

CURRICULUM VITAE (short)

Ramiro Saurral

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**Full name**

Ramiro Ignacio Saurral

Date and place of birth

10 February 1980. Buenos Aires, Argentina

Email address

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Nationality

Argentinean (*ius soli*) and Italian (*ius sanguinis*)

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CURRENT POSITIONS

Research

Since Nov 2017

Full-time permanent researcher (CONICET) at Centro de Investigaciones del Mar y la Atmósfera (CIMA, CONICET-Universidad de Buenos Aires), Buenos Aires, Argentina

Teaching

Since Dec 2014

Professor in Atmospheric Sciences at Departamento de Ciencias de la Atmósfera y los Océanos (DCAO, Facultad de Ciencias Exactas y Naturales-Universidad de Buenos Aires), Buenos Aires, Argentina

OTHER CURRENT POSITIONS

- Member of the Working Group on Subseasonal to Interdecadal Prediction (WGSIP, WCRP) since January 2015
- Member of the CLIVAR Climate Dynamics Panel since February 2020
- Editor of *Meteorologica* (Centro Argentino de Meteorólogos)
- Associate Editor of *Revista Brasileira de Recursos Hídricos* (RBRH)
- Guest Editor of *Frontiers in Climate: Predictions and Projections* (Frontiers)
- Contributing Author, 6th Assessment Report IPCC

PREVIOUS POSITIONS

Research

Aug 2013-Oct 2017

Full-time assistant researcher at CIMA (CONICET-UBA)

Apr 2012-Jul 2013

Postdoc position at CIMA (CONICET-UBA)

Apr 2007-Mar 2012

PhD fellowship (CONICET)

Teaching

Mar 2007-Nov 2014

Professor assistant at Departamento de Ciencias de la Atmósfera y los Océanos (DCAO, Facultad de Ciencias Exactas y Naturales-Universidad de Buenos Aires), Buenos Aires, Argentina

DEGREES

- ✓ **PhD in Atmospheric and Oceanic Sciences**, Universidad de Buenos Aires, Argentina (March 2012)
PhD thesis title: “La hidrología superficial de la cuenca del Plata y su representación a través de simulaciones climáticas: identificación de errores y mecanismos físicos asociados”
Advisors: Dr. Inés Camilloni – Dr. Tércio Ambrizzi
- ✓ **Licentiate in Atmospheric Sciences** (March 2007)
Degree thesis title: “Impactos de las variaciones climáticas en la cuenca del Río Uruguay”
Advisor: Dr. Vicente Barros

RESEARCH ACTIVITIES

Scientific publications

Articles already published or currently in press (total=32)

