

The Climate Information Digest: A Monthly Web-Based Publication of Recent Climate Events, Impacts, and Seasonal Forecasts

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The Earth Institute of Columbia University
Palisades, NY**



The International Research Institute
for Climate and Society

Climate Information Digest (CID): Purpose and Background

- The International Research Institute (IRI) produces seasonal climate forecasts of precipitation and temperature for the globe – forecasts first produced in 1997
- The institution recognized the need for the forecasts to be placed in the context of recent climate events
- The Climate Information Digest (CID) was a product created to help meet this need in a general way, aimed primarily at non-climate specialists
- First issue was produced in May 1998



What is the CID?

A monthly publication available on the IRI website that includes:

- The latest IRI seasonal precipitation and temperature forecasts
- A global summary of the previous month's climate
- Reports of climate-related impacts on selected “sectors” of society, including agriculture, water resources and energy, human health, and “hazards”, including threats to life, property, infrastructure, etc.

Paper submitted to BAMS



The International Research Institute
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The CID is now surrounded by a suite of products, including:

- The CID Highlights – a two-page summary of CID content
- IRI Map Room – global, regional, ENSO-related, and health-related maps
- Database of Reported Climate Impacts (DRCI) – a searchable online database of climate-related impacts reports that appear in the CID
- ENSO Update and ENSO Quick Look





Climate Information Digest February 2006 Volume 9, Number 2

A *global* Quick Look at seasonal climate, its impacts and outlooks.

Hot Topics

- ◆ Food security in East Africa continues to deteriorate following the failure of the short rains
- ◆ Cold wave brings near-record low temperatures to Russia and Eastern Europe and severe winter weather to Central and South Asia and Japan

El Niño/La Niña Update

La Niña conditions have developed. As of mid-February sea surface temperatures are more than 0.5°C below average across much of the central equatorial Pacific. The probability of La Niña conditions continuing through the Feb-Apr 2006 season is 65 percent. See the [IRI ENSO QuickLook](#) for summary information and the [IRI ENSO Update](#) for details.

Hot Topics:
Highlighted
climate-related
impacts

ENSO Update

Contents

Special Summaries for Nov-Dec-Jan

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- [Persistent Cold or Heat](#)
- [Persistent Wet or Dry](#)

January Global Climate - summary of recent variations in temperature and precipitation. Note that all maps are linked to the [IRI Data Library](#). For more maps and information see the [IRI Maproom](#).

- [Climatological Background](#)
- [Temperatures](#)
- [Precipitation](#)
- [Oceanic Conditions](#)

January Climate Impacts - influences of recent climate variations (with links to detailed reports) on:

- [Hazards](#)
- [Health](#)
- [Water Resources/Energy](#)
- [Agriculture](#)

March-April-May Seasonal Forecast - IRI's Net Assessment Forecast for the globe and by region

- [Introduction](#)
- [Precipitation](#)
- [Temperature](#)
- [Methods](#)

Predictions in Context - provide a climate perspective by displaying a combination of observed and predicted precipitation.



[IRI Home](#) | [ENSO Info](#) -> [Current Info](#) -> [ENSO Info Archives](#) | [Back](#)

[ENSO Quick Look](#) - [Download PDF version](#)

[IRI ENSO Update / Forecast](#)

[Technical ENSO Update](#)

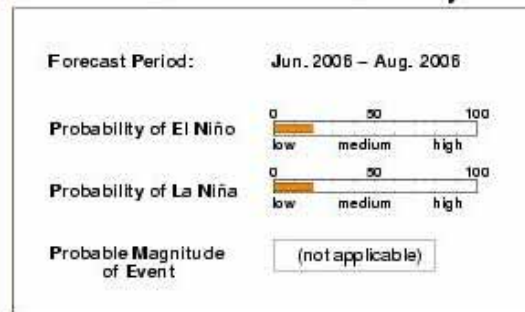
[Summary of Model Forecasts](#)

[Monthly archive](#)

