



# CLIMATE WATCH

THE BULLETIN OF THE GLOBAL CLIMATE COALITION

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## Executive Director's Column

### U.S. NEEDS REALISTIC POLICY GOALS

By John Shlaes

February 6 through 17, negotiators from over 150 countries will meet in New York to begin the eleventh United Nations-sponsored deliberation on climate change. This meeting will be a "stage setter" for a major session in Berlin this March, when the first Conference of the Parties to the Framework Convention on Climate Change (COP1) convenes.

Several critical issues will be discussed, including a proposal to cut man-made greenhouse gas emissions to 20 percent below 1990 levels by the year 2005 -- a move that would entail significant economic costs to industrial nations, including the United States.

The challenge for U.S. negotiators as the issues are debated in New York and Berlin will be to ensure that agreements coming out of these meetings are balanced and that consideration is given to economic impacts. Those representing U.S. interests at these meetings must remember that policy initiatives may be global in nature, but they also have a domestic impact.

Since the treaty was agreed to in May 1992, the agreement has been ratified by 119 countries. Seventeen developed countries (including the United States) have submitted National Action Plans to the U.N. detailing measures they will undertake to reduce emissions. In addition, some countries are already calling for stringent measures that would go far beyond the existing treaty.

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## ARCTIC STUDIES SHOW NO GLOBAL WARMING TREND

Two recent scientific studies on the ice layer covering the Arctic Ocean show no evidence of a change in ice thickness to indicate global warming. The studies are especially significant because the computer models used to predict future potential warming say temperatures will rise first and foremost in the Arctic.

Proponents of theories predicting a dangerous warming have long warned that one of the greatest dangers of global warming would be melting polar ice caps. These studies clearly demonstrate that such a trend does not exist.

The two studies, recently published by the American Geophysical Union, used sea ice data collected by nuclear submarines from 1958 to 1992, in addition to other scientific work in the region.

According to an account in *Science News* (12/24 & 31, p. 427), ocean researcher William D. Hibler of Dartmouth College says that "for all practical purposes, [the two studies are] both saying the same thing -- that there probably isn't much of a trend there." The disparity between model predictions and observational data continues to widen. ●

## NEW FINDING CHALLENGES CLIMATE MODELS, WARMING FORECASTS

A new study by scientists at the Massachusetts Institute of Technology demonstrates that common "adjustments" to computer simulations of global climate only disguise -- but may not correct -- underlying defects in the models. The finding casts further doubt on the accuracy of warming scenarios produced by the models and used as the basis for claims that global temperatures will rise catastrophically in the next century.

The new study closely examines the practice of adjusting the amount of heat and moisture flowing between the atmosphere and the ocean in climate models. Climate researchers have long been aware that models suffer from deficiencies in their ability to re-create enormously complex interactions between oceans and the atmosphere. Such deficiencies prevent models from even being able to produce an accurate picture of current climate. Researchers' approach to the problem has been to "adjust" the

interaction between the atmosphere and the ocean until the models reflect existing global climate conditions.

According to a report in *Science* magazine ("Climate Modeling's Fudge Factor Comes Under Fire," Sept. 9, 1994), so-called flux adjustments are typically at least as large as the temperature changes the models ultimately forecast. In some cases, *Science* reports, the adjustments are five times as large. With the flux adjustment made, researchers then use the models to project future climate scenarios.

The MIT researchers discovered that while flux adjustments allow models to re-create existing climate, they only mask flaws that almost inevitably skew future scenarios produced by the computer simulations. According to *Science* magazine, "The result was that even when a...model was set up to simulate the existing climate, it would drift away to something quite unreal."

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## INTERNATIONAL NEWS UPDATE

GERMAN NGOS AND ISLAND STATES' ALLIANCE CALL FOR ADDITIONAL CO<sub>2</sub> CUTS

A group of more than 50 non-governmental organizations in Germany has issued a paper calling for developed nations to commit to a 20 percent reduction in carbon dioxide emissions (measured against 1990 baseline) by the year 2005. In a separate move, the Alliance of Small Island States (AOSIS) recently submitted a draft protocol for consideration at the upcoming Conference of the Parties in Berlin that would formally establish the 20 percent by 2005 target.

No studies have directly examined the impact of a 20 percent cut in carbon emissions over a five-year span. However, a 1992 study that examined a scenario involving half the emissions reductions over a time-frame twice as long predicted that even these cuts would reduce GDP in the OECD nations by about 1 to 3.5 percent. Another study, by Stanford University's Energy Modeling Forum (EMF), found that the more rapid the required reduction in emissions, the greater the cost. According to EMF, "In other words, a 20 percent additional reduction in emissions relative to 1990 levels...[by 2010] could more than double the cost."

Source: Inter Press Service (12/20/94)

## AUSTRALIA PONDERES LEVY ON LIVESTOCK FLATULENCE

News stories out of Australia, the world's fifth largest emitter of greenhouse gases, say that livestock owners may soon be taxed on the flatulence of their cattle and sheep. The reason? To help the country achieve its commitments to greenhouse gas reductions. Currently, Australia is home to 24 million cattle and 150 million sheep, which produce an estimated 2.2 million tons of

methane emissions each year.

No word yet on who will have to verify compliance via on-site inspections, but the proposed levy may create an enormous market for scientists who are developing a non-toxic compound that suppresses livestock flatulence. According to the discoverer of one new compound, tests have confirmed the product's effectiveness. ●

Source: Reuter (11/22/94)

## EU ENVIRONMENT MINISTERS REJECT CARBON TAX

Environment ministers of the European Union nations recently voted thumbs down on an EU-wide tax on fossil fuels and energy. The tax was an option in the alliance's climate change action plan, aimed at reducing greenhouse gas emissions from EU nations to 1990 levels by the year 2000. Facing stiff opposition to the tax from Great Britain, whose representatives called the proposed tax politically unacceptable, the ministers instead chose to allow member nations to develop and implement their own strategies for emissions reductions.