32. Saurral, R., W. Merryfield, M. Tolstykh, W.-S. Lee, F. Doblas-Reyes, J. García-Serrano, F. Massonnet, G. A. Meehl, and H. Teng, 2021: A data set for intercomparing the transient behavior of dynamical model-based subseasonal to decadal climate predictions. *Journal of Advances in Modeling Earth Systems*, 13, e2021MS002570. <https://doi.org/10.1029/2021MS002570>.
31. Pineda Rojas, A., S. Cordo, R. Saurral, J. L. Jiménez, L. Marr, and E. Kropff, 2021: Relative humidity predicts day-to-day variations in COVID-19 cases in the City of Buenos Aires. *Environmental Science & Technology*, in press.
30. Piscitelli, F. M., and R. Saurral, 2021: The total solar eclipse of 14 December 2020 in southern South America and its effects on atmospheric variables. *Quarterly Journal of the Royal Meteorological Society*, 147, 2547-2561. <https://doi.org/10.1002/qj.4040>.
29. Raggio, G., and R. Saurral, 2021: Probable intensificación de las condiciones de déficit hídrico sobre la región del Comahue ante diversos escenarios de Cambio Climático. *Meteorologica*, 46, 48-71.
28. Díaz, L., R. Saurral, and C. Vera, 2021: Assessment of South America summer rainfall climatology and trends in a set of Large Ensembles. *International Journal of Climatology*, 41, E59-E77. <https://doi.org/10.1002/joc.6643>.
27. Pineda Rojas, A. L., R. Borge, N. Mazzeo, R. Saurral, B. Matarazzo, J. Cordero, and E. Kropff, 2020: High PM10 concentrations in the City of Buenos Aires and their relationship with meteorological conditions. *Atmospheric Environment*, 241, 117773. <https://doi.org/10.1016/j.atmosenv.2020.117773>.
26. Saurral, R., G. Raggio, and C. Gulizia, 2020: How could a difference of 0.5°C in global warming modify the mean and extreme climate conditions around Antarctica? *International Journal of Climatology*, 40, 6067-6079. <https://doi.org/10.1002/joc.6566>.
25. Saurral, R., J. García-Serrano, F. Doblas-Reyes, L. Díaz, and C. Vera, 2020: Decadal predictability and prediction skill of sea surface temperatures in the South Pacific region. *Climate Dynamics*, 54, 3945-3958. <https://doi.org/10.1007/s00382-020-05208-3>.
24. Saurral, R., F. Kucharski, and G. Raggio, 2019: Variations in ozone and greenhouse gases as drivers of Southern Hemisphere climate in a medium-complexity global climate model. *Climate Dynamics*, 53, 6645-6663. <https://doi.org/10.1007/s00382-019-04950-7>.
23. Vera, C., L. Díaz, and R. Saurral, 2019: Influence of anthropogenically-forced global warming and natural climate variability in the rainfall changes observed over the South American Altiplano. *Frontiers in Environmental Sciences*, 7:87. <https://doi.org/10.3389/fenvs.2019.00087>.
22. Saurral, R., and J. Ruiz, 2019: Revisitando la irrupción de aire frío extrema de junio de 1967 en el centro de Argentina, cincuenta años después. *Meteorologica*, 44, 35-55.
21. Montroull, N., R. Saurral, and I. Camilloni, 2018: Hydrological impacts in La Plata basin under 1.5°C, 2°C and 3°C global warming above the preindustrial level. *International Journal of Climatology*, 38, 3355-3368. <https://doi.org/10.1002/joc.5505>.
20. Saurral, R., F. Doblas-Reyes, and J. García-Serrano, 2018: Observed modes of sea surface temperature variability in the South Pacific region. *Climate Dynamics*, 50, 1129-1143. <https://doi.org/10.1007/s00382-017-3666-1>.