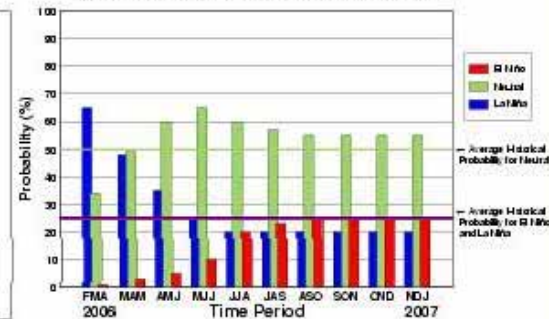
ENSO QUICK LOOK February 15, 2006 A monthly summary of the status of El Niño, La Niña and the Southern Oscillation, or "ENSO"

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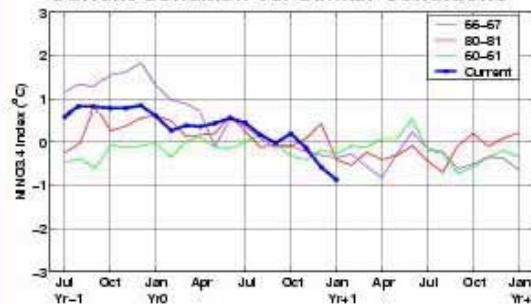
Current ENSO Forecast Summary¹



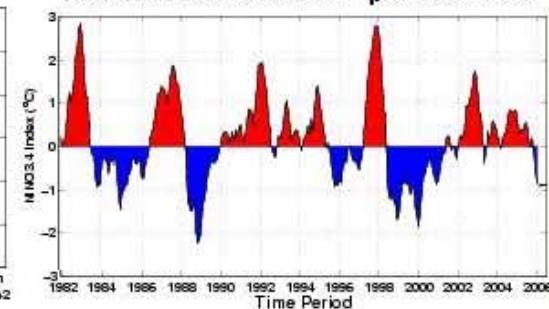
IRI Probabilistic ENSO Forecast²



Current Condition vs. Similar Conditions²



Historical Sea Surface Temperature Index²





[IRI Home](#) | [ENSO Info](#) -> [Current Info](#) -> [ENSO Info Archives](#) | [Back](#)

[ENSO Quick Look](#)

[IRI ENSO Update / Forecast](#)

[Technical ENSO Update](#)

[Summary of Model Forecasts](#)

[Monthly archive](#)

ENSO Update

15 February 2006

Summary

La Nina conditions have developed. As of mid-February sea surface temperatures are more than 0.5C below average across much of the central equatorial Pacific. Based on the latest observations and forecasts, the probability of La Nina conditions continuing through the Feb-Mar-Apr 2006 season is 65%.

General Discussion

During January 2006, sea surface temperatures (SSTs) were approximately 1.0C below average in the central Pacific and approximately 0.5C above average in the western Pacific. Although the magnitude of the coldest SST anomalies was similar to that of December 2005, the pattern of anomalies shifted westward into the central Pacific during January.

There appears to be sufficient changes in the upper ocean thermal structure, created by the low-level wind response to the SST anomalies, to maintain the cool SST conditions at least through the next several months. Out of a large set of dynamical and statistical forecast models, most predict weak La Nina conditions continuing into levels early northern spring 2006, returning to ENSO-neutral conditions thereafter. Overall, based on model forecasts and current observations of the ocean surface and subsurface, the probability of a La Niña event for the next season is approximately 65%, decreasing to 20% by mid-2006. The chances for developing El Niño conditions are estimated at approximately 2% through April 2006, increasing to 25% by the mid-2006.

Note 1 - Only models that produce a new ENSO forecast every month are included in the above statement.

[Top of Page](#)



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- [Temperatures](#)
- [Precipitation](#)
- [Oceanic Conditions](#)

