotourism Conference** will be held *21–25 October 2002* in Cairns, Australia. The conference is expected to be the final formal event for the International Year of Ecotourism 2002, and will bring together the work carried out throughout the year. The conference is of interest to international, national, state and local government authorities concerned with tourism and/or the environment, academics and researchers in the field of ecotourism, students, associations and non-governmental organizations relevant to the ecotourism sector, and international organizations directly and indirectly concerned with ecotourism. For more information, contact Tony Charters, Conference Convener, Tourism Queensland, GPO Box 328, Brisbane QLD 4001; tel: 61-7-3535-5493; fax: 61-7-3535-5445; email: tony.charters@tq.com.au; web: www.ecotourism-australia.info/conf2002/index.htm

The **International Conference on Clean Coal Technologies for Our Future** will be held *21–24 October 2002* in Sardinia, Italy. The meeting is organized by the IEA Clean Coal Center and sponsored by the US Dept. of Energy. Conference themes are: policy for clean coal, greenhouse gases, clean coal technologies (CCTs), the environmental impact of CCTs, CCTs’ contribution to sustainable development, zero emissions, and deploying CCTs. Specific topics of the conference include: environmental policy, energy policy, conventional technologies improvement, clean coal demonstration projects, carbon-dioxide capture and sequestration technologies, public support for CCTs, and technology transfer of CCTs. For more information, contact the Conference Office, SOTACARBO SpA, Centro Servizi CNISI, 09010 Portoscuso (CA), Italy; tel: 39-0781-509047; fax: 39-0781-508349; email: cct2002@tiscalinet.it; web: www.iea-coal.org.uk/cct2002

The **Global Mountain Summit** will be held *29 October–1 November 2002* in Bishtek, Kyrgyzstan. This will be the feature event of the 2002 International Year of Mountains, drawing together the ideas and recommendations generated by the year’s events, from all levels and sectors of society, into proposals for concrete action. The meeting is expected to be attended by more than 400 participants, representing

governments and a wide range of stakeholders, It will be structured to ensure full discussion of the key issues of sustainable mountain development through plenary speeches, workshops organized both thematically and regionally, and opportunities for discussion and consensus. For more information, contact Andrei Iatsenia, UNEP Mountains Programme Secretariat, Technical Secretariat for the BGMS, 15 Rue des Anemones, 1219, Châtelaine-Geneva, Switzerland; tel: 41-22-9178273; fax 41-22-917-80-36; email: iatsenia@unep.ch; web: www.globalmountainsummit.org/Home_Page.html

A Workshop of the Atmospheric Model Intercomparison Project (AMIP): Towards Innovative Climate Model Diagnostics will be held

12-15 November 2002 in Toulouse, France. AMIP is a standard experimental protocol for global atmospheric general circulation models. A community-based infrastructure has been developed in support of AMIP, which encourages climate model diagnosis, evaluation and intercomparison. It also helps make model documentation and data available to the research community. There are two complementary objectives of this workshop (1) to highlight the research of selected AMIP2 diagnostic sub-projects and participating modeling groups; and (2) to foster increased interaction with key diagnostic and observationally driven activities. For more information, contact Peter Gleckler at pgleckler@lnl.gov; web: www.cnrm.meteo.fr/amip2/

The Fourth European Conference on Applied Climatology Climate-related Risk Assessment and Sustainable Development in the 21st Century will be held 12-15 November 2002 in Brussels, Belgium. The conference will address the following topics: monitoring the climate system of Europe (including national activities but also links to global efforts); climate variation and variability in Europe; climate information, data and products for applications; and the use of satellite information in climatology. This international climate conference will also address issues of global change, its impacts in the different fields of human activities, and deals further with the assessment of climate-related risks in the geographical area of the Regional Association VI of the World Meteorological Organization. For more information, contact ECAC-2002, c/o Royal Meteorological Institute of Belgium, Ave. Circulaire 3, B-1180 Brussels, Belgium; email: ECAC-2002@oma.be; web: www.meteo.be/ECAC-2002/

The 7th Annual Photovoltaic Experience Conference will be held 13-15 November 2002 in Austin, Texas, USA. Conference participants will share experiences regarding many aspects of solar electricity, including the business models used by utilities, its integration into new construction, and its use as a distributed generation resource. This event will have a special focus on the tie

between renewable energy and green building, as the event will be held in conjunction with the Texas Renewables Conference and the US Green Building Council's Annual Conference and Exposition. Over 300 energy service provider, photovoltaic industry, finance, government, and research professionals are expected to attend the conference, and more than 2000 people are expected to visit the Green Building/Renewable Energy Expo. For more information, contact Julia Judd, Solar Electric Power Association, 1800 M St. NW, Suite 300, Washington, DC 20036-5802; tel: 1-202-857-0898; fax: 1-202-223-5537; email: jjudd@ttcorp.com; web: www.solarelectricpower.org/upex/default.cfm