British Secretary of State for the Environment John Gummer said, "We have established clearly the EU decision to meet our global warming requirements by insisting on national action [and] by not having an EU tax." An advisor to the European environment commissioner said, "We realized it was time for a more flexible and pragmatic approach."

The decision was a defeat for Germany and a host of special interest groups that had long supported the proposed EU-wide tax. However, German Environment Minister Angela Merkel expressed confidence that the decision would, nonetheless, position the EU nations well for the upcoming March 1995 Conference of the Parties in Berlin. Merkel dismissed criticism that the EU decisions represent no significant

progress in policy and are not sufficient. She said, "Who knows what's enough? We do not know what the Americans will do. I think [the decisions] give us some weight going into the [Berlin] negotiations."

The meeting also produced an agreement on automotive fuel economy standards for EU nations. The standards, which Greece and Italy fought, will take effect for models produced in the year 2005 and will set average petrol and diesel consumption in cars at five liters per 100 kilometers (1.1 gallons per 60 miles) and 4.5 liters per 100 kilometers (0.99 gallons per 60 miles) for each fuel, respectively. ●

Source: Reuter (12/15/94)

## NINE COUNTRIES TO MISS EMISSIONS GOALS FOR 2000

Nine of the 18 major industrialized nations required to submit national action plans under the Framework Convention on Climate Change will miss the targeted emissions levels, according to the Secretariat of the Framework Convention. The nations committed to reducing carbon dioxide emissions to 1990 levels by the year 2000.

All countries reported that fossil fuel combustion is the largest source of carbon emissions. Accordingly, most have emphasized energy efficiency and waste reduction measures in their plans, including increased competition, better efficiency and fuel switching in power generation; improved industrial efficiency; improved auto fuel economy; improved building and appliance efficiencies; and reduced emissions from landfills. In issuing its report, however, the secretariat cautioned that the information the countries provided is not suitable for comparison or ranking nations relative to one another.

According to the secretariat, the issue will be discussed further at the February INC meeting in New York. ●

Source: Science Vol. 26, Dec. 94



## PHONY "TRENDS" DISCOVERED IN WEATHER DATA

**P**roblems with meteorological data are creating artificial "trends" in historical climate information that give false impressions about warming and the severity of past weather events, according to climatologist Neville Nicholls. Improvements in technologies and techniques used to gather data have created numbers that point to trends that don't really exist. For example, satellites collect more detailed information than land-based weather stations, making it look like storms have been more severe and more frequent since the advent of satellite weather tracking.

Nicholls, a lead author with the United Nation's Intergovernmental Panel on Climate Change, says that a change from one measurement technique to another can significantly bias the results. He points to the upward trend in the number of cyclones from 1949 to the mid-1980s. Nicholls says the trend "is artificial and is due to improved observing systems, such as new satellites. The upward 'spike' in 1962 includes some rather weak storms which in previous and later years may

not have received names as cyclones."

Writing in a recent issue of the *United Nations Climate Change Bulletin* (4th Quarter 1994), Nicholls says the sudden drop in cyclone numbers in 1986 is at least partly artificial, reflecting a change in the policy governing the naming of tropical

storms as cyclones. The gradual increase in cyclone numbers since then may or may not be real. "Similar biases in meteorological data for other locations and other types of extreme events make it extremely difficult to...identify real trends."

This better understanding of the weaknesses in historical weather data supports those scientists who dispute recent claims by global warming proponents that severe weather occurrences have been increasing and are the sign of a human-induced climate change.