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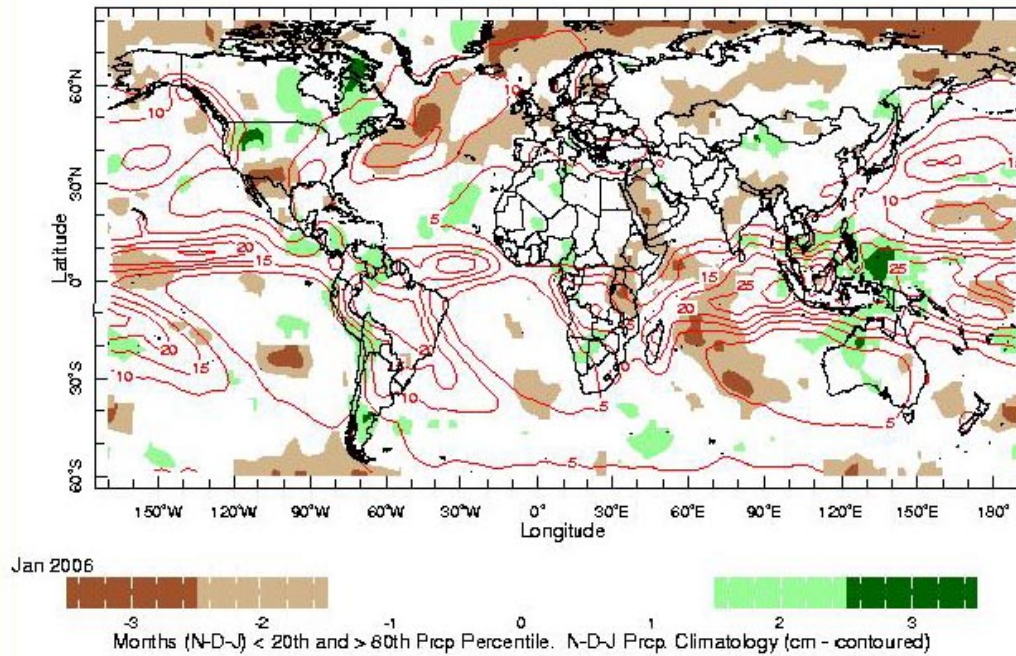
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- [Precipitation](#)
- [Temperature](#)
- [Methods](#)

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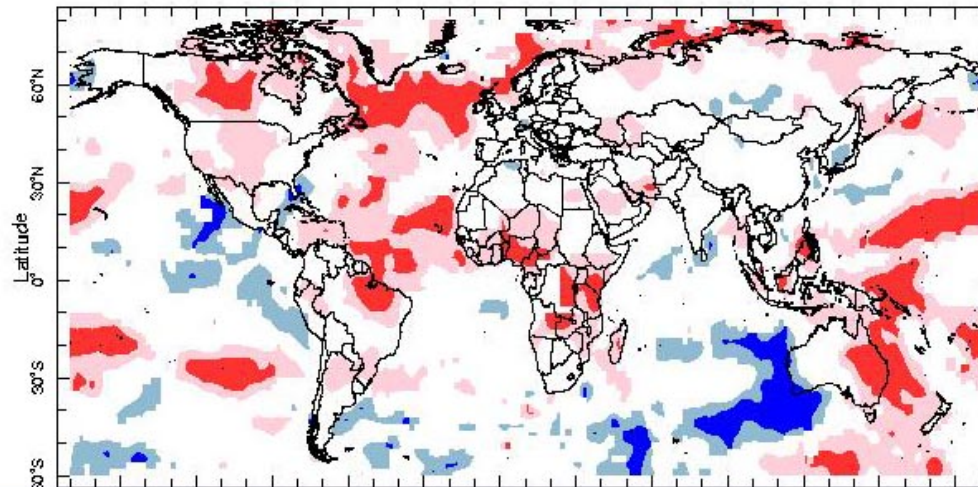
Maps highlighting regions with persistent climate anomalies

3 Month Precipitation Persistence



Areas colored in brown (green) indicate regions where monthly rainfall was in the bottom (top) 20% of the (1979-present) observational record with lighter (darker) shading indicating where this condition was met for two (three) of the past three months. Contours are climatological precipitation for the period in cm per month.

