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1. EDUCATION

1.1 University Education

- **PhD:** 1999-2002. Atmospheric Sciences. Cornell University.
- **Master's Degree:** 1996-1998. Engineering Sciences with a Mention in Hydraulics and Environmental. Pontifical Catholic University of Chile.
- **Higher Education:** 1989-1994. Agronomy. Pontifical Catholic University of Chile.

1.2 Training Courses

- **Advanced Training Institute on Climatic Variability and Food Security.** July 8 - 26, 2002. International Research Institute for Climate Prediction. Columbia University.
- **Course:** "Environmental Impact Assessment" Agronomists Engineers Association. May 1998.
- **Course:** "Simulation Models in Agriculture." Faculty of Agricultural and Forestry Sciences, University of Chile. August 1997.
- **Workshop:** "Interannual Climate Variability." Faculty of Physical and Mathematical Sciences, University of Chile. June 1997.

1.3 General Training Courses

- **Diploma:** "Pedagogical Techniques for Higher Education." Faculty of Education. Pontifical Catholic University of Chile. April to October 2003.
- **Course:** "Entrepreneurial Development for Academics" Pensum. January 1997.

2. ACADEMIC DEVELOPMENT

- **2012-Present**: Full Professor. Faculty of Agronomy and Natural Systems. Pontifical Catholic University of Chile.
- **2003-2012**: Associate Professor. Faculty of Agronomy and Forestry Engineering. Pontifical Catholic University of Chile.
- **1998-2003**: Assistant Professor. Faculty of Agronomy and Forestry Engineering. Pontifical Catholic University of Chile.
- **1995-1998**: Instructor Professor. Faculty of Agronomy and Forestry Engineering. Pontifical Catholic University of Chile.

2.1 Current Activities within the Pontifical Catholic University of Chile

- **2024-2026**: Member of the General Training Curriculum Committee. Academic Vice-Rectorate.
- **2023-2024**: Director of the Institute for Sustainable Development. Pontifical Catholic University of Chile.
- **2022-Present**: Director of the Natural Resources Engineering Program. Faculty of Agronomy and Natural Systems.
- **2020-Present**: Member of the Water Law and Management Center. Pontifical Catholic University of Chile.
- **2019-Present**: Member of the Academic Selection and Promotion Committee, Faculty of Agronomy.
- **2017-Present**: Collaborating Professor in the Doctoral Program in Civil Engineering. Faculty of Engineering.
- **2009-Present**: Member of the Interdisciplinary Center for Global Change.
- **2003-Present**: Member of the PhD faculty in Agricultural Sciences. Faculty of Agronomy and Natural Systems.

2.2 Previous Activities at Pontificia Universidad Católica de Chile

- **2022-2023:** Academic Representative on the Honorable Superior Council.
- **2020:** Member of the UC Carbon Neutrality Council.
- **2018-2020:** Academic Representative of the Department of Ecosystems and Environment in the Faculty Council of Agronomy and Forestry Engineering.
- **2018-2019:** Member of the Academic Integrity Committee. Faculty of Agronomy and Forestry Engineering.
- **2017-2021:** Rector's Representative on the Academic Qualification Committee, Institute of Geography.
- **2016-2018:** Rector's Representative on the Academic Selection and Incorporation Committee, Faculty of Engineering.
- **2013-2017:** Director of Research and Graduate Studies, Faculty of Agronomy and Forestry Engineering.
- **2008-2015:** Director, Interdisciplinary Center for Global Change (CCG-UC).
- **2011-2013:** Member, Steering Committee of the International Laboratory on Global Change (LINCGlobal). Spanish National Research Council - Pontificia Universidad Católica de Chile.
- **2010-2013:** Academic Representative of the Department of Ecosystems and Environment in the Faculty Council of Agronomy and Forestry Engineering.
- **2011-2013:** Member, Advisory Council of the COPEC-UC Foundation.
- **2008-2009:** Head of the Doctoral Committee, Faculty of Agronomy and Forestry Engineering.

- **2003-2008:** Executive Director, Natural Resources Program, Faculty of Agronomy and Forestry Engineering.
- **2007:** Member, Dean Search Committee, Faculty of Agronomy and Forestry Engineering.
- **2003:** Director, International Course Series on Environmental and Territorial Management of Agricultural and Forestry Production. Technological University of Munich.
- **1998-1999:** Editorial Committee Member, Agronomy and Forestry UC Journal.

