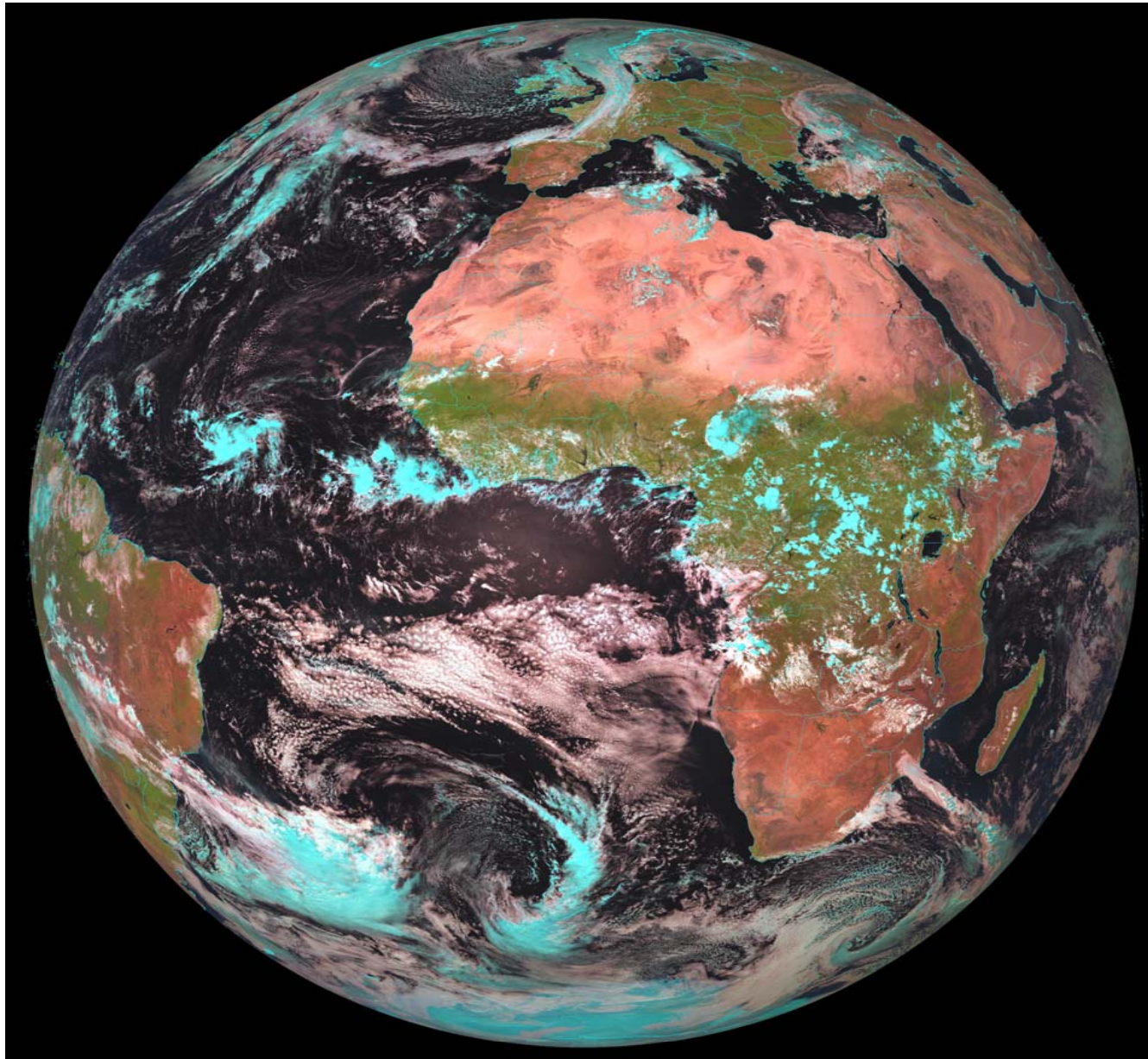


C O R D E X - Africa

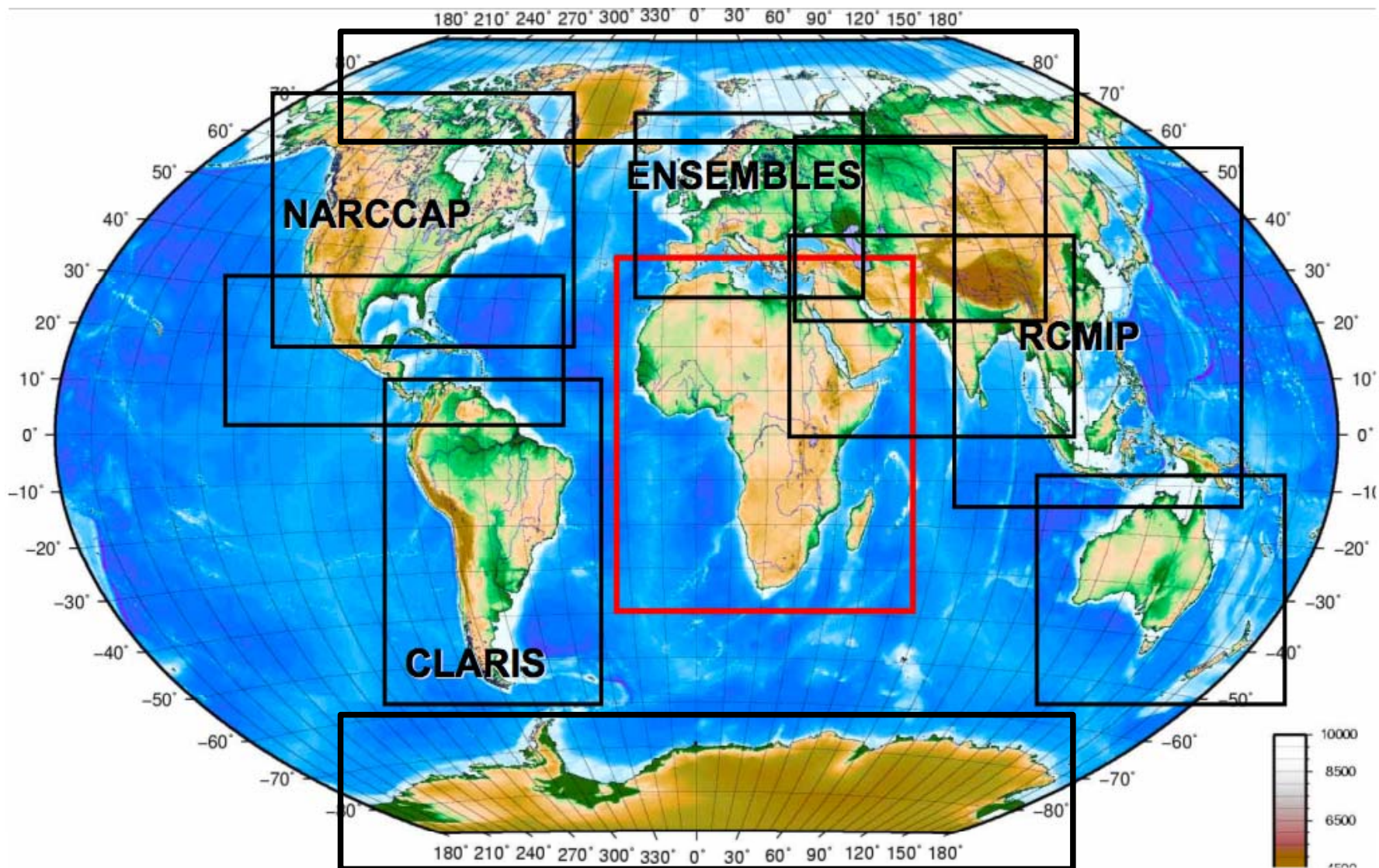
Taking Cordex to the People



Chris
Lennard



Cordex regions



Cordex - Africa

Downscaling Groups

SMHI

ICTP

UKMO

DMI

Univ. Cantabria (Spain)

EU Joint Research Centre

ISU

IPSL

KNMI

CNRM

MPI

UQAM

CSAG

- Precis model

- WRF model

- Statistical downscaling
(end 2013)

CSIR – Pretoria

- CCAM global model



Cordex – Africa Analysis

Ethos:

A – Analysis; Developing methods and tools to analyze atmospheric processes over Africa and how these may change into the future

F – Foci; Addressing key meteorological and impacts knowledge gaps

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Cordex – Africa Analysis

Ethos:

A – Analysis; Developing methods and tools to analyze atmospheric processes over Africa and how these may change into the future

F – Foci; Addressing key meteorological and impacts knowledge gaps

R – Regional messages; Presenting information for key regions of the continent

de



Cordex – Africa Analysis

Ethos:

A – Analysis; Developing methods and tools to analyze atmospheric processes over Africa and how these may change into the future

F – Foci; Addressing key meteorological and impacts knowledge gaps

R – Regional messages; Presenting information for key regions of the continent

I – Integrated approach; Bringing together climate and vulnerability-impact-adaptation scientists to identify and address key climate vulnerabilities

African scientists and key global institutions for career development

A – Application and Adaptation; Bridging the science-society divide through transforming climate data into actionable information



Cordex – Africa Analysis

Ethos:

