World Meteorological Organization

Weather • Climate • Water

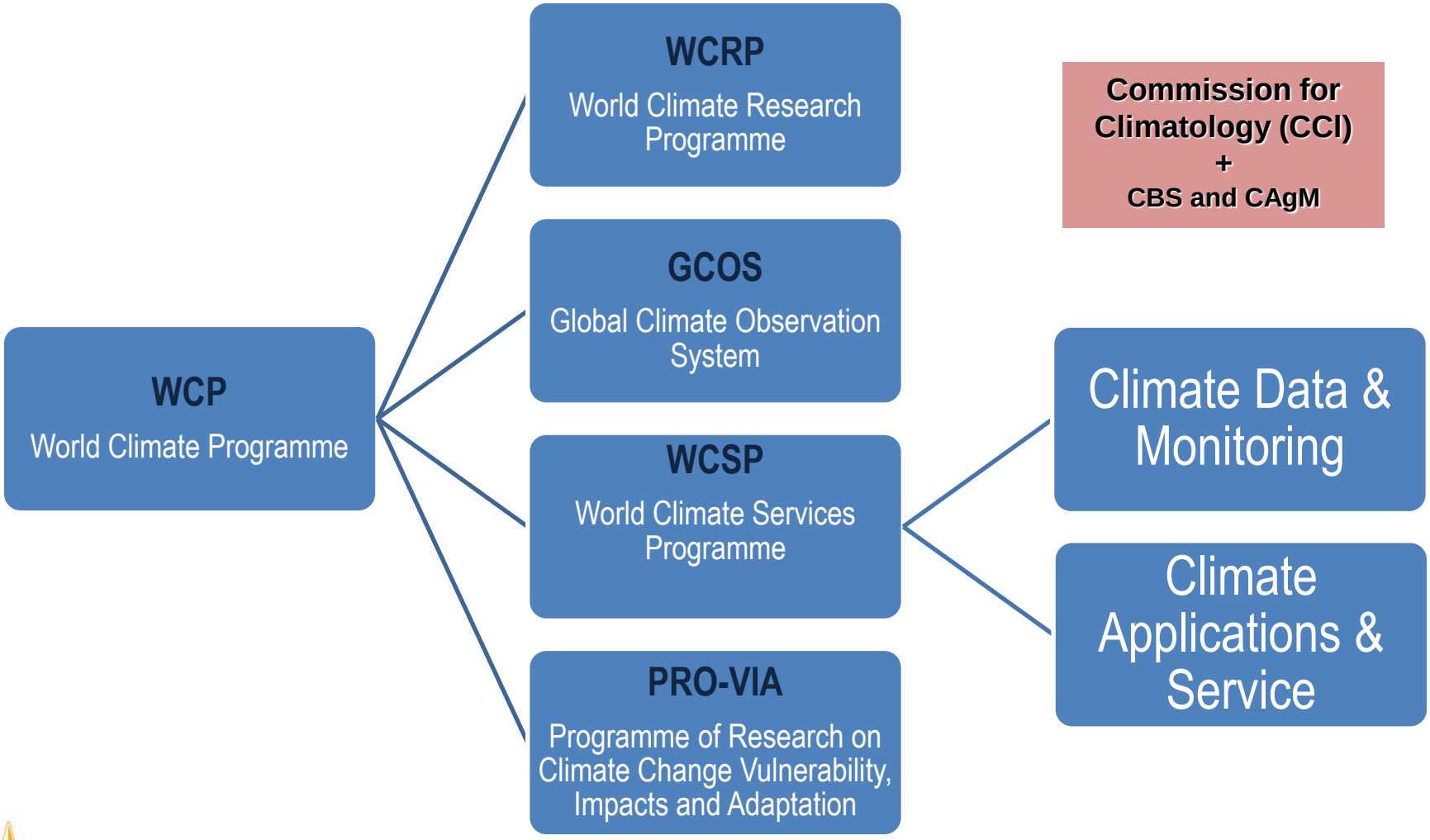
Commission for Climatology

2013 Coordination Meeting of Disaster Risk Reduction Focal Points of Technical Commissions and Programmes

14-16 October 2013

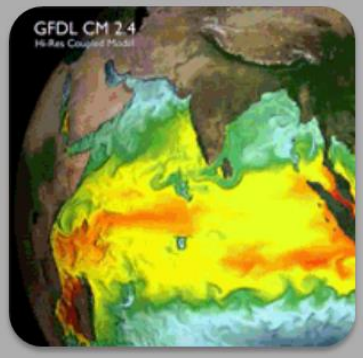
WMO HQ, Geneva

Overall Organization of Climate Activities



WMO Commission for Climatology (CCl)

OPACEs: Open PAnel of CCl Experts



OPACE 1: Climate Data Management

- Expert Team on Climate Data base Management Systems
- Task Team on Climate Data Rescue
- Task Team on Observational Standards and Practices

OPACE 2: Climate Monitoring & Assessment

- Joint CCl-CLIVAR-JCOMM Expert Team on Climate Change Detection & Indices
- Joint Rapporteurs on World Weather & Climate Extreme Records
- Task Team on National Climate Monitoring Products
- Task Team on Definitions of Extreme Weather and Climate Events

OPACE 3: Climate Products & Services

- CCl-CBS Expert Team on Regional Climate Centers
- Task Team on CLIPS Evolution
- Task Team on Global Seasonal Climate Update
- Expert Team on Climate Services Information System
- Joint CBS/CCl Expert Team on Operational Predictions from Sub-seasonal to Long-Time Scales

OPACE 4: Climate Info for Adaptation & Risk Management

- Expert Team on Climate Risk & Sector-Specific Climate Indices
- Task Team on User Participation in Climate Outlook Forums
- Task Team on User Interface
- Task Team on Climate Risk Management
- Joint Expert Group on Climate Food and Water (CCl, CAgM, Chy)

Other Teams

- Task Team on Climatological Normals
- Expert Team on Strategy for Capacity Building for Climate Services
- Rapporteur to review the Guide to Climatological Practices
- Expert Group on Quality Management for Climatology
- Rapporteurs for Volunteer Observing Networks
- Communications Advisors
- DRR Focal point – MG Took Note

Global Framework for Climate Services

Climate Data

Climate Data Base Management System

