

CORDEX: A Coordinated Regional Downscaling Experiment

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Details at:

<http://wcrp-cordex.ipsl.jussieu.fr/>
(Search: "WCRP CORDEX climate")

CORDEX Science Advisory Team

		Region
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Colin Jones (co-chair)	Swedish Meteorological and Hydrological Service SMHI Rossby Centre - Norrkoping, SWEDEN	WGCM, Eu- COR
* Bruce Hewitson	University of Cape Town Environmental & Geographical Science Dept. - Cape Town, SOUTH AFRICA	Africa
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Won Tae Kwon	National Institute of Meteorological Research Korea Meteorological Administration - Seoul, REPUBLIC OF KOREA	East-Asia
* Claire Goodess	Climatic Research Unit , University of East Anglia - Norwich, UK	Impacts

General Aims and Plans for CORDEX

Provide a set of regional climate scenarios covering the period 1950-2100, for the majority of the populated land-regions of the globe.

Make these data sets readily available and useable to the impact and adaptation communities.

Provide a generalized framework for testing and applying regional climate models and downscaling techniques for both the recent past and future scenarios.

Foster coordination between regional downscaling efforts around the world and encourage participation in the downscaling process of local scientists/organizations

CORDEX Phase I experiment design

Model Evaluation
Framework

Climate Projection
Framework

Multiple regions (Initial focus on Africa)
50 km grid spacing

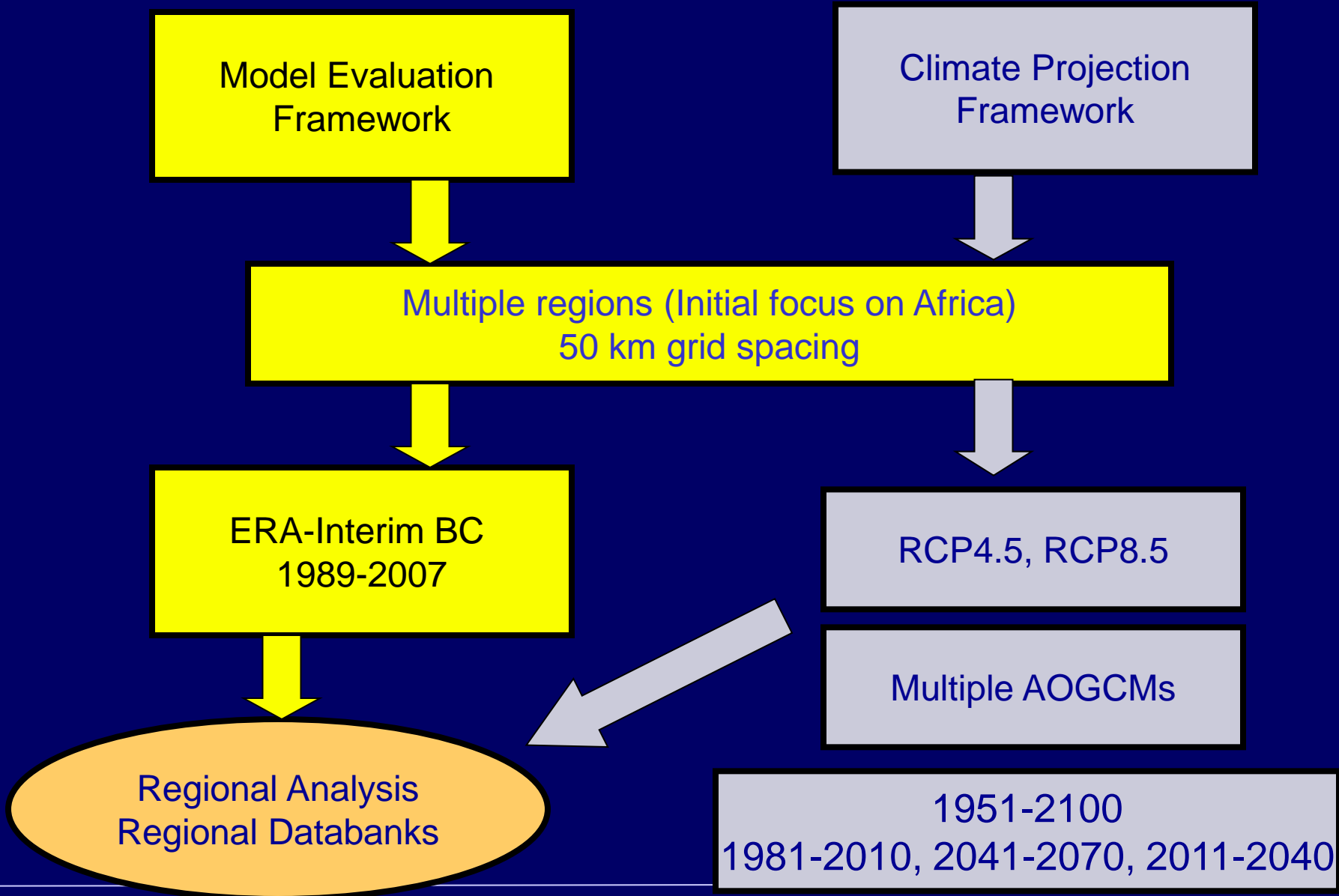
ERA-Interim BC
1989-2007

RCP4.5, RCP8.5

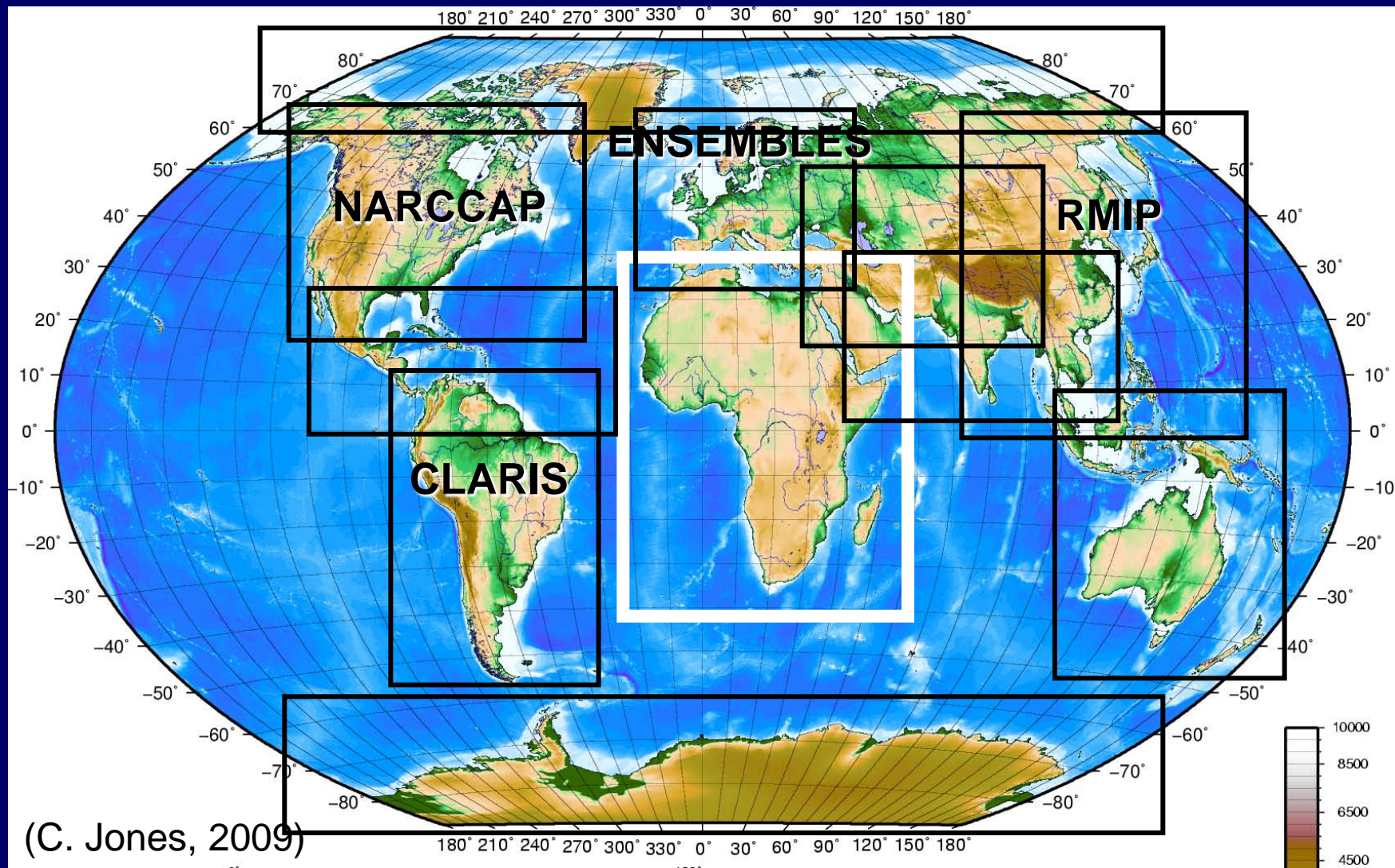
Multiple AOGCMs

Regional Analysis
Regional Databanks

1951-2100
1981-2010, 2041-2070, 2011-2040

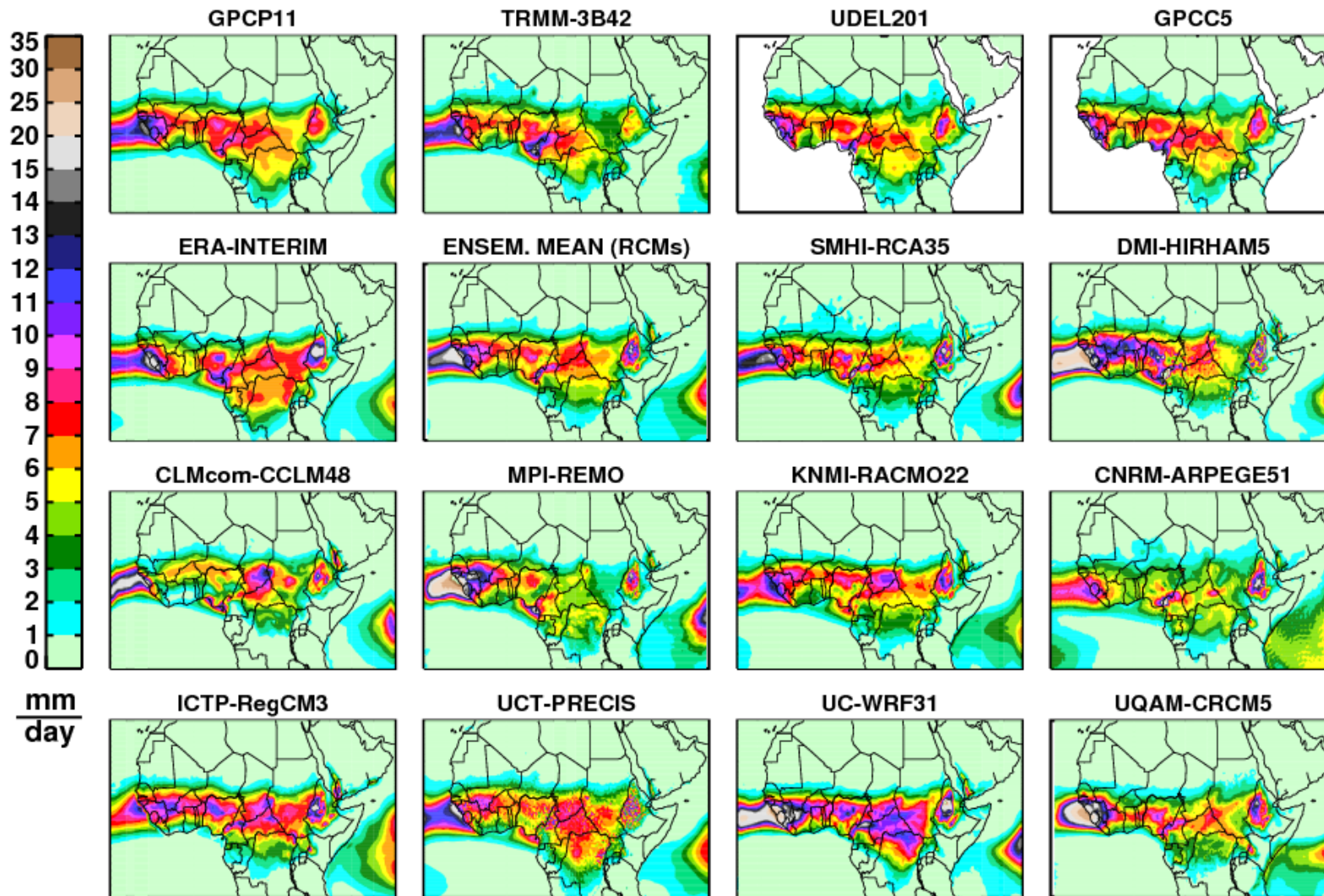


Coordinated Regional Downscaling Experiment (CORDEX) ~ Regions ~



ERA-Interim Africa CORDEX multi-RCM matrix

Precipitation (pr) | JAS | 1998-2008



(C. Jones, 2012)

South America

7 RCMs using ERA-Interim boundary conditions
(1990-2008)

Temperature Bias (°C)

