Island States Unite to Press for Sea Rise Action

A coalition of island nations from the Caribbean, South Pacific, Mediterranean and Indian Ocean formed the Alliance of Small Island States (AOSIS) at the Second World Climate Conference and expressed disappointment with the ministers’ final conference declaration. The Alliance had hoped for a stronger statement on global warming and sea level rise which is a looming threat to all its members.

Lincoln Myers, environment minister of Trinidad and Tobago, said AOSIS would press hard in future negotiations for limits to carbon dioxide emissions from the industrialized countries because of the contribution of this greenhouse gas to climate warming. The Republic of Trinidad and Tobago, off the coast of Venezuela in the Caribbean, has an area of 5,000 square kilometers and a population of 1.2 million.

Maldives President Maumoon Abdul Gayoom has been very outspoken on the sea level rise issue and hosted a conference of small states in Male, the Maldives in 1989. The final declaration from that conference called upon “all States of the world family to take immediate and effective measures” to control, limit or reduce the emission of greenhouse gases.

The Republic of the Maldives in the Indian Ocean has a population of 214,000

(Continued on page 7)

Second World Climate Conference Prompts Moves to Limit CO2 Emissions

Australia, Japan, and EC Act First

The pending Second World Climate Conference galvanized a number of countries into action to stabilize emissions of carbon dioxide, the greenhouse gas which is a major contributor to the threat of global warming. Australia, Japan and the European Community took official steps to limit emissions, the EC on the eve of the Conference. Just before the New Zealand National Party won an election on October 27, National Party leader Jim Bolger committed the party to a 20 percent reduction of CO2 by the year 2000, five years earlier than the Labor Party pledge.

On October 11, the Australian Government announced a target for greenhouse gas emissions of stabilization by the year 2000 and reduction of 20 percent from 1988 levels by the year 2005. The action by Australia is particularly significant because it has a powerful coal industry and because of its dependence on energy intensive exports. Australia’s target includes not only CO2, but also nitrous oxide and methane. The Government decided not to include GFCs and other gases covered under the Montreal Protocol, as these are already being phased out, in most cases well ahead of the revised Montreal targets.

Twelve days later, on October 23, the Japanese Government announced a broad range of measures setting targets to stabilize emissions at current levels by the year 2000 and to combat other environmental problems such as acid rain and urban air pollution. The report expresses “grave concern” about the serious threat of global warming and also stresses the dangers of sea level rise to an island nation with large coastal cities.

On a per capita basis and per unit of Gross Domestic Product, Japan has one of the lowest levels of CO2 emissions among industrialized nations. But it is still the fourth largest emitter, after the U.S., USSR, and China, because of its large industrial economy. The Government has committed itself to a per capita stabilization of CO2 emissions by the year 2000 which, with population increase, could mean a total 6 percent rise. It also committed itself to a stabilization of total emissions by the year 2000. The plan calls for cutting oil’s share of energy consumption from 58 percent in 1989 to 51 percent by 2000 and 45.3 percent by 2010. Reliance on oil would be offset by increased construction of nuclear-powered generating plants and increased use of hydrogen. The program also mandates more use of mass transportation, lighter cars that use less gasoline, and a switch to daylight saving time.

(Continued on page 5)
Global Warming May Be One Clue to Dying Coral

Coral reefs around the world are deteriorating, and abnormally warm seas are a prime suspect. Contributing factors include pollution—from sewage, chemicals, and deforestation—and the greenhouse effect, overfishing, coral harvesting, and vessel groundings. A panel of research scientists told a Senate Committee in October that there was a strong correlation between high temperatures and bleaching, although one scientist expressed some hesitation in assigning a definite cause.

Coral bleaching takes place when microscopic algae which live in the tissues of coral animals are expelled. Without the algal partner, the coral becomes weak and stops reproducing. After several weeks it may die, leaving brightly colored corals with ghostly pale blotches.

