

## All GEWEX Regional Projects Are Well Under Way!

EXPERIMENT	1996	1997	1998	1999	2000	2001	2002
GCIP	LSA-Southwest		LSA-North Central		LSA-East		LSA-Northwest
	*Large-Scale Area (LSA)						
MAGS	CAGES						
BALTEX	BALTEX						
GAME	GAME-Tropics						
	GAME-Subtropics						
	GAME-Tibet						
	GAME-Siberia						
LBA	LBA						

*Enhanced observations schedule for GEWEX Continental-Scale Experiments (CSE). See map on back for locations of CSEs. Related articles on pages 3-7.*

### GEWEX CONTINENTAL-SCALE EXPERIMENTS (CSE)

**Ronald E. Stewart, Chairman,  
Tetsuzo Yasunari, Vice-Chairman  
GEWEX Hydrometeorology Panel (GHP)**

In this issue are brief reports on each of the five GEWEX regional initiatives: the GEWEX Continental-scale International Project (GCIP), the Mackenzie GEWEX Study (MAGS), the Baltic Sea Experiment (BALTEX), the GEWEX Asian Monsoon Experiment (GAME), and the Large Scale Biosphere Atmosphere Experiment in Amazonia (LBA). Results from the CSEs will improve the understanding and representation of the local and external factors governing the water and energy cycles of large river basins and continental domains.

The GHP is the principal group within GEWEX for considering scientific issues associated with water cycle processes involved in the coupling of the atmosphere and the land surface, including the

distribution of water and the potential impacts on water resources. The main task of the GHP is to improve the collective contribution of the CSEs to the global requirements of GEWEX. For more details on the GHP, see <http://www.on.doe.ca/GEWEX/GHP/ghp.html>.

### WHAT'S NEW IN GEWEX

**WCRP Conference on  
Reanalyses Announced**

**GCIP Starts North-Central  
Large-Scale Area Study**

**MAGS University Component  
Funded to 2000**

**BALTEX, GAME and LBA  
Begin Implementation**

**COMMENTARY**  
**ALIGNING GEWEX DATA SETS**  
**WITH EOS**

**Moustafa T. Chahine**  
**Chairman, GEWEX Scientific Steering Group**

GEWEX is providing many important data sets to the research community. The production of these data sets are driven by the need: 1) to demonstrate skill and capability in the prediction of precipitation and changes in water resources and soil moisture over continental regions; and 2) to determine the radiation budget and fluxes in the atmosphere and at the surface, as elements of seasonal-to-interannual climate variability. GEWEX data sets also form a basis for understanding the response on decadal-to-centennial time scales of the climate system to changes in external and anthropogenic forcing. To achieve these goals, the current GEWEX data programs must provide a sufficient degree of accuracy and long-term stability that extends well into the era of the upcoming global Earth Observing Systems of the major space agencies of the world.

At present, GEWEX researchers assemble available surface measurements and integrate them with other meteorological data, including a major component from operational satellite observations, to produce global climatological records of critical parameters, such as, rainfall, river runoff, cloud characteristics, surface radiation and atmospheric humidity (see GEWEX News, May 1996). In some cases these global data sets are the first assemblage of such information. GEWEX researchers are striving to improve the accuracy of each data set and ensure the internal consistency among the various data sets.

As the EOS era approaches, we are examining our methods and assumptions involved in generating GEWEX data sets and planning for incorporating the more accurate measurements expected from, for example, the NASA EOS AM-1 and PM-1 satellites. GEWEX data sets must be aligned with the higher spatial resolution and accuracy, and the increased coverage that will be provided before the turn of the century. New data products, such as cloud and surface emissivities, may also become available. Our goal is to incorporate these improvements as quickly as possible. Several efforts within GEWEX will proceed over the next year to assure that this goal is achieved.

