



CIIFEN

Centro Internacional para la Investigación del Fenómeno del Niño



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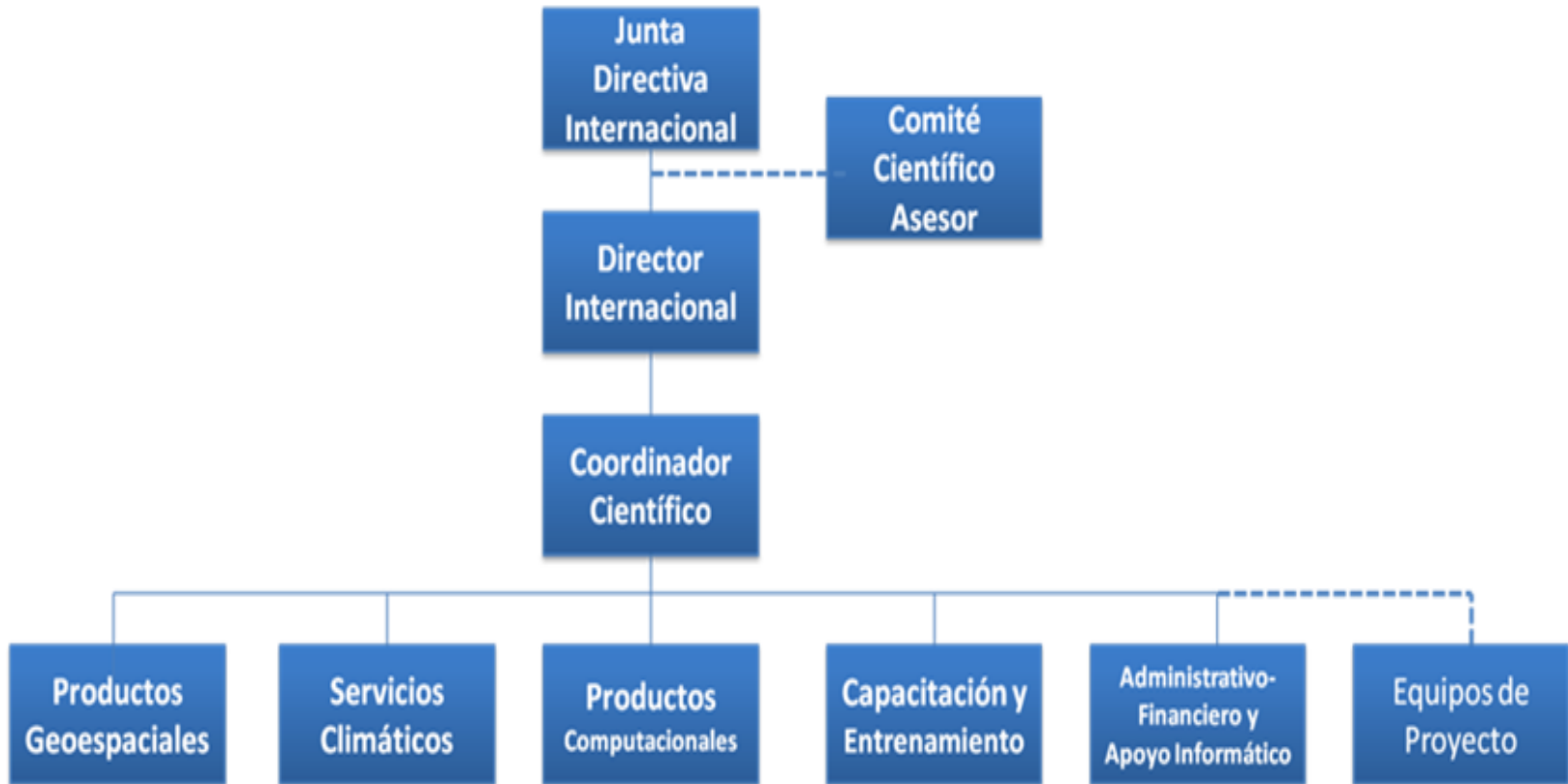
MISION

To promote and develop actions to consolidate science-policy interactions and the strengthening of climate and ocean services aiming to contribute on risk management and adaptation to better cope with climate change and variability

VISION

A Research Center that is both versatile and efficient to provide innovative solutions to strengthen institutions, governance, most vulnerable communities, ecosystems and production systems in order to cope with current and emerging challenges imposed by climate and global change.

Administrative ORganization





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Networks related to climate

Network of persons & Institutions related to information and knowledge on climate

Basic and applied research

Improving knowledge on climate system

Applied studies on the impacts of climate variability and climate change vulnerability assessment and proposed climate adaptation.

