



CORDEX Central America and South America Training Workshop on Downscaling Techniques June 25-27, 2018

Objectives of the Training Workshop

The Workshop is intended for PhD students and early career researchers in the field of climate science with background on regional climate. The main objective is to continue coordinating the CORDEX activities in the SAM/CAM regions. One of the goals is to update on available and planned empirical statistical downscaling (ESD) and regional climate models (RCM) simulations and to present an update of CORDEX-related research activities (publications, projects).

The 3-day Workshop proposed for La Paz, Bolivia, during 25-27 June 2018 is aimed to:

- Train participants on ESD methodologies and perform hands-on ESD experiments.
- Coordinate a collaborative research to explore the added value of downscaling (ESD and RCM) in a collection of regional phenomena.
- Interaction/discussion between climate modelers and representatives from the user/impact community

Agenda

Monday, 25 June 2018	
Session 1: Workshop objectives - Preliminary overview of CORDEX and regional Climate research activities	
09:00 - 09:15	Welcome Address (Marcos Andrade)
09:15 - 09:30	Workshop Objectives (Silvina Solman and Maria Laura Bettolli)
09:30 - 09:45	CORDEX overview (Silvina Solman)
09:45 - 10:00	CORDEX Empirical Statistical Downscaling (ESD) (Maria Laura Bettolli)
10:00 - 10:15	Caribbean updates: Some of the Caribbean Modelling work (Roxann Stennett-Brown)
10:15 - 10:45	Coffee break
10:45 - 11:00	CORDEX South America (SAM) activities (Silvina Solman)
11:00 - 11:20	Regional studies: Efforts and challenges of climate modelling in Bolivia (Marcos Andrade)

11:20 - 11:40	Regional studies: <i>Downscaling projections of climate change over South America and Central America under RCP4.5 and RCP8.5 emission scenarios</i> (Sin Chan Chou)
11:40 - 12:00	Regional studies: Water resources management under climate change scenarios: Case studies in Bolivia (Jorge Molina)
12:00 - 12:20	Regional studies: (Hydro)climatological studies of climate change and variability in Central America (Hugo Hidalgo)
12:20 - 13:30	LUNCH
Session 2: Training Part 1	
13:30 - 14:00	General Introduction on ESD (Maria Laura Bettolli)
14:00 - 15:30	Training activity on Perfect Prognosis Approach (Maria Laura Bettolli)
15:30 - 16:00	Coffee break
16:00 - 17:30	Continuation - Training activity on Perfect Prognosis Approach (Maria Laura Bettolli)
Tuesday, 26 June 2018	
Session 3: Regional Climate research activities (continuation)	
09:00 - 09:20	Regional Climate Studies to South America with RegCM (Rosmeri Porfirio da Rocha)
09:20 - 09:40	Climate studies within the CORDEX framework focused on the Central America domain (Ramón Fuentes-Franco)
Session 4: Posters	
09:20 - 11:00	Brief 1-minute presentation of the posters in plenary session + Poster session
10:15 - 10:30	Coffee break
10:30 – 11:00	Poster Session (continuation)
Posters will be displayed until the end of the Workshop (Wednesday 27th 15:00hs)	
Session 5: Training Part 2	
11:00 - 13:00	Training activity on Statistical DownScaling Model (SDSM) (Roxann Stennett-Brown)
13:00 - 14:00	LUNCH
14:00 - 15:30	Continuation Training activity on SDSM (Roxann Stennett-Brown)
15:30 - 16:00	Coffee break
Group excursion + Dinner	
Wednesday, 27 June 2018	
Session 6: Training Part 3	
08:45 - 10:45	Training activity Regional Climate Model Evaluation System (RCMES) (Kyo Lee)
10:45 - 11:00	Coffee break
Session 7: Training Part 4	

11:00 - 13:00	Training activity on how to use/interpret the GCM/RCM outputs (Rosmeri Porfirio da Rocha)
13:00 - 14:00	LUNCH
14:20 - 15:00	Wrap-up on ESD training (discuss group results, feedbacks from participants)
15:00 - 15:15	Coffee break
Session 8: Brainstorming activity	
15:15 - 17:00	Coordinated collaborative research on: <ul style="list-style-type: none"> - Explore and discuss with participants the added-value of downscaling (ESD and RCM) in a collection of regional phenomena. - The importance of using a set of climatic metrics for model intercomparison and several observational data sets. Discuss mean vs weighted ensembles for comparison. - Design of collaborative research. Discussion of the agenda and time-line.
17:00 - 17:30	Poster prize announcement and Closing

Posters

Forecast change in dry and humid periods in South America, using the CORDEX RCA-SMHI with bias correction