Scalable and sustainable

Inter-operable and compatible with GIS platforms

Synergy with other Commissions such as CBS, CHy and CAgM

Easy access and emerging technologies

Volunteer Observing Networks/Crowdsource

Integration of different networks

Optimal climate networks – network design

Data Rescue

Identification & priority

Setting standards and guidance

Work with other Commissions such as CHy, CBS

Regional needs and opportunities (eg. MEDARE; ACRE: Atmospheric Circulation Reconstruction over Earth)

International Data Rescue portal (I-DARE)

Recognized as part of an effort in which the newly digitized data are used for indices

WCDMP-No. 60 WMO-TD No. 1376 March, 2007 **Guidelines on Climate Data Management, 2007**

CDMS activities

- CDMS survey – systems in use, problems and issues, particularly in less developed countries
- Survey has been conducted 2012
- CDMS Specifications document being finalized
- Challenges – data exchange functionalities, defining metadata and interoperability
- Will also consider required DARE functionalities

Climate Data/Analysis

Climate Normals

Evolution and guidance on defining climate normals

A discussion paper prepared on dual normals, to take care of non-stationary situation due to changing climate

Climate Indices

Expert Team on Climate Change Detection & Indices (CCl/CLIVAR/JCOMM)

ETCCDI currently recommends 27 core indices that are based on daily temperature values or daily precipitation amount

Development of gridded indices data sets

Use ETCCDI and related workshops to expand global coverage

Data issues important for indices calculation, such as the production of homogenized data sets

Explore area based indices, new rainy season

Evaluate Heat/cold spell and drought indices

WMO-TD No. 1500, 2009 Climate Data and Monitoring WCDMP-No. 72
Guidelines on Analysis of Extremes in a changing climate in support of informed decisions for adaptation, WMO, 2009