About 80 percent of the coral reefs in the Florida Keys, Bermuda, Hawaii, and the Caribbean have been damaged since 1988, mostly because the last two years were the hottest on record, according to a scientist from the University of West Indies. Many are not recovering, showing less resilience than had been hoped.

Nearly every reef system in the world is suffering, according to John Ogden, director of the Florida Institute of Oceanography. The coasts of more than 20 countries are affected, including Australia, China, Japan, Panama, Thailand, Malaysia, the Philippines, India, Indonesia and Kenya, as well as the Red Sea, Puerto Rico, Jamaica, the Bahamas, and Okinawa. More than 100 square miles of the only barrier reef in North America, off the Florida coast, are threatened.

Natural causes of damage include hurricanes and El Ninos, the periodic warm ocean currents that cause climate disturbances.

Many underdeveloped countries rely on the delicate ecosystems which are based on the living coral reefs. They shelter thousands of marine organisms, including fish, crab and other seafood, which are a crucial source of food and employment for thousands of fishermen.

Negotiations on Climate Change Convention Will Take Place in U.S.

The Washington-hosted meeting to begin negotiations on a framework convention on climate change will be held from February 4-14 at Chantilly, Virginia. This will be the first of a series of quarterly negotiation sessions in preparation for the 1992 United Nations Conference on Environment and Development in Brazil, where it is hoped a convention will be signed.

A U.N. Committee has been meeting to consider a draft resolution on the protection of global climate for present and future generations of mankind. The committee will base its recommended resolution on the IPCC final document and other relevant resolutions and decisions and will submit its final product to the U.N. General Assembly for debate in December. This draft resolution will form the basis of the negotiations for the Washington meetings in February.

Representatives of nongovernmental organizations are expected to be able to participate in the Chantilly meetings as accredited observers, contributing to the negotiating process but not having an actual role in it.

Cities Conference Shapes Agenda

The Climate Institute’s Cities and Global Change Conference in Toronto, Canada, June 12-14, 1991, has a dual focus, how urban areas affect global change and the impact climate change has on cities.

There will be two plenary and a number of panel sessions covering the urban heat island effect, transportation, energy, urban planning, air pollution including the health impact, and urban infrastructure. Experts from specific cities around the world will report on conditions in their particular cities:

- Istanbul, by Dr. Nezhet Dalfes
- Tokyo, by Dr. Shuho Nishioka
- Jakarta, by Ir. Aca Sugandy
- London, by Dr. Martin Parry

The conference will be held at the Royal York Hotel, but registrations must be made through the Conference Secretariat. Air Canada, the official conference airline, offers special fares if reservations are made, specifying event number 91-0127, through Conference Central: North America toll free number 800/361-7585; FAX 514/393-6782.

Further information and registration kits may be obtained from the Climate Institute Washington office or Conference Director, Jim McCulloch, 15 Elmsley Drive, Richmond Hill, Canada L4C 8N2, telephone and FAX 416/737-2064.
Climate News Around the World

Canada

Observations of climate, hydrology and ecology for 20 years in northwestern Ontario may give a preview of the effect of global warming, particularly on northern latitudes which models predict are likely to be most severely affected. Air and lake temperatures have increased 2 degrees C and the ice-free season has been extended three weeks, according to a study led by a 10-member research team of the Canadian Government's Freshwater Institute in Winnipeg, Manitoba. The team was headed by D. W. Schnidler of the University of Alberta in Edmonton.

The warming has led to higher rates of evaporation and lower rates of precipitation, reducing the flow of water into the lakes. Chemicals have become more concentrated in the lakes not only because of the decreased precipitation feeding into them but also because of more forest fires in the drier surroundings. The forest fires in turn led to increased wind velocities.

A combination of the various influences, including greater transparency of the waters, changed the aquatic habitats of many organisms, the population of lake trout and a variety of shrimp decreased. If lake temperatures rose much higher, some species could no longer find refuge in the formerly cold, oxygen rich layers of lake waters.