**WCRP FIRST INTERNATIONAL**  
**CONFERENCE ON REANALYSES**

**Silver Spring, Maryland, USA**  
**27-31 October 1997**

The primary objective of this conference will be to present the results of the reanalysis projects undertaken by several groups in the past few years. Major efforts in this respect include the reanalyses by the European Centre for Medium-range Weather Forecasts, the NOAA National Centers for Environmental Prediction in collaboration with the National Center for Atmospheric Research, and the NASA Goddard Space Flight Center Data Assimilation Office. Papers are invited on the following topics:

- Descriptions of and cross-validation of the reanalyses
- Predictability studies (short-term to interannual) using reanalyses
- Diagnostics of the general circulation, hydrological and energy cycles from reanalyses
- Comparisons with model runs and with climatologies and observations (e.g., GEWEX data sets)

**One page abstracts are due 14 March 1997** and should be e-mailed as a text file (ascii), faxed or mailed to:

Intl. GEWEX Project Office      Tel: (301) 427-2089 ext.3  
 1100 Wayne Ave., Suite 1210      Fax: (301) 427-2222  
 Silver Spring, MD 20910 USA      E-mail: gewex@cais.com

For up-to-date information about the Conference and links to reanalysis projects web sites:

<http://www.cais.com/gewex/gewex.html>

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## GEWEX CONTINENTAL-SCALE INTERNATIONAL PROJECT (GCIP)

**Rick Lawford**  
GCIP Project Office

The GEWEX Continental-scale International Project (GCIP) is the original land surface experiment planned under GEWEX. It is directed at measuring, understanding, modeling and predicting the water and energy cycles on a range of space and time scales for the Mississippi River Basin. GCIP's scientific endeavors are targeted at five linked objectives.

- (1) Determine and explain the annual, interannual and spatial variations of the water and energy cycles in the Mississippi River Basin.
- (2) Develop and evaluate coupled hydrologic/atmospheric models at resolutions appropriate to large-scale continental basins.
- (3) Develop and evaluate atmospheric, land and coupled data assimilation schemes that incorporate both remote and *in situ* observations.
- (4) Provide access to GCIP *in situ*, remote sensing and model output data sets for use in GCIP and as benchmarks for future model evaluation.
- (5) Improve the utility of hydrologic predictions for water resources management up to seasonal and interannual time scales.

For the next 2–3 years GCIP will be pursuing a number of scientific priorities. First, GCIP will improve the representation of cold season processes in land surface schemes. This priority draws upon GCIP's planned enhancement of activities of different areas within the Mississippi Basin and highlights cold season studies in the next 2 years. Second, GCIP plans to implement studies to link the Mississippi Basin scale precipitation patterns to larger external processes. Opportunities are being sought for joint initiatives between GCIP and the Pan American Climate Studies (PACS) to determine whether there is a deterministic element in the year-to-year variability of summertime precipitation over North America. Finally, GCIP will develop stronger links with water resource agencies and implement projects that support the ultimate goal of GCIP to be an *end-to-end* initiative.

After the year 2000, a second phase of GCIP is planned where the results of the 5-year En-

November 1996

hanced Observing Period, (October 1995–September 2000) will be used in conjunction with results from other Continental Scale Experiments to predict changes in water resources and soil moisture on time scales of seasonal to interannual as an integral part of a climate prediction system.

GCIP has made substantive progress in understanding and closing water budgets over the Mississippi River Basin using a combination of regional radiosonde data and outputs from coupled mesoscale and global models. Improvements are being made to coupled models through the improved representation of hydrologic and biospheric processes in these models, and through model intercomparison studies. Use of GCIP data sets is continuing to expand rapidly as new soil moisture data sets from Oklahoma are added to the archive and daily assimilated data products from U.S. and Canadian mesoscale models become available in a common format. Distributed hydrologic models developed for GCIP are being adapted and used in a water resource assessment project in the Pacific Northwest.

Science reporting continues to be an important component of the GCIP initiative. For example, many of the GCIP results are summarized in a special issue of the *Journal of Geophysical Research* (Volume 101, No. D3, March 20, 1996). A special GCIP Hydrology Session is planned for the February 1997 American Meteorology Society Conference in Long Beach, California. A scientific conference is also planned for the summer of 1998 in St. Louis, Missouri.

While the National Oceanographic and Atmospheric Administration (NOAA) is the principal funding agency for GCIP, a number of other U.S. agencies also contribute to GCIP. Most notable is the National Aeronautics and Space Agency (NASA), which has been discussing with NOAA the possibility of a joint NOAA/NASA Announcement for GCIP Research Opportunities. The Department of Energy has supported GCIP by making available its extensive data sets from the Clouds and Radiation Testbed/Atmospheric Radiation Measurement site in Oklahoma. Other agencies that contribute to GCIP-related research and activities are the National Science Foundation, the U.S. Department of Agriculture and the U.S. Geological Survey.