19. Merryfield, W. J., F. J. Doblas-Reyes, L. Ferranti, J.-H. Jeong, Y. J. Orsolini, R. Saurral, A. A. Scaife, M. A. Tolstykh, and M. Rixen, 2017: Advancing climate forecasting. *Eos*, **98**. <https://doi.org/10.1029/2017EO086891>.
18. Tompkins, A., M. Ortíz de Zárate, R. Saurral, C. Vera, C. Saulo, W. Merryfield, M. Sigmond, W.-S. Lee, J. Baehr, A. Braun, A. Butler, M. Déqué, F. Doblas-Reyes, M. Gordon, A. Scaife, Y. Imada, M. Ishii, T. Ose, B. Kirtman, A. Kumar, W. Müller, A. Pirani, T. Stockdale, M. Rixen, and T. Yasuda, 2017: The Climate-system Historical Forecast Project: Providing open access to seasonal forecast ensembles from center around the globe. *Bulletin of the American Meteorological Society*, **98**, 2293-2301. <https://doi.org/10.1175/BAMS-D-16-0209.1>.
17. Saurral, R., I. Camilloni, and V. Barros, 2017: Low frequency variability and trends in centennial precipitation stations in southern South America. *International Journal of Climatology*, **37**, 1774-1793. <https://doi.org/10.1002/joc.4810>.
16. Power S., R. Saurral, C. Chung, R. Colman, V. Kharin, G. Boer, J. Gergis, B. Henley, S. McGregor, J. Arblaster, N. Holbrook, and G. Liguori, 2017: Towards the prediction of multi-year to decadal climate variability in the Southern Hemisphere. *PAGES*, **25**, 32-40. <https://doi.org/10.22498/pages.25.1.32>.
15. Díaz, L., C. Vera, and R. Saurral, 2017: Observed and simulated summer rainfall variability in southeastern South America. *CLIVAR Exchanges*, **71**, 13-16.
14. Saurral, R., 2017: A cautionary note on the computation of daily mean temperatures and their trends. *International Journal of Climatology*, **37**, 3743-3752. <https://doi.org/10.1002/joc.4941>.
13. Saurral, R., I. Camilloni, and T. Ambrizzi, 2015: Links between topography, moisture fluxes and precipitation over South America. *Climate Dynamics*, **45**, 777-789. <https://doi.org/10.1007/s.00382-014-2309-z>.
12. Saurral, R., V. Barros, and I. Camilloni, 2014: Sea ice concentration variability over the Southern Ocean and its impact on precipitation in southeastern South America. *International Journal of Climatology*, **34**, 2362-2377. <https://doi.org/10.1002/joc.3844>.
11. Saurral, R., N. Montroull, and I. Camilloni, 2013: Development of statistically unbiased 21st century hydrology scenarios over La Plata Basin. *International Journal of River Basin Management*, **11**, 329-343. <https://doi.org/10.1080/15715124.2014.885440>.
10. Díaz, A., F. Maciel, and R. Saurral, 2013: Multi-annual variability of streamflow in La Plata Basin. Part II: Simulations for the 21st century. *International Journal of River Basin Management*, **11**, 361-371. <https://doi.org/10.1080/15715124.2014.880708>.
9. Grimson, R., N. Montroull, R. Saurral, P. Vásquez, and I. Camilloni, 2013: Hydrological modeling of the Iberá Wetlands in southeastern South America. *Journal of Hydrology*, **503**, 47-54. <https://doi.org/10.1016/j.jhydrol.2013.08.042>.
8. Guerrero, M., M. Nones, R. Saurral, N. Montroull, and R. Szupiany, 2013: Paraná River morphodynamics in the context of climate change. *International Journal of River Basin Management*, **11**, 423-437. <https://doi.org/10.1080/15715124.2013.826234>.
7. Montroull, N., R. Saurral, I. Camilloni, R. Grimson, and P. Vásquez, 2013: Assessment of climate change on the future water levels of the Iberá wetlands, Argentina, during the 21st century. *International Journal of River Basin Management*, **11**, 401-410. <https://doi.org/10.1080/15715124.2013.819807>.
6. Camilloni, I., R. Saurral, and N. Montroull, 2013: Hydrological projections of fluvial floods in the Uruguay and Paraná basins under different climate change scenarios. *International Journal of River Basin Management*, **11**, 389-399. <https://doi.org/10.1080/15715124.2013.819006>.
5. Montroull, N., R. Saurral, I. Camilloni, A. Sörensson, C. Menéndez, and R. Ruscica, 2013: Escenarios hidrológicos futuros en la región de los esteros del Iberá en el contexto del cambio climático. *Meteorológica*, **38**, 3-20.
4. Doyle, M., R. Saurral, and V. Barros, 2012: Trends in the distributions of monthly aggregated precipitation over the La Plata Basin. *International Journal of Climatology*, **32**, 2149-2162. <https://doi.org/10.1002/joc.2429>.
3. Saurral, R., 2010: The hydrologic cycle of the La Plata Basin in the WCRP-CMIP3 multi-model dataset. *Journal of Hydrometeorology*, **5**, 1083-1102. <https://doi.org/10.1175/2010JHM1178.1>.
2. Saurral, R., and V. Barros, 2009: Estudio de la climatología y la hidrología de la Cuenca del Plata en un conjunto de modelos climáticos globales. *Meteorológica*, **34**, 5-15.
1. Saurral, R., V. Barros, and D. Lettenmaier, 2008: Land use impact on the Uruguay River discharge. *Geophysical Research Letters*, **35**, L12401. <https://doi.org/10.1029/2008GL033707>.

Submitted articles currently under review (total=1)

1. Camilloni, I., N. Montroull, C. Gulizia, and R. Saurral, 2021: La Plata Basin Hydroclimate Response to Solar Radiation Modification with Stratospheric Aerosol Injection. Under review in *Frontiers in Climate* (submitted on 24/Aug/2021).

