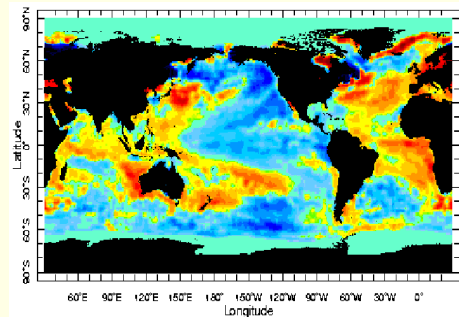


Packard Advanced Training Institute, July 2002, Palisades, New York



Overview of the IRI – its Mission and Programs

Reid Basher

Director Applications Research,
International Research Institute for Climate Prediction -IRI

IRI Mission

IRI's Mission is to enhance society's capability to understand, anticipate and manage the impacts of seasonal climate fluctuations, in order to improve human welfare and the environment, especially in developing countries.

IRI Main Features and Approach

- Set up to capitalize on discovery of El Niño and other climate phenomena.
- Does research, development and capacity building
- Takes integrated, multidisciplinary, partnership approach.
- Has projects in agriculture, fisheries, water, health, and on most continents.

Organizational Development

- Started in late 1996.
- Based at Lamont Doherty Earth Observatory, Palisades, New York.
- Funded under Cooperative Agreement between NOAA & Columbia University.
- New building early 2000, growth to 50 staff, Taiwan joins December 2000.
- International Board meets June 2002

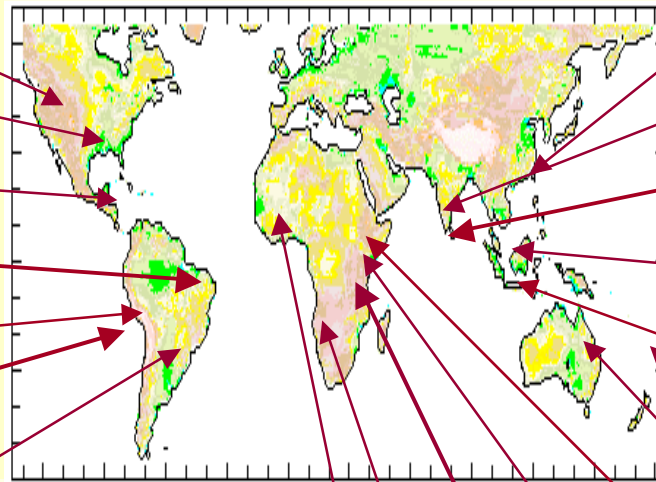


Location of IRI on crest of the Palisades
above the Hudson River

IRI Applications Regions and Projects

Americas

Reservoir management
SE USA Cropping
Management
Caribbean vulnerability study
Ceará Integrated Project*
Peru Fisheries
IDB Infrastructure
Development Project
Paraná (Itaipu Dam) Project



Asia/Pacific

Taiwan projects
CLIMAG South Asia
cropping project *
Mahaweli Basin Project
Extreme Climatic Events
Project Indonesian
fires
Fiji Sugar Production
Queensland cropping

