

ETCCDI WORKPLAN REVIEW. , PARIS, JULY 6-8, 2015

**CAPACITY BUILDING IN MESOAMERICA:
A PROPOSAL FOR AN ETCCDI
WORKSHOP
(GUATEMALA 2015)**

JORGE L. VAZQUEZ

- **ETCCDI Workshop format**
- **Previous Workshop in Central America**
- **Participants - forthcoming Mesoamerican workshop**
- **Context - Mesoamerican RCC**
- **ETCCDI WS as part of CSCMC (RCC) workplan 2015**
- **Available facilities for training (in Mexico)**
- **Indices distribution (CCCMA & CSCMC web portal)**
- **Proposal for the 2015 Guatemala workshop**
- **Points of contact**

MONITORING CHANGES IN CLIMATE EXTREMES

A Tale of International Collaboration

BY THOMAS C. PETERSON AND MICHAEL J. MANTON

BAMS paper (Peterson and Manton, 2008)

Participants from neighboring countries as well as well-qualified experts from around the world to provide guidance on the analysis of the climate data.

Participants present data from a few of their countries' sites to be quality controlled, checked for homogeneity, and analyzed at the workshop. (Assess the climatology and data availability across the whole region).

- Hands-on analysis of national data: basic quality control (QC) involving a variety of graphical and statistical analyses (require human intervention to determine the nature of potential data problems and its possible solution)

Once the data have passed the QC tests, participants assess the temporal homogeneity of the data (station history metadata are essential). Sites with artificial changes are removed from the analysis.

Participants then calculate the agreed indices for each station in their country. An expert collates all the results and gives an overview of the trends and variability in extremes across the whole region.

The task of preparing a peer-reviewed paper about extremes in the region requires access to the data after the workshop. Almost all participants have allowed time series of their indices to be publicly shared

JGR paper (Aguilar et al., 2005)

JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 110, D23107, doi:10.1029/2005JD006

Changes in precipitation and temperature extremes in Central America and northern South America, 1961–2003

E. Aguilar,¹ T. C. Peterson,² P. Ramírez Obando,³ R. Frutos,⁴ J. A. Retana,⁵ M. Solera,⁵ J. Soley,⁶ I. González García,⁷ R. M. Araujo,⁸ A. Rosa Santos,⁸ V. E. Valle,⁸ M. Brunet,¹ L. Aguilar,⁹ L. Álvarez,¹⁰ M. Bautista,¹⁰ C. Castañón,¹⁰ L. Herrera,¹⁰ E. Ruano,¹⁰ J. J. Sinay,¹⁰ E. Sánchez,¹⁰ G. I. Hernández Oviedo,¹¹ F. Obed,¹² J. E. Salgado,¹² J. L. Vázquez,¹³ M. Baca,¹⁴ M. Gutiérrez,¹⁴ C. Centella,¹⁵ J. Espinosa,¹⁶ D. Martínez,¹⁷ B. Olmedo,¹⁵ C. E. Ojeda Espinoza,¹⁸ R. Núñez,¹⁸ M. Haylock,¹⁹ H. Benavides,²⁰ and R. Mayorga²⁰

Received 22 April 2005; revised 2 August 2005; accepted 20 September 2005; published 6 December 2005.

[1] In November 2004, a regional climate change workshop was held in Guatemala with the goal of analyzing how climate extremes had changed in the region. Scientists from Central America and northern South America brought long-term daily temperature and precipitation time series from meteorological stations in their countries to the workshop. After undergoing careful quality control procedures and a homogeneity assessment, the data were used to calculate a suite of climate change indices over the 1961–2003 period. Analysis of these indices reveals a general warming trend in the region. The occurrence of extreme warm maximum and minimum temperatures has increased while extremely cold temperature events have decreased. Precipitation indices, despite the large and expected spatial variability, indicate that although no significant increases in the total amount are found, rainfall events are intensifying and the contribution of wet and very wet days are enlarging. Temperature and precipitation indices were correlated with northern and equatorial Atlantic and Pacific Ocean sea surface temperatures. However, those indices having the largest significant trends (percentage of warm days, precipitation intensity, and contribution from very wet days) have low correlations to El Niño–Southern Oscillation. Additionally, precipitation indices show a higher correlation with tropical Atlantic sea surface temperatures.