A – Analysis; Developing methods and tools to analyze atmospheric processes over Africa and how these may change into the future

F – Foci; Addressing key meteorological and impacts knowledge gaps

R – Regional messages; Presenting information for key regions of the continent

I – Integrated approach; Bringing together climate and vulnerability-impact-adaptation scientists to identify and address key climate vulnerabilities

C – Capacity development; Long-term collaboration between African scientists and key global institutions for career development

A – Application and Adaptation; Bridging the science-society divide through transforming climate data into actionable information



Cordex - Africa

Putting the 'CO' in CORDEX - Series of 4(5) Workshops

April 2010

March 2011

July 2011

November 2011

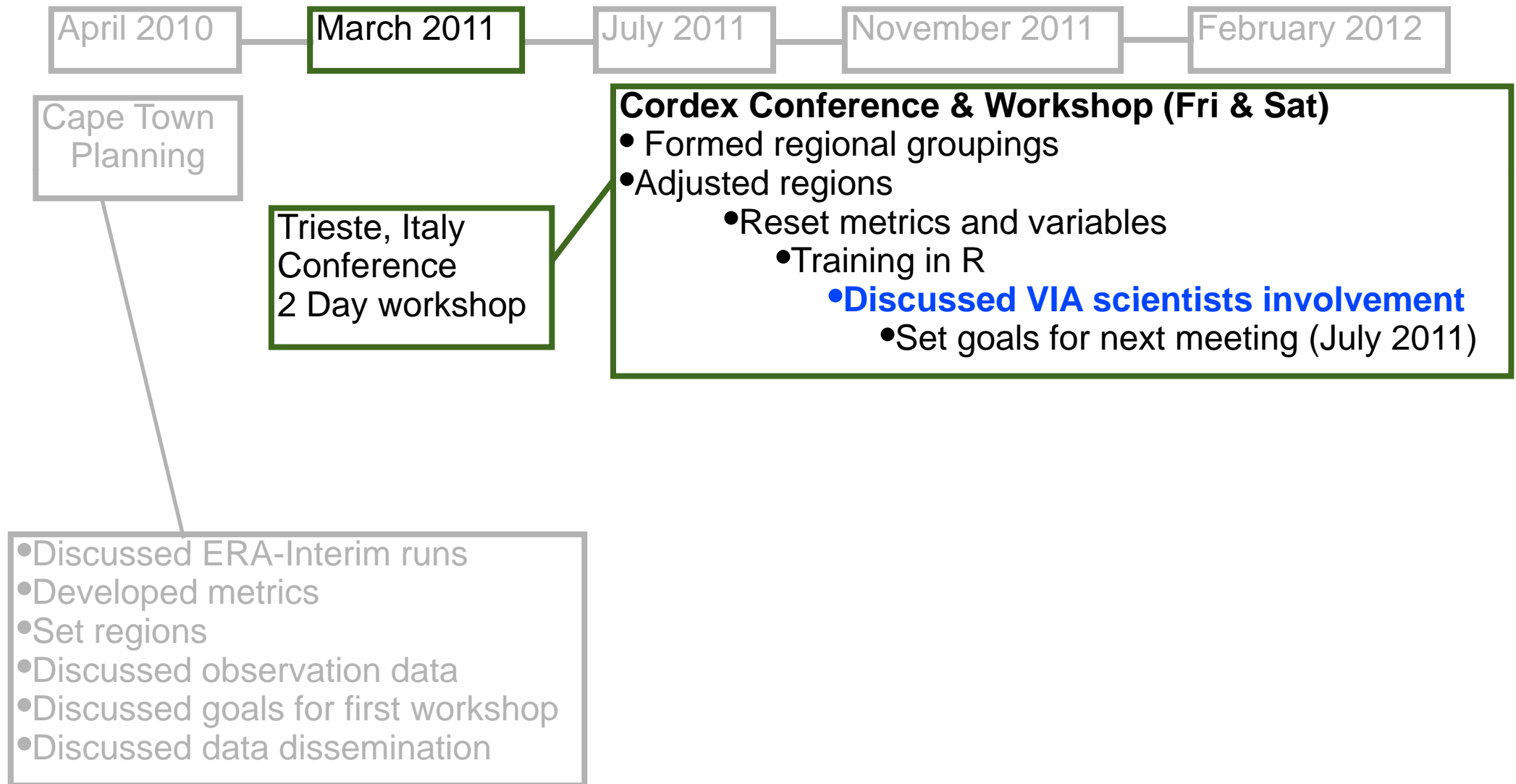
February 2012

Cape Town
Planning

- Discussed ERA-Interim runs
- Developed metrics
- Set regions
- Discussed observation data
- Discussed goals for first workshop
- Discussed data dissemination

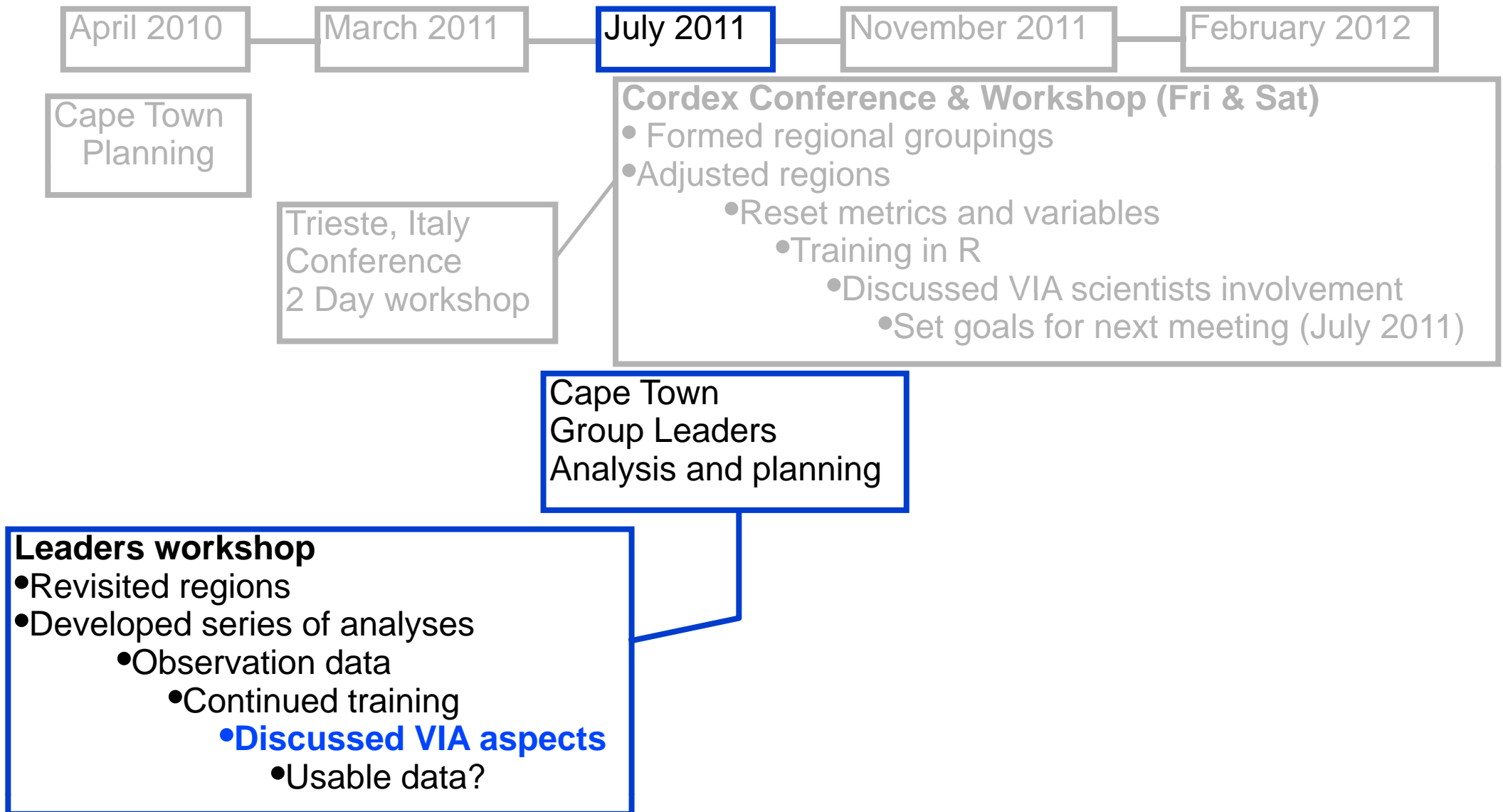
Cordex - Africa

Putting the 'CO' in CORDEX - Series of 4(5) Workshops



Cordex - Africa

Putting the 'CO' in CORDEX - Series of 4(5) Workshops



Cordex - Africa

Putting the 'CO' in CORDEX - Series of 4(5) Workshops



July 2011

November 2011

February 2012

Atmospheric and VIA scientists (3 streams)