"Artificial trends in the frequency and intensity of extreme weather events such

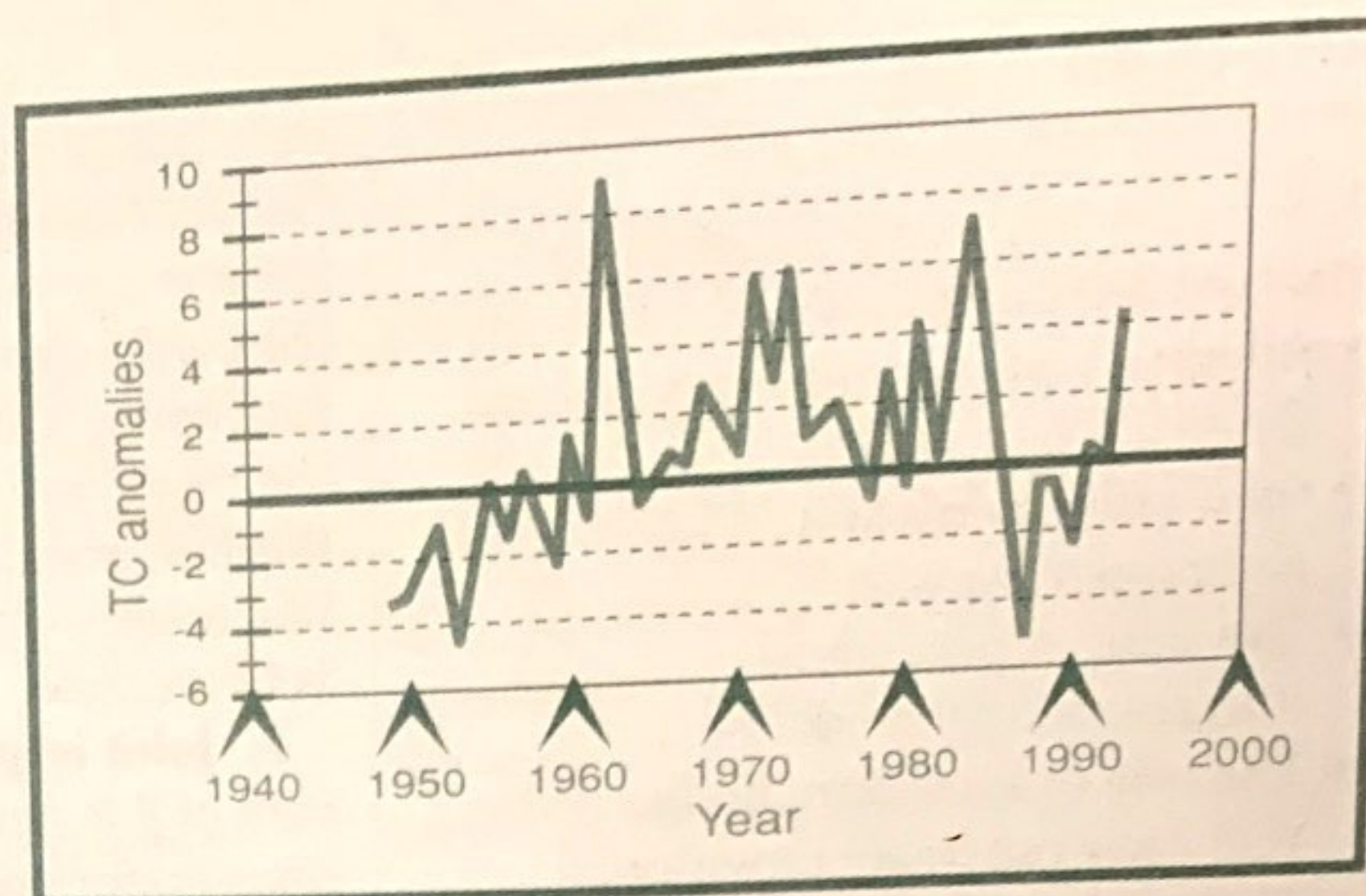


Figure legend: Anomalies (from the long term average of about 10 per year) of the annual number of tropical cyclones in the Southern Hemisphere between 105°E and 165°E, after the removal of the El Niño-Southern Oscillation's effects.

as tornadoes and tropical storms have undoubtedly been caused by improved observations (due in part to meteorological satellites) and finer resolution of computer-based analytical models," Nicholls says. An example of such an artificial trend appears in the figure, which shows a time series analysis of the number of named tropical cyclones in the Australian region between 1949 and 1994.

According to Nicholls, new and proposed data gathering systems promise to enhance our ability to monitor and detect climate change and variability in the future. ●

## SCIENTISTS BLAST MISUSE OF CLIMATE MODELS

**A**growing number of scientists are sounding a warning that computer models are being misused. At the same time climate models are making significant improvements, their use by policymakers as "truth-generating oracles of the future" worries many in the scientific community. A recent article in the British publication *The Globe* (Sept. 1994) by Brian Wynne and Simon Sackley of the Centre of the Study of Environmental Change at Lancaster University, England highlights some of these concerns.

*Climate Watch* provides excerpts below:

"In the climate change sphere... [pressures to integrate environmental, economic and social modeling] have led to the widespread use of output from climate system models in calculating the impacts of climate change on agricultur-

al and economic systems.

"Yet the debates which have then followed about the validity of economic or other impacts modeling outputs have taken for granted the reality of the outputs from the GCMs. Any debate about the assumptions which have had

**"If [models] are to be treated not as predictive truth machines .... someone has forgotten to let policymakers and the public know."**

to be made in order to construct, run and interpret those models thus tends to be suppressed or ignored."

"[T]he role of these vastly complex, cumbersome and expensive kinds of

models is riddled with a crucial ambiguity. For example, although its conclusions are carefully qualified in informed circles, and uncertainties are recognized, the IPCC's whole *raison-d'être* is to provide reliable knowledge of probable futures for public policy and this knowledge is derived mainly from the large physical computer simulation models of the global circulation. As the outputs from these esoteric artifacts approach the public arena, it is not just that the uncertainties and qualifications underlined by the scientists fall away. Their basic identity changes. If they are to be treated not as predictive truth machines but as artifacts for clarifying questions and helping develop scientific understanding, someone has forgotten to let policymakers and the public domain know.

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## Policy Goals

*Continued from front page*

Among the key treaty issues to be addressed are the following:

- **Adequacy of commitments** (Should the treaty be tougher?)
- **Joint implementation** (What role for technology transfer?)
- **The rules of procedure** (Organizational guidelines)
- **The role of subsidiary bodies** (Who will carry out treaty provisions?)
- **Financial mechanisms** (Who will pay, and how much?)

In addition, two issues that have been brought up during treaty negotiations:

- **Business and industry consultation to the convention** (see below)
- **The International Climate Technology Initiative** (see below)

GCC is "on the record" on many of these issues and has communicated its views directly to the U.S. administration. The GCC supports several principles that should govern the U.S. position: continuation of a vigorous and comprehensive research program to lessen scientific uncertainties; recognition of the unique national circumstances that affect U.S. patterns of energy management and greenhouse gas emissions; reliance on voluntary actions and market-based incentives as the basis for mitigation actions; and establishment of joint implementation (JI) as an important element in the global strategy for addressing greenhouse gas issues. The resolution of these issues is not a justification for setting overly aggressive future aims or commitments.