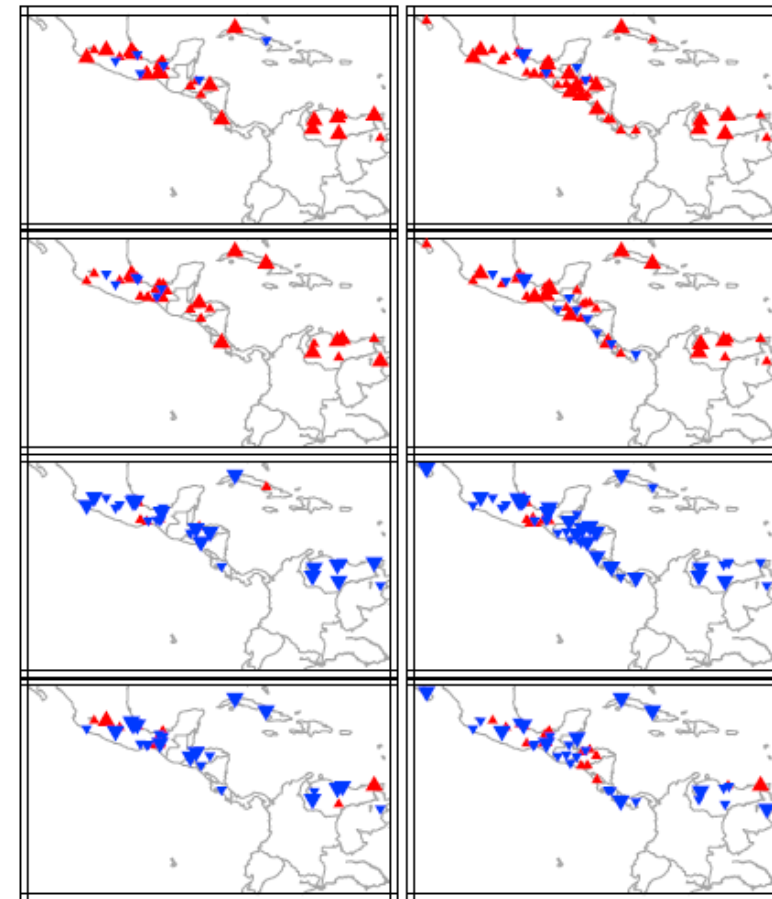
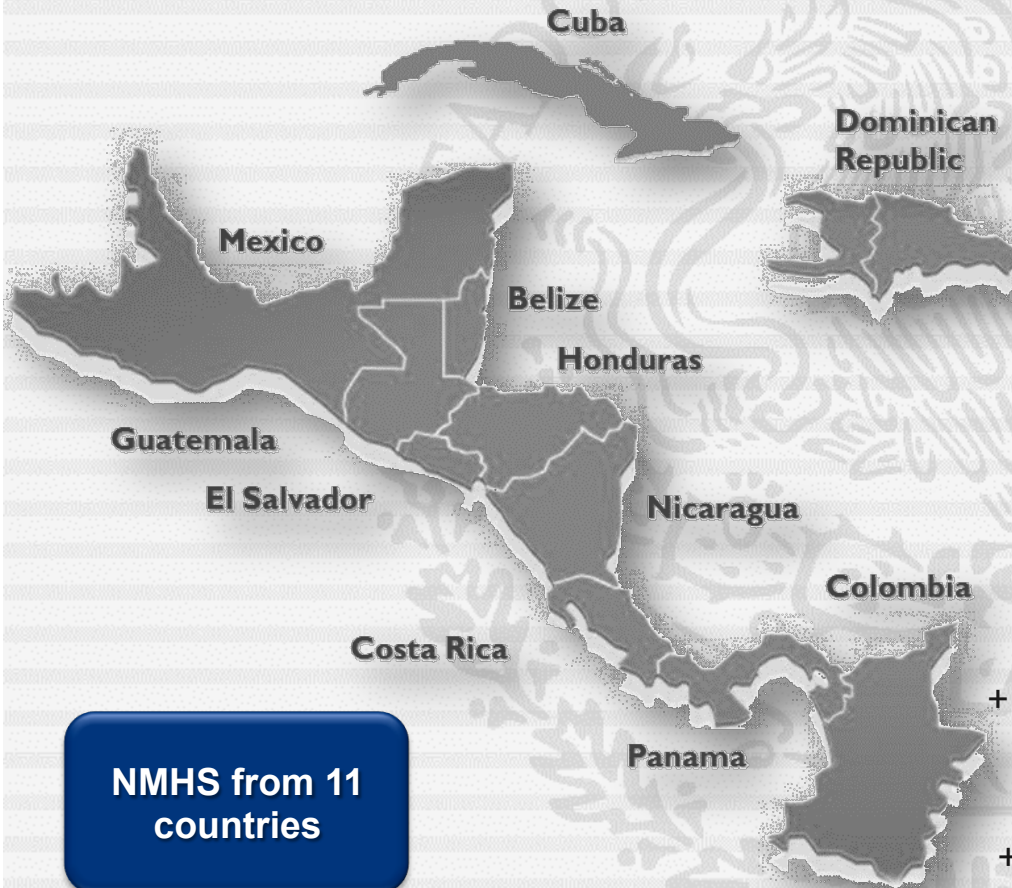