2.3 Activities in National Institutions

- **2021-present:** Coordinator, Scientific Advisory Group for Sustainability, Ministry of Agriculture.
- **2021-present:** Subdirector and researcher of the Consortium Technological of Water, CORFO.
- **2018-2021:** Member, Agronomy Studies Group, Fondecyt.
- **2019:** Member, Advisory Council, Regional Program for Scientific and Technological Research, Conicyt.
- **2015:** Member, I+D+i Commission for Water Resources Sustainability, National Innovation Council for Development.
- **2014-2018:** Member, National Agroclimatic Network Expansion Committee, Ministry of Agriculture.
- **2014-2016:** Member, Advisory Council, Ministry of the Environment.
- **2013-2014:** Member, Earth Sciences Studies Group, Fondecyt.

2.4 Activities in International Institutions

- **2022-2025:** Chair, Steering Council, Agricultural Model Intercomparison and Improvement Project (AgMIP).
- **2020-2021:** Editorial Board Member, Agriculture and Biosciences Journal (CABI).
- **2020-present:** Adjunct Professor, The Ohio State University.
- **2011-present:** Co-Director, Aquasec, IAI Center of Excellence on Water Security.
- **2018:** Lead Author, IPCC Sixth Assessment Report, Working Group II, Chapter 5: Food, Fiber, and Ecosystem Products.
- **2017:** Author, IPCC Special Report on Climate Change, Desertification, and Food Security.
- **2015-2016:** Editorial Board Member, Climate Risk Management (Elsevier).
- **2010-present:** Member, AgMIP Project.
- **2012-2015:** Steering Committee Member, Global Water System Project.
- **2010-2015:** Member, IPCC Task Group on Data and Scenario Support for Impact and Climate Analysis (TGICA).
- **2010-2014:** Lead Author, IPCC Fifth Assessment Report, Chapter: Rural Area

- **2009** Guest Editor. Special Issue: *International Young Scientists' Perspective on Global Change Issues*. *Climatic Change*, 94 (1-2).
- **2006** Member of the Organizing Committee. *Second International Young Scientists Conference on Global Change*. Beijing 2006.

2.5 Expert Reviewer for the Following Mainstream Journals:

- *Agricultural and Forest Meteorology*
- *Agricultural Water Management*
- *Agricultural Systems*
- *International Journal of Climatology*
- *Journal of Water Resources Planning and Management*
- *Climatic Change*
- *Journal of Hydrology*
- *Irrigation Science*

3. SCHOLARSHIPS, AWARDS, AND DISTINCTIONS

- **2023.** Full Member, *Academy of Sciences of Latin America*.
- **2023.** *Academic Career Award 2022*, Antofagasta Minerals Chair for Water Sustainability.
- **2022.** *Gulbenkian Prize for Humanity*, awarded to all authors of the *IPCC AR6 Report*.
- **2019.** Full Member, *Chilean Academy of Agronomic Sciences*.
- **2009.** *Sustainability and Environment Award*, Alumni Association of Agronomy, *Pontificia Universidad Católica de Chile*.
- **2008.** *Young Scientist Award in Agricultural Sciences*, *Third World Academy of Sciences, Regional Office for Latin America and the Caribbean (TWAS-ROLAC)*.
- **2004.** *Award for Excellence in Teaching*, Adjunct Professor Category, *Faculty of Agronomy and Forestry Engineering, Pontificia Universidad Católica de Chile*.
- **1999.** *Presidential Scholarship*, awarded for graduate studies by the *Ministry of Planning and Cooperation of Chile*.
- **1998.** *Fulbright Scholarship*, awarded for graduate studies by the *Fulbright Foundation*.
- **1996.** *Juan Mackenna Cerda Award*, in recognition of academic excellence and university spirit. Awarded by the *Higher Council of Pontificia Universidad Católica de Chile*.
- **1995.** *Best Graduate of the Faculty of Agronomy, Pontificia Universidad Católica de Chile, Class of 1995*. Awarded by the *Chilean Association of Agricultural Engineers*.
- **1993.** *Honorary Tuition Scholarship*, Rector's Office, *Pontificia Universidad Católica de Chile*.