ETCCDI Regional Workshops

Working together

GH Africa Workshop (WCRP/World Bank) 04/2010

Central Africa (USA) 4/2007

Mexico (UK) 03/2009

South America (Ecuador) 01/2011

West Indian Ocean (France) 09/2009

Southeast Asia (USA) 12/2007

Indonesia, Malaysia, Thailand, Philippines (NL) 12/2009

Peterson and Manton, BAMS, 2008

Climate Monitoring

National Climate Monitoring Products

A set of about six NCMPs are being considered

A balance between requirements by national users and needs of compiling the global climate

Focus on anomalies and variability, rather than specifically long term changes

- Monthly areaaverage of total precipitation anomalies expressed as percentages
- Monthly areaaverage of standardised precipitation index (SPI)
- Monthly areaaveraged Percent of Time Tmax > 90th Percentile of Daily Maximum Temperature 7100 period for standardisation
- Significant climate and weather event relevant to the area or region.

NCMP Guidance document

Task Team Definitions of Extreme Weather and climate Events

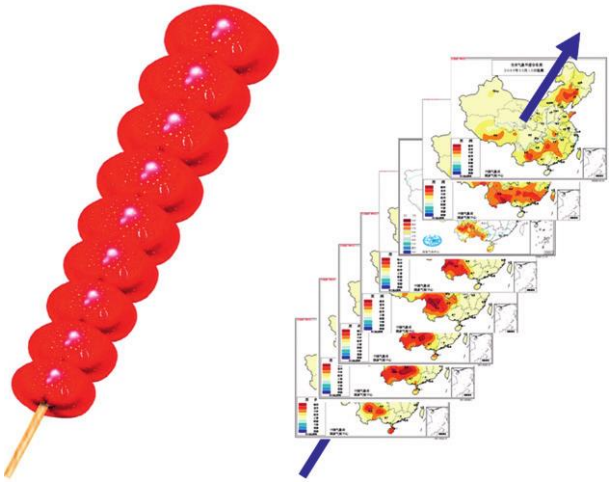
A review current extreme definitions and methods has be prepared

Identification of Regional Extreme Events – TT members involved in a publication in a peer reviewed journal paper.

Guidelines on methodology and standards for defining extreme weather and climate events that are of major societal impacts

Identification of regional extremes

- String of daily impacted areas, where each "candied fruit" is equivalent to a daily impacted area, and when all daily impacted areas were strung together, a complete regional event is identified



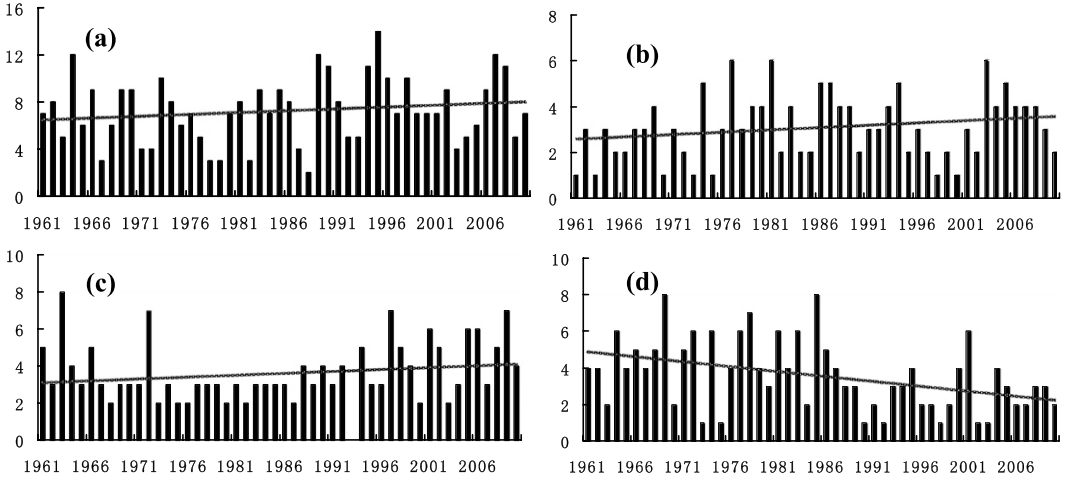


FIG. 6. Variations of annual frequencies of four types of China's regional extreme events during 1961–2010, with the lines representing the trends: (a) regional heavy precipitation events, (b) regional drought events, (c) regional high temperature events, and (d) regional low temperature events.