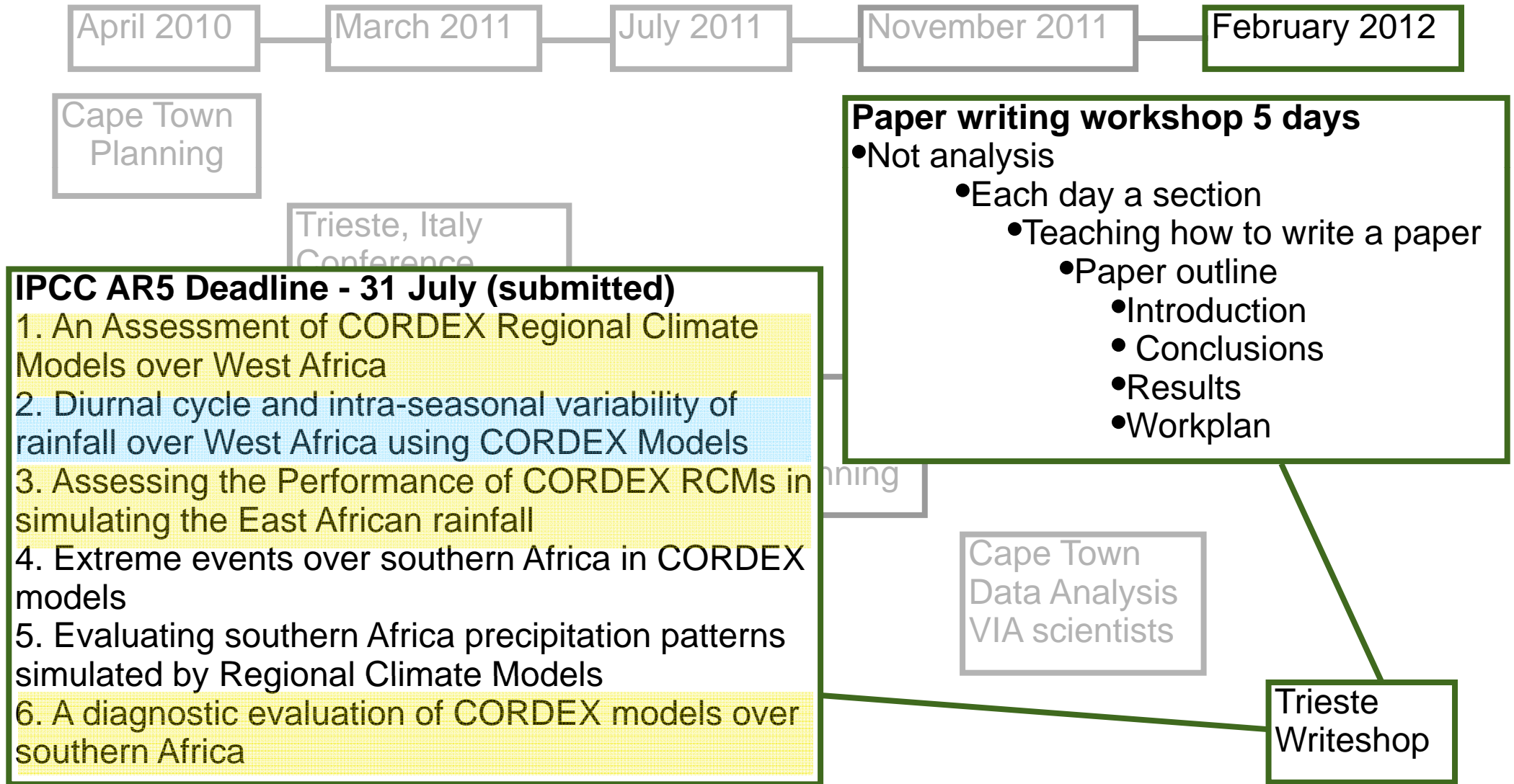
- Continued atmospheric analysis and training
- **VIA scientists**
 - Develop questions from VIA perspective
 - Integrate VIA and atmos scientists
 - Set preliminary paper content



Cape Town
Data Analysis
VIA scientists

Cordex - Africa

Putting the 'CO' in CORDEX - Series of 4(5) Workshops



Cordex - Africa

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03-Sep-2013

Dear Dr Sarr

I have reviewed your revised manuscript "Climatology, Annual Cycle and Interannual Variability of Precipitation and Temperature in CORDEX Simulations over West Africa" and I believe that you have satisfactorily addressed the issues raised by the reviewers. Therefore, I am happy to accept your paper for publication in the International Journal of Climatology. Congratulations!

[Author Index](#)

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Journal Information

Online ISSN: 1520-0442

Print ISSN: 0894-8755

Frequency: Semimonthly

¹ University of Cape Town, South Africa

² South African Weather Service, Pretoria, South Africa

³ Centre de Recherches de Climatologie, UMR 6282, Biogéosciences CNRS, Université de Bourgogne, France

⁴ European Commission Joint Research Centre, Institute for Environment and Sustainability, Italy

⁵ Rossby Centre, Swedish Meteorological and Hydrological Institute, Norrköping, Sweden

