

# CORDEX & IS-ENES

<http://wcrp-cordex.ipsl.jussieu.fr/>

<https://verc.enes.org/ISENES2>

Sébastien Denvil,

CNRS, Institut Pierre Simon Laplace (IPSL)

And many slides from Colin Jones

Outgoing co-chair of CORDEX SAT

# A chronology of the CORDEX project

## March 2008: ICTP, Trieste, Italy

4<sup>TH</sup> ICTP Workshop on Regional Climate Models: March 2008

\*First ideas for a WCRP coordinated downscaling project discussed

## September 2008: Paris, France.

12<sup>th</sup> Session of WCRP WGCM panel: Final community approval of CMIP5

\*Inclusion of 6 hourly model level data as a CMIP5 core output.

## February 2009: Toulouse, France

WCRP workshop: Evaluating and Improving Regional Climate Projections

\*First CORDEX domains (in principle) agreed, as was the initial Africa focus

## May 2009: Lund, Sweden

2<sup>nd</sup> Lund/BALTEX Regional Climate modelling workshop.

\*Many of the CORDEX experiment protocol details worked out.

## June 2010: Lille, France

WCRP workshop: Regional Climate information for impacts & adaptation

\*1<sup>st</sup> meeting of the WCRP Task Force of Regional Climate Downscaling

## March 2011: ITCP, Trieste, Italy

### 1<sup>st</sup> Pan-CORDEX conference

\*Pan-CORDEX community agreement on experiment and data protocol

\*1<sup>st</sup> (of 3) Africa-CORDEX training workshops

## Oct 2011: Denver, CO, USA

### WCRP Open Science Conference

\*Wider appreciation of CORDEX & importance of regional climate science

## May 2013: Vienna, Austria

1<sup>st</sup> meeting: Working Group on Regional Climate (C. Goodess & B. Hewitson)

\*CORDEX made a WCRP project under WGRC

\*Formation of the CORDEX Science Advisory Team under WGRC

## Nov 2013: Brussels, Belgium

WCRP/EC/IPCC Regional Climate Conference: CORDEX 2013

\*Review progress and discuss CORDEX future

Regional CORDEX workshops, training and outreach activities held in 2011/2012/2013/2014 around the world (these are extremely important)

# CORDEX Phase I experiment design

Model Evaluation  
Framework

Climate Projection  
Framework

Multiple regions (Initial focus on Africa)  
50km resolution (higher in some regions, Europe: 10km)