3 Month Temperature Persistence





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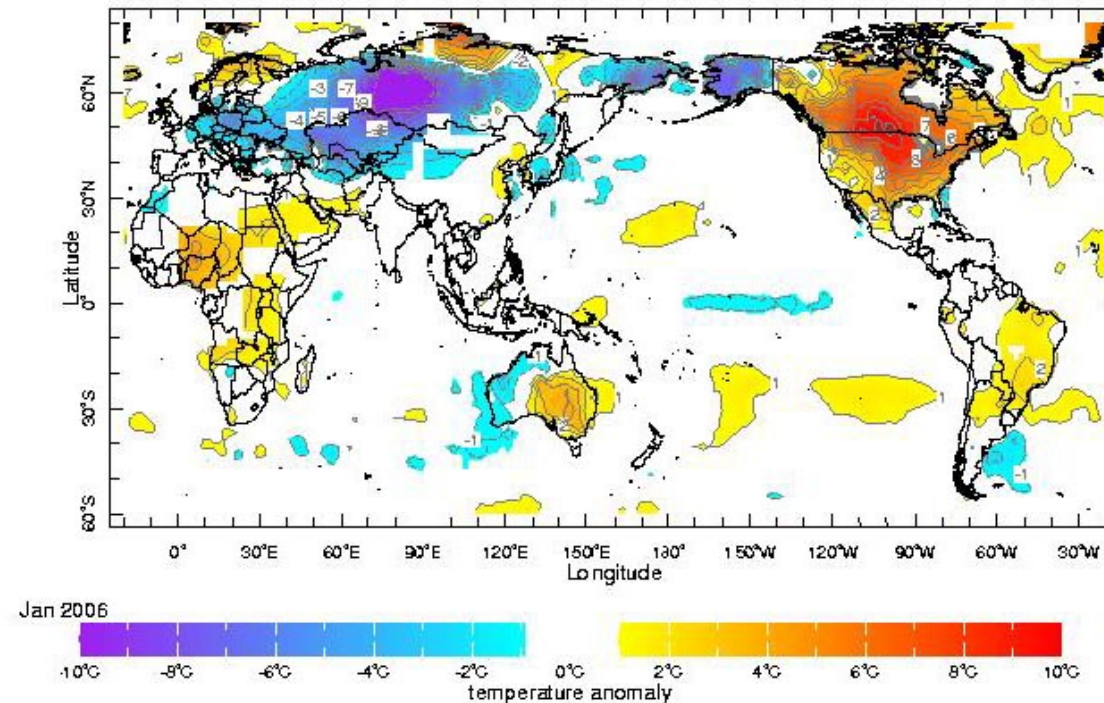
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Maps and discussions of last month's precipitation, temperature, and SST anomalies and climatology

Temperatures

The most notable feature in the atmospheric temperature field in January was the extensive and strong cold anomalies (the strongest in excess of 10°C below normal) centered over Russia, which brought near-record low temperatures to parts of Russia, the Caucasus, and Eastern Europe and severe winter weather to Central and South Asia and Japan. In sharp contrast, January mean temperatures in North America (with the exception of Alaska) were well above normal. Temperatures were also above normal across much of Africa, particularly in West Africa. In Australia, a temperature anomaly pattern exhibiting warmer-than-normal temperatures in the east and cooler-than-normal temperatures in the west persisted and intensified for the third straight month. Warm anomalies dominated eastern Brazil, Paraguay, and northern Argentina.

Temperature Difference from the 1961-1990 mean, with data from NCEP Climate Prediction Center, CAMS.



Precipitation

The global precipitation pattern in January exhibited some of the features one might often see with La Niña conditions, including above-normal precipitation in much of the Maritime Continent, northern Australia, and the western Pacific, above-normal precipitation in the northwestern U.S., and above-normal precipitation in sections of Southern Africa (with the exception of Tanzania and parts of Mozambique and Madagascar). January brought above-normal precipitation to much of North Africa and also to the eastern Guinea Coast, extending into Central Africa, following upon a wet December there. Dry conditions persisted over much of Western Europe, and heavy rain and snowfall affected parts of central Asia from northern Afghanistan to western China. In Australia it was generally wet in the north and west and dry in the east. Above-normal precipitation characterized much of northern and western South America, bringing notable flooding events to Bolivia, Guyana, and Trinidad, while conditions were dry over much of Brazil.