On the other hand, the amount of nitrogen increased and its fertilizing nourishment brought about an enrichment of microscopic plant life, including a proliferation of diverse algae.

Egypt

Unless Egypt acts promptly to protect its coastal areas, the sea may advance inland as much as 30 kilometers, according to a Smithsonian oceanographer, as a large part of the northern delta is sinking and tilting toward the Mediterranean. Most of Egypt's population of more than 50 million lives in the delta, and its northern delta plain is Egypt's primary breadbasket.

International expeditions sponsored by the Smithsonian Institution and the National Geographic Society have collected core samples of mud and silt and found that the weight of sediments, compaction of buried strata, and recent faulting are causing parts of the delta to sink as much as 0.5 centimeter per year. The resulting coastal erosion and saltwater intrusion are putting a strict limit on agricultural development.

The loss of sediment caused by the building of the Aswan Dam and some irrigation projects are adding to the problem which would become even more severe with sea level rise.

Hungary

The economic situation of Hungary is "extremely grave," Prime Minister Jozsef Antall told the Parliament on December 5. Among the factors contributing to the grim picture is the effect of a harsh drought, he said.

These comments reinforced the statements of the President of the Republic of Hungary, Arpad Goncz, prepared for the Second World Climate Conference in Geneva. Goncz said Hungary's future depends on changes in the climate of the country and its water, food and energy balance.

"About 40 percent of the population lives in areas where there is a danger of floods," President Goncz said, "and Hungarian agricultural production is exposed to the devastating effects of drought."

He expressed concern about the country's water supply sources, from rivers and ground water, especially in times of drought. He is worried, for example, about the dramatic decline of ground water level in the area between the Danube and Tisza Rivers.

He said it is essential that the country's flood prevention systems - including its 4200-km-long dike - keep giving sufficient security.

Netherlands

Reasoning it can achieve more impressive results in averting global warming and acid rain by supporting projects abroad than at home, the Netherlands has embarked on two ambitious new programs.

In the first, SEP, an organization of private electricity generating companies, will finance a $35 million plant in Poland to reduce the amount of sulfur spewed into the atmosphere by Polish power stations which depend on high-sulfur brown coal. This will remove 45,000 tons of sulfur in Poland but would only produce a 6,000-ton saving in the Netherlands, which already has stringent emissions controls.

SEP has also pledged $300 million to replant tropical forests in the next 25 years to offset the carbon dioxide that will be produced when two new power plants are built near Rotterdam. The plan, which envisages planting more than 300,000 acres, will start in Bolivia, Ecuador and Indonesia, where projects are now ready.

Dutch consumers will pay part of the cost, adding a little less than a dollar a year to the average home electricity bill. The 30 companies, which produce about one-fifth of the nation's total carbon output, also hope to be able to use some of the $40 million in taxes they now pay to the government for carbon dioxide emissions.

Norway

Former Prime Minister Gro Harlem Brundtland, leader of Norway's Labor Party, formed her third government since 1981, in late October, after a center-right coalition split over support for closer ties to the European Community. The environment was one of seven key points she raised in her discussions leading to formation of her cabinet.

In May, as a follow-up to the Bergen Conference, the Center for International Climate Policy Research was set up at the University of Oslo. The Center will be funded by the Norwegian government and the private sector and will analyze and evaluate: international legal agreements on climate including monitoring and verification provisions; the cost-effectiveness and social impacts of various responses; and measures for transfer of technology or for compensation or debt relief in environmental actions.
Bolin and Obasi Honored for IPCC and Climate Leadership

This year's Climate Institute winners displayed scientific rigor and objectivity, and the IPCC report they guided to conclusion commanded the respect of developing and developed countries alike, declared Dr. Mostafa Tolba, speaking at the awards dinner midweek in the scientific meetings of the Second World Climate Conference in Geneva. Dr. Tolba, executive director of the United Nations Environment Programme, was winner of the 1989 Climate Institute award honoring persons contributing to furthering man's understanding of the balance between climate and life on earth. "It is to no one's interest to compromise competence for expedience," Tolba said, praising this year's winners for leading panel participants through the difficult issues to chart an incredible series of policy responses.