**In looking at two of the individual treaty measures under consideration, several notes of caution need to be raised.**

**1. Adequacy of Commitments** — Some European governments want to set additional targets and mandate stringent emissions reductions in OECD countries within the next 10 years. They would achieve this by mandating "appropriate" technology, international standards, or emissions caps, possibly using taxes to achieve reductions. However, at least three key elements must be put in place before one can even begin to determine "adequacy": 1) National Communications have

only had a cursory review, with several not yet submitted, and no decision has been made on when developing countries will submit communications; 2) the functional bodies that will administer the treaty will not be functioning until this fall; and 3) the current global scientific assessment, now under way, is not yet complete.

**2. Joint Implementation** — The concept of JI is new, but could offer tremendous opportunities for energy, economic and environmental development throughout the world. The U.S. has launched a pilot program that, as it develops, will provide "lessons learned" so that the U.S. can gain enough experience to carry a workable program to the rest of the world. This transfer of energy and environmental technology will take time, and barriers to technology transfer will have to be addressed. Also, flexibility will have to be built into the qualification criteria to ensure maximum participation. Multinational banks should participate in this process and recognize all forms of know-how and technology transfer.

**Caution and encouragement are in order on two other issues:**

### **1. Business and Industry Consultation to the Convention—**

Business and industry can provide valuable information and insights relevant to the climate change issue. The GCC has proposed that the COP encourage each party to establish its own, individual, national consultative process with business and industry that is tailored to the country's own system. Such consultation should not be limited to the domestic businesses and industries of the nation, but should reach out to other nations that can provide relevant input. The consultations should identify and facilitate deployment of technologies and processes best suited to each country and should involve discussion concerning non-climate laws and policies that affect business investment and trade. The dialogues should be on technologies and processes to limit or avert greenhouse gas emissions, as well as sequestration of emissions, adaptation, and governmental barriers that impede penetration of new technology and processes. Although national consulta-

tive mechanisms provide the most effective way of communicating the perspective and expertise of business and industry, there are examples of business/industry-led advisory groups at the international level. As the international community gains experience in the COP and its subsidiary bodies, it may be appropriate for business/industry and governments to revisit these issues.

**2. The International Climate Technology Initiative** — This new proposal by the U.S. government has a number of strengths, including encouraging industry participation in voluntary activities aimed at reducing greenhouse gas emissions; providing a venue for countries to exchange views on technology issues; and adding focus to the technology debate. However, in addressing this issue we must avoid the formation of international mechanisms that might decide climate technology winners and losers; the creation of standards or measures or norms that create trade barriers or otherwise distort competitive trade practices; and the creation of international funding mechanisms that create a bias toward government-selected climate technologies. A modest, well organized initiative is preferable to an initiative that creates unrealistic expectations and subsequently falters.

Implementation of the Framework Convention is now entering a critical period. The first national communications from Annex I countries (reports on how they will comply with treaty goals) demonstrate that there are significant differences in each country's plans. These factors reflect the challenge of establishing a workable, constructive and global process. The convention is also struggling to find an appropriate way of including at least the most industrialized of the developing countries in emissions reduction efforts, since they will be the source of the majority of future man-made greenhouse gases.

Resolving these issues will take considerable time. All parties to the Framework Convention will have to be involved because of the pervasive nature of the policy changes under consideration. Policies on energy, environment, technology transfer and trade will all be affected. ●



## TEMPERATURE RECORDS PAINT PUZZLING PICTURE OF WARMING

Scientists tracking global temperatures have found that in those areas where temperatures are rising, the increase is noted at different times throughout the day cycle. Although all changes are well within the range of normal climate variation, some regions show the increase occurring at night, while other areas record the biggest change during the day. The observations raise important questions about the impact of climate warming, with many scientists suggesting that if the bulk of the warming appears as higher nighttime minimum temperatures, it may be a blessing rather than a curse. Warmer nighttime temperatures, scientists speculate, would lengthen agricultural growing seasons by preventing killing frosts.

In general, scientists agree the data indicate that nighttime low temperatures are rising at a greater rate than daytime high temperatures. But in some areas, for example India, temperature records show a larger increase in daytime temperatures than nighttime. Elsewhere researchers have found that in mountainous areas, day

and night temperatures are rising at about the same rate, while valley areas show a larger increase at night. And in the polar regions, no significant nighttime warming has occurred.

Some scientists attribute the observed inconsistencies to variations in cloud cover.

Increased cloudiness during the day has a cooling effect, as the clouds reflect sunlight away from the Earth's surface. At night, the clouds trap heat as it leaves the surface, which could result in higher nighttime temperatures.

This dynamic indeed would help explain findings documented by the U.S. National Center for Atmospheric Research that show that cooling exceeds warming over Europe, the eastern United States and parts of Russia, China and the Far East, areas in which emissions from industrial activity have increased cloud cover. The long-term effects of increased cloud cover are unknown. One group of scientists in Berlin last April suggested that heavier cloud cover may actually lead to global cooling. ●

## LEADING SCIENTIFIC JOURNAL REBUKES IPCC FOR PRESS RELEASE

An inaccurate and misleading press release during the September meeting of the Intergovernmental Panel on Climate Change drew a reprimand from the journal *Nature* ("IPCC's Ritual on Global Warming," Sept. 22, 1994), which criticized the IPCC misstep as an impediment to progress on international climate change policy.

The IPCC press release prompted angry responses from countless experts, including delegates at the meeting from the United States government and other nations, who expressed shock after learning that the release did not accurately reflect proceedings of the Maastricht conference. In fact, the controversial statement made false claims about the state of the science on climate change and reported "findings" on issues that had never been on the table.