Abstracts and short communications submitted to congresses and workshops (only considering the last 5 years; total=48)

48. Díaz, L., C. Vera, and R. Saurral, 2019: Prediction skill assessment of large-scale variability influence in summer southeastern South America rainfall in multi-model CMIP decadal predictions. *CMIP6 model analysis workshop, 25-28 March 2019, Barcelona, Spain*
47. Díaz, L., C. Vera, and R. Saurral, 2018: Co-variability between summer southeastern South America rainfall anomalies and tropical sea surface temperature anomalies in CMIP5 decadal predictions. *Humboldt Colloquium, 25-27 October 2018, Buenos Aires, Argentina*
46. Gulizia, C., G. Raggio, and R. Saurral, 2018: Escenarios futuros de extremos climáticos en el sur de Sudamérica bajo 1.5°C y 2°C de calentamiento global. *CONGREMET XIII, 16-19 October 2018, Rosario, Argentina*
45. Díaz, L., C. Vera, and R. Saurral, 2018: Influencia de la variabilidad climática de gran escala sobre la precipitación de verano del sudeste de Sudamérica en las predicciones decadales del CMIP5. *CONGREMET XIII, 16-19 October 2018, Rosario, Argentina*
44. Raggio, G., and R. Saurral, 2018: Simulaciones numéricas de los caudales de los ríos Limay, Neuquén y Negro. *CONGREMET XIII, 16-19 October 2018, Rosario, Argentina*
43. Matarazzo, B., A. Pineda Rojas, and R. Saurral, 2018: Análisis exploratorio de concentraciones de dióxido de nitrógeno observadas en la Ciudad de Buenos Aires. *CONGREMET XIII, 16-19 October 2018, Rosario, Argentina*
42. Verfaillie, D., S. Wild, B. Solaraju Murali, D. Bojovic, R. Ormazabal Rodríguez, R. Saurral, F. Doblas-Reyes, and L.-P. Caron, 2018: Decadal prediction research at the Barcelona Supercomputing Center. *WCRP International Conference on Subseasonal to Decadal Prediction, 17-21 September 2018, Boulder, CO, USA*
41. Díaz, L., C. Vera, and R. Saurral, 2018: Co-variability between summer Southeastern South America rainfall anomalies and tropical sea surface temperatures anomalies in CMIP5 decadal predictions. *WCRP Second International Conference on Subseasonal to Decadal Prediction, 17-21 September 2018, Boulder, CO, USA*

Short stays at other research centers

- ✓ Barcelona Supercomputing Center-Centro Nacional de Supercomputación (BSC-CNS; Barcelona, España), 6 July 2018 to 3 October 2018.
Research topic: Decadal climate predictions: role of ENSO upon initialization.
- ✓ International Centre for Theoretical Physics (ICTP; Trieste, Italia), 9 January 2017 to 16 February 2017. Short postdoc stay (Junior Associate at ICTP).
Research topic: Roles of internal and external atmospheric forcing on climate variability and predictability.
- ✓ International Centre for Theoretical Physics (ICTP; Trieste, Italia), 1 July 2014 to 4 August 2014. Short postdoc stay (ICTP Junior Associate).
Research topic: Roles of internal and external atmospheric forcing on climate variability and predictability.
- ✓ Institut Català de Ciències del Clima (IC3; Barcelona, España), 1 February 2013 to 31 July 2013.
Research topic: Decadal climate predictions over the Southern Hemisphere
- ✓ University of Washington, Department of Civil Engineering (Seattle, WA, USA), 10 November 2005 to 30 November 2005. Training course on the application and use of the VIC distributed hydrologic model.

Research grants

As PI

- Title: “Estudio del potencial para el desarrollo de predicciones climáticas decadales operativas sobre el sur de Sudamérica” – PICT 1898/2016

Financed by: Agencia Nacional de Promoción Científica y Tecnológica
Period: 2017-2021

- Title: “Desarrollo de escenarios climáticos sobre el sudeste de Sudamérica para los próximos 40 años e impactos esperados en la hidroclimatología de la cuenca del Plata” – UBACyT 20020120300051
Financed by: Universidad de Buenos Aires
Period: 2013-2015

As a member of the research team (last 10 years)

- Title: “Hydrological impacts of solar radiation management in the La Plata Basin in South America”
Financed by: DECIMALS Fund
Period: 2018-2021
PI: Dr. Inés Camilloni
- Title: “Desarrollo de escenarios hidroclimáticos futuros para el sur de Sudamérica en el contexto de cambio climático” - UBACYT 20020130100644BA
Financed by: Universidad de Buenos Aires
Period: 2014-2017
PIs: Dr. Inés Camilloni – Dr. Vicente Barros
- Title: “Impactos del cambio climático global en el sur de América del Sur” - PIP 11220120100586
Financed by: CONICET
Period: 2014-2017
PIs: Dr. Vicente Barros – Dra. Inés Camilloni
- Title: “Impactos hidrológicos del cambio climático en la cuenca del Plata y los efectos de las incertidumbres asociadas a los modelos climáticos globales”
Financed by: Universidad de Buenos Aires
Period: 2011-2014
PIs: Dra. Inés Camilloni – Dr. Vicente Barros

