

CURRICULUM VITAE

FERNANDO DE SALES

Assistant Professor
Department of Geography
San Diego State University
Email: fdesales@sdsu.edu

I. EDUCATION

A. <u>Institution</u>	<u>Years Attended</u>	<u>Degree</u>	<u>Major Fields</u>
University of California, Los Angeles	2000-2006	Ph.D.	Geography
Universidade de São Paulo	1998-2000	M.S.	Atmospheric Sciences
Universidade de São Paulo	1994-1998	B.S.	Atmospheric Sciences

B. Dissertation Title

Examining the impacts of dynamic downscaling methods and vegetation biophysical processes on the South American regional climate simulations. (Ph.D. Advisor: Dr. Yongkang Xue)

II. ACADEMIC POSITIONS AND RANKS HELD

<u>Institution</u>	<u>Rank</u>	<u>Dates</u>	<u>Major Subject</u>
San Diego State University	Assistant Professor	2015-present	Geography
University of California, Los Angeles	Assistant Researcher	2013-2015	Geography
University of California, Los Angeles	Assistant Adjunct Professor	2013-2015	Geography
University of California, Los Angeles	Staff Research Associate	2008-2012	Geography
University of California, Los Angeles	Post-doctoral Scholar	2006-2008	Atmospheric Science
University of California, Los Angeles	Graduate Student Researcher	2000-2006	Geography
Universidade de São Paulo	Graduate Student Researcher	1998-2000	Atmospheric Science
Universidade de São Paulo	Undergraduate Student Researcher	1996-1997	Atmospheric Science

III. COURSES TAUGHT

- **GEOG 101 – Earth's Physical Environment**

This course is a gateway to physical geography. It is designed to introduce students to questions regarding the spatial distribution of climate, water, soil, topography, and biota at the Earth's surface, the functional

interactions between them, and their relationships with people. It also describes the basic forces governing the distribution and flow of mass and energy over the Earth's surface, and employs knowledge of those processes to introduce students to the major current environmental problems including climate change, pollution and biological conservation.

- **GEOG 103 – Weather and Climate**

The course introduces students to the basic principles of atmospheric science, such as the relationship between air pressure, winds and moisture distribution, which are responsible for our blue skies, beautiful sunsets, thunderstorms, and gentle breezes. It covers more complex topics such as severe weather, including the phenomena of lightning, hail, as well as unpredictable and potentially devastating tropical storms and tornadoes. In addition, the course examines how our planet and its population are affected by these weather systems and how we might be influencing the climate.

- **GEOG 409 – Global Climate Change**

The course is designed for students in Geography, Earth sciences, Environmental sciences and related fields and provides a concise account of the causes and consequences of climate change. It starts by studying Earth's current climate and the physical processes that maintain it. It then investigates in detail the causes and consequences of global warming and its relationship to human, and explores future climate changes projections and their uncertainties. The course also describes the processes that have given rise to past climate changes including the sequence of glacial and interglacial periods and how they have helped shape our planet.

- **GEOG 503 – Biophysical Modeling of Land-Atmosphere Interaction Processes**

This course was first offered in Spring 2017 as an introduction to climate and climate-change computer modeling for graduate students. It presents the principles and modeling techniques of land-atmosphere interaction processes so students can evaluate the impact of land degradation on climate. The course is designed for graduate students in Geography, Earth and Environmental Sciences, but can also be attended by undergraduates. In addition to learning the theory of biophysical modeling, the course offers a hands-on opportunity for students to design and carry out their own simulations, and to report their findings on a scientific-format term paper.

IV. PEER-REVIEWED PUBLICATIONS (last 5 years)

1. Monteverde C and **De Sales F** (2020) Impacts of global warming on southern California's winegrape climate suitability. *Advances in Climate Change Research*. DOI:10.1016/j.accre.2020.08.002. Impact factor: 3.967. Contribution: climate model configuration, computing resources acquisition, model data interpretation. Corresponding author.
2. **De Sales F**, Santiago T, Biggs T, Mullan K, Sills E (2020) Impacts of Protected Area Deforestation on Dry-season Regional Climate in the Brazilian Amazon. *Journal of Geophysical Research*. DOI: 10.1029/2020JD03304. Impact factor: 3.82. Contribution: modeling experiment designing and implementation, model data analysis, computer resources acquisition, and manuscript writing.
3. Rother D and **De Sales F** (2020) Impact of Wildfire on the Surface Energy Balance in Six California Case Studies. *Boundary-Layer Meteorology*. DOI: 10.1007/s10546-020-00562-5. Impact factor: 3.011. Contribution: implemented the climate model and assisted in the interpretation of results. Corresponding author.