Among the erroneous claims made in the release was that "the scientific consensus established in 1990 by the IPCC on climate science still holds." *Nature* attacked the claim, writing, "What does that mean?...Unanimity? Nobody denies that carbon dioxide is a greenhouse gas, but argument persists in the research community about the effects on climate. To be persuasive, IPCC must show that it has given these issues the respectful considerations their origins command."

The journal strongly criticized the IPCC for "communication by press release and 'Executive Summary' (a euphemism for sound-bites directed at those who do not read)," suggesting that neither is an effective approach to communicating about the important scientific uncertainties that define the climate change debate. "What the world needs is a measured critical review of the literature on greenhouse gases and their effects on climate....A useful format for the IPCC's reports would be a listing of the continuing uncertainties and a periodic discussion of the extent to which they had been removed."

*Nature* concluded, "If the threat of global warming is serious..., it deserves more seemly ways of making authoritative opinion public than that followed at [the Maastricht] meeting." ●

## NEW GLOBAL AGENCY WOULD FORECAST CLIMATE

According to Dr. Philip Arkin of the Office of the Director of the National Meteorological Center, the Office of Global Programs within the National Oceanic and Atmospheric Administration (NOAA) is preparing a proposal that would establish an agency charged with forecasting changes in global climate, especially those resulting from periodic events such as El Nino.

The establishment of the new agency was proposed at a recent conference sponsored by NOAA and the World Bank. Dr. Arkin told *Climate Watch* the agency's primary responsibility would be to forecast global climate a year in advance in order to allow for

better preparation for and avoidance of the impacts of droughts and floods.

Maxx Dilley, a scientist at the U.S. Office of Foreign Disaster Assistance, estimates that in the 1990s these disasters cost nearly \$400 billion, a figure that, according to Dilley, could have been reduced by more than half with an investment of \$40 billion in steps to prepare for such occurrences.

According to Dr. Arkin, the Climate Analysis Center within NOAA currently prepares weather forecasts a season in advance for the continental United States, Alaska and Hawaii. However, starting January 15, 1995, the Climate Analysis Center will begin releasing forecasts for the entire year. ●



## INTERNATIONAL AID BANKERS GIVE GREEN LIGHT TO CLIMATE CHANGE PROJECTS

The Global Environment Facility (GEF), the "World Bank" for climate change-related projects in developing countries, recently released a comprehensive review of projects now on the books. GEF has been criticized by environmental non-governmental organizations for being too slow to administer funds and for not allowing environmental organizations to serve as administrators of those funds in projects overseas. The World Bank, the United Nations Development Program (UNDP) and the United Nations Environment Program (UNEP) share responsibility for oversight of GEF projects. The chart provides a complete project list.

The following projects received endorsement by the GEF participating governments during the three-year pilot phase (1991-1994). Once reviewed and endorsed by the GEF participating governments, projects are returned to the responsible implementing agency for further preparation and final approval. Since this process can take between six months and two years, some of the following projects have not yet been approved (as noted). Each project is supervised by one of three implementing agencies. ●

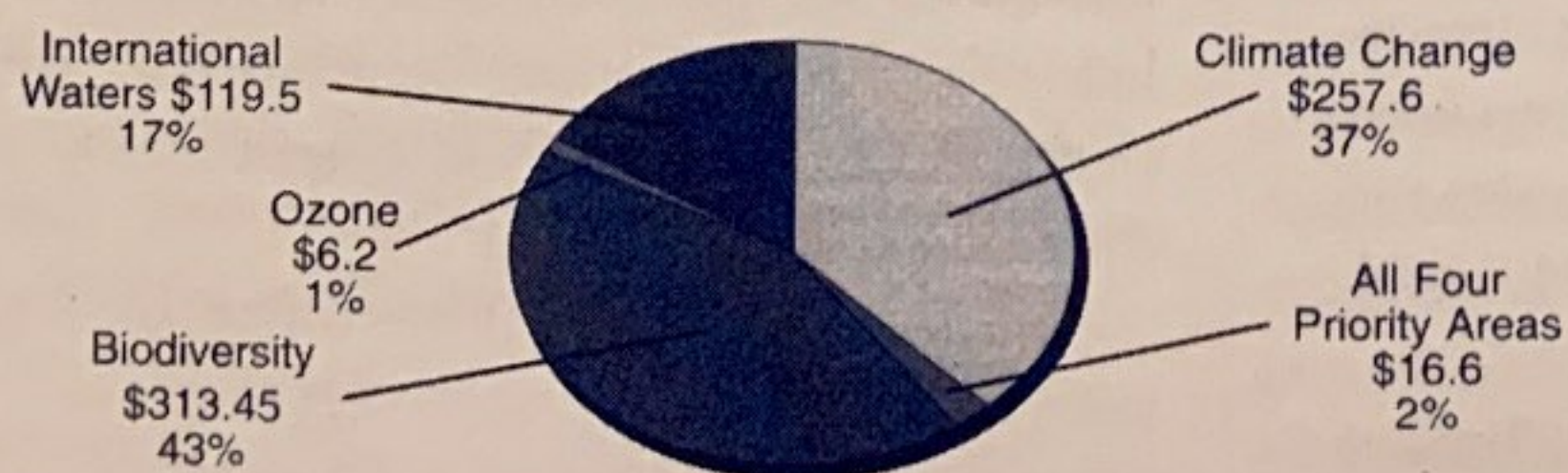
### GEF WORK PROGRAM: CLIMATE CHANGE PROJECTS\*

(In Millions of U.S. Dollars)