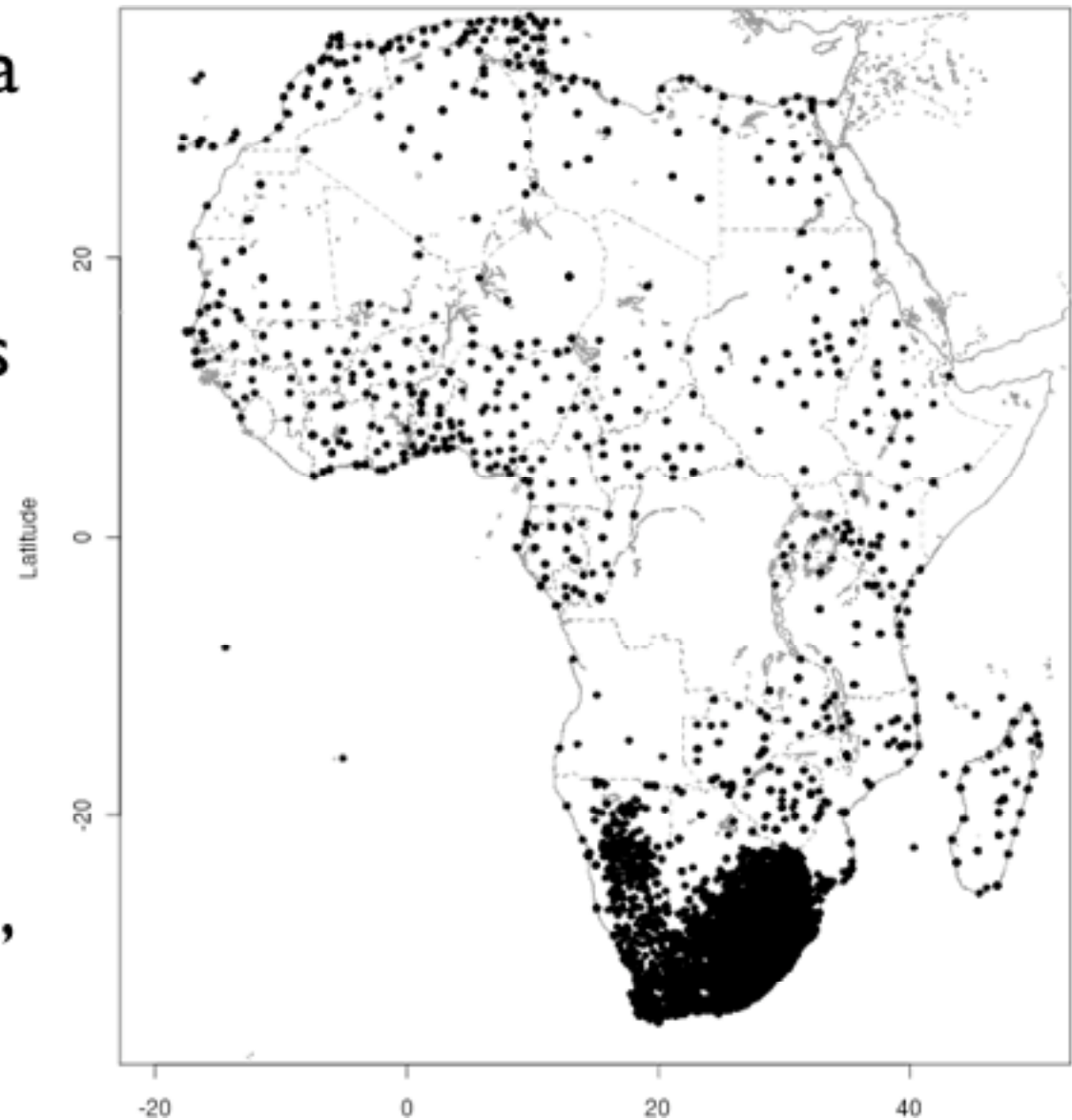
Cordex – Africa Analysis

Our observational data
problem

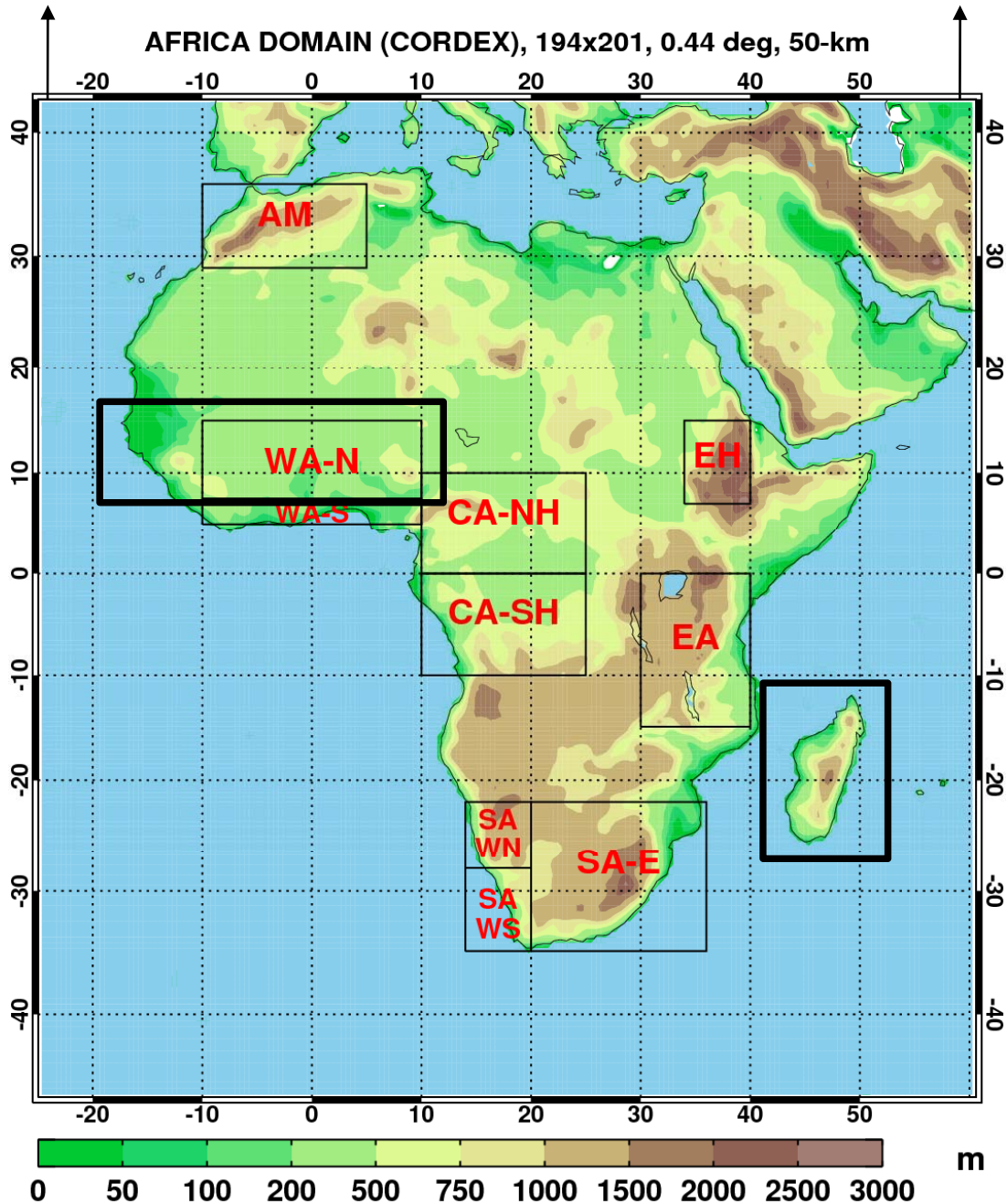
Some of these stations
are private/restricted
(e.g. Ghana)