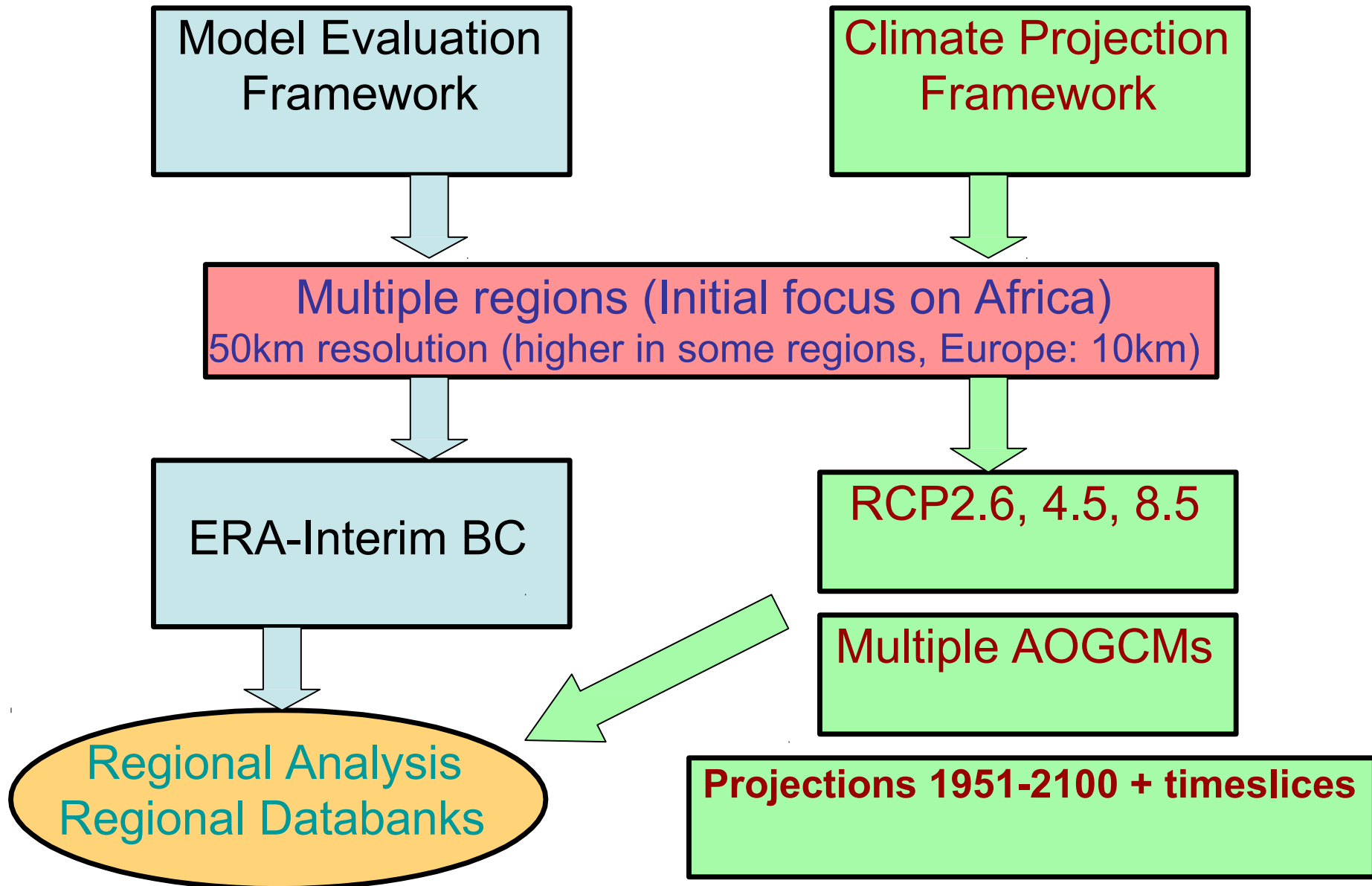
ERA-Interim BC

RCP2.6, 4.5, 8.5

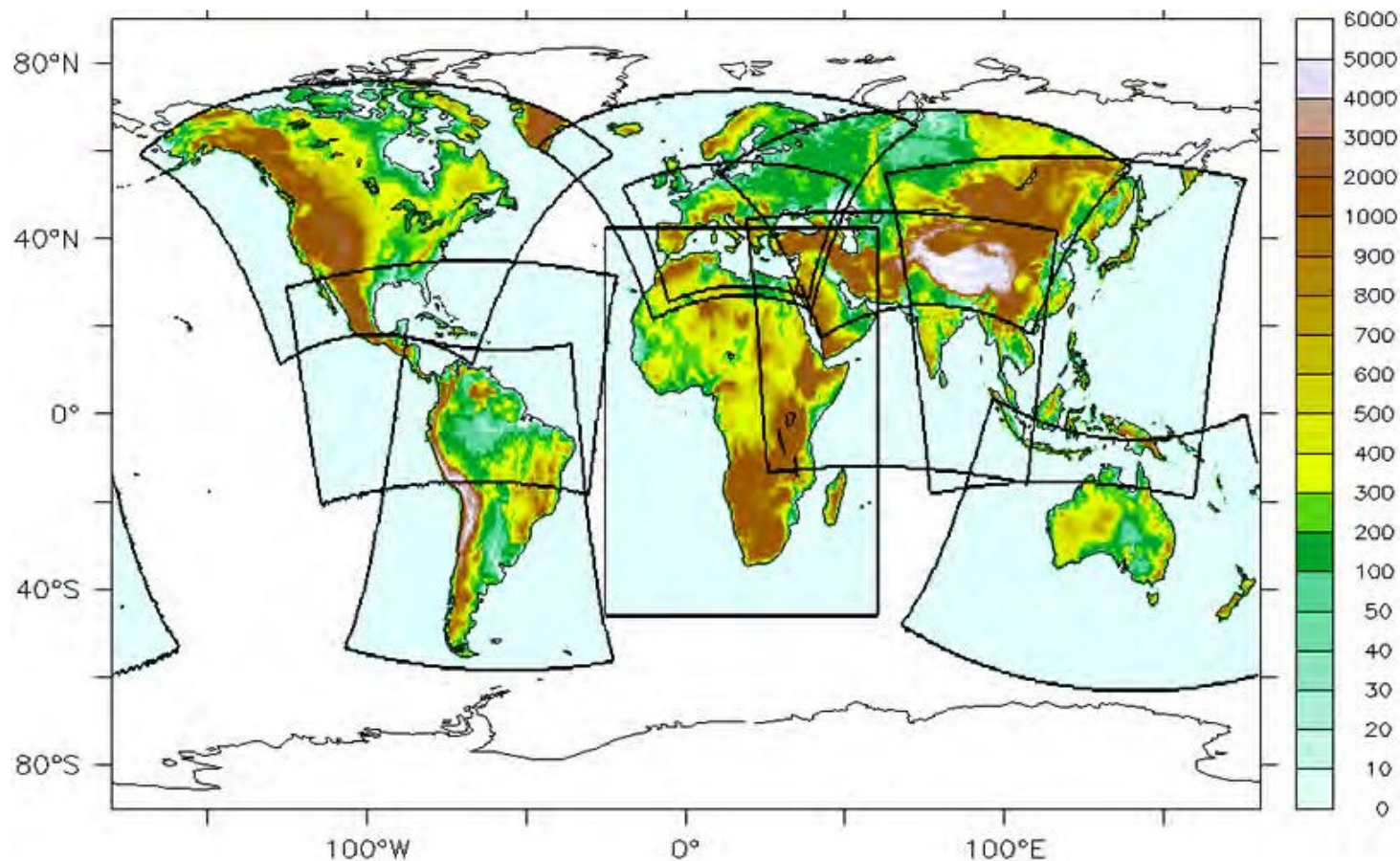
Multiple AOGCMs

Projections 1951-2100 + timeslices

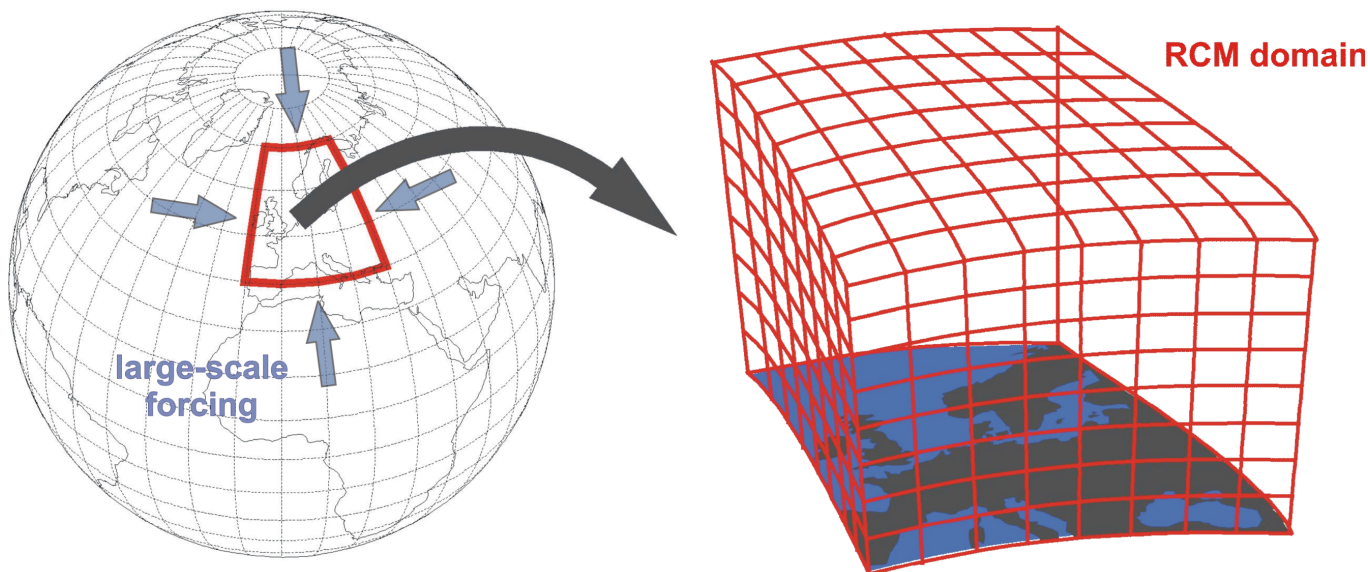
Regional Analysis  
Regional Databanks



## CORDEX DOMAINS (plus Arctic & Antarctica)



- 12 domains with a resolution of  $0.44^\circ$  (approx.  $50 \times 50 \text{ km}^2$ )
- Focus on Africa
- High resolution  $\sim 0.11^\circ \times 0.11^\circ$  for Europe (by some institutions)
- 2 New domains over MENA and S.E.Asia (Maritime continent+)