4. TEACHING

4.1 Undergraduate Level

- **Professor** of *Challenges in Natural Resources Engineering* (2023-present).
- **Professor** of *Climatology* (2003-present).
- **Professor** of *Climate Change: A Multidisciplinary Approach* (2009-present). Course coordinator alongside Dr. Sebastián Vicuña.
- **Guest Lecturer** in *Sustainability SUS1000*.
- **Guest Lecturer** in *Terrestrial Systems* (2010-present), Faculty of Biological Sciences.
- **Professor** of *Watershed Modeling and Management* (2011).
- **Professor** of *Decision Analysis*, Faculty of Agronomy and Forestry Engineering (2004-2006). Undergraduate level, in collaboration with Dr. Oscar Melo and Dr. Francisca Silva.
- **Professor** of *Agroclimatology*, Faculty of Agronomy and Forestry Engineering (July 1995 - July 1999).
- **Professor** of *Agricultural Operations I & II*, Faculty of Agronomy and Forestry Engineering (March 1995 - July 1996). Undergraduate level, in collaboration with María Angélica Fellenberg.
- **Teaching Assistant** for *Fundamentals of Plant Production*, Faculty of Agronomy and Forestry Engineering. Course taught by Professor José Antonio Alcalde, M.Sc., Ph.D. (March 1994 - July 1995).
- **Teaching Assistant** for *Agroclimatology*, Faculty of Agronomy and Forestry Engineering. Course taught by Professor Aldo Norero, M.Sc., Ph.D. (August 1992 - July 1995).
- **Teaching Assistant** for *Basic Practice I*, Faculty of Agronomy and Forestry Engineering. Course taught by Professor Ulises Contador (August - December 1991).

4.2 Graduate Level

- Professor of the course **Biometeorology and Applied Climatology** (2010–present)
- Professor of the course **Crop Engineering** (2010–2016)
- Professor of the course **Research Methods Workshop** (2015–2016)
- Professor of the course **Seminar on Ethics, Bioethics, and Biosafety** (2014–2015)

5. TRAINING OF RESEARCHERS

5.1 Postdoctoral Researchers

- **Raab, Nicolás** (2023). *Chile Mediterranean Vegetation Carbon Sink Capacity: Measuring wild vegetation Net Primary Productivity in Central Chile and its sensitivity to Drought and Climate Change.* Fondecyt 3230431.

- **Lacy, Shaw** (2016). *Main Drivers of Freshwater Fish Diversity across Extra-tropical Southern Hemisphere Rivers.*
- **De María, Eleonora** (2012). *Using a Gridded Global Dataset to Characterize Regional Hydroclimate in Central Chile.*

5.2 PhD Students

- **Henriquez, Lenin** (2023). *Climate and land use change effects on hydrologic signatures.* PhD in Engineering Sciences, Pontificia Universidad Católica de Chile.
- **García, Víctor** (2022). *Data assimilation for modeling biophysical variables in Central Chile vineyards.* PhD in Agricultural Sciences, Pontificia Universidad Católica de Chile.
- **Tosoni, Damián** (2020). *Estimation of Carbon Dioxide, Latent Heat, and Sensible Heat Fluxes through Surface Renewal Analysis in Trellised Vineyards.* PhD in Agricultural Sciences, Pontificia Universidad Católica de Chile.
- **Oertel, Melanie** (2018). *Multivariate Standardized Indices – Application beyond drought detection for operational drought management in semi-arid regions in the Americas.* PhD in Agricultural Sciences, Pontificia Universidad Católica de Chile.
- **Puertas, Olga** (2013). *Assessing impacts of climate change and land use change on surface water provision in the Mediterranean Maipo River Basin: An integrative modeling framework.* PhD in Agricultural Sciences, Pontificia Universidad Católica de Chile.
- **Bravo, Felipe** (2013). *Quantitative characterization of CO2 fluxes and evapotranspiration in an Acacia caven (Mol.) espinal of Central Chile.* PhD in Agricultural Sciences, Pontificia Universidad Católica de Chile.
- **Molina, M.** (2009) *(Co-Supervisor) Fate of trace elements incorporated into cultivated soils through fertilizer application: plant absorption, soil dynamics, and long-term modeling.* PhD in Agricultural Sciences, Pontificia Universidad Católica de Chile. Currently a postdoctoral researcher at Universidad Técnica Federico Santa María.