or have closed down

These are ppt stations,
temperature fewer

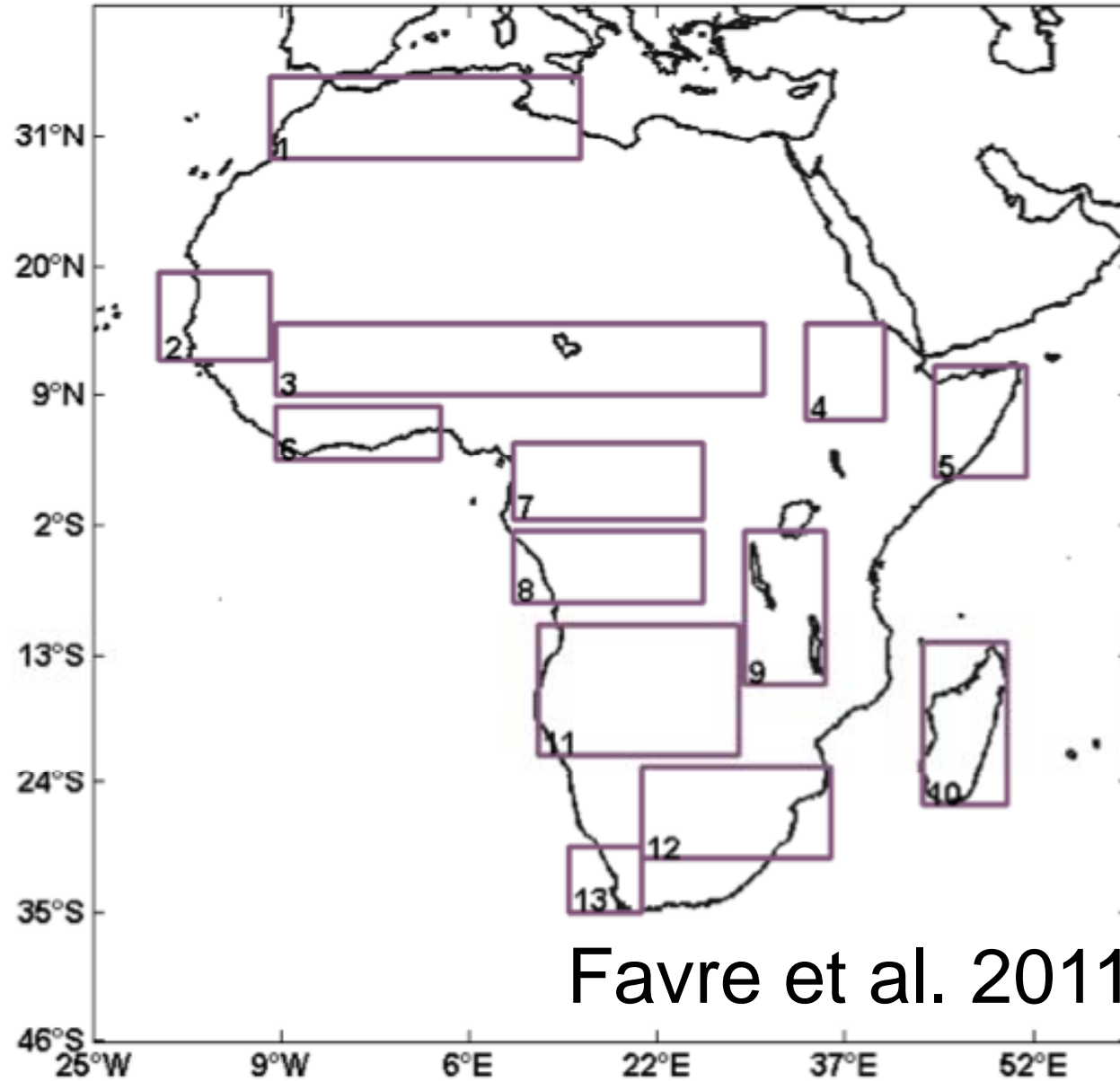


Cordex - Africa



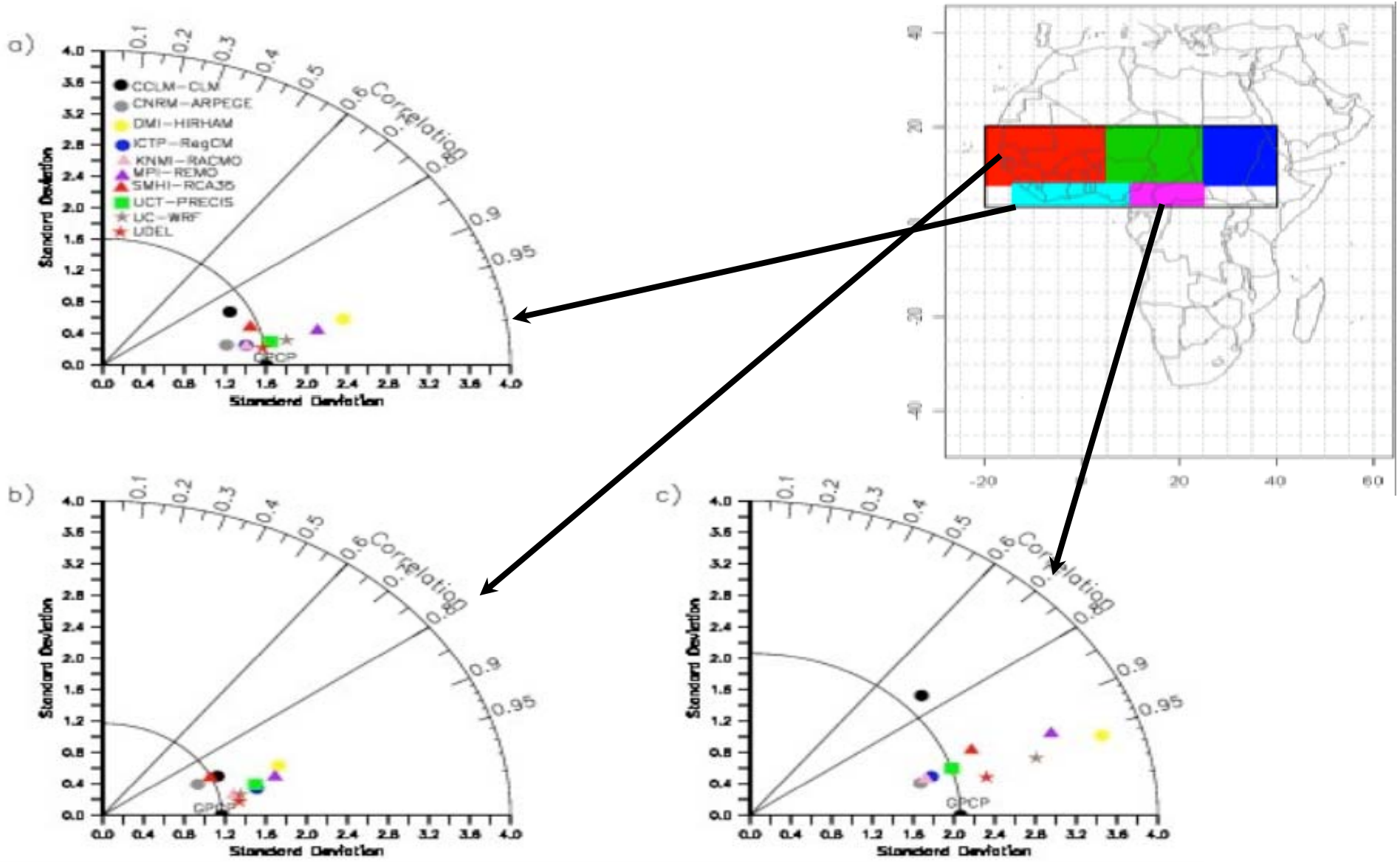
| | |
|-------|--------------------------|
| AM | Atlas Mountains |
| WA-N | West Africa - North |
| WA-S | West Africa - South |
| CA-N | Central Africa - North |
| CA-S | Central Africa-South |
| EH | Ethiopian Highlands |
| EA | East Africa |
| SA-E | South Africa East |
| SA-WN | South Africa West-North |
| SA-WE | South Africa West- South |
| MAD | Madagascar |

Cordex - Africa

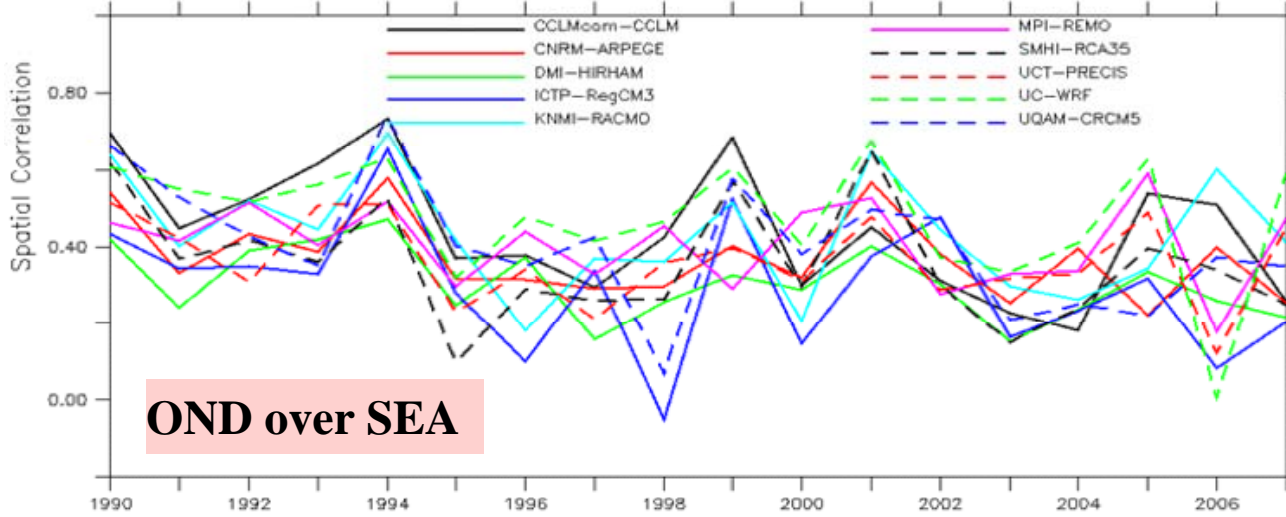
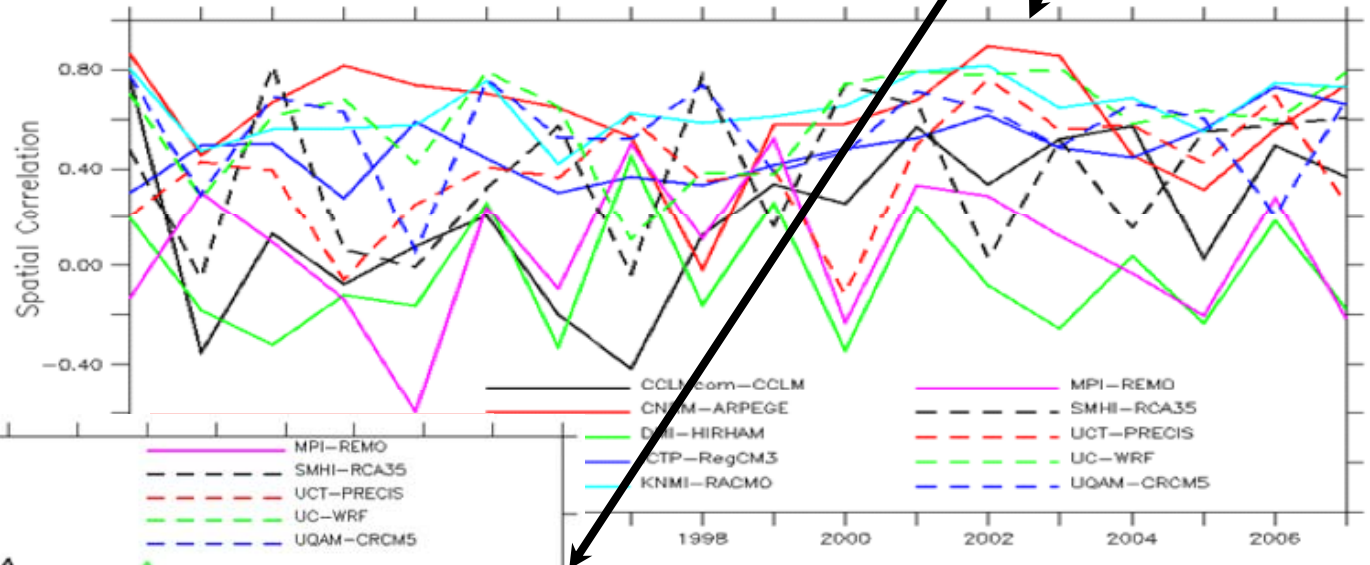
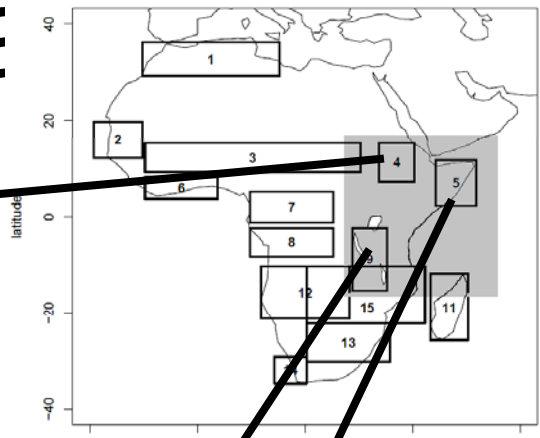
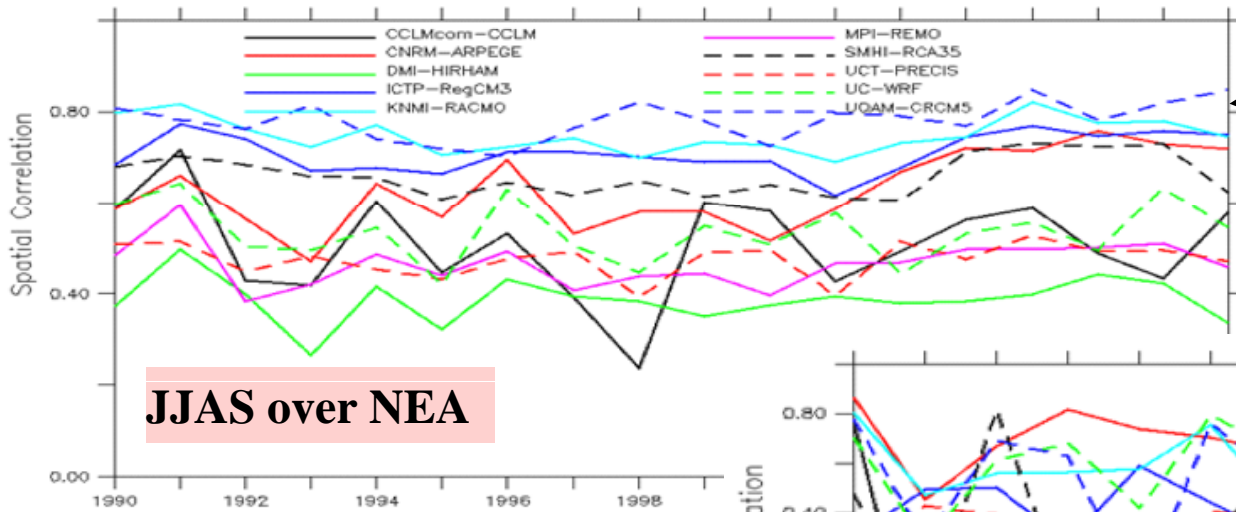