GCIP Home Page:  
[http://www.ncdc.noaa.gov/gcip/gcip\\_home.html](http://www.ncdc.noaa.gov/gcip/gcip_home.html)

**MACKENZIE GEWEX STUDY (MAGS)**

**G.W.K. Moore**  
University of Toronto

The Canadian Mackenzie GEWEX Study (MAGS) is a series of large-scale hydrological and related atmospheric and land-atmosphere studies being conducted within the Mackenzie River Basin. MAGS research began in government laboratories in 1992 and within some universities in 1994. The Beaufort and Arctic Storms Experiment (BASE) conducted in 1994 was the first major MAGS field project. Additional hydrological and meteorological field work is planned for the 1997-1999 time period. In 1996 the Natural Sciences and Engineering Research Council of Canada approved 4-year funding for the university component of MAGS.

***MAGS Relation to GEWEX Components***

MAGS and Baltic Sea Experiment scientists are collaborating to assess models of water and energy cycles to jointly develop surface radiation maps. MAGS researchers also participate in GEWEX Continental-scale International Project (GCIP) meetings and more interactions with GCIP are expected when the GCIP focus moves to the cold seasons. During BASE there were interactions with the GEWEX Cloud System Study researchers regarding extra-tropical layered clouds as a dominant source of moisture and precipitation for the Mackenzie Basin, and the International Satellite Cloud Climatology Project supplied a special data set. Collaborative efforts are expected between MAGS and the GEWEX Asian Monsoon Experiment Siberian Project to study the discharge of the Lena River into the Arctic Ocean. An important parameter in the global hydrological cycle and ocean circulation is high latitude river discharge into the Arctic Ocean. MAGS researchers also have links with the Boreal Ecosystems-Atmosphere Study, a subproject of the International Satellite Land-Surface Climatology Project.

In addition to GEWEX projects, MAGS researchers collaborate with related World Climate Research Programme efforts including the Arctic Climate System Study and the Climate Variability Project and with all efforts concerned with high latitude and/or cold season studies. An example is the Labrador Sea Deep Ocean Convection Project that addresses the production of mid and bottom water formation by descending plumes of water

initiated by fast high latitude atmospheric processes.

***Beaufort and Arctic Storms Experiment (BASE)***

BASE has been an important source of information on atmospheric processes that occur within the Mackenzie Basin. Interest in BASE extends beyond Canada to Japan, Russia and the United States. During BASE the University of Toronto and the University of Hokkaido operated Doppler radar at Inuvik and Tuktoyaktuk, and measurements over the Mackenzie Basin and the Beaufort Sea to the north were provided by aircraft from the National Research Council of Canada and the U.S. National Center for Atmospheric Research.

A BASE result derived from satellite data and numerical models indicates a sudden transition that occurs in the pathway along which moisture enters the Mackenzie Basin. Most of the transport during August is associated with mesoscale cyclones over the Beaufort Sea. Aircraft sorties into several of these systems collected valuable information on their structure and composition. In contrast, the moisture transport during September was found to be associated with synoptic scale cyclogenesis in the Gulf of Alaska. It is expected that the BASE data as well as the special MAGS data will provide a better characterization of the moisture and precipitation fields over the basin.

***MAGS Time Line***

Plans to enhance observations within the existing networks in the Mackenzie Basin as part of the Canadian GEWEX Enhanced Study (CAGES) are underway. A multi-authored scientific article that quantifies the water and energy cycles is scheduled for completion in mid-1997. The observational installations for CAGES will begin in July 1997. CAGES is scheduled to start in the August/September 1997 timeframe, with a completion date of July 1999.

MAGS Home Page:  
<http://www.on.doe.ca/GEWEX/MAGS.html>

## BALTIC SEA EXPERIMENT (BALTEX)

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BALTEX objectives include the exploration, modeling and quantification of the processes that determine the space and time variability of the water and energy cycles of the entire Baltic Sea catchment region, including the Baltic Sea itself. The focus is on the coupling mechanisms between the climate components involved, in particular, the atmosphere, the land surface of the catchment region and the Baltic Sea, including the sea-ice. BALTEX is a physical experiment including contributions from meteorological, hydrological and oceanographic research, where links to other disciplines are kept open.