Figure 8. Trends for (left) 1961–2003 and (right) 1971–2003 for (from top to bottom) TX90p, TN90p, TX10p, and TN10p. Red large triangles indicate positive significant trends, red small triangles indicate positive nonsignificant trends, blue large triangles indicated negative significant trends, and blue small triangles indicate negative nonsignificant trends.

Participants (confirmed)

Participant institutions:

National Meteorological / Hydrological Services from Mesoamerica

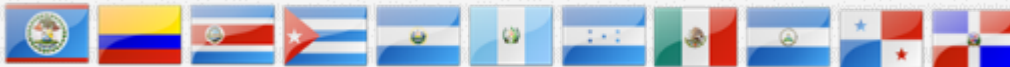


NMHS from 11 countries



+ Comité Regional de Recursos Hidráulicos (CRRH).

+ Mesoamerican Cooperation Program (PMC) of the Mexican Agency of International Cooperation for Development (AMEXCID).





WMO TD - 1534 How to establish and run a WMO Regional Climate Center (RCC)

❖ 4 mandatory functions of an RCC:

- ✓ **Climate monitoring**
- ✓ **Long range predictions**
- ✓ **Data management / delivery**
- ✓ **Capacity building - training**

❖ Required steps for RCCs designation by WMO (TD 1534):

Step
0.

Survey of Members on regional needs for and capacity to deliver RCC services.

PILOT PHASE.

Participants contact RA's President through Permanent Representatives expressing its intent to be designated as a WMO RCC.

Step
1.

Step
2.

RA's President will inform CCI's President on the expression of interest. In consultation with CCI designation criteria will be defined.

Candidate work in contact with relevant RA coordination group, CCI other experts, other RCCs, WMO Secretariat and WMO GPCs.

Step
3.

Step
4.

Upon successful conduction of pilot phase and positive assessment of mandated actions, request formal designation as a WMO RCC

WMO SG will arrange for appropriate consultations with CCI President and will take up any concerns with RA's President.

Step
5.

Step
6.

If CCI's President deems satisfactory compliance with the designation criteria, SG will forward the request for formal designation to P/CBS for further action

CBS, will review the submission and will discuss any concern with the RA and CCI through WMO Secretariat. (resubmitted with all required clarifications addressed.

Step
7.

Step
8.

When appropriate CBS will invite the candidate to one of its sessions to present RCC proposal to demonstrate capabilities. Amendments to the Manual on the GDPFS should be performed.

With the approval of the Members of CBS, the amendment to the Manual will be put up to WMO Congress or WMO EC for approval