Juan Diego Giraldo-Osorio

Dynamic regionalization over Peru: HadGEM2-ES/WRF

Alan Llacza Rodríguez, Gerardo Jacome Vergaray

Statistical downscaling of climate scenarios over Arequipa-Peru

Gustavo De la Cruz Montalvo

Possible impacts of climatic changes on the productivity of natural grasslands in Ovalle, Coquimbo region, Chile

Rosa Zamora A., Mariane Coitinho, Angélica Giarolla, Fernando Santibañez

Weather@home Mexico: First attribution study in Mexico

Ruth Cerezo-Mota, Martín Guillén Cadena, Neil Massey, Sarah Sparrow, Peter Pfleiderer

Future projections of drought in the climatologic regions of Ecuador

M. Montenegro, L. Campozano, A. Aviles

Crime Watch: Hurricanes and Illegal Activities

Nekeisha Spencer, Eric Strobl

Dynamical Downscaling of CFS forecast for 2014-2015 winter season in Caribbean region

Adrián Luis Ferrer Hernández, Cecilia González Pedroso, Maibys Sierra Lorenzo, Israel Borrajero Montejo

Climate change in Chile: estimations of temperature and precipitations on a local scale for the future using statistical downscaling

Daniela A. Osses, Ana Casanueva, Juan M. Uribe, Manuel Paneque

Impacts of bias correction over climate change projections applied to crop yield simulations

Santiago V. Cuadra, Rosmeri P. da Rocha, Marta Pereira Llopart, Kenneth J. Boote, Daniel De Castro Victoria

CHOCO-JEX: A Research Programme Focused on the CHOCO Low-level Jet over the Far Eastern Pacific and Western Colombia: Numerical Simulations

Johana Yepes, Jown F. Mejía, Germán Poveda

Pronóstico y Alerta de un evento extremo: La avalancha de Mocoa, Colombia 2017

Thorsten Beisiegel, Nicolás Cruz

Spatio-temporal variability of WRF precipitation associated with the regional and local circulation in the Tropical Andes (Rio Santa Basin, Peru)

Alan G. Rosales, Rosmeri Porfirio da Rocha, Clementine Junquas

Assessing the analog method to downscale daily precipitation in the Pampas region

María Mercedes Poggi, Maria Laura Bettolli

Added value of Statistical Downscaling for seasonal forecasting in Argentina

Rocio Balmaceda-Huarte, María Laura Bettolli, Olga C. Penalba

Downscaled high-resolution CMIP5 projections for climate change impact assessments

Carlos Navarro-Racines, Jaime Tarapues-Montenegro, Philip Thornton, Andy Jarvis, Julián Ramírez-Villegas

Examining bushfire risk across Jamaica's rainfall zones using the Keetch-Byram drought index

Candice S. Charlton, Tannecia S. Stephenson, Michael A. Taylor

Assessment of RegCM4 ability to reproduce drought in the Caribbean region and future projections under climate change conditions

Yaritza Gómez, Arnoldo Benzanilla, Alejandro Vichot

Evaluation of the land surface schemes impact in the simulated climate over the Andes Mountain

Decker Guzmán Zabalaga, Rosmeri Porfirio da Rocha

**Preliminary Investigation into Jamaica's Hydropower Potential under Future Climate:
The case of Dry Harbour Mountains Basin**

Delando Grant, Tannecia S. Stephenson, Randy Koon Koon

**Escenarios de Aridez para Guatemala para los años 2030, 2050 y 2070 Utilizando
Modelos de Cambio Climático**

Diego Pons, Edwin Castellanos, Daniel Conde, Jackeline Brincker, Diego Incer, Alejandra López

Climate change projections for the Usumacinta basin and the REA method

Mercedes Andrade-Velázquez, Martín Montero-Martínez

**Producing high spatial resolution climate scenarios for tropical America and Colombia
using WRF model**

Guillermo Eduardo Armenta-Porras, José Daniel Pabón-Caicedo

**Estudios de la variabilidad de precipitación: Evaluación sobre la cuenca del río
Mamoré**

Luis A. Blacutt

**Application of the WRF-CHEM mesoscale model in the simulation of air quality in
the urban region of La Paz**

Izhar N. Quispe M., Marcelo Gorritty

**Short -Term Wind Forecast for Generation of Electric Power using Wind Turbines in
Qollpana, Cochabamba—Bolivia**

Limbert Torrez, M. Gorri, I. Quispe

**Considering the nexus between food, energy, and water security with traditional
communities: an integrated analysis for the Brazilian cerrado**

Ariane de Almeida Rodrigues, Mercedes Bustamante