The BALTEX study region ranges from mild and humid midlatitude to subarctic climate. Frequent and complex synoptic-scale cyclonic activity and subsynoptic-scale depressions are characteristic, sometimes leading to excessive surface fluxes and heavy precipitation over much of the region. The BALTEX region extends over the territory of 14 countries. The national hydrometeorological services, research institutes and universities in 10 of these countries, the last covering 97% of the BALTEX region, are actively participating and contributing to BALTEX.

### Programme Elements

An Initial Implementation Plan for BALTEX (1995) established five basic programme elements.

- Collection of *in situ* and remote sensing data from both existing and enhanced special networks or platforms.
- Reanalysis of existing data for specific BALTEX target periods using different coupled models.
- Data assimilation to obtain an optimum synthesis of observed and model data.
- Numerical experiments and coupled modeling, the latter of which constitutes a key element for BALTEX.
- Process studies including field experiments in order to provide observational evidence for model improvement and verification of algorithms applied to remote sensing data.

## BALTEX Time Schedule and Achievements

During the preparatory phase, 1990 to 1993, the BALTEX objectives were defined and the Science Plan was written. During the build-up phase, 1994 to 1996, seven scientific BALTEX networks were organized. Three of these include important modelling and data analysis projects. Four constitute the major BALTEX field campaigns to be conducted during 1996 to 1999. These include the Air-Sea Interaction, Cloud and Precipitation Experiment over the Baltic Sea (ASCAP), the BALTEX Land Surface Experiment, the Baltic Air-Sea-Ice Study (BASIS), and the Baltic Sea Vertical Mixing and Advection Experiment (BAVAMEX). Pilot studies have already been started. The initial concentrated field effort of ASCAP was conducted in the early summer of 1996 east of the island of Gotland. The first BALTEX Intensive Observational Period with focus on precipitation took place August to November 1995. Reanalysis projects for three BALTEX target periods have started intercomparisons of different regional scale/climate atmospheric models. Both international (European Union) and national funding is approved for different research projects and instrument networks.

The Major Research Phase is scheduled for 1997 to 2001. Critical implementation issues include conducting four major field campaigns, establishment of coupled models, improvement of data assimilation techniques, establishment of monitoring programmes, and development of comprehensive data sets for hydrological model calibration and validation purposes.

These activities are preparational for the BALTEX Main Experiment that is scheduled for the end of this phase, October 1999 to March 2001. For this period comprehensive data sets from all suitable observing networks and platforms as well as coupled modelling tools including data assimilation will be established for the entire BALTEX region. The period 2001 to about 2005 is primarily dedicated for analysis of the results of the BALTEX Main Experiment.

BALTEX Home Page:  
[http://w3.gkss.de/baltex/baltex\\_home.html](http://w3.gkss.de/baltex/baltex_home.html)

## GEWEX ASIAN MONSOON EXPERIMENT (GAME)

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The scientific strategy of GAME consists of three components: (1) monitoring by satellites and *in situ* observations, (2) process studies based on the four regional experiments (Tropics, Sub-tropics, Tibetan Plateau, and Siberia), and (3) modeling of hydrometeorological processes in the climate system. The primary focus of GAME is the energy and water cycle processes and land/atmosphere interactions in the diurnal to seasonal cycles of the Asian monsoon system.

GAME data sets will be utilized by the scientific communities, and the meteorological and hydrological operational agencies of the world under the general agreement of the WMO/WCRP framework, through the GAME Archive and Information Network (GAIN).

Intensive process studies in the four regional areas will cover the humid tropics (Chao Praya River Basin and tropical rainforests in Malaysia and Sri Lanka); the humid subtropics and temperate region of the Huaihe River in China; the Tibetan Plateau; and the Siberian Tundra and Taiga (Lena River Basin). These studies will be conducted for at least 2 years to obtain the full seasonal cycle of the energy and water cycle processes of the four areas.