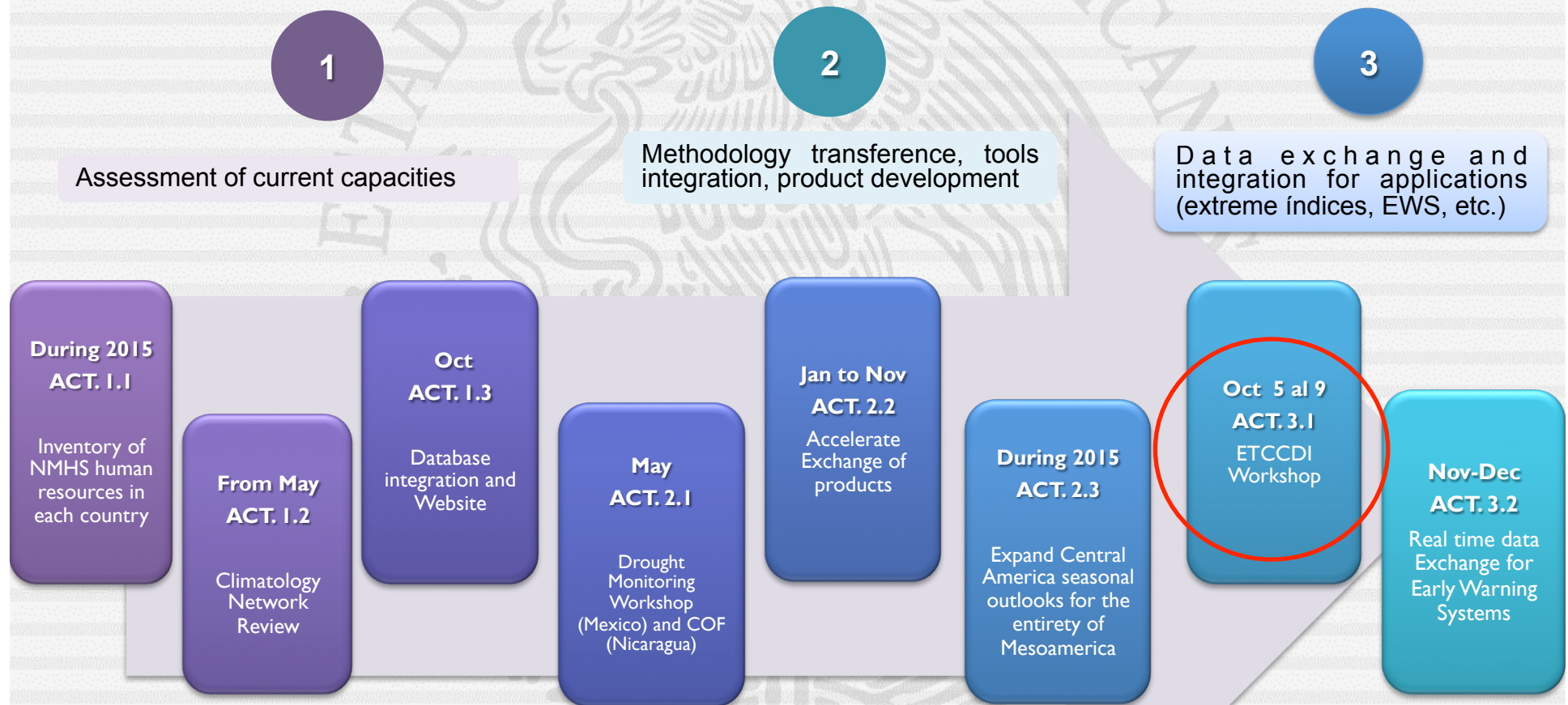
Step
9.

Step
10.

With this final WMO approval, the Manual on the GDPFS will be revised and the RA and the candidate(s) will be advised in writing on the designation of the RCC

CSCMC (RCC) workplan 2015

CSCMC Workplan 2015, adopted July 31 2014, San José, Costa Rica at GFCS WS for Latin America



SMN's modernization Project, MoMet (WB).

1. Strengthening of institutional capacity
2. Observation network modernization
3. Improvement of weather and climate products;
4. Development of regional capabilities

CSCMC office available at Centro Hidrometeorológico Regional de Tuxtla



Built in 2012, including an office for climate services



December 2011:
XIII Cumbre de Mecanismo de Diálogo y Concertación Tuxtla
Presidents of the region back up implementation of CSCMC

June 2015:
Cumbre de Mecanismo de Diálogo y Concertación Tuxtla
Presidents of the region confirm a mandate to continue CSCMC

✓ The office in Chiapas is available for training delivery for the region (two similar facilities are available also in Merida and Veracruz)