4. **De Sales F** and Rother D (2020) A New Coupled Modeling Approach to Simulate Terrestrial Water Storage in Southern California. *Water*. DOI: 10.3390/w12030808. Impact factor: 2.709. Contribution: Implemented the climate models, performed model simulations, collaborated in the analysis of model results, and wrote the manuscript.
5. Kebe I, Diallo I, Sylla M.B, **De Sales F**, Diedhio, A (2020) Late 21st Century Projected Changes in the Relationship between Precipitation, African Easterly Jet, and African Easterly Waves. *Atmosphere* 2020, 11, 353. DOI: 10.3390/atmos11040353. Impact factor 2.397. Contribution: Provided expertise on the configuration and integration of climate simulations and provided analysis of model output described in the article.
6. Diallo I, Xue Y, Li Q, **De Sales F**, Li W (2019) Dynamical downscaling the impact of spring Western U.S. land surface temperature on the 2015 flood extremes at the Southern Great Plains: Effect of domain choice, dynamic cores and land surface parameterization. *Climate Dynamics*, DOI: 10.1007/s00382-019-04630-6. Impact factor 4.563. Contribution: Implemented the climate model used in the study and provided analysis on the simulation results.
7. **De Sales F**, Okin GS, Xue Y, Dintwe K (2018) On the effect of wildfires on precipitation in Southern Africa. *Climate Dynamics*. DOI: 10.1007/s00382-018-4174-7. Impact factor 4.563. Contribution: implemented the climate model used in the study, performed all climate simulations, post-processed and analyzed simulation results, and wrote the paper.
8. Lee J, Xue Y, **De Sales F**, et al. (2018) Evaluation of multi-decadal UCLA-CFSv2 simulation and impact of interactive atmospheric-ocean feedback on global and regional variability. *Climate Dynamics*. DOI: 10.1007/s00382-018-4351-8. Impact factor 4.563. Contribution: implemented the climate models used in the study.
9. **De Sales F**, Xue Y, Okin GS (2016) Impact of burned areas on the northern African seasonal climate from the perspective of regional modeling. *Climate Dynamics*. DOI: 10.1007/s00382-015-2522-4. Impact factor 4.146. Contribution: implemented the climate model used in the study, performed all climate simulations, post-processed and analyzed simulation results, and wrote the paper.
10. Xue Y, **De Sales F**, Lau W, Boone A, Kim KM, Wang G, Kucharski F, Mechoso CR, Schiro K, Hosaka M, Li S, Druyan LM, Sanda IS, Thiaw W, Zeng N, Comer RE, Lim Y-K, Mahanama S, Song G, Gu Y, Hagos SM, Chin M (2016) West African monsoon decadal variability and drought and surface-related forcings: Second West African Monsoon Modeling and Evaluation Project Experiment (WAMME 2). *Climate Dynamics*. doi:10.1007/s00382-016-3224-2. Impact factor 4.146. Contribution: designed and performed climate simulations, analyzed data, prepared all figures and tables, helped write the manuscript.
11. Boone A, Xue Y, **De Sales F**, Comer RE, Hagos S, Mahanama S, Schiro K, Song G, Wang G, Li S, Mechoso CR (2016) The regional impact of Land-Use Land-cover Change (LULCC) over West Africa from an ensemble of global climate models under the auspices of the WAMME2 project. *Climate Dynamics*. doi:10.1007/s00382-016-3252-y. Impact factor 4.146. Contribution: processed simulation results and analyzed data.
12. Xue Y, Oaida C, Diallo I, Neelin J, Li S, **De Sales F**, Gu Y, Robinson D, Vasic R, Lan Y (2016) Spring land temperature anomalies in northwestern US and the summer drought over Southern Plains and adjacent areas, *Environ. Res. Lett.* 11 044018. Impact factor 4.4. Contribution: supervised climate simulations and analyzed data,
13. Yu Gu, Xue Y, **De Sales F**, Liou KN (2015) A GCM investigation of dust aerosol impact on the regional climate of North Africa and South/East Asia. *Climate Dynamics*. DOI: 10.1007/s00382-015-2706-y. Impact factor 4.708. Contribution: performed climate simulations and analyzed data.

V. FUNDED RESEARCH GRANTS

- 2020-2021 PI: Evaluating the role of tropical storm systems as a limiting factor for wildfires in Southern California. SDSU University Grant Program. Total award: \$9,255.
- 2019-2020 PI: The impacts of dissipating tropical cyclones in Southern California's water supply and wildfire conditions. CSU Water Resources and Policy Initiatives - Faculty Research Incentive Award Program. \$5,907.
- 2018-2023 Co-PI: CNH-L: Land-Climate-Water Feedbacks and Farmer Decision Making in an Agricultural System– Lead PI: Katrina Mullan, UMT, Co-PI Trent Biggs, SDSU. Total award: \$1,600,000. SDSU subaward: \$369,057.
- 2016-2018 Co-I: Improving the CalEnviroScreen score at the US-Mexico border. State of California Air Resources Board Research Division. Award. Lead PI: Jenny Quintana – SDSU. Total award: \$150,000.
- 2016-2017 PI: Surface-induced forcing and decadal variability and change of the East Asian climate, surface hydrology and agriculture. National Science Foundation - Sub-award. Total award: \$17,493.
- 2016-2017 PI: Impacts of climate change on Southern California's groundwater storage from the perspective of regional climate modeling. SDSU University Grant Program. Total award: \$9,014.

VI. PROFESSIONAL MEMBERSHIP

- 2016 – present American Association of Geographers
- 2005 – present American Geophysical Union