World

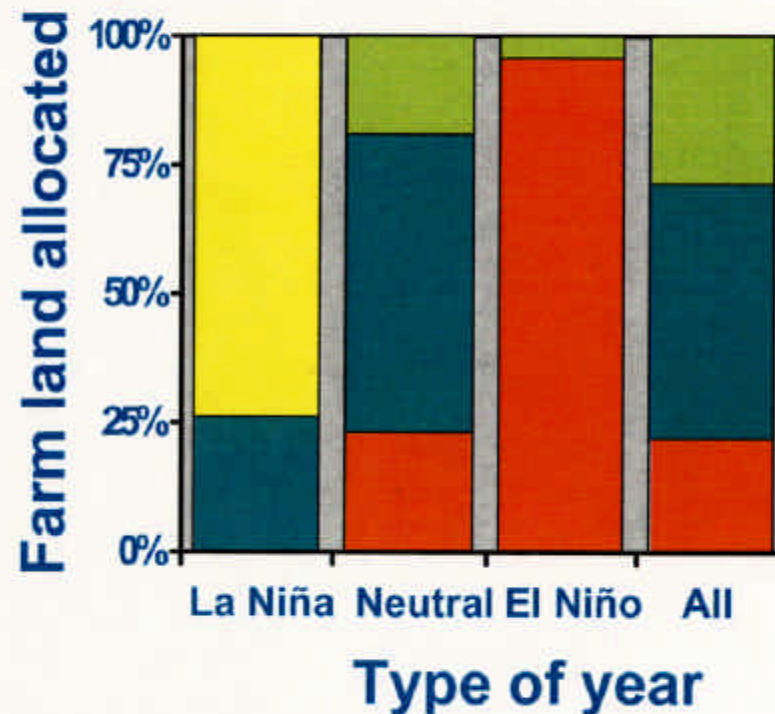
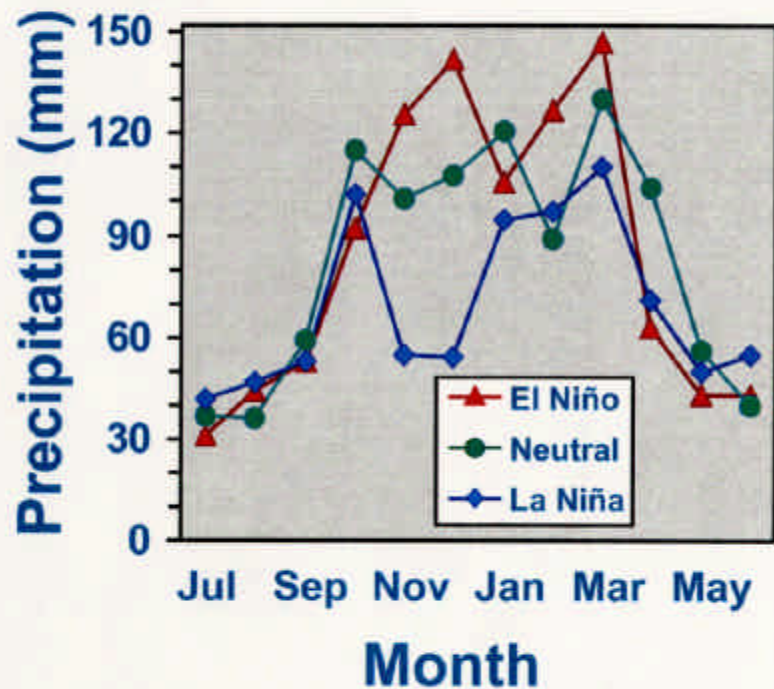
Dengue vector mapping and
prediction
Vulnerability index
Downscaling research
Climate Outlook Forums
Communication of forecasts

Africa

Regional Climate Prediction and
Applications Project (GHA) *
Institutional Use of Forecasts
Malaria Epidemic Warning Project
Mapping of Forecast Utility
Small-holder management options
CLIMAG West Africa

Linking Science to Society

The El Niño-Southern Oscillation and Optimal Farm Land Allocation, Pergamino, Argentina