The target years for observations are 1997 through 1999, with the main observing year of 1998 for the tropics, subtropics and Tibetan Plateau, and 1999 for Siberia. Currently, a full plan of observing systems has been decided for each region, and preliminary *in situ* observations and data collection have begun in the tropics and Siberia. Some of the main boundary layer towers for each region were installed last summer and Automated Weather Stations (AWSs) will also be installed by Spring 1997. The Intensive Observing Period (IOP) is planned for 1998 to obtain the highly-resolved energy processes and water cycles in the Asian monsoon system. The full-utilization of the Tropical Rainfall Measuring Mission (TRMM) is required for the IOP, combined with the enhanced upper-air soundings and surface-based observations.

### Modeling Studies

Global four-dimensional data analysis (4DDA) began at the Japan Meteorological Agency (JMA) in March 1996, using a horizontal grid-size of about 55 km. The GAME Regional Modeling Group is preparing Community Regional Models for the four study areas. Regionally-nested modeling of energy and water cycle processes using a grid size of 10–30 km is being tested for the Huai-he River Basin (HUBEX) and Tibetan Plateau (GAME-Tibet) by universities in Japan (Nagoya, Tokyo, Tsukuba, and Kyoto), in cooperation with the JMA. The nested 4DDA for the Chao-Praya River Basin (GAME-Tropics) is being planned. The nested 4DDA for the Lena River Basin (GAME-Siberia) will be tested by the universities in Japan and Russia (Moscow University).

### Funding

Japanese funding for GAME began in June 1995. Basic funding by the Ministry of Education, Science, Sports and Culture (MESSC) for the university community of GAME will cover 5 years (1996–2000 FY). MESSC will also provide special research funds for GAME-related satellite data analysis and modeling for 3 years beginning in 1996. The Science and Technology Agency is funding researchers at the national institutes related to GAME, and the Environmental Agency is supporting parts of GAME regional experiments (Tropics and Siberia).

The National Space Development Agency of Japan is supporting GAME and GEWEX-related research in Japan by providing funding for the GEWEX National Office, and for satellite-oriented research, such as ground truth measurements and validation of algorithms.

In addition, the Asian Pacific Network for global change research (APN) is providing substantial support for the GAME/Asian AWS Network, which is an essential part of the GAME *in situ* monitoring network of land-surface radiation and energy fluxes over monsoon Asia.

GAME Home Page:  
<http://www.ihas.nagoya-u.ac.jp/game/index.html>

## LARGE-SCALE BIOSPHERE ATMOSPHERE EXPERIMENT IN AMAZONIA (LBA)

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Pavel Kabat  
Winand Staring Centre for Integrated Land,  
Soil and Water Research

LBA is an international research initiative led by Brazil to increase the scientific understanding, through field and modeling studies, of how Amazonia currently functions as a regional environmental entity, and of how its functioning is affected by land use and climate changes.

The two components of LBA that are most directly related to GEWEX are the physical climate and hydrology. The physical climate component will study the movement of energy and water into, out of, and through the atmospheric phase of their respective cycles, and how the interactions between the vegetation and the atmosphere feed back to influence these cycles. Early results from existing carbon flux sites indicate that the Amazon may be a significant biotic sink of carbon that could have an impact on the global carbon balance.

Meteorological and hydrological studies will be conducted for nested spatial scales, from plots to the entire Amazonia, with focus on determining and understanding the spatial and temporal variations of energy and water fluxes. Variations of climate, and the responses of the Amazonian system to these variations, will be determined on daily to seasonal time scales. The data fields generated by a numerical weather prediction model will be used in a four dimensional data assimilation scheme to analyze the observations. The duration of LBA should allow for direct observations of interannual climate variations, possibly including the effects of the El Nino-Southern Oscillation cycle. Data collected in the field program will be used to improve representation of key dynamic processes in meteorological models. The results will help to constrain the general circulation models used to examine interactions between climate and land cover changes in Amazonia.

The hydrology component will consider issues related to both the quantity and the chemistry of water in the Amazon Basin. The stores and fluxes

of water, and the controls on the movement of water in soils and in streams, and the associated transport of constituents, will be determined for a nested suite of catchments representing a range of land uses. Forested and deforested catchments of several square kilometers will be instrumented to make measurements with high temporal resolution of discharge, rainfall, evaporation, interception, soil water storage, ground water, leakage and export of sediment and nutrients. The data will be used to improve the capability of hydrometeorological models to assess the response of flows of the Amazon and its tributaries to changes in climate and changes in land use. Controls on the movement of materials from the upland through the riparian zone and into streams will be studied in small catchments drained by low order streams. Models of nutrient budgets in larger catchments will integrate results from field work in the small catchments with extant models of higher order river biogeochemistry and extant and new models of hydrologic routing.