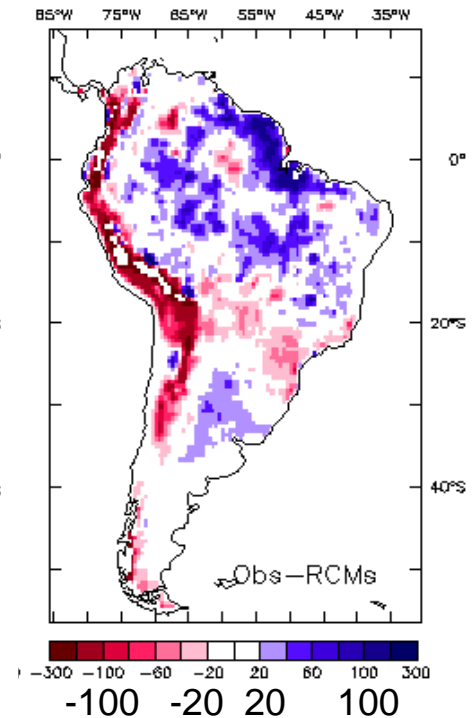
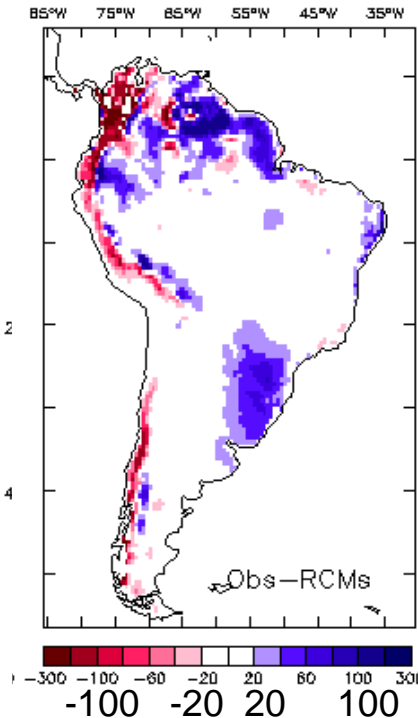
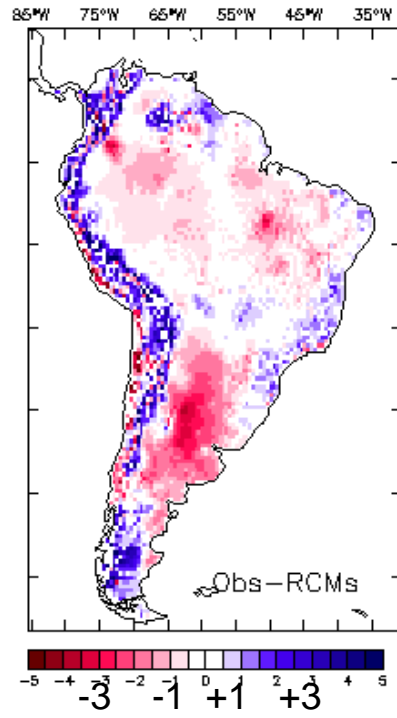
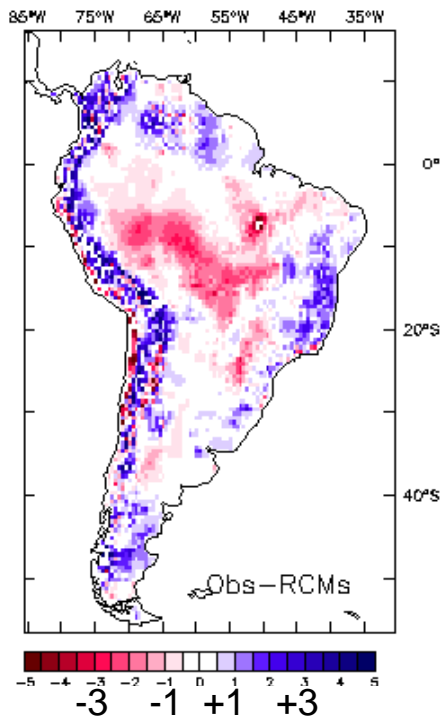
Precipitation Bias (mm/month)

JJA

DJF

JJA

DJF



Ensemble vs. (CRU & UDEL)

Ensemble vs. (GPCC, CRU, UDEL & CPC)

(Solman et al., 2012 - submitted)

Other Regions

1. Euro-CORDEX
 - Runs at 0.44° and 0.11° in progress
2. CORDEX South Asia
 - Workshop Feb 2012
3. CORDEX Arctic
 - Workshop March 2012
4. Med-CORDEX built off funded program

What's Been Done for North America?

1. UQAM (René Laprise) – 0.5°
1989 – 2008: ERA-Interim
1950 – 2100: CanESM & MPI GCMs
Test runs at 0.11 °
2. Météo-France (Philippe Lucas-Picher) – 0.5°
1989 – 2008: ERA-Interim
M-Fr may do GCM-driven case(s)
3. Related activities at UK Met Office, Argonne
and Univ. AZ

CORDEX North America Program?

Executive Committee: Mearns, Gutowski (chairs)
Behar, Buja, Garfin, Leung, Lettenmaier

Science Committee: Mearns, Gutowski, Hall,
Anderson, Leung ...

Applications Committee: Behar, Kaatz, ...

Services Committee: Barsugli, Ammann

Goals Today

1. Develop a proposal framework
 - Simulation plan
 - Archive and access plan
 - Analysis plan
 - Coordination with existing efforts
2. Target funding opportunities
 - Specific agencies/programs
 - Private sector opportunities?

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