Source: Ren et al. (2012) J. Clim. 25: 7015-7027

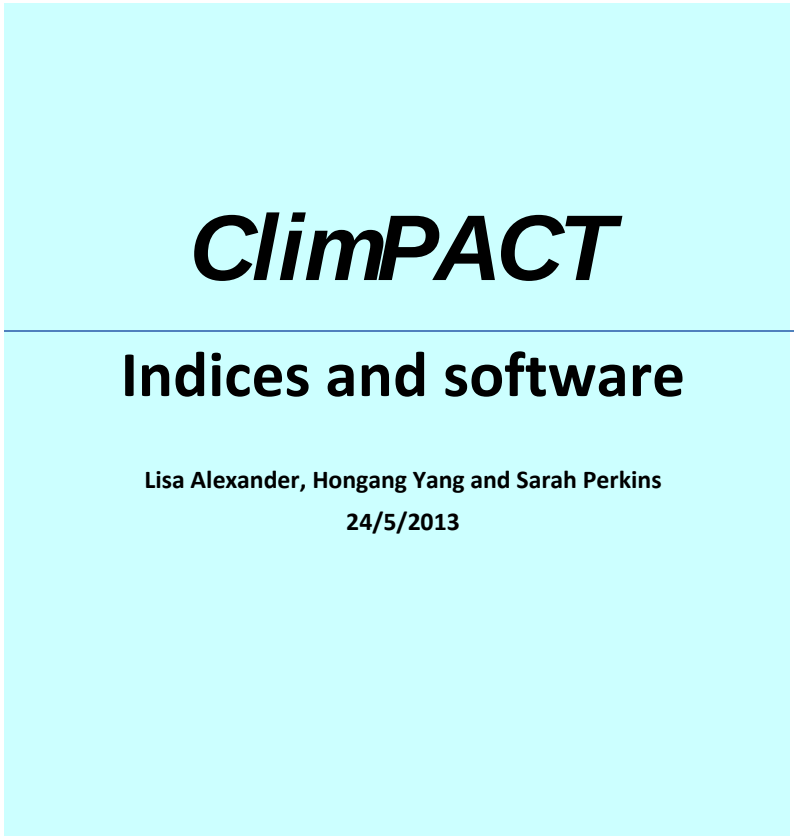
Climate Data/Analysis

ET Climate Risk & Sector Specific Indices

34 core indices of ET CRSCI

Additional indices relevant to drought, heat spells duration etc.

Workshop on Enhancing Climate Indices for Sector-Specific Applications
CIIFEN Headquarters
Guayaquil, Ecuador, 10-14 June 2013



WORLD CLIMATE PROGRAMME

WORLD CLIMATE SERVICES PROGRAMME

Specialized Guidance Material

- Heat Waves and Health: Guidance on Warning System Development
- Jointly by WMO and WHO
- Glenn McGregor (Lead Editor)
- Focus on practical aspects of Heat Health Warning Systems (HHWS)
- Generic, global applicability, based on expert opinion and learnt experience of a wide range of institutions and people

Operational Services

Regional Climate Centres (RCCs)