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- [Temperatures](#)
- [Precipitation](#)
- [Oceanic Conditions](#)

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- [Temperature](#)
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Summaries of climate-related impacts reported in the past month

IRI Climate Digest February 2006

Climate Impacts - January

Contributions to this page were made by IRI researchers
M. Bell, Dr. A. Giannini, E. Grover-Kopec,
Dr. B. Lyon, C. Ropelewski

Hazards/Threats

[Sort by sector](#)
[Sort by Region](#)

Africa - Malawi, Mozambique Flooding, which began in late-December, continued to affect southern [Malawi](#) and central [Mozambique](#) during January ([Jan 2006 CID](#)). In Malawi, more than 35,000 households have been affected in the districts of Nsanje (21,798), Chikwawa (13,778) and Mangochi (102) ([IFRC](#), [IFRC Map](#)). Approximately 1800 homes and 24,000 hectares of crops were destroyed in the flooding as well. The flooding in Mozambique has played a role in a cholera outbreak in Sofala. As of 7 February, more than 1500 cases and 3 deaths had been reported in the central province. New rainfall in central Mozambique prompted more flooding along the Zambezi River during January as well, forcing the evacuation of 2500 people ([AFP](#), [IRIN](#)).

This flooding has occurred during the normal peak of the region's climatological rainy season, which starts in December and tapers off in March and April ([Climatological Precipitation Animation](#)). The rains at the end of this year's season may be above-normal as well; the latest [IRI seasonal forecast](#) for March-May 2006 indicates a slightly enhanced likelihood of above-normal precipitation in parts of Malawi and Mozambique.

Asia - Japan Unusually cold temperatures and record snowfall in northern and central [Japan](#) in December 2005 ([Temperature Percentile Map](#)) and January 2006 were responsible for at least 123 deaths as of early February ([AP](#)) and resulted in record January electricity usage ([Kyodo News](#)). Soldiers were called into service in northern Japan to help clear away snow as deep as 3 to 4 meters in some places ([AFP](#), [BBC](#)), particularly Niigata and Nagano prefectures. Many of the snow-related deaths were the result of accidents, as people tried to clear away snow, or were caused by several avalanches that have occurred during January and early February ([AFP](#)). This has reportedly been the deadliest winter since 1983-84 ([AFP](#)).

Asia - Indonesia Many locations throughout the [Indonesian archipelago](#) received heavy rainfall ([January 2006 Precipitation Percentile Map](#)) that caused flooding and landslides again in late January ([Jan 2006 CID](#)). In Sambalia subdistrict on Lombok island, floods killed three people, left six others missing, and forced hundreds of people from their homes. Dozens of other villages on Lombok, Java, West Timor, and central Sumatra also experienced floods during the weekend of 21-22 January ([AP](#)). Other reports suggested that as many as 11 people were killed and 500 hectares of corn, rice paddy, chili, and banana crops were damaged, as were fish ponds ([DFO](#)). Flooding in central and western Java later in the month reportedly caused 19 fatalities, inundated a hospital and airport and damaged over 13,000 hectares of rice paddy and hundreds of acres of fish ponds ([AP](#), [DFO](#)). Indonesia's agriculture ministry has estimated that about 224,000 tons of unhusked rice worth Rp 5.5 billion (about USD 600,000) has been lost due to flooding so far in the 2005/06 rainy season, and 17,639 hectares of 85,768 hectares of rice paddy fields flooded this season have become unproductive ([Antara News](#)).

Climate Impacts

- Reports summarize impacts that can be plausibly related to climate variations, but need not be due exclusively to climate
- Summaries include the climate context for the impacts (links to maps, graphs, etc.) and links to the latest IRI forecast, when applicable
- Reports are summarized from recent media reports, UN agencies and outlets, relief organizations, government sources (e.g., AP, BBC, ReliefWeb, IFRC)
- Summaries are done monthly, on near real-time basis – not in-depth case studies; largely qualitative, but quantitative when possible; focus on vulnerable areas; source biases likely



Database of Reported Climate Impacts

Please see the [Introduction Page](#) for details about the database.

Time Period: ([Help](#))

Date of Report: (Leaving the text box empty allows a search of all dates)

Date of Impact: (Leaving the text box empty allows a search of all dates)

Search Filters: ([Help](#))

-If multiple items are chosen in one of the following selection lists (Region, Sector, Climate Anomaly), an "OR" relationship exists among the selected items in the search.
-In text boxes (Country, Universal Disaster ID, Story Containing), use a comma "," between multiple search terms to indicate an "OR" relationship; use a plus sign "+" between multiple search terms to indicate an "AND" relationship.