Supervision of students

In progress

3. Co-advisor of the Licenciature Thesis in Atmospheric Sciences of Ms. Silvana Sosa: “Mechanisms related to the initiation of warm season convection over the central Andes” (dissertation due July 2022). Universidad de Buenos Aires
2. Advisor of the PhD Thesis in Atmospheric and Oceanic Sciences of MSc Juan Badagian: “Hydrological predictability and prediction skill of the streamflows at the Salto Grande Dam in sub-seasonal scale” (dissertation due March 2023). Universidad de Buenos Aires
1. Advisor of the PhD Thesis in Atmospheric and Oceanic Sciences of MSc Gabriela Raggio: “Combined effects of anomalies and sea ice and stratospheric ozone concentration on the atmospheric circulation over southern South America and related impacts on temperature and precipitation” (dissertation due March 2023). Universidad de Buenos Aires

Completed

6. Advisor of the Licenciature Thesis in Atmospheric Sciences of Mr. Fabricio Lopretto: “Inhibitory effect of the Zonda wind on convection over central-eastern Argentina”. Dissertation on 8 June 2021. Universidad de Buenos Aires
5. Co-advisor of the Licenciature Thesis in Atmospheric Sciences of Mr. Bruno Matarazzo: “Extreme events of surface pollution associated with particulate matter over the City of Buenos Aires and related circulation patterns”. Dissertation on 5 April 2019. Universidad de Buenos Aires
4. Co-advisor of the PhD thesis of MSc Leandro Díaz: “Anthropogenic and natural forcings of climate variability of southeastern South America”. Dissertation on 6 March 2018. Universidad de Buenos Aires
3. Advisor the Licenciature Thesis in Atmospheric Sciences of Mrs. Gabriela Raggio: “Present day hydroclimatology of the Comahue región and future scenarios”. Dissertation on 30 March 2017. Universidad de Buenos Aires
2. Co-advisor of the PhD thesis of MSc Natalia Montroull: “Study of climate variability and change over the Iberá Wetlands”. Dissertation on 12 March 2015. Universidad de Buenos Aires

1. Co-advisor of the Licenciata Thesis in Atmospheric Sciences of Mrs. Natalia Montroull: "Evaluation of the hydrologic vulnerability of the Iberá Wetlands in the face of climate change". Dissertation on 12 March 2010. Universidad de Buenos Aires

Reviewer in scientific journals

- ✓ Journal of Climate (AMS)
- ✓ Environmental Research Letters (IOPscience)
- ✓ Journal of Hydrology (Elsevier)
- ✓ Journal of Hydrometeorology (American Meteorological Society)
- ✓ Atmósfera (Universidad Nacional Autónoma de México)
- ✓ Water Resources Research (American Geophysical Union)
- ✓ Meteorológica (Centro Argentino de Meteorólogos)
- ✓ Revista Brasileira de Meteorología (SBMET)
- ✓ International Journal of Climatology (Wiley)
- ✓ Geophysical Research Letters (Wiley)
- ✓ Climate Dynamics (Springer)
- ✓ Theoretical and Applied Climatology (Springer)
- ✓ Weather And Climate Extremes (Elsevier)
- ✓ Journal of Applied Meteorology and Climatology (JAMC)
- ✓ Frontiers in Climate (Frontiers)

Others

Awards

- **National Stimulus Award** from the National Academy of Exact, Physical and Natural Sciences of Argentina for outstanding researchers under the age of 40. Year 2020
- **Diploma of Honor** of the Universidad de Buenos Aires. Year 2007

Proficiency in languages

- ✓ **Spanish.** Reads, speaks and writes (mother tongue)
- ✓ **English.** Reads, speaks and writes
- ✓ **Italian.** Reads, speaks and writes
- ✓ **Catalan.** Reads and speaks (basic)