Favre et al. 2011

Cordex West Africa

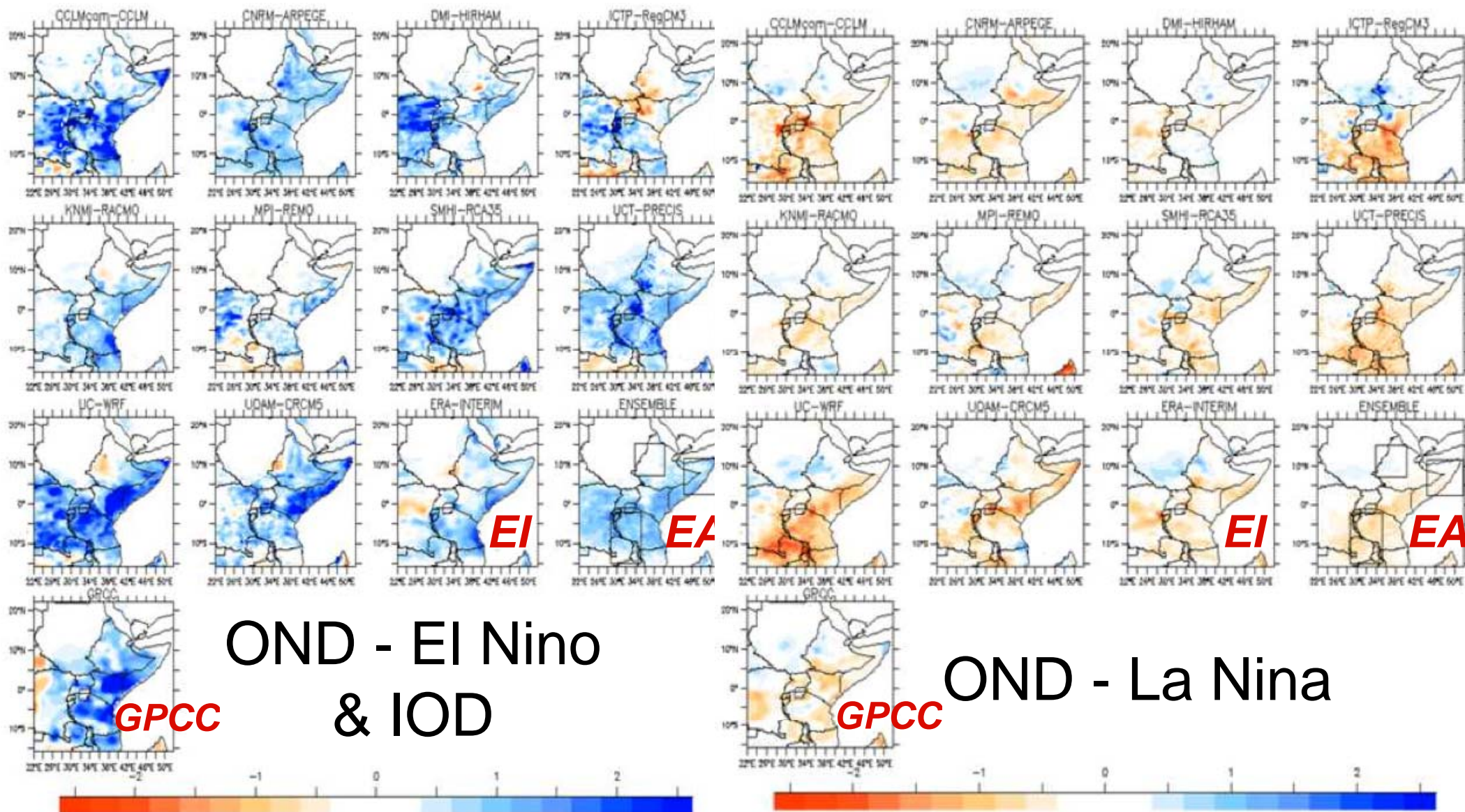


Cordex East Africa



Spatial Correlations between GPCP and the CORDEX RCMs over the 3 study areas

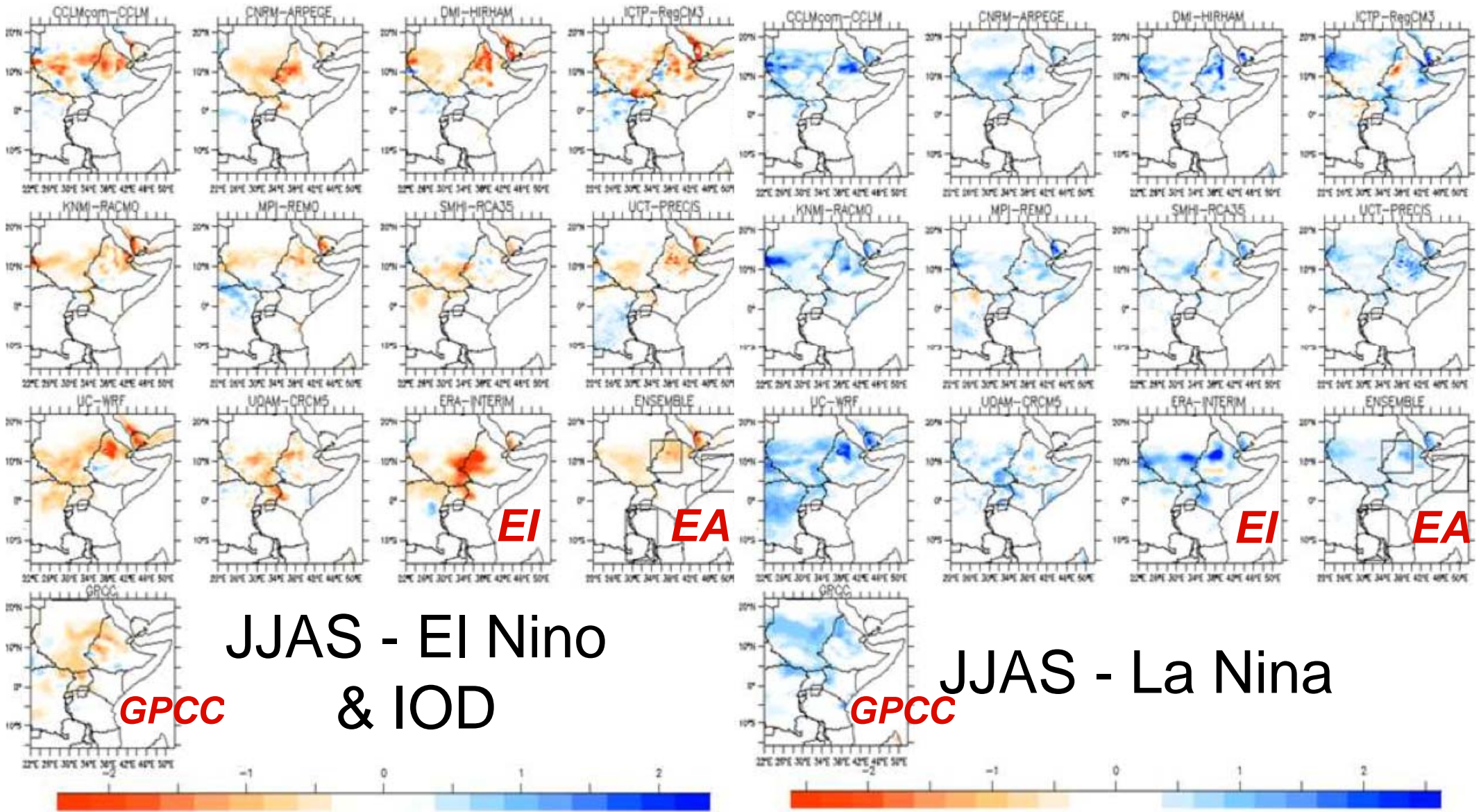
Cordex East Africa - ENSO & IOD



OND - El Nino
& IOD

OND - La Nina

Cordex East Africa - ENSO & IOD

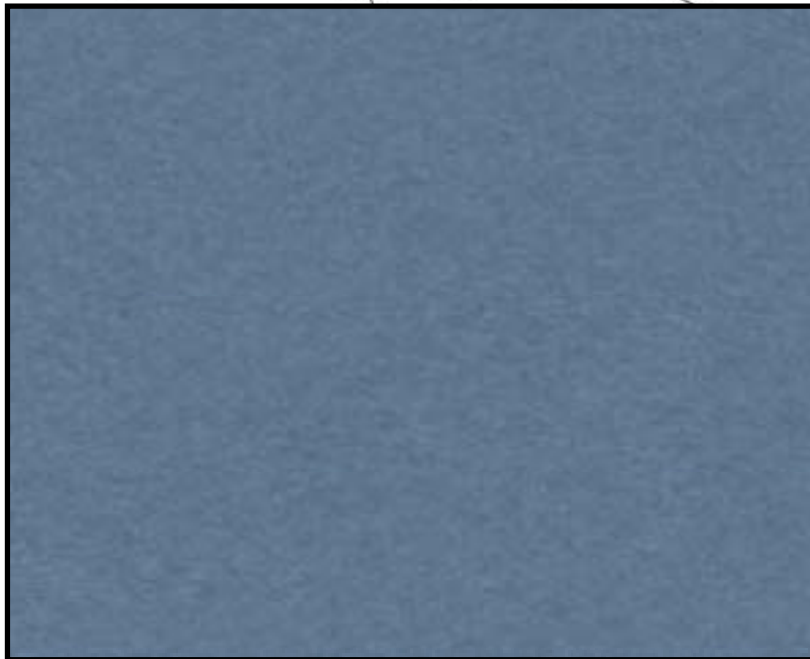
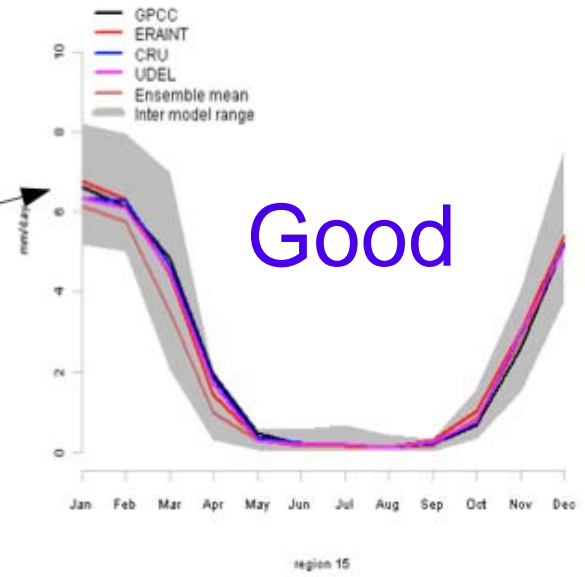
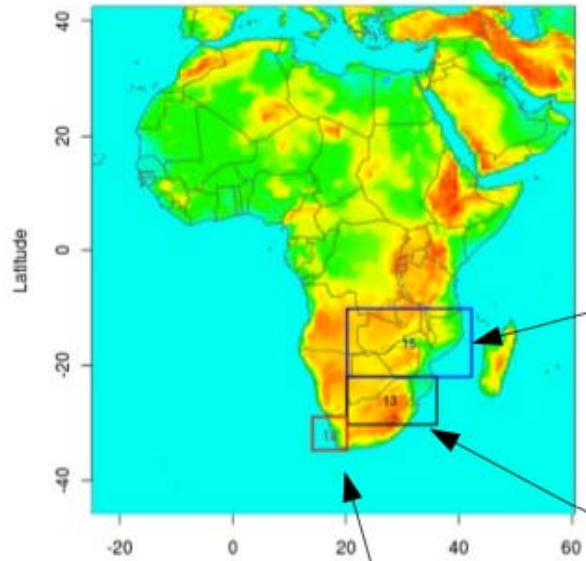


JJAS - El Nino
& IOD

JJAS - La Nina

Cordex Southern Africa