■ Maize
 ■ Soybean
 ■ Wheat Soybean
 ■ Wheat
 ■ Sunflower

Linking Science to Society

Applications Criteria

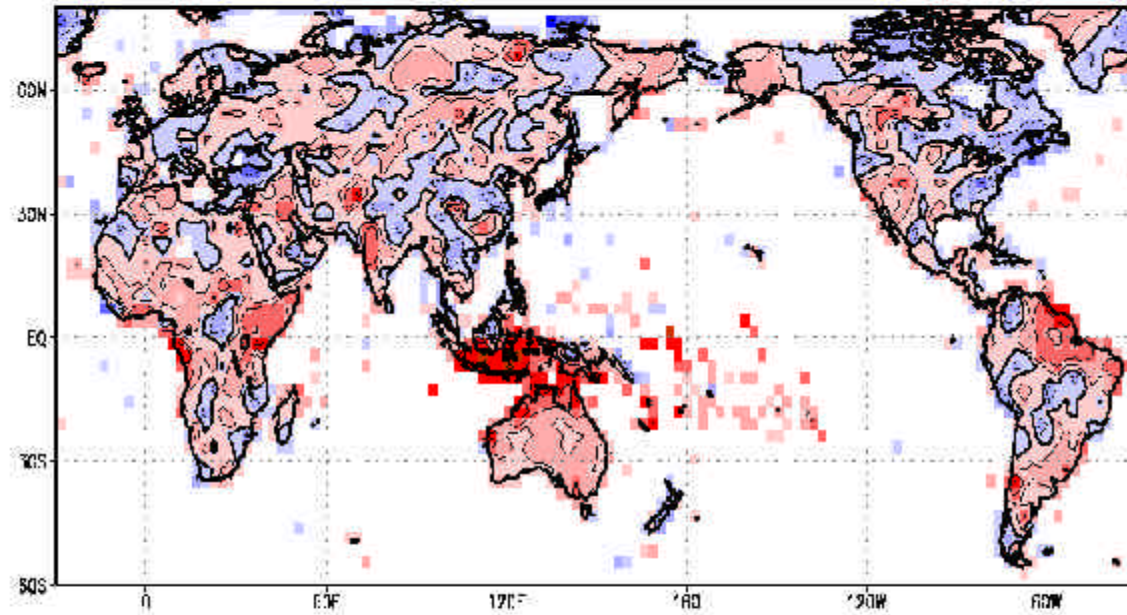
- Vulnerability of population to climatic risk
- High seasonal climate predictability
- Prospects for adaptation of the socioeconomic and/or resource management systems
- Partnering interest - political will & technical skill to investigate and implement options

Efforts concentrate on understanding and modeling of core system behavior, on decision making and testing different options for forecast use, on social issues – constraints, costs, benefits, etc - and on operationalization and capacity building