### *LBA Timeframe*

The overall timeframe for LBA is 1996–2003. Between 1996 and 1997, several preliminary activities will take place, including installation of the measurement and monitoring networks for most LBA components. The main phase of LBA will take place between 1998 and 2000. This corresponds to the period around the launching of the Tropical Rainfall Monitoring Satellite, EOS-AM1, ENVISAT, the Chinese-Brazilian Earth Resources Satellite and Landsat 7. During this period, most of the intensive measurements will be simultaneously deployed in the field. A mission for the atmospheric chemistry component of LBA is planned in 1999 or 2000, possibly followed by a second one in 2001 or 2002.

A pre-LBA database using data collected in the Amazon during previous field efforts [e.g., Anglo-Brazilian Climate Observation Project, Rondonia Boundary Layer Experiment, as well as a zoom-in within the available global data sets (International Satellite Land Surface Climatology Project Initiative I)] is currently under compilation. Both a CD-ROM and the LBA home page will be used to distribute the data.

LBA Home Page:  
<http://yabae.cptec.inpe.br/lba/>

## WCRP/GEWEX MEETINGS CALENDAR

*For calendar updates and GEWEX documents,  
consult the GEWEX Home Page  
<http://www.cais.com/gewex/gewex.html>*

**6-10 January 1997**—GEWEX SCIENTIFIC STEERING GROUP MEETING, Hamburg, Germany.

**2-7 February 1997**—SEVENTY-SEVENTH ANNUAL MEETING AMERICAN METEOROLOGICAL SOCIETY, Long Beach, California. Conferences and Symposia on Atmospheric Radiation, Global Change Studies, Climate Variations, Atmospheric Chemistry, Hydrology and Integrated Observing System. For information contact American Meteorological Society, 45 Beacon Street, Boston, MA, USA, Tel: 617/427-2425; Fax: 617/742-8718.

**7 February 1997**—GLOBAL SOIL WETNESS PROJECT WORKSHOP at AMS Annual Meeting.

**10-14 February 1997**—LAND SURFACE PARAMETERIZATION/SOIL VEGETATION ATMOSPHERE TRANSFER WORKSHOP, Scripps Institution of Oceanography, LaJolla, California, U.S.A.

**17-21 March 1997**—JOINT SCIENTIFIC COMMITTEE FOR WCRP, Toronto, Canada.

**21 April-25 April 1997**—NOPEX-BALTEX SYMPOSIUM AT THE EUROPEAN GEOPHYSICAL SOCIETY XXII GENERAL ASSEMBLY, Vienna, Austria. For information contact EGS Office, Max-Planck-Str. 1, 37189 Katlenburg-Lindau, German, Tel: 49-5556-1440; Fax: 49-5556-4709; E-mail: [egs@linux1.dnet.gwdg.de](mailto:egs@linux1.dnet.gwdg.de).