Hazards and risk assessment and environmental problems associated hydro

Climate information service

Weather reports and oceanographic climate prediction, oceanographic, hydrological
Regional Climate Center for Western South America

Training and capacity building for countries in the region

Courses for Meteorological and Hydrological Services and other institutions of the countries of Latin America (topics: data processing, data analysis, climate variability, climate change, meteo, hydro and climate risks).

Capacity building in countries of the region

Development and implementation of projects for national institutions in the region

Communication of knowledge and information on weather, water and climate

International Conference.

Scientific publication and popular dissemination publications (booklets, brochures)

Guide on establishing communication systems information and weather warnings.



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Basic Research

- Creation of new knowledge about ENSO and its relationship with other modes of climate variability, climate change and global change.
- Networking research on issues associated with ENSO
- Having an active program of basic research on climate and climate-society relationship

Applied Research

- Production of knowledge about the impacts of climate variability and climate change in different sectors and regions.
- Incorporating the knowledge gained from basic and applied research in industry practices through climate information services.
- Strengthening cooperation with sectoral and regional institutions for applied research and knowledge application.

Dissemination of knowledge and incorporation of knowledge in society

Climate Information Services

- Regional Center South West Climate

International visibility

Capacity Building



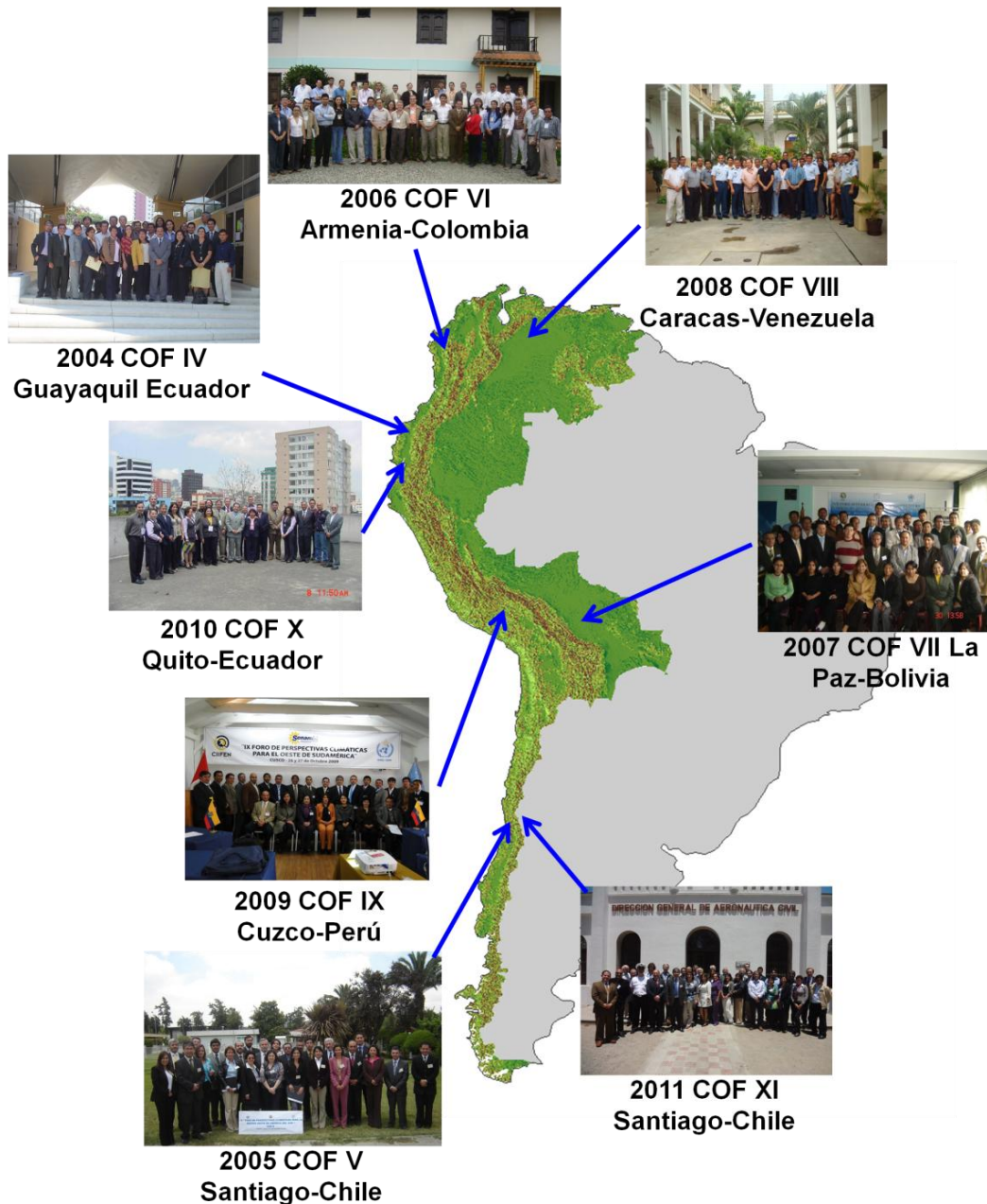
ACTIVITIES



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SEASONAL CLIMATE PREDICTION
FORUM