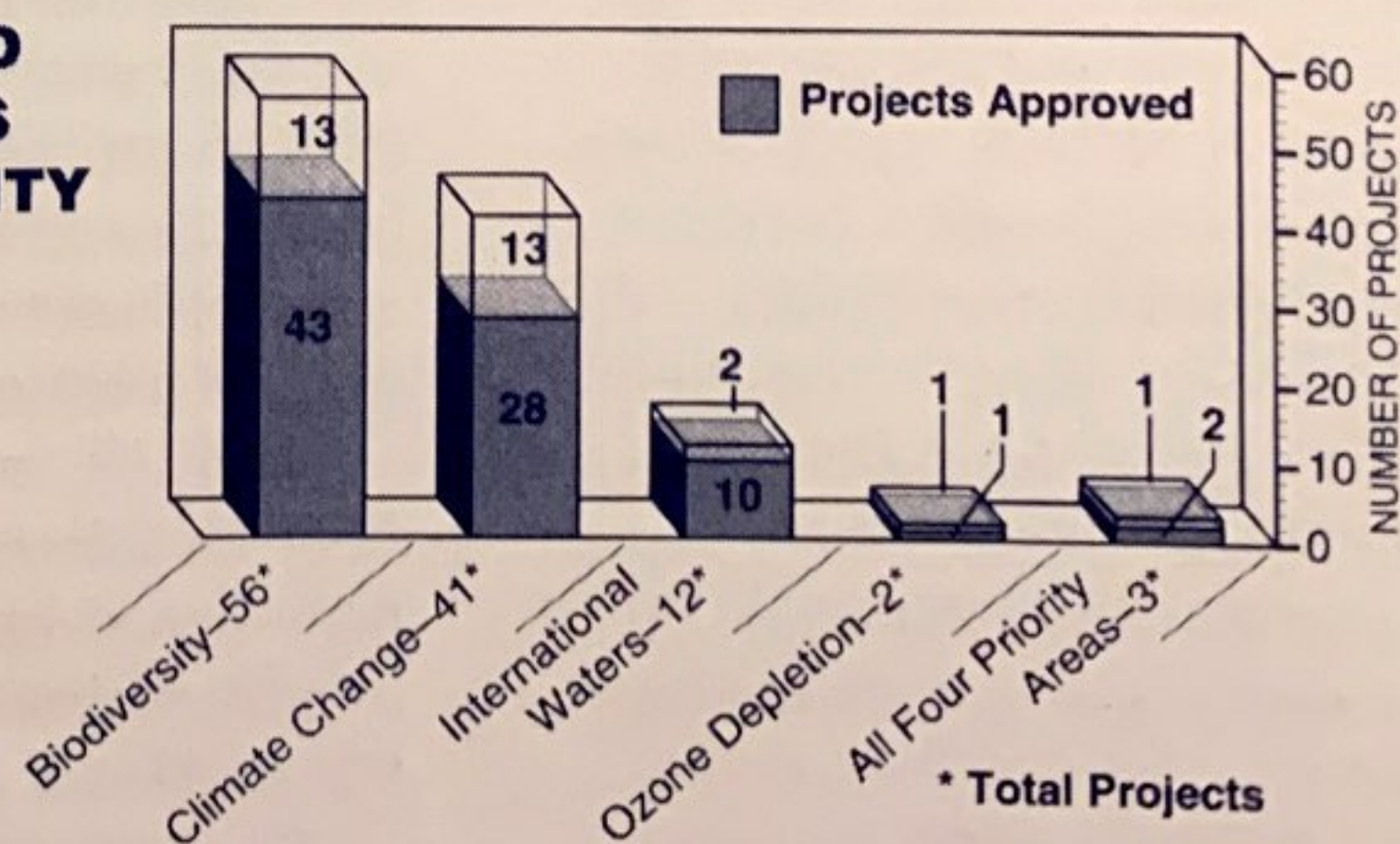
Benin .....	Village-Based Carbon Sequestration.....	2.5
Brazil .....	Biomass Integrated Gasification/Gas Turbine .....	7.7
Chile .....	Reduction of Greenhouse Gases.....	1.7
China .....	Issues and Options in Greenhouse Gas Emissions Control.....	2.0
China .....	Development of Coal-Bed Methane Resources .....	10.0
China .....	Sichuan Gas Transmission and Distribution Rehabilitation.....	10.0
Costa Rica.....	Tejona Wind Power.....	3.3
Cote d' Ivoire.....	Crop Waste Power.....	5.0
India.....	Optimizing Development of Small Hydel Resources in the Hilly Regions .....	7.5
India.....	Bio-Energy from Industrial, Municipal and Agricultural Waste .....	5.5
India.....	Cost-effective Options for Limiting Greenhouse Gas Emissions .....	1.5
India.....	Alternate Energy.....	26.0
Iran.....	Tehran Transport Emissions .....	2.0
Jamaica .....	Demand Side Management Demonstration.....	3.8
Mali .....	Household Energy .....	2.5
Mauritania .....	Wind Electric Power for Social and Economic Development .....	2.0
Mauritius .....	Sugar Bio-Energy Technology .....	3.3
Mexico.....	High Efficiency Lighting Pilot.....	10.0
Morocco.....	Repowering of Power Plant.....	.....
Pakistan .....	Fuel Efficiency in the Road Transport Sector .....	7.0
Pakistan .....	Waste-to-Energy Lahore Landfill Gas Extraction and Use.....	11.0
Peru.....	Technical Assistance to the Centre for Energy Conservation .....	0.9
Philippines .....	Leyte-Luzon Geothermal .....	30.0
Poland.....	Coal-to-Gas Conversion .....	25.0
Russia .....	Gas Distribution Rehabilitation and Energy Efficiency .....	3.2
Sudan .....	Community Based Rangeland Rehabilitation for Carbon Sequestration and Biodiversity .....	1.5
Tanzania .....	Electricity, Fuel, and Fertilizer from Municipal Waste in Tanzania: A Demonstration Biogas Plant for Africa .....	2.0
Thailand.....	Promotion of Electricity Energy Efficiency .....	9.5
Tunisia .....	Solar Water Heating .....	4.0
Zimbabwe.....	Photovoltaics for Household and Community Use .....	7.0
Regional.....	Control of Greenhouse Gas Emissions Through Energy Efficient Building Technology .....	3.5
Regional.....	Asia Least Cost Greenhouse Gas Abatement Strategies .....	9.5
Regional.....	Regional Strategy for Reduction of Greenhouse Gas Emissions in Arab States .....	2.5
Regional.....	Building Capacity in Sub-Saharan Africa to Respond to the UN Framework Convention on Climate Change .....	2.0
Global .....	Global Change System for Analysis, Research and Training (START) .....	7.0
Global .....	Climate Change Capacity Building.....	0.9
Global .....	Alternatives to Slash and Burn Research Initiatives .....	3.0
Global .....	Monitoring of Greenhouse cases Including Ozone .....	4.8
Global .....	Research Programme on Methane Emissions from Rice Fields .....	5.0
Global .....	Country Case Studies on Sources and Sinks of Greenhouse Gases .....	4.7
Global .....	Capacity Building and Infrastructure (IPCC).....	2.8
<b>TOTAL.....</b>		<b>257.6</b>

