



# Coordinated Regional Downscaling Experiment (CORDEX) Flagship Pilot Studies (FPS)

ICRC2019 – CORDEX Conference

*October 2019  
Beijing, China*

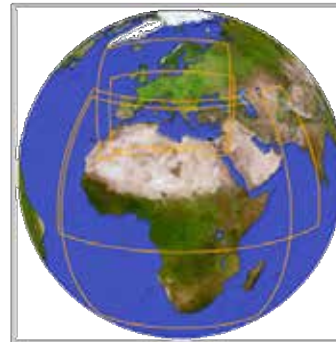


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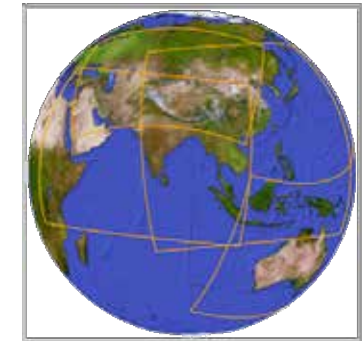


# FPS Genesis

- **General CORDEX:**
  - Standard sets of simulations for large domains often encompassing entire continents and surrounding regions.
- **Flagship Pilot Studies (FPS)**
  - To enable development of more targeted experimental setups;
  - To enable the CORDEX communities to better address a number of the challenges posed by the CORDEX SAT.



- Arctic CORDEX
- North America CORDEX
- Central America CORDEX



- Central Asia CORDEX
- South Asia CORDEX
- East Asia CORDEX
- South East Asia CORDEX
- Australasia CORDEX

- EURO-CORDEX
- MED-CORDEX
- CORDEX Africa
- MENA-CORDEX



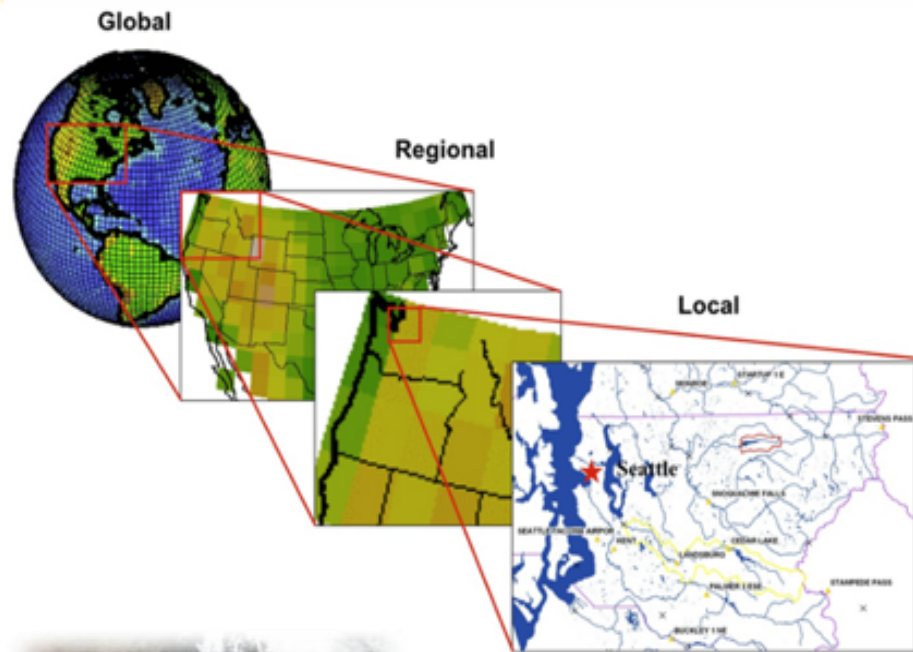
- South America CORDEX
- CORDEX Antarctica



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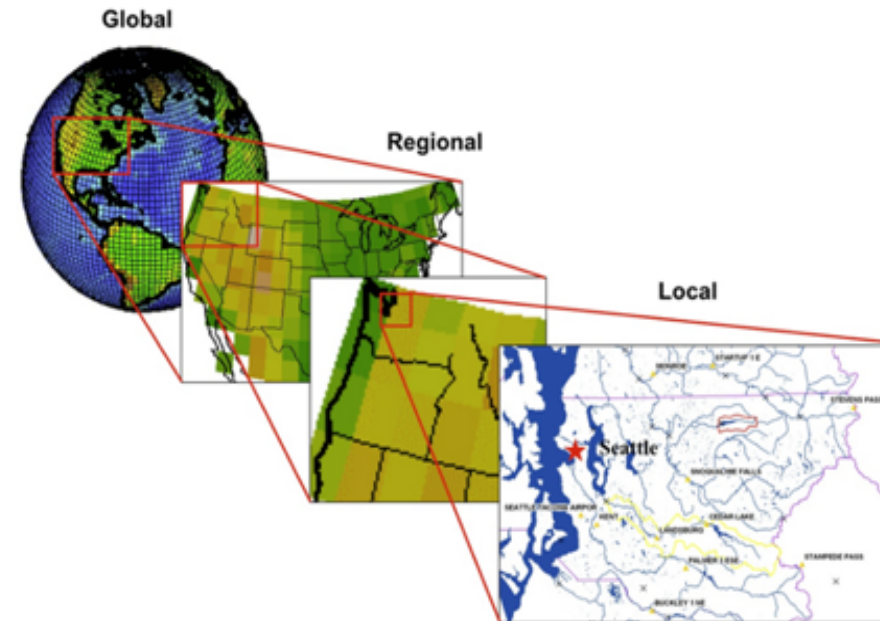
# FPS



- Focus on sub-continental-scale targeted regions towards addressing key scientific questions;
- Run RCMs at a broad range of resolutions, down to convection-permitting;
- Promote side-by-side experimental design and evaluations of both statistical and dynamical downscaling techniques at scales more typical of VIA applications;

# FPS

- Compile and use high quality, high resolution (both spatial and temporal), multi-variable observation datasets for model validation and analysis of processes;
- Coordinate with specific activities in other WCRP projects, most notably the GEWEX regional hydroclimate projects;



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# FPS

- Design end-to-end, climate-to-end-user projects demonstrating the actionable value of downscaled climate change projections;
- Increase the potential for funding by focusing on specific issues of interest for a certain region.



