

Report of Activities CORDEX SAM Domain

2019

CORDEX-ICRC-2019

Early career scientists and researchers from SAM participated in the CORDEX-International Conference on Regional Climate held from 14-18 October 2019 in Beijing, China. Several abstracts have been presented at the conference.

Publications

Ambrizzi, T., Reboita, M. S., da Rocha, R. P., & Llopart, M. (2019). The state of the art and fundamental aspects of regional climate modeling in South America. *Annals of the New York Academy of Sciences*, 1436(1), 98-120.

Bozkurt D, M Rojas, JP Boisier, R Rondanelli (2019). Dynamical downscaling over the complex terrain of southwest South America: present climate conditions and added value analysis. *Climate Dynamics*, 2019.

da Silva, FNR, JLD Alves, M Cataldi (2019). Climate downscaling over South America for 1971-200: application in SMAP rainfall-runoff model for Grand River Basin. *Climate dynamics*.

Falco, M., Carril, A. F., Menéndez, C. G., Zaninelli, P. G. and Li, L. Z. X. (2019). Assessment of CORDEX simulations over South America: added value on seasonal climatology and resolution considerations. *Climate Dynamics*, 52 (7-8), 4771–4786.

Glisan J, R Jones, C Lennard, N I Castillo Pérez, P Lucas-Picher, A Rinke, S Solman, W J. Gutowski (2019). A Metrics-Based Analysis of Seasonal Daily Precipitation and Near-Surface Temperature within Seven CORDEX Domains. *Atmospheric Science Letters*. DOI: 10.1002/asl.897.

Menéndez, C. G., Giles, J., Ruscica, R., Zaninelli, P., Coronato, T., Falco, M., Sörensson, A., Fita, L., Carril, A. and Li, L. (2019). Temperature variability and soil–atmosphere interaction in South America simulated by two regional climate models. *Climate Dynamics*, 53, Issues 5-6), 2919–2930. <https://doi.org/10.1007/s00382-019-04668-6>

Posada-Marín, JA , AM Rendón, JF Salazar, JF Mejía (2019). WRF-downscaling improves ERA-Interim representation of precipitation around a tropical Andean valley during El Niño: implications for GCM-scale simulation. *Climate dynamics*

Solman S. and Blázquez J. (2019). Multiscale precipitation variability over South America: Analysis of the added value of CORDEX RCM simulations. *Clim Dyn*, 10.1007/s00382-019-04689-1.

Spinoni J, P Barbosa, N McCormick, G Naumann, J V. Vogt, J Katzfey, B Rockel, B Geyer, D Li, L Kurnaz, T Ozturk, R Porfirio da Rocha, M Llopart, S. A. Solman, G Zittis, P Hadjinicolaou, F Tangang, G Nikulin, T Koenig, C J. Lennard, E Coppola, J Cassano, T Cavazos, K Winger, R Laprise, E Buchignani, J Evans, J H. Christensen, H-Juergen Panitz, O B. Christensen, C Teichmann, D Jacob, J Syktus, K Keuler, R Vautard, A Dosio (2019). Future global meteorological drought hotspots. A study based on CORDEX data. *J of Climate*. <https://doi.org/10.1175/JCLI-D-19-0084.1>

Zaninelli, P. G., Menéndez, C. G., Falco, M., López-Franca, N. and Carril, A. F. (2019). Future hydroclimatological changes in South America based on an ensemble of regional climate models. *Climate Dynamics*, 52(1-2), 819–830. <https://doi.org/10.1007/s00382-018-4225-0>

IPCC

Several colleagues of CORDEX SAM have participated as Lead Authors, Contributing Authors and Reviewers of the WGI and Atlas of the IPCC AR6 contributing with their expertise in regional climate assessments.

FPS Southeastern-South America

In the framework of the activities of the FPS in Southeastern South America 3 scientific stays were carried out: a 3-month doctoral stay at CIMA/University of Buenos Aires was completed by MSc Alvaro Lavín-Gullón from the University of Cantabria, Spain. Two scientific stays at the Institute of Physics/University of Cantabria (IFCA/UCAN) were carried out by researchers from the University of São Paulo and University of Buenos Aires.

Plans for 2020

Capacity building activities and meetings planned for 2020:

Conference on Regional Climate Modeling and Extreme Events over South America: Results from the CORDEX-Flagship Pilot Study / Lab training activity on how to use, interpret and compare the GCM/RCMs/ESD simulations. University of Buenos Aires, 16 Nov 2020 - 20 Nov 2020, Buenos Aires, Argentina.

2nd Regional training Workshop/CORDEX for the South/Central American domains. University of Sao Paulo, Sao Paulo, Brazil.