5.3 Master's Students

- **Gabriel Hernández** (In progress). Master's in Natural Resources.
- **Sandoval, María José** (In progress). Master's in Natural Resources.
- **Gómez, Antonia** (2023). *Evaluation of a bare soil evaporation model based on the maximum entropy production theory.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Espina, Gastón** (2023). *Modeling the distribution of fruit species under climate change scenarios RCP2.6 and RCP 8.5 in Chile.* Master's Thesis in Crop Physiology and Production, Pontificia Universidad Católica de Chile.

- **Marinkovic, Catalina** (2021). *Analysis and selection of climate change mitigation measures for the agricultural sector using an Analytical Hierarchy Process.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Saez, Rodrigo** (2021). *Determination of soil deformation processes in the Maipo aquifer using SAR interferometry.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Ponce, Sebastian** (2021). *Evaluation of upscaling and gap-filling methods for evaporative fraction time series.* Master's Thesis in Plant Physiology and Production, Pontificia Universidad Católica de Chile.
- **Moraga, Diego** (2021). *Estimation of soil temperature using deep learning techniques.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Medel, Felipe** (2021). *Application of a van Genuchten-type model for estimating bare soil evaporation.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Menares, Luna** (2020). *Regional estimation of annual actual evapotranspiration and its decadal trend in central and southern Chilean basins.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Orellana, Stephanie** (2018). *Assessing recent trends in agroclimatic indices using MODIS data in Central Chile.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Ocampo, Diego** (2017). *Detecting rain-on-snow events in the central Andean mountain range using satellite imagery.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Davila, Waldo** (2017). *Analysis of climate change effects on maize cultivation in Chile.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Urdiales, Diego** (2017). *Stochastic daily simulation of precipitation and temperature in different climatic zones of Chile.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Merino, Pablo** (2017). *Simulation of crop productivity associated with different flow regimes in the Limarí and Maipo basins.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Letelier, Maximiano** (2016). *Evaluation of three empirical evapotranspiration models in Vitis vinifera cv. Cabernet Sauvignon under restricted soil water conditions.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.

- **Morales, David** (2014). *Spatio-temporal estimation of climatic variables using Reanalysis data: A case study in the Maipo Basin.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Chaparro, Lucas** (2013). *Fire risk analysis for Central Chile using probability-based models.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Maureira, Fidel** (2013). *Identification of irrigation strategies under water scarcity conditions using a crop simulation approach.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Raab, Nicolás** (2013). *Comparison of three empirical stomatal conductance models in Acacia caven (Mol.) under drought conditions.* Master's Thesis in Plant Sciences, Pontificia Universidad Católica de Chile.
- **Jara, Valentina** (2013). *Land use conversions in the Chilean Mediterranean region degrade soil quality.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile.
- **Bonelli, Sebastian** (2011). *Reducing urban water vulnerability in Santiago: An assessment of climate change adaptation strategies in a highly populated water-stressed basin.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile. Currently an associate researcher at the Global Change Center.
- **Bustos, E.** (2011). *Determination of air temperature using MODIS satellite imagery in the Maipo Basin.* Master's Thesis in Plant Sciences, Pontificia Universidad Católica de Chile. Currently an associate researcher at the Global Change Center.
- **Cruzat, M. L.** (2010) *(Co-Supervisor) Estimation of average flow variations due to climate change between the IV and VIII regions of Chile.* Master's Thesis in Engineering, Pontificia Universidad Católica de Chile. Currently an associate researcher at DICTUC.
- **Bambach, N.** (2010). *Impact of climate change on the distribution of native tree species and communities in Chile's sclerophyllous forest and shrubland.* Master's Thesis in Natural Resources, Pontificia Universidad Católica de Chile. Currently pursuing a PhD at the University of California, Davis.