# Criteria

1. Targeting fine scale processes and clear scientific questions of interest

2. Use of observational data including not only meteorological but also derived data (e.g. soil moisture, streamflow etc.)

3. End-to-end perspective and potential to support demonstrated local/regional needs

4. Applicant group



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# Progress and achievements

## CORDEX FPS - Flagship Pilot Studies

### Requirements

- Strong basis in fine-scale processes important to region's climate (*physical basis*)
- Observational basis for verification (*analysis basis*)
- User applications (*VIA basis*)
- Potential connection with other WCRP programs, esp. GEWEX

<http://cordex.org/experiment-guidelines/flagship-pilot-studies/>



**1. Africa: Coupled regional modelling of land-atmosphere-ocean interactions over western-southern Africa under climate change**

Contact person Francois Engelbrecht [FEngelbrecht@csir.co.za](mailto:FEngelbrecht@csir.co.za)

**2. Africa: ELVIC - Climate Extremes in the Lake Victoria Basin, Nicole van Lipzig**

Contact person Nicole van Lipzig [nicole.vanlipzig@kuleuven.be](mailto:nicole.vanlipzig@kuleuven.be)

**3. South America: Extreme precipitation events in Southeastern South America: a proposal for a better understanding and modeling**

Contact person Maria Bettolli [bettolli@at.fcen.uba.ar](mailto:bettolli@at.fcen.uba.ar)

**4. Europe+ Mediterranean; Convective phenomena at high resolution over Europe and the Mediterranean**

Contact person Erika Coppola [coppolae@ictp.it](mailto:coppolae@ictp.it) or Stefan Sobolowski [stefan.sobolowski@uni.no](mailto:stefan.sobolowski@uni.no)

**5. Europe; Impact of land use changes on climate in Europe across spatial and temporal scales**

Contact person Diana Rechid [diana.rechid@hzg.de](mailto:diana.rechid@hzg.de)

**6. Mediterranean; Role of the natural and anthropogenic aerosols in the Mediterranean region: past climate variability and future climate sensitivity**

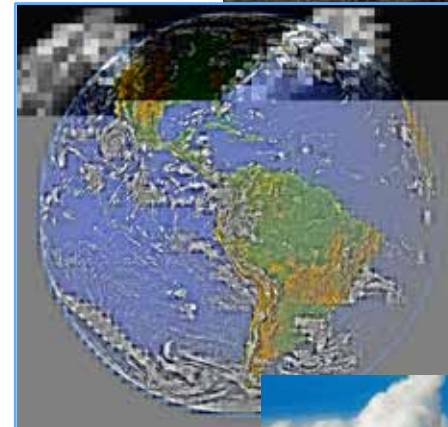
Contact person Solmon Fabien [fsolmon@ictp.it](mailto:fsolmon@ictp.it) or Marc Mallet [marc.mallet@euro.obs-mip.fr](mailto:marc.mallet@euro.obs-mip.fr)

**7. Mediterranean; Role of the air-sea coupling and small scale ocean processes on regional climate**

Contact person Gabriel Jordà [gabriel.jorda@uib.cat](mailto:gabriel.jorda@uib.cat) or Gianmaria Sannino [gianmaria.sannino@enea.it](mailto:gianmaria.sannino@enea.it)

# New FPSs

- **Modelling the southeast African regional climate. Downscaling CORDEX for Southeast Africa Region to Support Decision Makers**
- Contact Person: Jonas Zucule ([jnzucule@gmail.com](mailto:jnzucule@gmail.com)) and Bernardino Nhantumbo ([b.nhantumbo@gmail.com](mailto:b.nhantumbo@gmail.com))
- **High resolution climate modelling with a focus on mesoscale convective systems and associated precipitation over the Third Pole region**
- Contact Person: Deliang Chen ([deliang@gvc.gu.se](mailto:deliang@gvc.gu.se))





# New Reporting Requirements

1. An annual report on the status and progress of the FPS is to be presented to the International Project Office for CORDEX (IPOC), the first one 12 months after decision on endorsement, and be posted on the CORDEX website. Report is to be presented during one of the teleconferences of the CORDEX SAT.
2. Each FPS should report at all ICRC CORDEX Conferences in the lifetime of the project.
3. Each FPS will be assigned to a CORDEX SAT member who is responsible for reviewing project reports.



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# New Reporting Requirements

4. Each FPS should maintain a website to update community on lessons learnt and major outputs of the project.
5. An FPS should last no longer than 5 years. Thereafter incomplete projects will need to be recast with an application to be a new FPS under revised goals and direction.



# Evaluation Procedure

**Step 1:** Submission of completed FPS proposal to International Project Office for CORDEX (IPOC)

**Step 2:** IPOC provides preliminary assessment (application has been completed correctly and all information has been provided).

**Step 3:** IPOC sends application to relevant external review panel relevant to application focus (CORDEX Points of Contact, representative of WCRP projects, Future Earth, GFCS and other as relevant).

# Evaluation Procedure

**Step 4:** External reviewers complete their evaluation and submit report to IPOC.

**Step 5:** CORDEX-SAT makes a final decision; those SAT members involved in any applications will not be included in associated decisions

**Step 6:** IPOC informs applicant of outcomes and provides guidance for successful applications.



**Thank you**