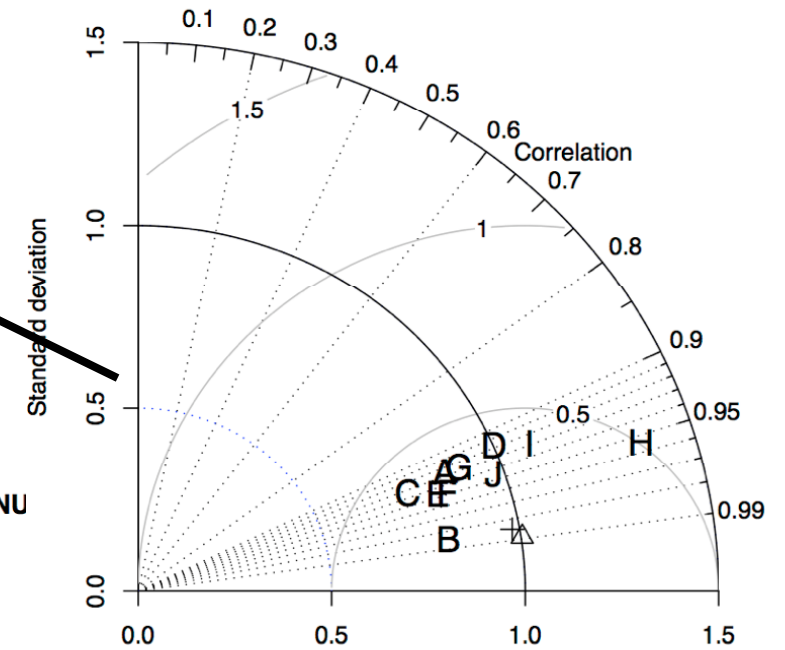
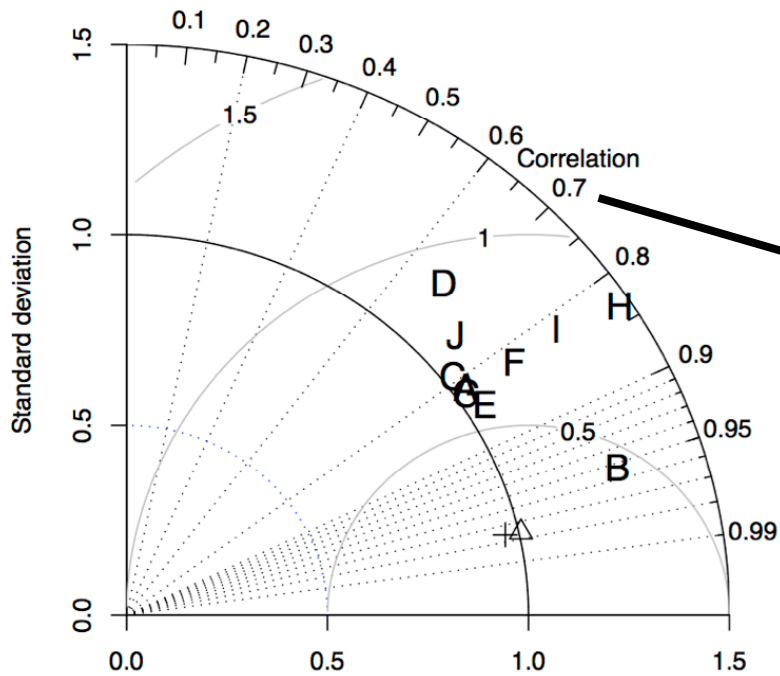
CORDEX subregions



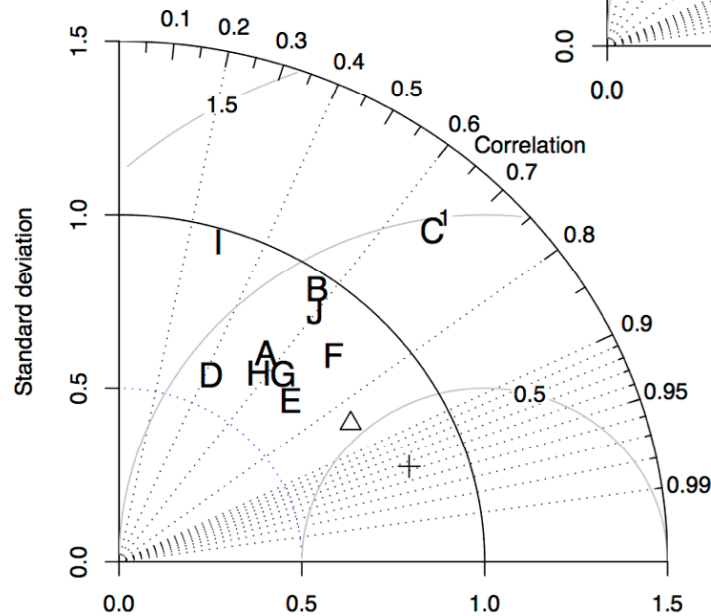
Cordex Southern Africa

REG13_MM_1990_2006_INTER_ANNUAL_pr_NORMALISED

REG15_MM_1990_2006_INTER_ANNUAL_pr_NORMALISED



REG14_MM_1990_2006_INTER_ANNU



- GPCC
- WILLMOTT
- △ ECMWF
- + CRU
- A CCLMcom-CCLM
- B CNRM-ARPEGE51
- C DMI-HIRHAM
- D ICTP-REGCM3
- E KNMI-RACMO2.2b
- F MPI-REMO
- G SMHI-RCA35
- H UC-WRF311
- I UCT-PRECIS
- J UQAM-CRCM5