Every seat was taken as one hundred thirty conference participants gathered at the Hotel Intercontinental dinner October 31 to honor the 1990 winners: Dr. Bert Bolin and Dr. G. O. P. Obasi. Each honoree received a plaque, Dr. Bolin "for his outstanding leadership of the Intergovernmental Panel on Climate Change," and Dr. Obasi "for elevating climate change to the forefront of the world meteorological agenda." Dr. Bolin, Professor of Meteorology at the University of Stockholm, has been chairman of the IPCC process since its inception. Dr. Obasi is secretary general of the World Meteorological Organization.

Dr. Stephen Schneider recalled some of the special qualities of J. Murray Mitchell, a noted climatologist who died a few weeks before the conference.

"Climate has reached an astonishing place on the world agenda," said Sir Crispin Tickell, recently elected chairman of the Climate Institute's Board of Directors, in remarks at the dinner. He traced the route taken, from the Brundtland Report in 1988 to the present conference, looking forward to negotiating sessions next year and the United Nations Conference on Environment and Development in Brazil in 1992. The purpose of the awards dinner, he said, was to recognize the IPCC process and how it reached its present stage.

The Climate Institute, he continued, is now spreading its wings. Not an action group but a catalyst, it provides an essential framework. Through an agreement with IPCC, WMO, and UNEP it will now carry out briefings, sending small teams to vulnerable countries to try to place the issues before them in a clear and forthright fashion. It is a conjunction between science and politics, a sort of "jelly" between the two, preventing the discounting of scientific advice because it is too difficult to understand. The Climate Institute is trying to bring the two worlds together, as the IPCC is at the ministerial meetings next week. Tickell described what he called the symbiotic relationship between public opinion and the government. There is a clear responsibility the government should take, he said, in bringing environmental issues into planning, providing coordination at the top. Government cannot make intellectual decisions unless there is coordination at the top, joining science, economics and social ideas.

"We need better costing of environmental issues in the national accounts so we can make sense of real wealth instead of using our assets often unwittingly as we do now. We need better pricing; short term market prices are not reliable.

Yuri Golubev, Yuri Izrael, Mrs. Israel, Mavis White, Robert White chat at reception

"Lavoisier," he concluded, "once said, 'Man's mind is creased into a way of seeing things.' We should take a flat iron to get rid of some wrinkles."

Dr. Tolba took up the theme of the divide between science and policy. The divide can be bridged, he said, with credible action as opposed to advocacy. "Meaningful responses are achievable. But despite the growing body of scientific evidence, action is agonizingly slow. The Montreal Protocol took 17 years to write, and even with Protocol amendments, the ozone layer will take 80 years to heal. Much of this could have been avoided if we had acted earlier. Let's hope we have learned a lesson; there is no benefit in delays."

Tolba congratulated Institute President John Topping for organizing the dinner, and Sir Crispin Tickell, "a scientist, diplomat, and humane character," for becoming chairman of the Climate Institute.

Before Bolin was presented with his award, three speakers sought to characterize the attributes of the IPCC chairman's leadership. "What is driving this gentleman?" asked Pier Vellinga, Coordinator of the Netherlands Climate Program. "He's an ice skater who loves to skate on thin ice."

He is a wizard, like Merlin, said Gordon Goodman of the Stockholm Environment Institute. He is never seen on an airplane but always pops up when he's needed. "Maybe he arrived on his biogeochemical cycle." He is a dancer, displaying great footwork at IPCC negotiations.
Bolin and Obasi  
(Continued from page 4)

"He is our symbol, our leader," said Professor Yuri Izrael, Chairman of the USSR State Committee on Hydrometeorology and also Chairman of the IPCC Impacts Working Group. "He displays great courage."