\*Projects endorsed during the 1991-1994 pilot phase.

#### PROJECT DISTRIBUTION BY PRIORITY AREA



#### APPROVED PROJECTS BY PRIORITY AREA

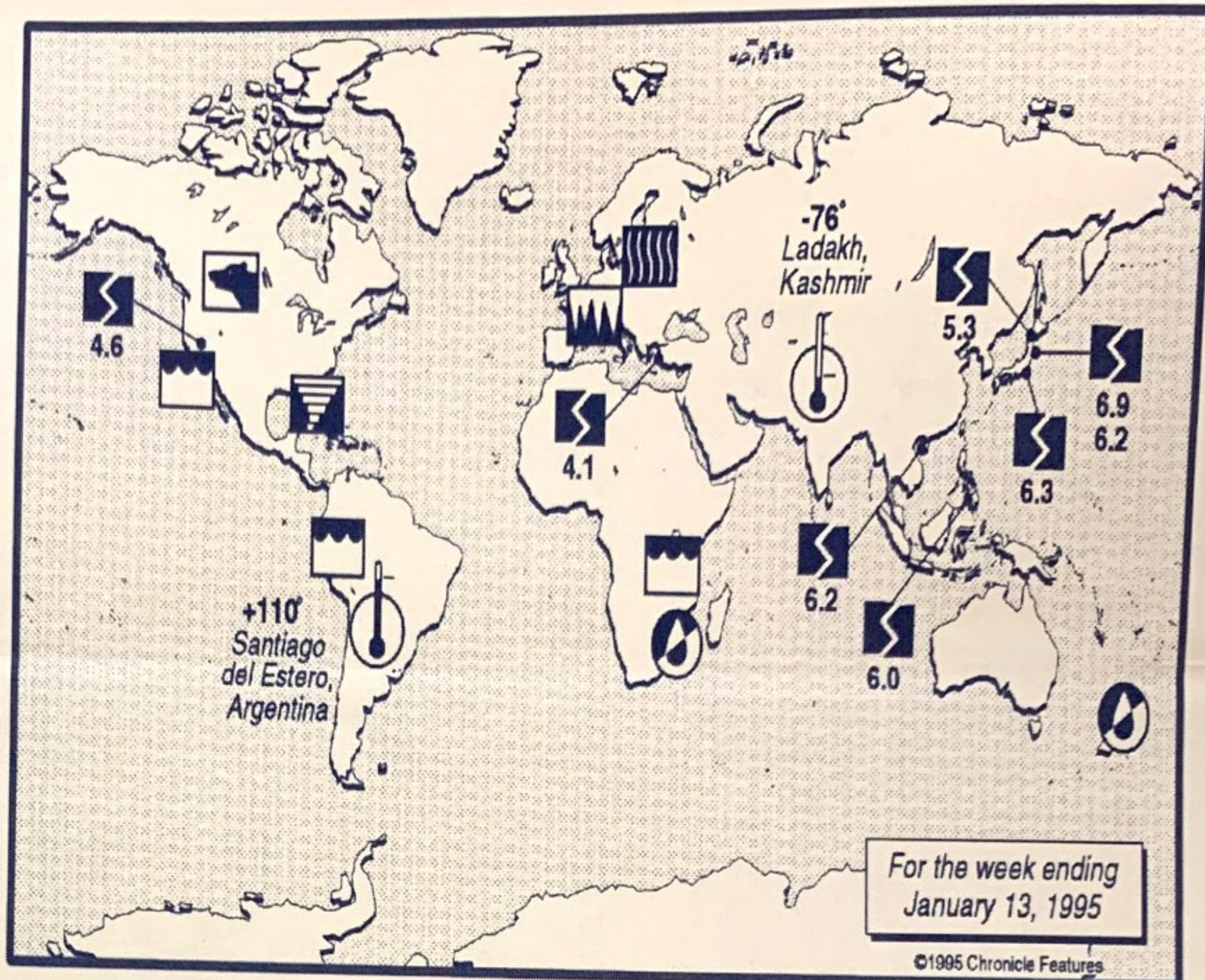




## WEEKLY FEATURE TRACKS WEATHER EVENTS, ENVIRONMENTAL DISASTERS

A new syndicated weekly newspaper column is tracking incidents of severe weather, floods, forest fires, typhoons, volcanic eruptions, earthquakes and other natural disturbances around the globe. According to promotional materials for the new feature, "Earthweek: A Diary of the Planet" also monitors "man-caused events such as major oil and chemical spills and other environmental disasters." "Earthweek" is an example of growing attention to the frequency and severity of extreme weather and climate-related occurrences. Many global warming proponents have recently stepped up efforts to attribute severe weather events in recent years to man-induced global climate change.