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Centro Regional del Clima para el Oeste de Sudamérica

FASE DE DEMOSTRACIÓN



Inicio

Pronósticos a Largo Plazo

Monitoreo del Clima

Servicio de Datos Operacionales

Entrenamiento en el uso de Productos y Servicios del CRC

Investigación y Desarrollo

XML / SWF



Reportes Regionales del Sistema del Clima, Monitoreo y Análisis Estadístico, Climatología, Avisos e Información del Clima, Análisis del Clima y Escenarios Climáticos

► Ingresar

Pronóstico a Largo Plazo

Monitoreo del Clima

Servicios de Datos Operacionales

Entrenamiento

Investigación y Desarrollo

BOLIVIA • CHILE • COLOMBIA • ECUADOR • PERÚ • VENEZUELA

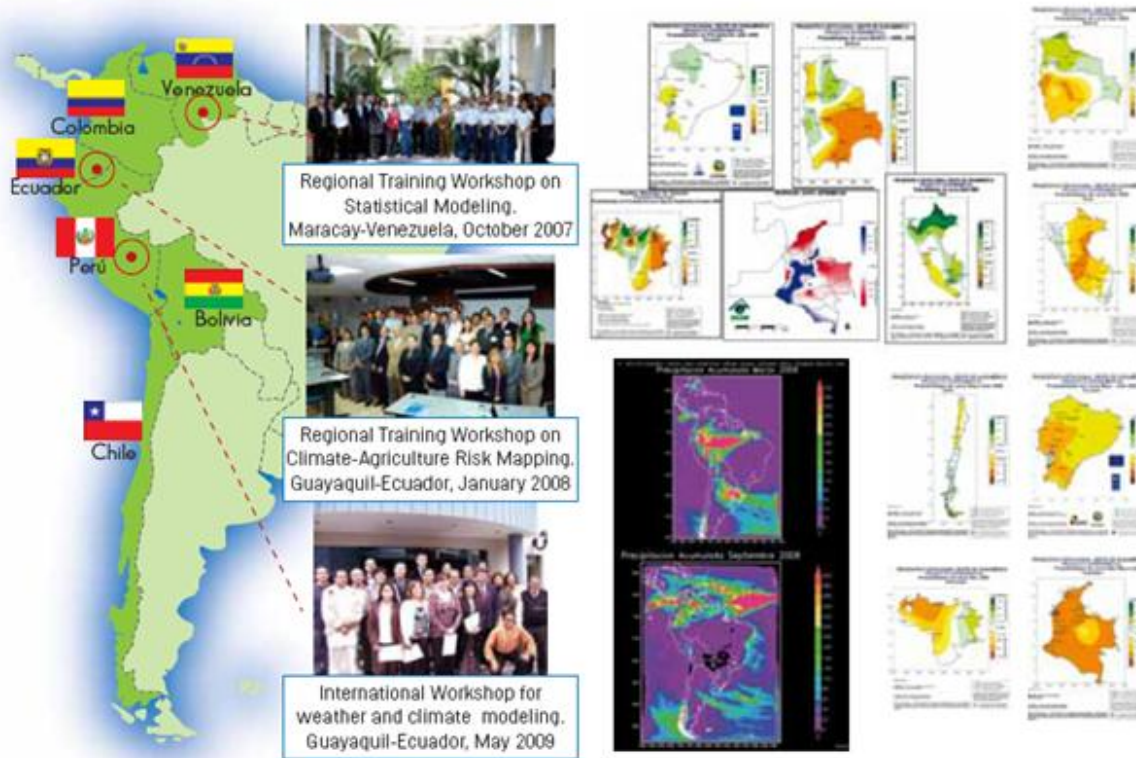




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CAPACITY BUILDING IN THE REGION