The Final World Ocean Circulation Experiment (WOCE) Conference will be held 18-22 November 2002 in San Antonio, Texas, USA. The meeting themes are: (1) New Global Perspectives: e.g., What were our observational capabilities in 1980? What are they now and how has WOCE helped? What might be our capability in 2010? In 2050? (2) What are the oceans' roles in property transports and exchanges with the atmosphere? (3) What insights has WOCE produced regarding how the ocean works, and what are the remaining problems? (4) What do we know about the ocean's role in climate, and what are the next main objectives? (5) Beyond WOCE - Where do we go from here? For more information, contact the US WOCE Office, 3146 TAMU, College Station, TX 77843-3146; tel: 1-979-845-1443; email: uswoce@ocean.tamu.edu; web: www.woce2002.tamu.edu/wocebeyond.html

Recent Publications

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Journals and Newsletters

Benfield Greig Hazard Research Centre Alert Newsletter is available for download at www.bghrc.com

EcoConsumer is a quarterly newsletter published by CUTS Centre for Sustainable Production and Consumption that reports and discusses developments in relation to sustainable production globally. Contact CUTS-CSPAC, 3 Suren Tagore Road, 2nd Floor, Calcutta 700019, India; tel: 91-33-4601424; www.cuts.org

Energy & Environment is an interdisciplinary journal aimed at natural scientists, technologists and the international social science and policy communities. Contact Multi-Science Publishing Co., Ltd., 5 Wates Way, Brentwood, Essex CM15 9TB UK; fx: 44-1277-223453; web: www.multi-science.co.uk or email mscience@globalnet.co.uk

Global Change & Human Health is a comprehensive environmental health journal integrating globalization, environmental change and health. www.kluweronline.com/issn/1389-5702

International Review for Environmental Strategies (IRES) promotes and facilitates discussion between stakeholders on effective environmental strategies for sustainable development. Published by the Institute for Global Environmental Strategies (IGES), 1560-39, Kamiyamaguchi, Hayama, Kanagawa, Japan 240-0198; tel: 81-468-55-3700; fx: 81-468-55-3709; web: www.iges.or.jp

Websites of Interest

www.climateprediction.com

The Climateprediction.com program is a state-of-the-art simulation of the climate system which runs on your PC. By downloading the program you will be contributing to the study of climate change and, in particular, helping to resolve some of the uncertainties in the science of climate change.

www.ngwa.org

The official site of the National Ground Water Association has a new look. It now features 28 areas of interest that are accessible from its home page, as well as an events and education section, and an online database of ground water citations, and a career center.

www.waterwords.org

The goal is to bring 1000 water libraries of information to people in developing countries. This is done by providing free libraries of reference material that are key to understanding critical water-related issues. These water libraries will be distributed to areas where traditional libraries, schools, and institutions are either missing or lack information on the importance of water management, protection, and use.

environmentnepal.com

A complete environmental portal for Nepal, containing daily news, articles, interviews, campaigns, polls, discussion forums, and fact sheets on energy, environment, ecology, wetlands, etc.

www.oceansatlas.org

Launched by the UN, this online atlas of the oceans is aimed at pooling knowledge about the marine environment and halting damage by overfishing and pollution. The site contains contributions from experts and media, as well as an encyclopedia of the oceans.

solarsystem.colorado.edu

This website is the main teaching tool of a multi-university collaboration in teaching planetary science. The goal is to explore student centered learning using java based research-grade simulation tools.

www.safeclimate.net

A project of the World Resource Institute, this site lets you take action to reduce your impact on global warming, learn more about climate change and how you can reduce your carbon dioxide emissions, or learn about climate-friendly products, the latest science and policy news, and more.

sustainabilityscience.org

The Forum on Science and Technology for Sustainability seeks to facilitate information exchange and discussion among the growing and diverse group of individuals, institutions, and networks engaged in the field of science and technology for sustainability by providing access to emerging ideas, relevant activities, key documents and websites.

www.npwa.freeseve.co.uk/H2O.html

The purpose of this page is to provide a range of information collected from government, academic and other research sources to assist people who are interested in learning more about water and its impact on health and the environment.

www.usgcrp.gov/usgcrp/new.htm

This site contains links to new postings related to the USGCRP's focus areas. This makes it easy to monitor important scientific developments, without having to dig around dozens of different sites.

earthobservatory.nasa.gov/NaturalHazards/

The goal in sharing NASA satellite imagery is to help people visualize where and when natural hazards occur, and to help mitigate their effects.

The NETWORK NEWSLETTER is intended for those interested and involved in climate-related impact assessment. It is hoped that it will serve to foster a growing network by keeping the community up to date on the many activities in this wide and varied field. Your involvement in supplying relevant information is essential to the success of this endeavor.

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tel: 1-303-497-8134; fax: 1-303-497-8125
E-mail: jan@ucar.edu
www.esig.ucar.edu/newshp

Michael H. Glantz Editor
D. Jan Stewart Managing Editor
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