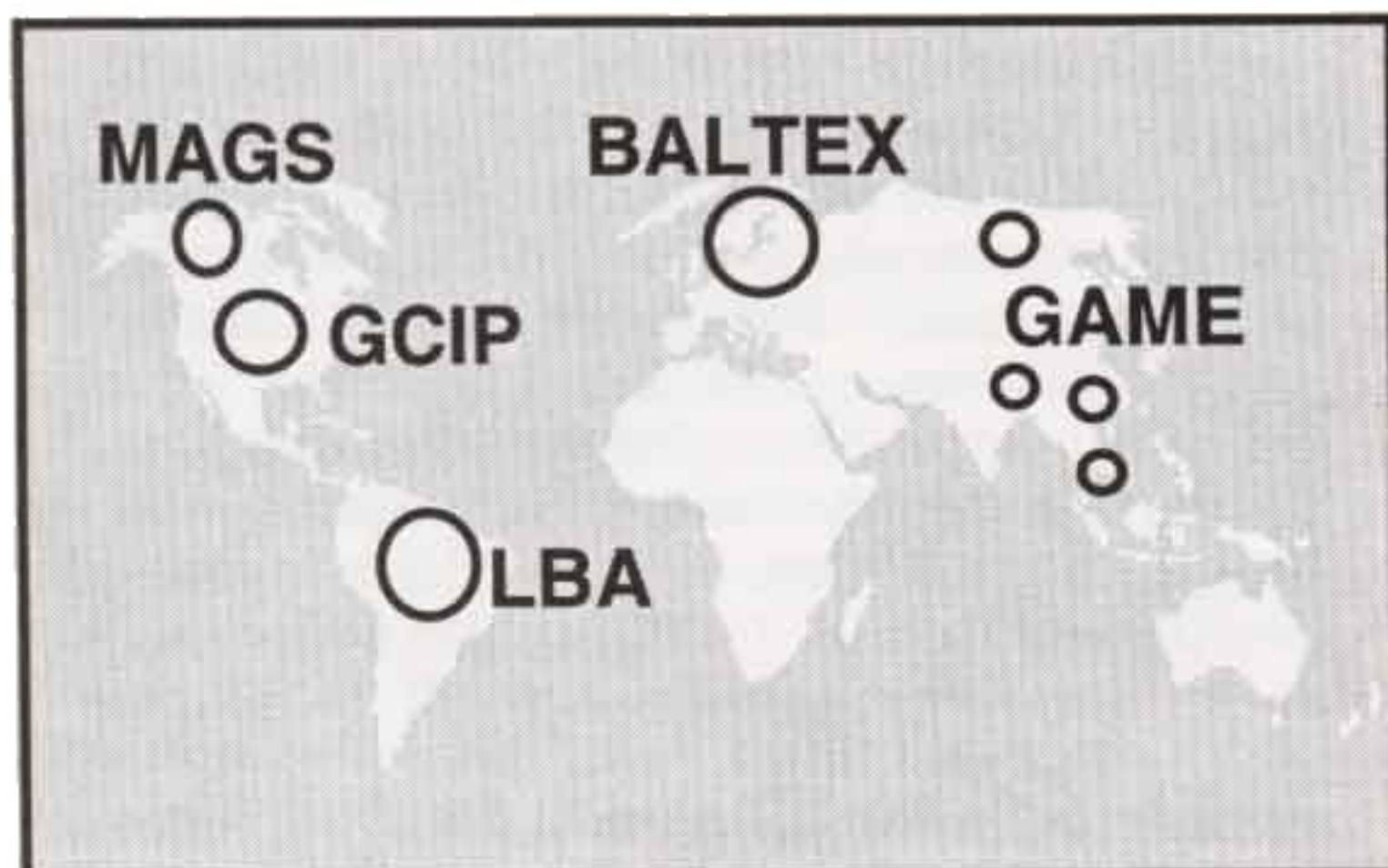
**28 April-2 May 1997**—CLIVAR SSG, Washington, D.C.

**25-27 June 1997**—PROJECT FOR INTERCOMPARISON OF LAND-SURFACE PARAMETERIZATION SCHEMES (PILPS) WORKSHOP. The coupling of land surface into atmosphere models. Bureau of Meteorology Research Centre, 150 Lansdale Street, Melbourne, Victoria, Australia. For information contact Dr. Bertrand Timbal, BMRC, GPO Box 1289K, Melbourne, VIC 3001, Australia; Tel: (61)-3-9669-4412; Fax: (61)-3-9669-4660; E-mail: [bxt@bom.gov.au](mailto:bxt@bom.gov.au).

**1-9 July 1997**—EARTH-OCEAN-ATMOSPHERE FORCES FOR CHANGE, Melbourne, Australia. For details contact IAMAS/IAPSO Secretariat, Convention Network, 224 Rouse Street, Port Melbourne, Victoria 3207, Australia; Tel: +61-3-9646-4122; Fax: +61-3-9646-7737; E-mail: [mscarlett@peg.apc.org](mailto:mscarlett@peg.apc.org).

**26-29 August 1997**—WMO/ICSU/IOC CONFERENCE ON THE WORLD CLIMATE RESEARCH PROGRAMME, Geneva, Switzerland.

**28-31 October 1997**—WCRP FIRST INTERNATIONAL CONFERENCE ON REANALYSES, Washington, D.C. See page 2.



*Geographic locations of the Continental Scale Experiments.*

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### GEWEX NEWS

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