Cordex - Africa

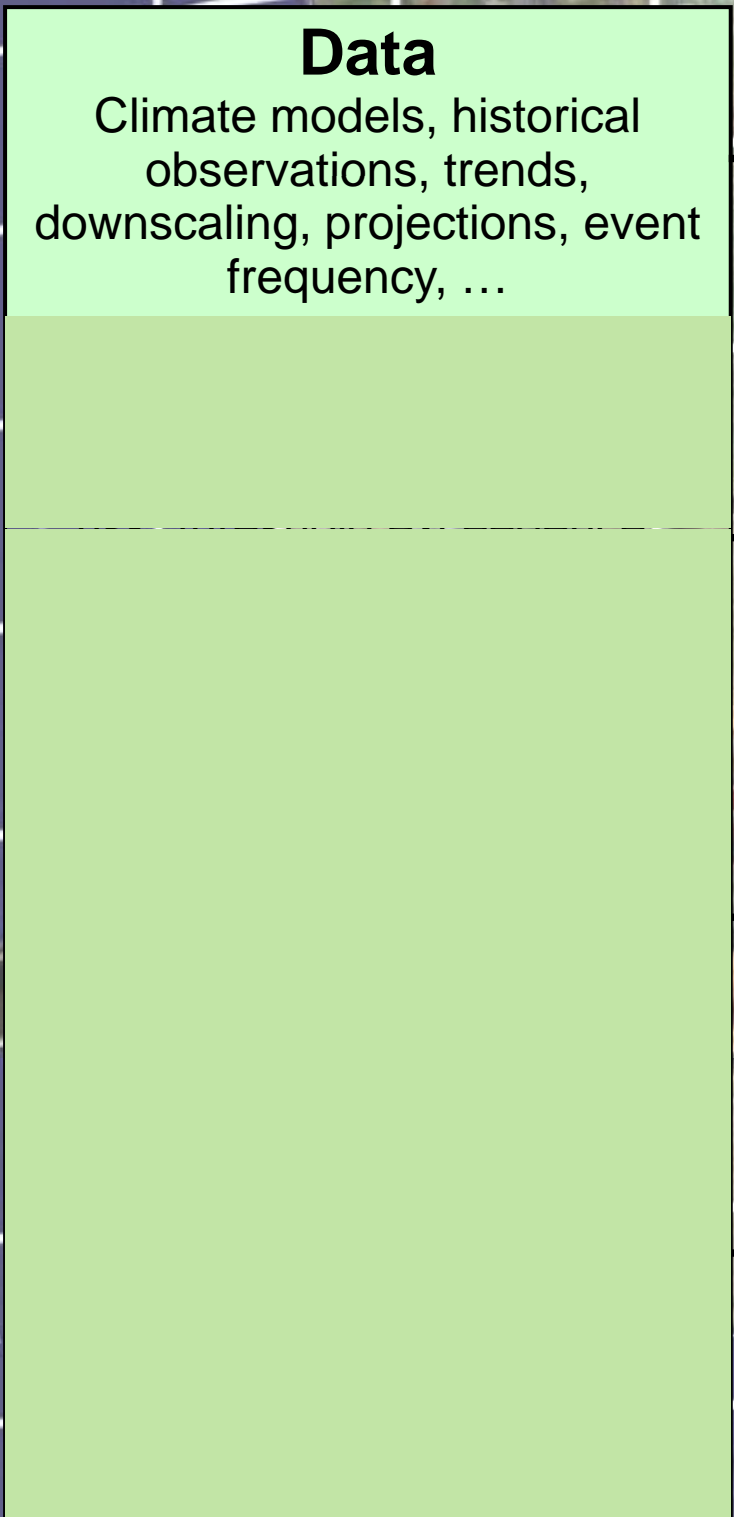
Bringing the climate and VIA communities together....



**Delivered
by science**

**FILL
THE
GAP**

**Needed
by society**



Generated by models, analyses, downscaling... but observations?

We are not always sure when we have "information"

Comes with close coupling between science and society - relationship based!

Actions are risky, and takes place within a multi-stressor context

Cordex - Africa

Mixing climate and VIA communities....it's complicated!

April 2010

March 2011

July 2011

November 2011

February 2012

Burkina Faso: 28-30 May 2012

Health, media and climate specialists

Many lessons learned by all delegates

We speak different languages!

How do we communicate uncertainty..... it's uncertain...

Communication of our message is critical - how, to whom, use an expert!

Organizers learned many lessons



Cordex - Africa

Mixing climate and VIA communities....it's complicated!

March 2011

July 2011

November 2011

February 2012

February 2013

Dar Es Salaam: Climate information for decision making in peri-urban areas

DRM, water, ecology, energy, infrastr, climate

Place-based not sector-based -> co-discovery

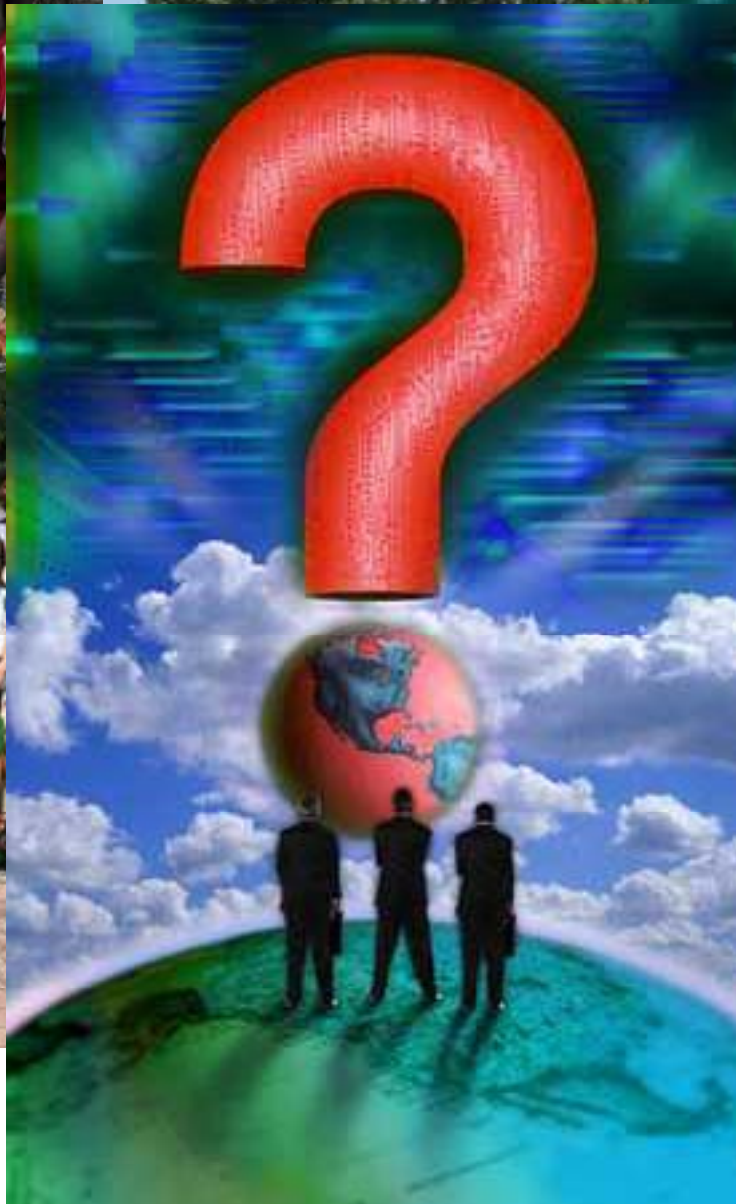
Climate and non-climate stressors

The nature of climate information - how should it be used

Even **more** lessons learned by organizers!
(including frustration)



Cordex Asia 02/2013



Cordex - Africa

Some of the lessons we have learned...

1. Continually **assess your assumptions** about what you think you know: scientific capacity, cross sectoral collaboration, your knowledge base...
2. Bring in **stakeholder needs and priorities** early on. This requires early engagement with a representative spectrum of regional stakeholders
3. The importance of **defining the question**: design the questions that the analysis intends to answer, in very specific terms, and articulate the value that is achieved and for who it is achieved in answering the question. Limit this to a only 3-5 questions in order to force prioritization
4. Articulate questions in the appropriate **time and space scales**
5. **Understand concepts** before you attack the data....making pretty graphs for no reason is a waste of time
6. Need to set timelines and **articulate milestones**
7. Design the process with **long term continuity** in mind

Cordex - Africa

What is next.....



February/March 2014

Analysis workshop

- SMHI - RCA4
- 6 GCMs - Historical & 6 Future
- Others...?
- Re-evaluate regions
- Data dissemination
- How do we deal with so much data?
- How do we evaluate ND vs SD?
- Engagement of user communities?

June/July 2014

Writeshop

- Follow up on ERA papers
- Method papers?
- Data dissemination

2014

Engaging users of climate information

- Follow up on peri-urban workshop
- Engage other sectors
- What about cities?

- Find long term funder....this is not once-off engagement!

Putting the 'CO' in CORDEX.....

A lot of work!

Cordex Web Presence

The official WCRP CORDEX
page

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

CORDEX Africa

<http://www.csag.uct.ac.za/corde>

CORDEX Europe

<http://www.eurocordex.com>

DMI [Archive](#)

<http://cordex.dmi.dk>