Region:
ALL
Africa
Asia
Australia and New Zealand

Sector:
ALL
Agriculture
Energy
Fisheries

Country:

Universal Disaster ID (GLIDE):

Climate Anomaly:
ALL
rains
flood
drought

Story Containing:

Display Format:

Information to be displayed:

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> Date of Impact | <input type="checkbox"/> Uncertainty in Impact Date | <input type="checkbox"/> Date of Report |
| <input type="checkbox"/> Sector | <input checked="" type="checkbox"/> Region | <input checked="" type="checkbox"/> Country |
| <input type="checkbox"/> Climate Anomaly | <input type="checkbox"/> Climate Headline | <input type="checkbox"/> CID Issue |
| <input type="checkbox"/> Universal Disaster ID (GLIDE) | <input type="checkbox"/> Reporting Sources | <input checked="" type="checkbox"/> Story Brief |
| <input checked="" type="checkbox"/> Story Paragraph | | |

Display to be ordered by

- Date of Report Date of Impact Sector Region Country



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- [Temperature](#)
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Summary of IRI's seasonal precipitation and temperature forecasts

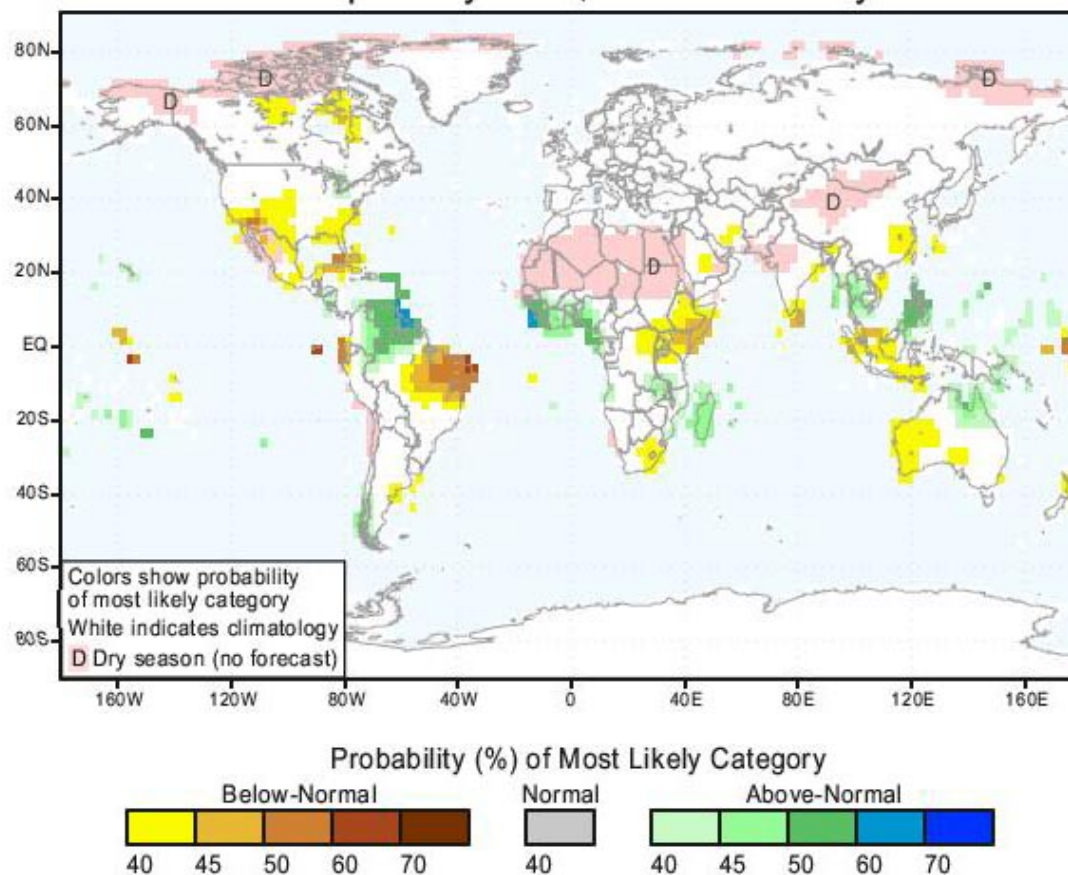
Precipitation Outlook

The Outlook for other regions of the globe for the seasons March-April-May through June-July-August can be found at [Net Assessment forecasts](#).