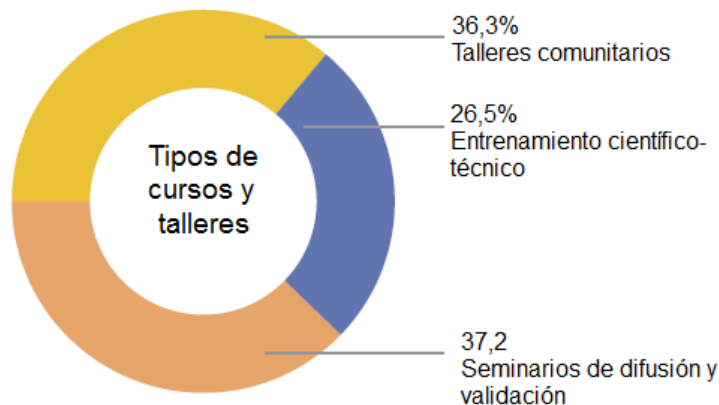
- Training to improve weather forecasting and climate with courses on statistical and numerical modeling on rescue, processing and quality control of data, generation of hydroclimate indices for different applications and on seasonal forecast.
- Capacity building for developing database tools, processing, analysis and visualization.
- Training and virtual (online courses)



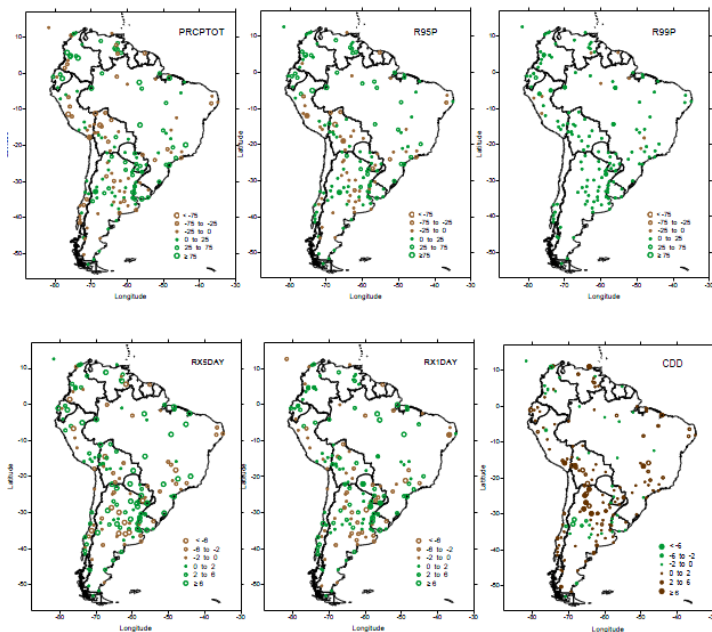
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CAPACITY BUILDING



In the period 2003-2012 CIIFEN has been organized, coordinated and conducted nearly 100 training events (seminars, workshops, courses)



Warming and wetting signals emerging from analysis of changes in climate extreme indices over South America

María de los Milagros Skansi¹, Manola Brunet^{2,3}, Javier Sigró², Enric Aguilar², Juan Andrés Arevalo Groening⁴, Oscar J. Bentancur⁵, Yaruska Rosa Castellón Geier⁶, Ruth Leonor Correa Amaya⁷, Homero Jácome⁸, Andrea Malheiros Ramos^{9,10}, Clara Oriá Rojas¹¹, Alejandro Max Pasten¹², Sukarni Sallons Mitro¹³, Claudia Villaruel Jiménez¹⁴, Rodney Martínez¹⁵, Lisa V. Alexander¹⁶, and P.D. Jones^{3,17}

- Analysis of hydrometeorological and climatic processes, climate variability and climate change
- Promotion of networking of researchers from the region and integration of the scientific capabilities of NMHSs to the process of knowledge production.
- Visibility of the regional scientific community worldwide

one by storm surge, three by unusual storms, and six by wind damage. There were six confirmed deaths. The estimated cost of damages was \$10.4 billion (U.S. dollars). The agricultural sector was one of the most harshly affected, over \$500 million (U.S. dollars) worth of crops were lost during the event.