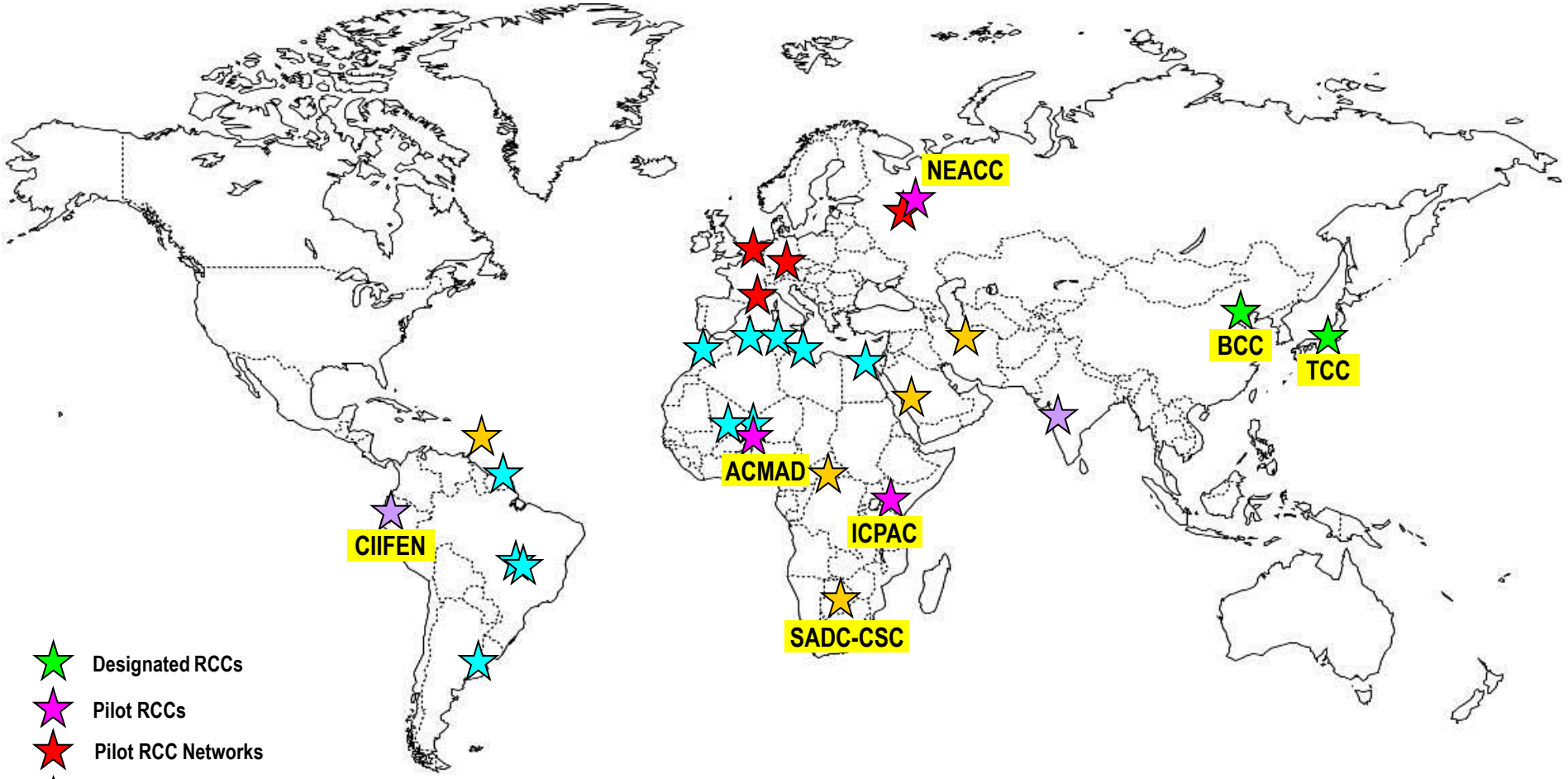
- WMO RCCs are Centres of Excellence performing regional-scale climate functions, designated by CBS and CCI.
- Mandatory Functions:
  - Operational Activities for LRF
  - Operational Activities for Climate Monitoring
  - Operational Data Services, to support operational LRF and climate monitoring
  - Training in the use of operational RCC products and services
- Highly Recommended Functions:
  - Climate prediction and projection
  - Non-operational data services
  - Coordination functions
  - Training and capacity building
  - Research and development