**Generate the simulations/projections**

**Analyse and document the results**

**Make the data available**

**Stay engaged in the use of the data**



# InfraStructure for Earth System modelling

## IS-ENES & IS-ENES2 EU projects

**1st phase - 03/2009 to 02/2013**  
**18 partners**

**2nd phase - 04/2013 to 03/2017**  
**23 partners**



Max-Planck-Institut  
für Meteorologie



The University  
of Manchester



Toujours un temps d'avance



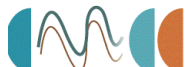
National Centre for  
Atmospheric Science  
NATURAL ENVIRONMENT RESEARCH COUNCIL



Norwegian  
Meteorological Institute  
met.no



Science & Technology  
Facilities Council



CMCC  
Centro Euro-Mediterraneo  
per i Cambiamenti Climatici



Royal Netherlands  
Meteorological Institute  
Ministry of Transport, Public Works  
and Water Management



One of the CMIP success has been in getting data out to the community in a coordinated manner, using a single and documented format and file structure

The same facility now exists for CORDEX data. But :

- **DRS** has been **adapted** for dynamical downscaling
- Attribute service (+data access+term of use) **operated** by LIU
- **Versioning** of datasets done at the variable level
- **Quality Control** (DKRZ) must be **done prior** to publication

ESGF Earth System Grid Federation

Home Search Tools Login Help

Current Selections: [\(0\) Query: cordex](#)

Search Categories:

- Project: CORDEX (19583)
- Institute: SMHI (19565)
- Model: RCA4-v1 (19565)
- Instrument
- Experiment Family
- Experiment: evaluation (1134), historical (5143), rep26 (910), rep45 (5235), rep85 (6143)
- Time Frequency
- Product
- Realm

Search:

Examples: temperature, "surface temperature", climate AND project:CMIP5 AND variable:hur.  
To download data: add datasets to your Data Cart, then click on Expand or wget.

☒ Search All Sites ☐ Show All Replicas ☐ Show All Versions

< 1 2 3 ... 1956 1957 > displaying 1 to 10 of 10565 search results.

Display:  datasets per page

[Add All Displayed to Datacart](#) [Remove All Displayed from Datacart](#)

Results Data Cart

**cordex.EUR-44.SMHI.CCCma-CanESM2.historical.r0i0p0.RCA4-v1.fx.orog**  
Data Node: esg-dn1.nsc.liu.se  
Version: 20130927  
No description available.  
Further options: [Add To Cart](#)

**cordex.EUR-44.SMHI.CCCma-CanESM2.historical.r0i0p0.RCA4-v1.fx.stff**  
Data Node: esg-dn1.nsc.liu.se  
Version: 20130927  
No description available.  
Further options: [Add To Cart](#)

**cordex.EUR-44.SMHI.CCCma-CanESM2.historical.r1i1p1.RCA4-v1.day.cfi**  
Data Node: esg-dn1.nsc.liu.se  
Version: 20130927  
No description available.  
Further options: [Add To Cart](#)

**cordex.EUR-44.SMHI.CCCma-CanESM2.historical.r1i1p1.RCA4-v1.day.evspsbl**  
Data Node: esg-dn1.nsc.liu.se

**CORDEX**

BADC

British Atmospheric Data Centre

DKRZ

DMI

Institut Pierre Simon Laplace





## Newsletter Issue 2 *October 2013*

The Africa-CORDEX training program has (so far) led to 3+ peer-reviewed articles on CORDEX data led by 3 regional groups of African scientists.

There is now a large amount of CORDEX data available (for Africa and other regions) maintaining such training/capacity building programs is critical to

(i) Getting CORDEX data evaluated & used in these regions and (ii) ensuring a long-term pay-off in terms of local ability to deliver local climate information

Last week an Asian ESGF training workshop has been organized by the Monsoon Asia Integrated Regional Study (MAIRS) in China. Nicolas Carenton (IPSL) and Michael Kolax (SMHI)