The typical dry season across the northeastern Caribbean was nonexistent in 2010, with the remnants of several cold fronts bringing persistent periods of wet weather across both Puerto Rico and the U.S. Virgin Islands during the typical dry months of January - April (Fig. 7.10b). This unusually wet start to the year was followed by four significant tropical systems that affected the region. While both Puerto Rico and the U.S. Virgin Islands were spared any direct hits from tropical systems during the 2010 Atlantic hurricane season, three organized tropical systems (Bonnie, Otto, and Tomas) all brought widespread flooding rainfall across the local islands over the course of the season. The fifth wettest day on record at the Cyril E. King Airport on Saint Thomas (168 mm) was recorded on 3 October with the passage of Hurricane Otto and an impressive 547 mm was recorded at Red Hook Bay on Saint Thomas over a period of four days, also with the passage of Hurricane Otto. Across Puerto Rico, an impressive 397 mm of precipitation was recorded along the Rio Portuguez in southern Puerto Rico over the same four-day period due to the storm.

d. South America

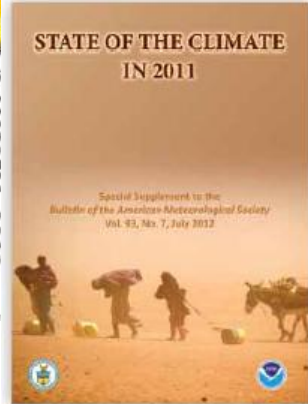
The 2010 annual mean temperature was near normal to above normal in northern South America and the tropical Andes, and near normal to below normal in Amazonia and most of southern South America (Fig. 7.12a). The annual total precipitation was generally below normal, with significant negative anomalies in Bolivia, Chile, and Argentina; however, significant positive anomalies occurred in Colombia and Venezuela (Fig. 7.12b).

i) NORTHERN SOUTH AMERICA AND THE TROPICAL ANDES—E. Rutiño, C. Izquierdo, E. Jones, C. Laine, and A. Quirós

ii) Temperature

The year 2010 was characterized by the occurrence of both ENSO phases: the end of El Niño near the beginning of 2010 and the development of La Niña in mid-2010. The ENSO influence was evident on the temperature of Venezuela, Colombia, and Ecuador but was relatively weak in Peru and Bolivia. Temperature anomalies from +1°C to +1.5°C were observed in Ven-

FIG. 7.12. (a) 2010 an (°C) for South Amer (b) 2010 annual pre 1971–2000 mean. i Services of Argenti bia, Ecuador, Faraz Venezuela. The da International Resa: eruela, Colombia, at of the year. From Jan near normal in Ven normal in most of E





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APPLYING KNOWLEDGE

AGRO CLIMATE RISK MAPS IN DESIGNATED AREAS IN THE ANDEAN COUNTRIES.



AN INTEGRAL APPROACH CASE: COPING TO CLIMATE CHANGE IN THE COASTAL CORDILLERA OF ECUADOR



Since February, 2011, CIIFEN is implementing this project with the support of the Ministry of Environment of Ecuador, The Nature Conservancy (TNC) and the Provincial Governments of Guayas, Manabí, and Santa Elena. It is funded by the European Commission, and aims to support the development and implementation of an integrated response to the impacts of climate change in the Coastal Cordillera of Ecuador. This includes a climate vulnerability assessment with local authorities.



REGIONAL INFORMATION SYSTEM ON CLIMATE CHANGE AND BIODIVERSITY TO SUPPORT PUBLIC POLICIES.



The Ministries of Environment and the Meteorological Services of Bolivia, Ecuador, and Peru in coordination with CIIFEN, started in May, 2012, a project to establish a regional information system on climate change and biodiversity. It is funded by the Inter American Development Bank. The main purpose of this regional initiative is to contribute on the formulation of public policies to foster effective conservation and adaptation in the participant countries. The project will perform vulnerability assessments in Andean ecosystems and integrate the most relevant climate and biodiversity information to support decisions, plans, and adaptation policies at national level.



First coordination meeting, May 2012 Guayaquil-Ecuador

CONTRIBUTION TO THE ANDEAN ATLAS ON TERRITORY DYNAMICS



In 2009, CIIFEN contributed to a regional initiative conducted by the Andean Community regarding the spatial analysis of climate related hazards in the region. It contains climate risks mapping at subregional level. The Atlas is available online. CIIFEN's contribution was specifically related to data analysis and mapping of zones exposed to frost, drought, floods, and local effects by El Niño / La Niña.



UNDERSTANDING CLIMATE VULNERABILITY AND IMPACTS ON THE AGRICULTURE SECTOR IN THE ECUADORIAN ANDEAN REGION AND WATERSHEDS OF CHONE AND PORTOVIEJO

The project "Adaptation to Climate Change through effective Water governance in Ecuador PACC" is implemented by the Ministry of Environment's vulnerability to climate management of water Environmental Facility Jr. The project is implemented of Ecuador (MAE), a climate-agriculture Change in the Andean Portoviejo in Ecuador.



of climate, social and angles, local consulta-

tion processes and several training workshops for technicians, farmers, and authorities. The final outcome will support decisions of authorities on future adaptation plans in the agriculture sector in Ecuador.



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