In accepting his plaque award, Bolin emphasized the need of finding a way for science to establish its integrity in politics; honesty about what you say is "utterly important." How bad is climate change? "Surely we do not know. Climate is not the most important problem in the world, but it is an issue that can be defined and that can help us come to grips with problems that are much more difficult. We can gather around its problems and try out our strategy. We don't know what to do in the long run, but by working with it, its scientific, social and economic aspects, we can bring different parts of society to collaborate. It is an issue we have been struggling with for a few decades, but in fact it will be with us forever, a common enterprise we need to get engaged in, broadening the spirit of cooperation."

"Patrick Obasi, along with Tolba who was honored last year," said John Topping, "moved the meteorological community into the climate change issue, working up benchmark observations, establishing a world greenhouse data collection information center. They are working for the future of the planet, for future generations. They have personal affection for each other and harbor no trace of rivalry between their two international organizations." Topping then introduced three comrades of Obasi.

Workineh Degefu of the National Meteorological Services Agency of Ethiopia praised Obasi as mentor to a generation of meteorologists, the man who trained several directors of meteorological services in Africa, and the person who managed to direct WMO under financial difficulties, with its resources dwindling. "He is an outstanding son of Africa and the whole world."

David Bruce, formerly head of Atmospheric Environment Service Canada, lauded him for his focus not on tomorrow's predictions but on climate change.

Robert M. White, President of the National Academy of Engineering, commended this "simple, straightforward individual" with a very deep knowledge of the general circulation of the atmosphere, and a deep concern about well-trained young people, from which we are now benefiting — "a man for all seasons."

Second World Climate Conference  
(Continued from page 1)

On October 29, Europe's Energy and Environment Ministers reached a compromise agreement to stabilize the twelve nations' joint carbon emissions. The agreement would allow some countries to continue their present practices while freezing overall emissions at today's levels by the year 2000. The UK, Spain, Portugal and Greece are allowed to avoid reducing emissions by the target date. Prime Minister Thatcher had refused to budge for a target stabilization date of 2005. The other three countries start from relatively low levels of energy consumption. The agreement does not specify how reductions in emission growth will be achieved.

Second World Climate Conference - Ministerial Declaration

When viewed from a long-term perspective, the results of the Second World Climate Conference showed how far climate change awareness and negotiations have come. Besides the actions described above, Canada and 18 European nations individually announced plans to cut back carbon dioxide.

During the Conference itself, there were no warning camps, no big split between the industrialized and developing countries, between the North and the South.

Although the United States, joined by the USSR, Saudi Arabia and Venezuela, chose to take a different route from the rest of the nations, the invitation by the U.S. for continuing negotiations in Washington in February 1991, leaves open the opportunity for concurrent motion by all countries as an issue for the next phase in working toward a global convention addressing climate change. Both the conference's ministerial and scientific declarations also put new pressure on Washington.

"Every noble work is at first impossible," said Obasi, accepting his plaque. "Let us persevere till our work is done. Heights were not attained by sudden flight. But they were attained while others slept in the night."

A declaration adopted November 7 by the 137 nations represented at the conference urged countries to set targets, national programs or strategies to limit greenhouse gases such as carbon dioxide, but committed itself to no specific details.

The U.S., which is responsible for 22 percent of the world's carbon emissions, takes the position that further research is necessary and that such measures as the recently revised Clean Air Act and a new energy policy under development will accomplish the goals more effectively. Nevertheless, the final conference document says, "where there are threats of serious or irreversible change, lack of full scientific certainty should not be used as a reason for postponing cost-effective measures to prevent such environmental degradation."