Maps show expected precipitation probabilities in *tercile* classes. The maps indicate probabilities that seasonal precipitation will fall into the wettest third of the years (top number), the middle third of years (middle number) or the driest third of the years (bottom). An outlook of climatology "C" (no color) indicates equal probabilities in each class; i.e., there is no basis for favoring the forecast of any particular category. Boundaries between sub-regions should be considered transition zones, and their location considered to be only qualitatively correct. Color shading indicates which tercile class has the greatest probability of occurrence with darker shading indicating greater likelihood as shown by the legend to the right of the plots.

March-April-May 2006 Global Precipitation Probabilities

IRI Multi-Model Probability Forecast for Precipitation for March-April-May 2006, Issued February 2006





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- [Temperature](#)
- [Methods](#)

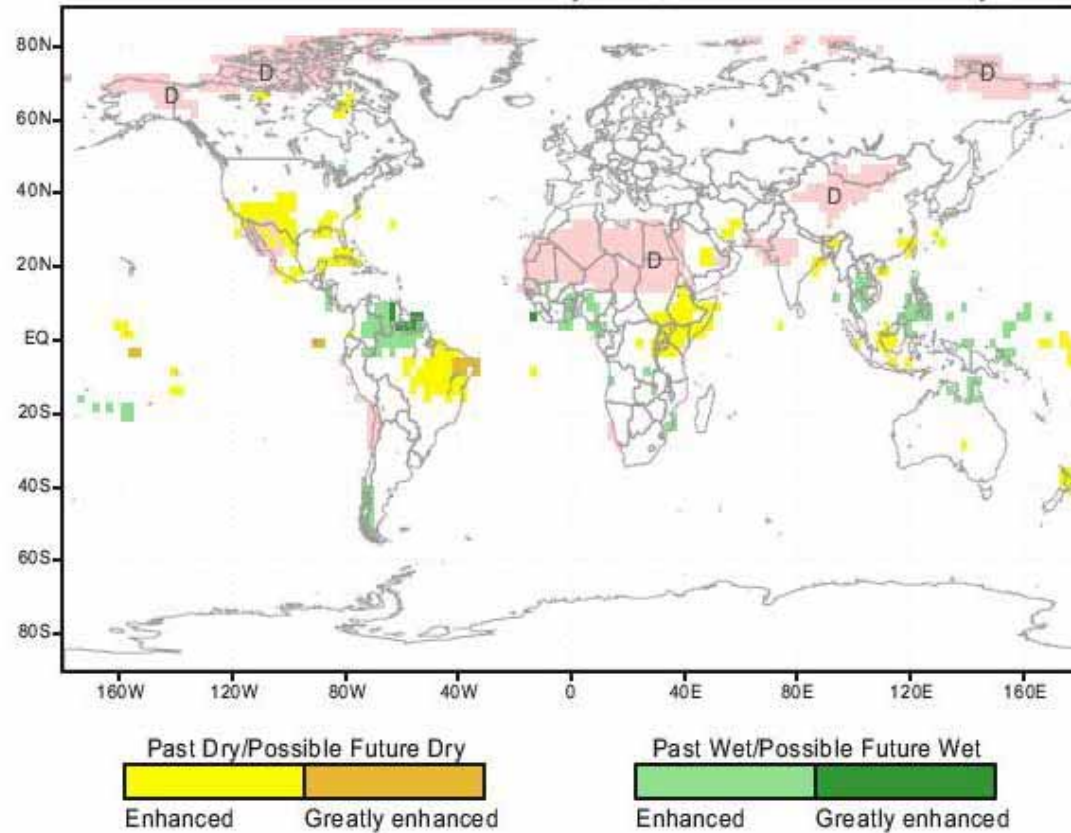
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Predictions in Context: Maps highlighting regions where recent persistent precipitation anomalies intersect with areas forecast to have an increased likelihood of above- or below-normal precipitation



[Back](#) | [Index](#) | [This map in PS](#)

Areas with an Enhanced Likelihood of Persistent Precipitation Anomalies
Observed from November 2005-January 2006, Forecast for March-May 2006