Operational Services

Regional Climate Centres (RCCs)

- RCCs will be complementary to and supportive of NMHSs; warnings and national-scale products will continue to be the responsibility of NMHSs
- Establishment of RCCs is initiated by Regional Associations, based on regional needs and priorities
- Implementation Status:
  - Beijing and Tokyo designated as WMO RCCs in June 2009; North Eurasian Climate Centre (Russia) commenced RCC pilot phase in December 2010.
  - India, Iran and Saudi Arabia expressed interest to host RCCs
  - RCC-Network designation completed in Europe
  - Africa initiates RCC implementation by identifying six RCCs (two of them being RCC-Networks); ICPAC and ACMAD commenced pilot phase operations.
  - South America decides to establish 3 RCCs (two of them being RCC-Networks): CIIFEN, Brazil-Argentina and Brazil-French Guayana

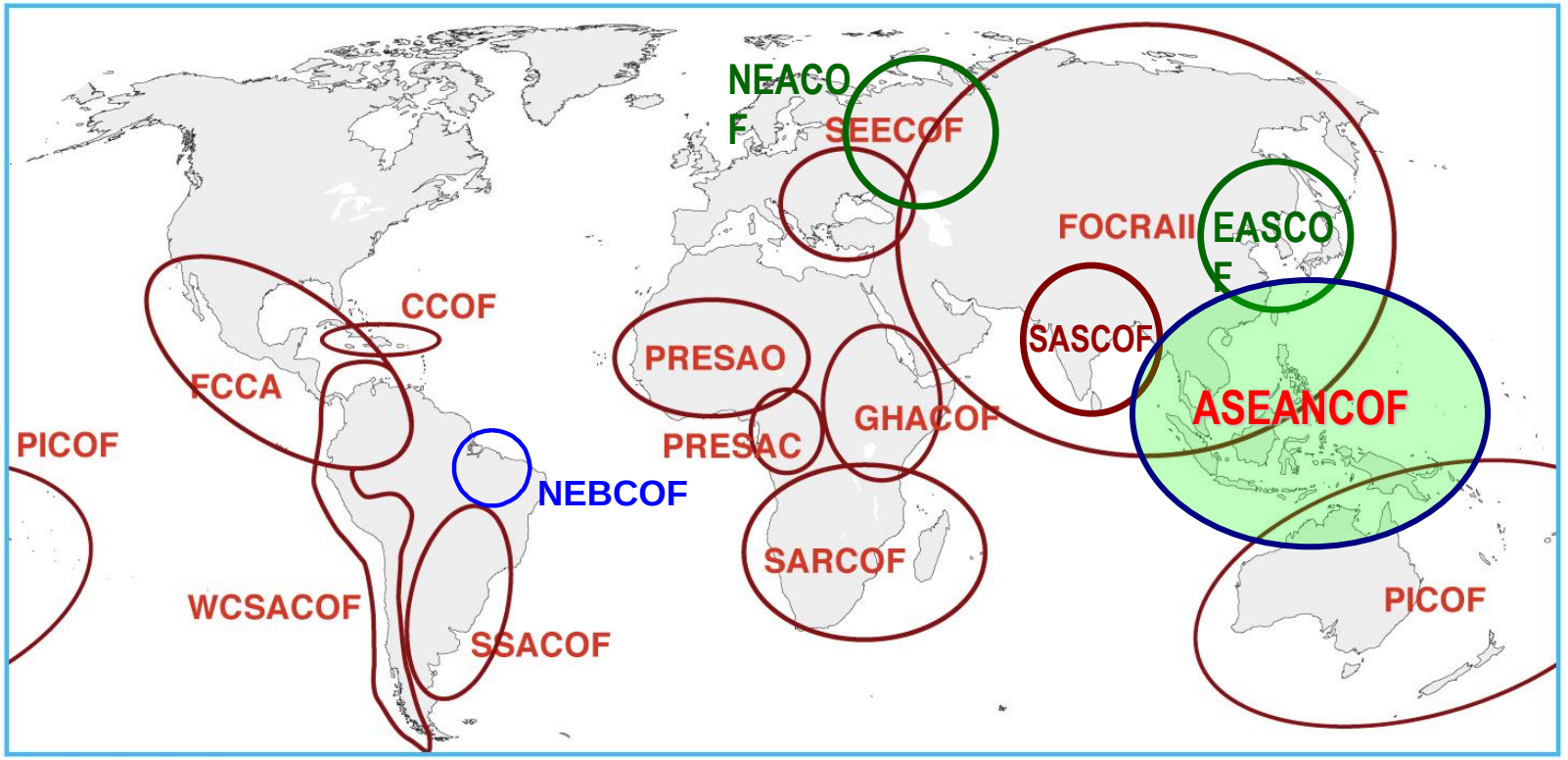
WMO RCC Status Worldwide



Regional Climate Outlook Forums (RCOFs)

- A key component of WMO Climate Information and Prediction Services (CLIPS) project activities.