Many climate experts say, however, that attempts to draw a correlation between extreme weather events and human influences are specious. (See *Climate Watch* Sept./Oct. 1994.) Scientists note that random, incidental weather anomalies are natural occurrences that cannot be accurately linked to variables such as man-made carbon dioxide emissions. The World Meteorological Organization cautions against efforts to link individual weather events with global climate changes caused by increased concentrations of greenhouse gases. ●



Reprinted courtesy of Chronicle Features.



Fierce Floods



Freshet



Earthquakes



Siberian Winds



Winter Twisters



Droughts



Euro-Chill

## DOE ISSUES FINAL GUIDELINES ON REPORTING GREENHOUSE GAS REDUCTIONS

The Department of Energy (DOE) recently released final guidelines and a framework for the voluntary reporting of greenhouse gas emissions reductions and carbon sequestration activities. The guidelines reflect special attention to the aim of developing a simple, efficient reporting process and to the need for flexibility and broad participation in the emissions reduction program.

Under the guidelines, reporting entities enjoy wide latitude in defining the organizational level at which they will report. Additionally, those reporting may use either a historic baseline of emissions, or develop their own points of reference for emission tracking.

During the development of the guidelines, DOE modified its initial proposal, which covered only four greenhouse gases, expanding the reporting by adding two additional halogenated substances to the list of covered gases. DOE announced that it will add three additional gases to the program in the third reporting cycle, scheduled to begin in 1997. Although these plans are not final, it appears that retroactive reporting of these three additional gases will be allowed once they are part of the recording process.

The program is on schedule, with the first reports expected to be filed in 1995 for reductions achieved in 1994 and in earlier years (1991-1993). ●

## Climate Models

Continued from page 3

"Modeling today is both more sophisticated and more humble [than it was from the 1950s through the 1980s]. Its predictive efforts are directed towards creating a range of possible future scenarios rather than claiming predictive validity. Models are now widely presented as ways of improving understanding of processes, of identifying the implications of different assumptions, hence essential tools in the testing of hypotheses and theories. In other words they are defined as heuristic devices rather than claiming to be realistic simulations of current complexity, or truth-generating oracles of the future for policy." ●



## CLIMATE CHANGE EVENT CALENDAR

DATE/TIME	EVENT/SPONSOR/CONTACT NAME, NUMBER	LOCATION
6-17 February 1995	11th Session of the <b>INTERGOVERNMENTAL NEGOTIATING COMMITTEE</b> For information, contact: Global Climate Coalition, (202) 637-3162.	New York City, USA
13-17 March 1995	<b>BIOMASS BURNING AND GLOBAL CHANGE.</b> For information, contact: American Geophysical Union, Meetings Department, Biomass Burning, 2000 Florida Avenue NW, Washington, DC 20009, USA. Tel: 202-462-6900. Fax: 202-462-6900.	Williamsburg, VA USA
28 March - 7 April 1995	First Session of the <b>CONFERENCE OF THE PARTIES</b> (to the Framework Convention on Climate Change). For information, contact: Global Climate Coalition, (202) 637-3162.	Berlin, Germany
3-6 April 1995	<b>SIXTH GLOBAL WARMING INTERNATIONAL CONFERENCE AND EXPO.</b> For information, contact: Dr. Sinyan Shen, Global Warming International Center, SUPCON International, 7501 Lemont Road, Woodridge, IL 60517-0275, USA. Tel: 708-910-1551. Fax: 708-910-1561.	San Francisco, USA
22-23 May 1995	<b>INTERNATIONAL CONFERENCE ON CLIMATE CHANGE.</b> For information contact: Heather Tardel, PO Box 236, Frederick, MD 21701; (301) 695-3762	Washington, DC USA
26-28 June 1995	<b>IPCC WORKING GROUP III — THIRD SESSION.</b>	Geneva, Switzerland
July (Dates TBD.)	<b>IPCC WORKING GROUP I — FIFTH SESSION.</b>	Location TBD
26-29 September 1995	<b>IPCC — ELEVENTH SESSION</b>	Geneva, Switzerland

## Challenges to Climate Models

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Climate experts suggest that the need for large flux adjustments will disappear as computers become more powerful and models can be created that incorporate the complexities of atmosphere-ocean dynamics. But, according to Gerald Meehl of the National Center for Atmospheric Research, "You can put all the components [of climate] together if you have a lot of computing power, but we know from our own experience with ocean, atmosphere, and ice components that it's a major step from components to having it look like the planet Earth."

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**Editor:** Brian Hertzog  
**Reporting Staff:** John Bagwell, Jane Agate  
**Art Director:** Drew Mitchell  
**Offices:** 1331 Penn. Ave., NW  
 Suite 1500 North Tower  
 Washington, DC 20004-1703

**For more information, contact:**  
 John Shlaes, Executive Director,  
 (202) 637-3158.



Global Climate Coalition  
 1331 Pennsylvania Ave. NW  
 Suite 1500 - North Tower  
 Washington, DC 20004-1703

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Mr. Nick Sundt  
 Energy, Economics & Climate Change  
 1347 Massachusetts Ave, SE  
 Washington, D.C., 20003-1540