ECHAM3.6

Precipitation Anomalies : 1965-97 SON

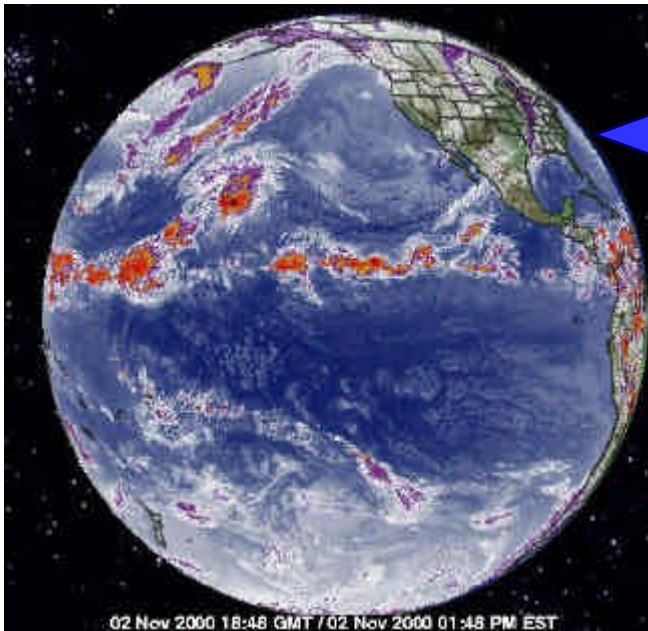
Anomaly Correlations



Correlation Coefficient

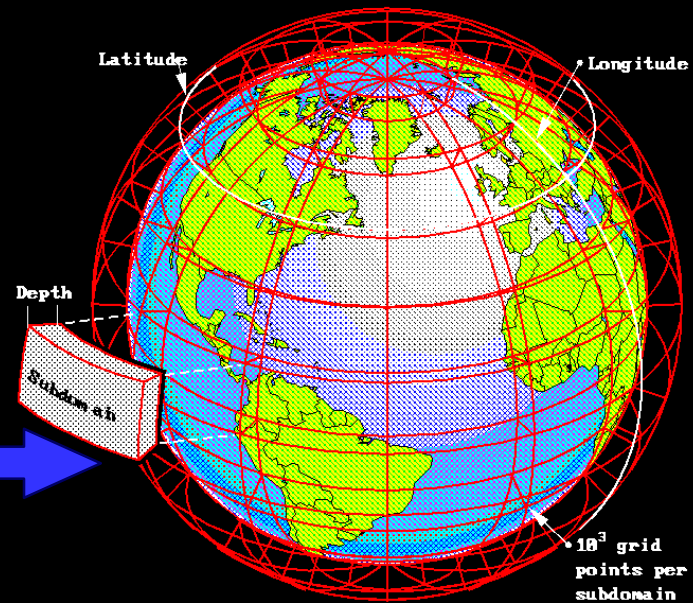


IRI International Research Institute
for climate prediction



Observations of the Ocean and Atmosphere

Global Climate Models

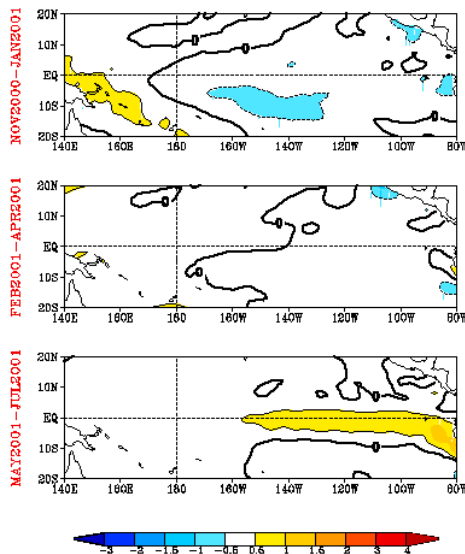


02 Nov 2000 18:48 GMT / 02 Nov 2000 01:48 PM EST



NCEP/CMB

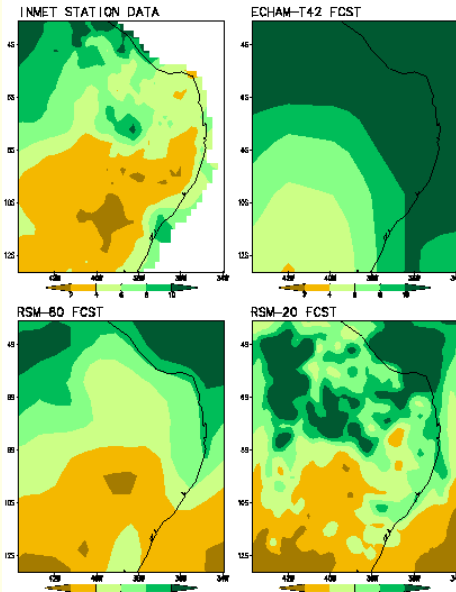
FORECAST SST ANOMALIES



Global Temperature Forecasts

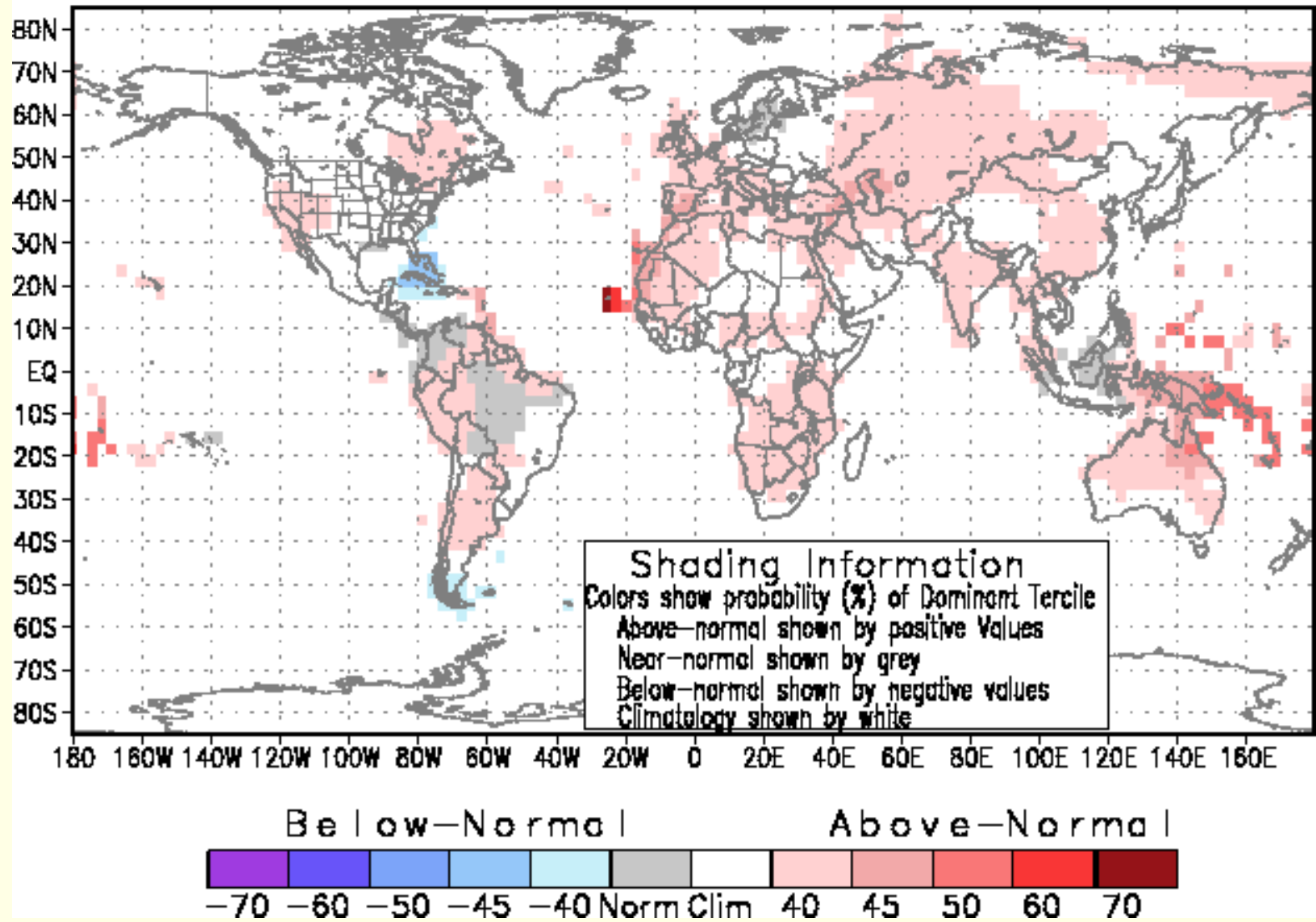
Downscaling to Regional Scales

RAINFALL COMPARISON (mm/day) FMA 2000



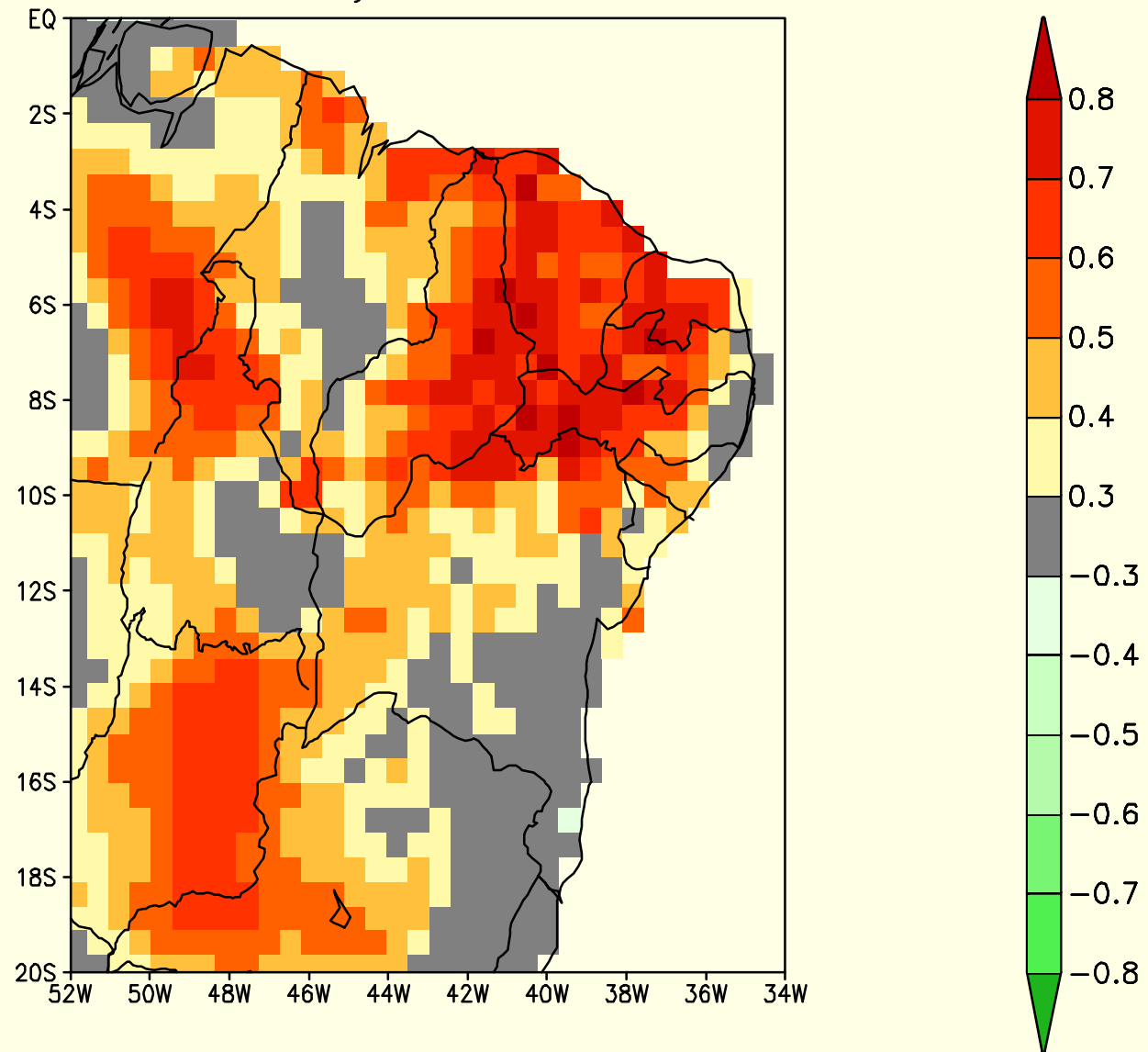
Linking Science to Society

IRI Multi-Model Probability Forecast for Temperature February-March-April 2002 (made December 2001)



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ECHAM4.5 – RSM97
Precipitation Anomalyses: 1971–91 JAN–APR
Anomaly Correlations



IRI Outputs

- Global analyses and forecasts
- Website information
- Research on modeling and forecasting
- Problem-oriented applications research
(agriculture, water, health, disaster management, etc)
- Training, capacity building
- Integrated in-country projects

Collaborating Institutes and Organizations