CENTRO DE SERVICIOS CLIMÁTICOS
PARA MESOAMÉRICA Y EL CARIBE



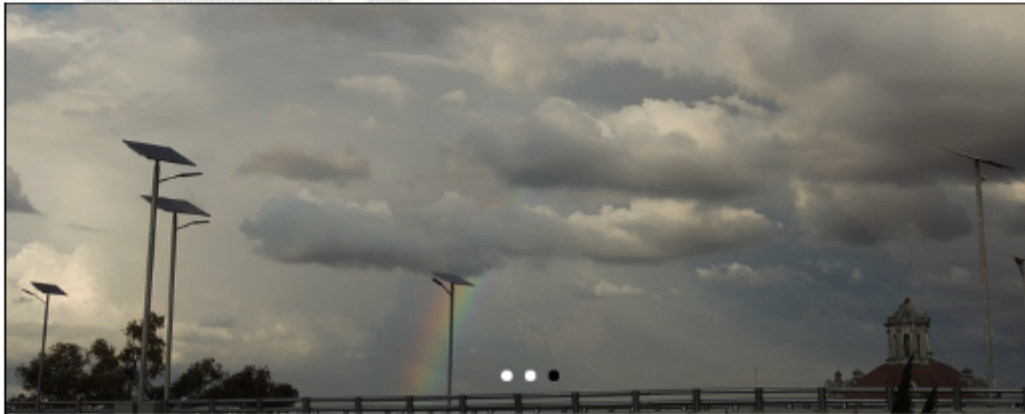
COMITÉ REGIONAL DE
RECURSOS HIDROLÓGICOS



INICIO

ACERCA DE CSCMC

PAÍSES MIEMBROS



- ▾ VIGILANCIA DEL CLIMA
- ▾ PREDICCIONES A LARGO PLAZO
- ▾ DATOS CLIMÁTICOS
- ▾ CONSTRUCCIÓN DE CAPACIDADES

INICIO

Proposal for 2015 Guatemala workshop

✓ Goal

To update available climate change índices (Aguilar et al., 2005) for the Mesoamerican región.

To promote GFCS integration and delivery activites

✓ Instructors

Proposal in consultation with OPACE 2 and CRRH

- Enric AGUILAR (URV-Spain)
- Javier SIGRO (URV-Spain)
- Alba GILABERT (URV – Spain)
- Jorge VAZQUEZ (SMN – Mexico)
- Eric ALFARO (UCR, Costa Rica)
- Others from ETCCDI?

✓ Language

Full instruction in Spanish (requested by CRRH)

✓ Dates and place

October 5 – 9, 2015. Guatemala City.

✓ Sponsors

Mexican Agency of International Cooperation for Development

- 2 participants from each country (11 countries = 22 participants)
- 2 internacional instructors.

National Meteorological Service, Mexico



- 2 internacional instructors

CRRH (SICA)



COMITE REGIONAL DE RECURSOS HIDRÁULICOS

INSIVUMEH (Guatemala)



- Local organization, venue, workshop materials

Additional funding prospects?



CLIVAR

JCOMM

NOAA

Liason with GFCS Implementation

- RA IV Task Team (TT) on GFCS Implementation produced a Workplan for the period 2015-2017, it includes activities across all *GFCS Pillars*, specifically, RA IV members have been encouraged to seek strategic partnerships with other groups and organizations.

- Specifically, ETCCDI activities converge with the following TT activities:

Observations and monitoring (including data recovery and digitization)
Research and predictions (including indicators and monitoring of extremes)
Development of a Climate Services Information System
Capacity building

- Therefore, it is suggested to actually establish a liason between TT and ETCCDI and overall between ETCCDI and GFCS

Points of contact:

CRRH-SICA:

Patricia Ramírez Obando, Secretaria Ejecutiva (patricia.ramirez@recursoshidricos.org)

PMC-AMEXCID:

Edith Robledo Muñoz, Directora de Desarrollo Sustentable (erobledo@sre.gob.mx)

SMN-CONAGUA

Jorge Luis Vázquez, miembro ETCCDI y punto Focal de implementación del GFCS en México (j.climsci@gmail.com)

ETCCDI

Albert Klein Tank (Albert.Klein.Tank@knmi.nl) / Xuebin Zhang (Xuebin.Zhang@ec.gc.ca) – co-chairs

OPACE-2 CCI

Manola Brunet (manola.brunet@urv.cat) / Fatima Driouech (driouechfatima@yahoo.fr) – co-chairs