However, the declaration did respond to both the U.S. call for more study and...
Calendar of Climate-Related Events, 1991

January 23-26
Nagoya, Japan
Asian Pacific Seminar on Climate Change, sponsored by Japan Environment Agency and overseas Environmental Cooperation Center
Contact: Dr. Shuzo Nakao, 81-296-52-6111

January 27-February 1
Takuba, Haraki, Japan
Climate Impacts on the Environment and Society, International conference, University of Takuba
Contact: Prof. T. Kawaiura, 0298 (5340400)

February 4-14
Chantilly, VA

February 13-15
Honolulu, HI
Energy and Environment in the Asia-Pacific Region: Planning for an Uncertain Future, sponsored by East-West Center and Argonne National Laboratory.
Contact: Mrs. Lilian Smylin, 808/644-7888

February 14-19
Washington, D.C.
AAAS Annual Meeting, Geoscience; Climate sessions include "Global Warming," "Small-Island States and Sea-Level Rise," "Coastal Erosion and Management," "Climate Change and the Terrestrial Carbon Cycle." Other sessions include "Stakes in the Tropical Forests," "Sustainable Economic Development.
Contact: AAAS Meetings, 202/326-6448

February 17-19
Alexandria, Egypt
African Regional Symposium on Techniques for Environmentally Sound Water Resources Development.
Contact: Richard Wodkler, Overseas Development Unit, Hydraulics Research, Wallingford, Oxfordshire, OXIO 8BA, UK

February 18-20
Copenhagen, Denmark
Contact: Toftebo Bo Jesen, 45 33-15-70-07

February 20-21
Seattle, WA
Pacific Rim Conference on Sustainable Development and the Role of International Business.
Contact: Leah Knapp Patton, Wm. D. Ruckelshaus Assoc., 206/883-6899

March 3-6
The Woodlands, TX
The Regions and Global Warming: Impacts and Response Strategies, sponsored by Center for Growth Studies, WARC, UNEP, and World Resources Institute.
Contact: Jurgin Schmend, 713/367-1340, x. 7340

April (no date specified)
Rotterdam, The Netherlands
Contact: International Chamber of Commerce, 33-1-49-53-28-28

April 3-5
London, UK
Coal in the Environment. First World Coal Institute Conference, Topics: role of coal in future global energy economy, global climate change and mitigation; clean coal and the developing world.
Contact: V. Cotton, 44-1-228-8034

April 4-5
Selected Australian Cities
Greenhouse Action for the Nineties - a series of seminars and workshops in selected Australian cities.
Contact: Phil Noyce, Dr., FAX (03) 328-4445

April 8-11
Chicago, IL
Global Warming: A Call for International Coordination, sponsored by SUPCON International and the World Resource Review.
Contact: Dr. Sinyon Shin, 708/910-1151

April 8-12
Hamburg, FRG
Storm '91: Storm Surges, River Flow and Combined Effects.
Contact: Workshop Secretariat, FAX 0-261/306302

April 10-12
Rotterdam, The Netherlands
Second World Industry Conference on Environmental Management: Sessions will examine which business sectors will thrive under sustainable development, diffusion of environmentally sound technology, etc.
Contact: International Chamber of Commerce, 33-1-49-53-28-28

April 15-19
Lisbon, Portugal
International Conference on Environmental Pollution.
Contact: IIEC Secretariat, 44-200-6825

April 21-27
Cairo, Egypt
Geophysical Hazards in Developing Countries and Their Environmental Impacts. International symposium will include climatic changes and their impacts.
Contact: T.S. Mury (Canada), 604/366-6311

April 23-24
Guelph, Ontario, Canada
Agriculture and Water Quality, Interdisciplinary symposium, sponsored by Center for Soil and Water Conservation at Univ. of Guelph et al.
Contact: Murray Miller, 519/824-4120