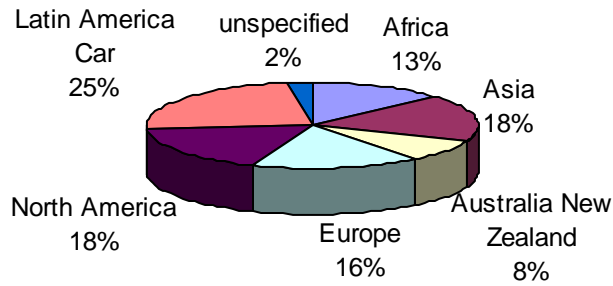
Last modified: Thu, 16 Feb 2006 04:21:22 GMT

Survey of CID Users

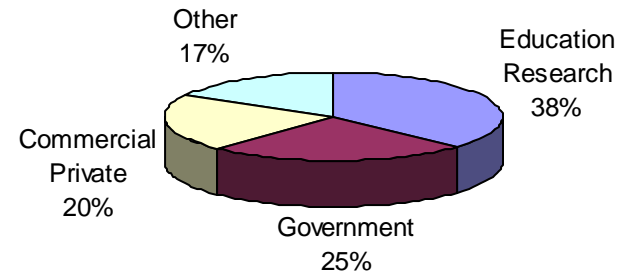
- Survey conducted in 2003 using online form available via the CID page
- Currently 1088 subscribers – receive notification of the release of the CID each month
- Approximately 120 respondents from 39 countries
- Goal was to learn how the CID was being used; who was using it



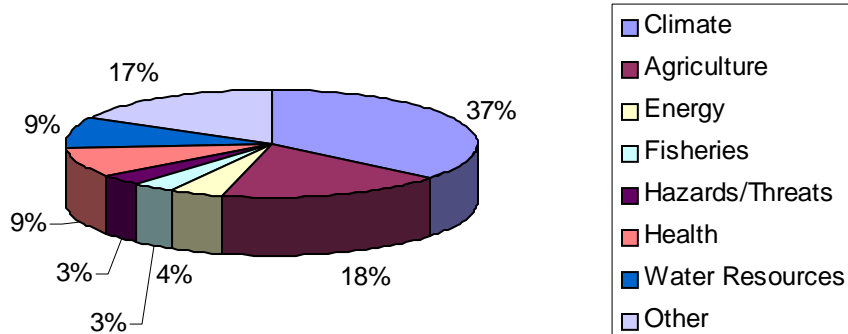
Users by Continent



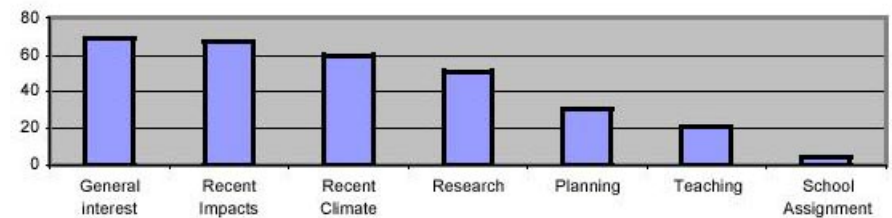
Users by Organization



User Expertise



Character of Use



Summary

- The IRI Climate Information Digest is an online publication summarizing recent climate variations, their societal impacts, and the latest IRI seasonal climate forecasts, with context
- Associated suite of products include the CID Highlights, IRI Map Room, Database of Reported Climate Impacts (DRCI), and ENSO Update/Quick Look
- CID users are global, from a variety of organizations and backgrounds (climate and non-climate)
- Uses include awareness of climate and impacts, research, and planning



Additional Contributors

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Matt Barlow

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Benno Blumenthal

Kenneth Broad

Abigail Amissah-Arthur



Product URLs:

- Climate Information Digest:
<http://iri.columbia.edu/climate/cid/>
- Database of Reported Climate Impacts (DRCI):
http://iri.columbia.edu/sitehelp/impactdb_search.html
- IRI Map Room:
<http://iridl.ldeo.columbia.edu/maproom/>
- ENSO Information:
<http://iri.columbia.edu/climate/ENSO/>

Comments & questions: cid@iri.columbia.edu