Department of Primary Industries, Queensland, Australia; The Queensland Department of Natural Resources, Australia; Queensland Center for Climate Applications, Australia; Bureau of Meteorology, Australia; Commonwealth Scientific and Industrial Research Organization, Australia; Frontier Research System for Global Change, Japan; Association of Southeast Asian Nations, Singapore; Agency for the Assessment and Application of Technology, Indonesia; Water Management and Environment Divisions of the Mahaweli Authority, Sri Lanka;

African Center for Meteorological Applications and Development; Drought Monitoring Center, Nairobi; South African Development Community; Egyptian Ministry of Water Development;

Collaborative Research Network, South America; State of Ceara, Brazil; CPTEC/INPE, Brazil; FUNCEME, Brazil; Weizmann Institute, Israel; Abdus Salam International Center for Theoretical Physics, Italy; Institut du Recherché pour le Developpement, France; Max Planck Institute, Germany; Inter-American Institute for Global Change Research;

World Meteorological Organization (especially Climate Prediction and Agriculture; Climate Information and Prediction Services; National Meteorological and Hydrological Services); World Health Organization; United Nations Educational, Scientific and Cultural Organization; Food and Agriculture Organization;

National Oceanic and Atmospheric Administration (especially Office of Global Programs; National Weather Service; National Centers for Environmental Prediction; National Centers for Atmospheric Research; Geophysical Fluid Dynamics Laboratory; Climate Diagnostic Center); National Aeronautics and Space Administration (especially Goddard Institute for Space Studies; Goddard Space Flight Center); National Institutes of Health; Center for Ocean-Land-Atmosphere Studies; Columbia Earth Institute; Lamont Doherty Earth Observatory; Scripps Institution of Oceanography; Hydrologic Research Center; Florida State University; University of South Florida; Center for International Earth Science Information Network; Johns Hopkins School of Public Health; University of Washington

Linking Science to Society

Welcome to the Advanced Training Institute!

And special thanks to

- START and its staff,
- David and Lucille Packard Foundation,
- Participants and their organizations,
- Jim Hansen and his staff



*May the next three weeks be flooded with great
learning, ideas and friendships!*

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