April 30 - May 1
Albuquerque, New Mexico
Contact: Margaret Norris, 505/768-7567

May 6-9
Amsterdam, Netherlands
Strategies for Global Environmental Development, seminar at SIO Workshop Center.
Contact: O.G. Ahmad, Bangladesh, 800-2-508087

May 8-11
Venice, Italy
Water, Atmosphere, and Soil: A New Environmental Deal.
Contact: OIC Incentive, Valeo Majno 21, 1-10122 Milan, Italy

May 13-18
Rabat, Morocco
Seventh International Water Resources Association World Congress on Water Resources. Topics include funding water development in Africa in the 21st century.
Contact: The Secretariat, 212-796-90

May 27-29
Vienna, Austria
Special Conference on Environmental Accounting, organized by International Assoc. for Research in Income and Wealth.
Contact: Carsten Stahmer, IAIW Report, Federal Statistical Office, Postfach 5528, D08200 Westbaden, Germany

May 27-31
Rio de Janeiro, Brazil
Contact: Symposium Organizer, ERI, 313/594-1200, x. 2290

May 27-June 2
Honolulu, Hawaii
Towards the Pacific Century: The Challenge of Change. Sessions include “Global environmental change - Pacific aspects.”
Contact: XVII Pacific Science Congress Secretariat, 808/945-7651

June 3-5
Bangkok, Thailand
International Conference on Global Warming and Sustainable Development: An Agenda for the 90s.
Contact: George Woodwell, 508/842-9900

June 3-6
Boulder, CO
Tropospheric Chemistry of the Antarctic Region, organized by National Oceanic and Atmospheric Administration.
Contact: Barry Bodhaine, 303/497-6659

June 4-7
Saskatoon, Saskatchewan, Canada
Water Management for the Sustainable Environment. Session on "Global Change."
Contact: General Manager, Waterscapes, 91, 306/973-9089

June 4-7
Winnipeg, Manitoba, Canada
Northern Meteorology and Oceanography, 25th Congress of Canadian Meteorological and Oceanographic Society.
Contact: B. Lawson, 204/989-4513

June 5-7
Selected Australian Cities
Greenhouse Action for the Nineties - a series of seminars and workshops in selected Australian cities.
Contact: Phil Noyce, Dr., FAX (03) 328-4445

June 12-14
Toronto, Canada
International Conference on Global Change and the City, sponsored by the Climate Institute.
Contact: Jim McLellough, 416/737-2964
Second World Climate Conference
(Continued from page 5)

the urgency cited by African and Asian countries for more investigation focused on extreme climate variations causing droughts and floods today. The document states, "there is a need to strengthen national, regional and international research activities in climate, climate change, and sea level rise."

Scientific Declaration

A few days earlier, for the first time there was an official call for political action from a group of scientists—an unusually large group of 700 of them—at the conclusion of the scientific sessions of the conference on November 4. They concluded that, "technically feasible and cost-effective opportunities exist to reduce CO2 emissions in all countries... Countries are urged to take immediate actions to control the risks of climate change with initial emphasis on actions that would be economically and socially beneficial for other reasons as well."

Island States Unite
(Continued from page 1)

people living on 1,190 islands with an average elevation of 6 feet above sea level. The highest altitude is 15 feet. With foreign assistance, new breakwaters and sea walls have been built. But, according to an IPCC report, if nothing is done to slow global warming, temperatures will rise 3 degrees C by the end of the 21st century and sea levels will rise about 65 centimeters.

The Republic of Kiribati, astride the equator in mid-Pacific, covers more than three million square kilometers but its 33 coral atolls have only an area of 720 square km, none of them more than 6 feet above sea level.

Neighboring Tuvalu, consisting of nine low-lying atolls, is in even greater peril, with an elevation of three feet. A country with few resources, Tuvalu not only faces the prospect of rising seas, but danger from strong winds, storm surges and saltwater intrusion into its underground aquifer. In the four-month period ending last July, Tuvalu suffered from a drought, with only half its normal rainfall, and periods of drought are not uncommon in Kiribati also.