- First established in October 1996 at the Workshop on Reducing Climate-Related Vulnerability in Southern Africa (Victoria Falls, Zimbabwe).
- Gained momentum as a regional response to the major 1997–1998 El Niño event.
- Standardized process for production of consensus climate forecasts for the region
- Verification standards – establish quality and confidence levels

Regional Climate Outlook Forums worldwide



Climate Services

TT Global and Seasonal Climate Update (GSCU)

Regular global consensus statements on seasonal climate – Global Seasonal Climate Update (GSCU);

GSCU to include information on current and future seasonal anomalies and uncertainty aspects to assist risk management, adaptation policies and decision making of global partners

Enhanced use of such products by RCCs and other regional entities;

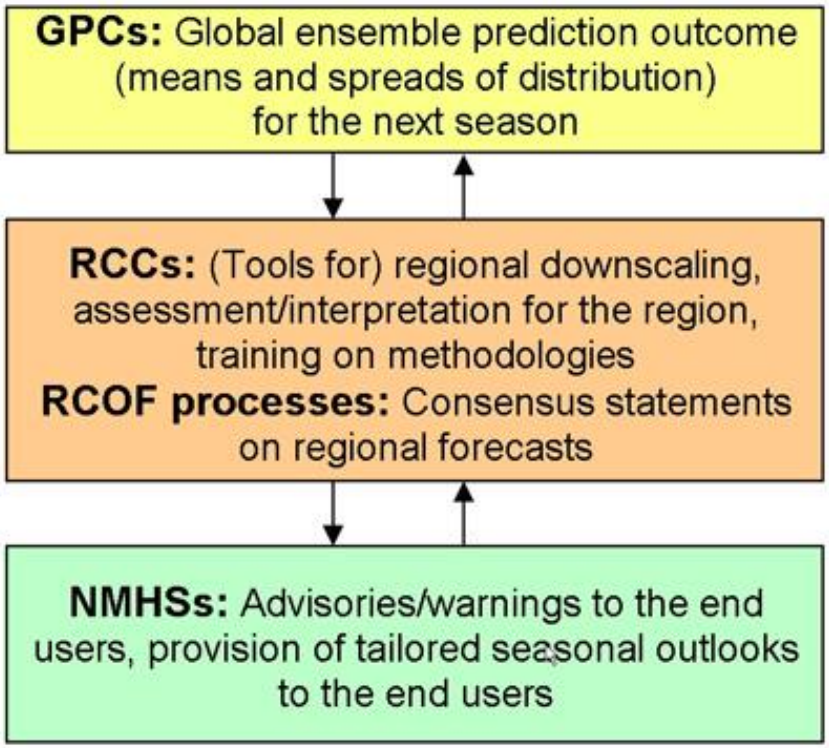
Global-scale climate monitoring results for the previous 3 months

Potential evolution of the state of the climate over the next 3 months

In conclusion CCL activities -

Systematic and coordinated process for production and use of climate information

Eager to contribute to the DRR Work Programme



Thank you