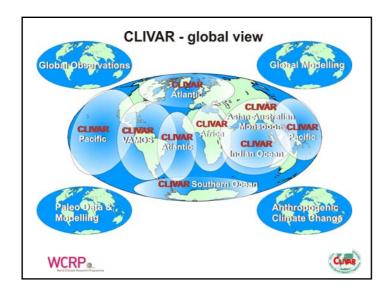
## CLIVAR SSG - issues and outcomes

Carlos Ereño and Howard Cattle ICPO



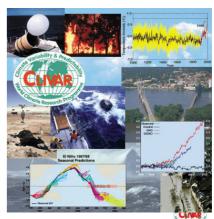




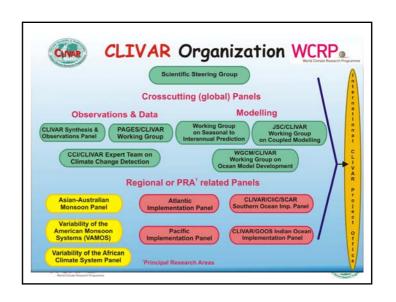
# **CLIVAR** (Climate Variability and Predictability)

#### Mission

To facilitate observation, simulation and prediction of changes in the earth's climate system with a focus on ocean-atmosphere interactions, enabling better understanding of climate variability, predictability and change, to the benefit of society and the environment in which we live.



WCRP.





#### Ex Officio Members: CLIVAR Panel and Working Group Chairs K Trenberth (Chair, GEWEX SSG)

J. Hurrell (co-chair) M. Visbeck (co-chair)

W Dong

S Gulev

D Wang

K Drinkwater

C. R. Mechoso

L. Goddard

S Schubert

SSG-16 Madrid, May 2009



SSG-17 Boulder, May 2010



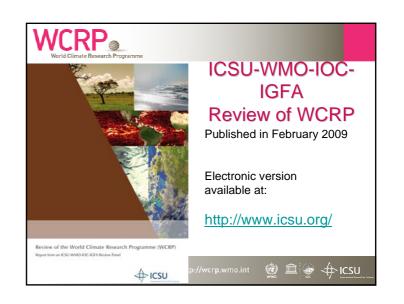
#### **CLIVAR SSG-16**

#### Focused on 2 areas:

- 1 Building consensus on the overall imperatives for CLIVAR science and their implementation over the next 5 years, for feed into the overall WCRP Implementation Plan 2010-2015
- 2 Assessing the progress of CLIVAR Panels and Working Groups in terms of advancing CLIVAR science







**CLIVAR SSG** 

Russian Academy of Sciences, Moscow, Russian Federation

Chinese Academy of Sciences, Guangzhou, China

NCAR, USA

IFM-GEOMAR, Germany

IMR Bergen, Norway

Beijing Normal University, China

Earth Institute at Columbia, USA

NASA Goddard Space Center, USA

University of California, USA

#### Imperatives: build consensus

CLIVAR SSG-16 (Madrid, 19-22 May 2009)

- Asked each panel/WG to identify:
- Imperatives over the coming years to 2013/15 and, perhaps. continuing over the next decade? Activities that "must" be continued and/or implemented because they are of the highest scientific importance with a high likelihood of success.
- What are the frontiers for the next decade and beyond?
- What key developments to enabling infrastructure necessary to deliver to the above.
- Document developed organized around
  - WCRP crosscutting topics (ACC, AC&C, decadal and seasonal prediction, sea level rise, monsoon and extremes) under WCRP
  - Additional focus on ocean observations, synthesis and modeling as particular CLIVAR contributions to overarching WCRPthemes.
- Outcomes factored into WCRP Implementation Plan WCRP.



# **CLIVAR Imperatives**

- Anthropogenic Climate Change
  - Long term change
  - Natural versus forced variability
  - Regional phenomena and impacts
  - Extremes
- Decadal Variability, Predictability and Prediction
  - Determination of predictability
  - Mechanisms of variability
  - Role of oceans
  - Adequacy of observing system
  - Initialization
  - Monsoons
  - Extremes drought
- Intraseasonal and Seasonal Predictability and Prediction
  - Role of land/ocean (GOALS)
  - Initialization
  - Monsoons, ISV/MJO









WCRP Implementation Plan and Accomplishment Report were Published in 2009.

WCRP IMPLEMENTATION PLAN 2010-2015

THE WORLD **CLIMATE RESEARCH PROGRAMME ACHIEVEMENTS** 



WCRP.

## **CLIVAR Imperatives**

- Anthropogenic Climate Change
- Decadal Variability, Predictability and Prediction
- Intraseasonal and Seasonal Predictability and Prediction
- Improved Atmosphere and Ocean Components of ESMs
  - Ocean model development
  - Analysis and Evaluation
  - Process studies/"Climate Process Teams"
- Data Synthesis and Analysis
  - Ocean
  - Coupled Data Assimilation Systems (with WOAP)
- Ocean Observing System
  - **Development and System Design**
  - (Build LINKS WITH IGBP for Carbon, Biogeochemistry, Ecosystems)
- Capacity Building



"Tiger Teams" set up to develop way ahead, including timelines, drawn together in a summary document for SSG-17



#### CLIVAR SSG-17

(Lisa Goddard made the VAMOS presentation on behalf of the co-chairs)

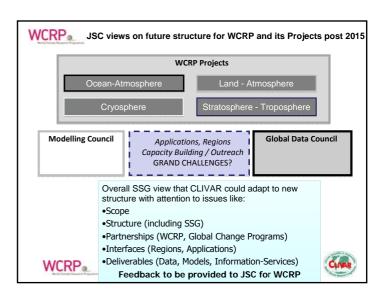
Meeting was focused around

- Long term changes (presently being formulated) in the overall structure of WCRP
- 2. CLIVAR imperatives and their implementation
- Key progress by CLIVAR Panels and Working Groups (including how they contribute to the imperatives) and issues arising









# **CLIVAR** imperatives

- Discussed in breakout groups in terms of their implementation
- Imperatives document to be further developed by new ICPO director and staff in consultation with Panels and Working Groups.
- Panels are/will be asked to report on their contributions to the imperatives.

Next SSG is expected to be at IOC, Paris, France, May 2011.





# Particular issues for Panel consideration arising from SSG-17

- SSG happy , overall, with VAMOS progress
- Total WCRP effort on monsoons debated and continued need for overall coordination mechanism discussed (to be taken forward separately)
- Panels asked to consider how it might contribute to the pan WCRP Conference
- All Panels and WGs encouraged to explore the writing of synthesis papers as input to IPCC AR5 and to coordinate analysis of CMIP-5 runs ("tiger team" activity)
- · Review membership
  - Some membership terms expire at the end of 2010