Tuvalu's short-term choices include: sea walls or dykes, offshore breakers or storm surge barriers, evacuation and resettlement for villages in vulnerable locations.

The long-term alternative is emigration, which will require assistance from foreign countries or international bodies.

Climate Institute News
(Continued from page 2)

creation of French regional parks. His research has been directed toward world future studies. For recreation, M. Antoine lists himself as a hot air balloon pilot.

New Board of Advisors Members

The following names have been added to the Institute's growing list of Board of Advisors: EGYPT: Senator Dr. Mohamed Kassas, Faculty of Science at Cairo University; NEPAL: Dr. Sharad P. Adhikary, Director General of the Department of Hydrology and Meteorology; SWEDEN: Dr. Gordon T. Goodman, Retiring Executive Director of the Stockholm Environment Institute; and USSR: Professor George S. Golitsyn, Director of the USSR Academy of Sciences Institute of Atmospheric Physics.

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Please send me___copy/copies of Coping With Climate Change, Proceedings of the Second North American Conference on Preparing for Climate Change. Cost: $35 per copy ($30 to Climate Institute members), plus $2.50 postage and handling U.S., $6 for Canada, and $10 elsewhere.

Please send me___copy/copies of Cairo Compact & Panel Reports, the output of the World Conference on Preparing for Climate Change, Cairo, Egypt, Dec. 17-21, 1989. Cost: $10, includes postage and handling.


Please send me___copy/copies of The Arctic and Global Change, October 25-27, 1989, Ottawa, Ontario, Canada. Cost: $25 plus $2 for postage and handling.

Please notify me when Proceedings of the North American Conference on Forestry Responses to Climate Change, May 15-17, 1990, Washington, D.C. have been issued (Conference registrants will receive free copy as part of registration fee.)

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U.S. Clean Air Act Revisions Mandate Tough CFC Provisos

The U.S. Congress took a major step toward significant reduction of chlorofluorocarbons (CFCs), the chemicals which deplete the ozone layer, by the turn of the century in passing the Clean Air Act Amendments of 1990 in October. The goal of the legislation, the first revision in 15 years, is also to cut acid rain pollutants, reduce urban smog, and eliminate most of the toxic chemical emissions from industrial plants within the same time period.

The new legislation halts production of CFCs and halons by 2000. Production of hydrochlorofluorocarbons (HCFCs), which are less damaging than CFCs, are to be frozen by 2015 and stopped by 2030. Carbon tetrachloride is banned by the year 2000 and methyl chloride by 2002. CFCs in air conditioning and refrigeration equipment must be recycled beginning in 1992.

Senator Leahy Propels U.S. into International Forestry Activity

After pushing for two years, Senator Patrick Leahy of Vermont succeeded in getting the Congress to pass legislation authorizing the U.S. Forest Service to be an important player in U.S. assistance in international tropical forestry. Although Senator Leahy is Chairman of the Agriculture Committee under whose jurisdiction he originally tried to advance tropical forestry activity, the specific legislation itself was eventually folded into this year's Foreign Appropriations bill.

All features of the legislation are expected to cost about $25 billion a year and to have a major impact on U.S. industry.

For the first time the Forest Service is given a legislative mandate to become active in tropical forestry. The only U.S. tropical forest, in Puerto Rico, will be used as a means to promote assistance to developing countries, providing training and research facilities, and bringing forestry policy makers and managers together to discuss common problems.

This new legislation ties in closely with the major global warming initiative launched by the Foreign Operations Committee last year. The Forest Service legislation complements the global warming initiative, seeking to bring the Forest Service and the Agency for International Development (AID) into a close working relationship, coordinating their activities in tropical forestry and focusing on the key developing countries which are the largest emitters of greenhouse gases. The global warming initiative was carried forward in this year's fiscal year 1991 Foreign Operations Appropriation Act at a level of $50 million.