5.4 Undergraduate Thesis Projects

- **Navarro, B. 2023**. Analysis of REDD+ projects: Challenges and opportunities. Undergraduate Thesis. (Agricultural Engineer) Environmental Management. Pontificia Universidad Católica de Chile.
- **Jara V. 2019.** Estimation of climate change impact on the productivity of permanent grasslands in southern Chile. Residency Report. (Agricultural Engineer) Environmental Management. Pontificia Universidad Católica de Chile.

- **Andueza I. 2018.** Perceptions on Environment and Climate Change in Chilean Fruit Farming. Residency Report. (Agricultural Engineer) Environmental Management. Pontificia Universidad Católica de Chile.
- **Orellana S. 2014.** Estimation of average minimum and maximum temperatures and accumulated precipitation using topoclimatic maps for January and August 2013 in Chile. Residency Report. (Agricultural Engineer) Environmental Management. Pontificia Universidad Católica de Chile.
- **Urquidi, J. F. 2014.** Chilean Business Water Management: Its context and proposal of water consulting services for PwC Chile. Residency Report. (Agricultural Engineer) Environmental Management. Pontificia Universidad Católica de Chile.
- **Astaburoaga, J. 2013.** Monitoring and Evaluation of the Sustainability Status of the Chilean Agricultural Sector. Residency Report. (Agricultural Engineer) Environmental Management. Pontificia Universidad Católica de Chile.
- **Raab, N. 2010.** Estimation of the photosynthetic efficiency of Vitis vinifera L. using the Eddy Covariance methodology. Residency Report. (Agricultural Engineer). Pontificia Universidad Católica de Chile.
- **Jara, V. 2010.** Determination of the invasive potential of the pink hibiscus mealybug Maconellicoccus hirsutus (Green) in Chile, under present and climate change scenarios. Thesis (Agricultural Engineer) Pontificia Universidad Católica de Chile.
- **León, P. 2009.** Development of a Platform for Integrated Environmental Information Access in Google Earth. Residency Report (Forestry Engineer). Pontificia Universidad Católica de Chile.
- **León J.P. 2008.** Climate Change Impacts on Vineyard Distribution in Chile. Residency Report (Agricultural Engineer). Pontificia Universidad Católica de Chile.
- **Silva, D. 2006.** Climate Change Impacts on Wheat (Triticum aestivum L.) Production in Chile. Thesis (Agricultural Engineer) Pontificia Universidad Católica de Chile.

5.5 Exchange Students

- **Mayra Peña.** 2017. Assessment of water quality and water quantity for agricultural requirements during drought periods in the third section of the Maipo River Basin.
- **María Lorenzo Yebra.** 2012. Estimation of daily and mean monthly solar radiation as a function of routinely meteorological data in Mediterranean areas.
- **Megan Mils Novoa.** 2011. Fulbright Student. The Impact of Climate Change on the Terroir of the Maule and Maipo Valley.
- **Pilar Olea.** 2010. Internship Student. Biogeography of molecular markers in native Roble-Raulí forest.

- **Lucas Chaparro.** 2010. Internship Student. Estimation of forest fire risk under Climate Change. Natalia Winckler. 2010. Internship Student. Biogeography of molecular markers in native Roble-Raulí forest.
- **Insa Otte.** 2009. Risk Habitat Megacities Project. Diploma thesis on the attitudes of different stakeholders in the metropolitan region of Santiago regarding aspects and consequences of climate change.
- **Miriam Guisado.** 2008. Magalaes Program. Work on the CROPSYST model to evaluate sensitivity to Climate Change.

5.6 Participation in Thesis Committees

- **Carlos Guzmán.** 2021. PhD in Engineering. J. Gironás. In Progress. Jorge Renaud. 2021. PhD in Engineering. F. Suárez. In Progress.
- **Francisca Aguirre.** 2021. Reprocessing scintillometer data altered by wind currents to describe evapotranspiration fluxes in a semi-arid region. Master's Thesis in Engineering. Pontificia Universidad Católica de Chile. Supervisor: Francisco Suárez.
- **Arlet Luque.** 2021. Effect of soil surface type and air advection on turbulent fluxes in agricultural fields of semi-arid zones. Master's Thesis in Engineering. Pontificia Universidad Católica de Chile. Supervisor: Francisco Suárez.
- **Francisca Araneda.** 2021. Master's Thesis. Effect of vegetation and water conditions on the regeneration of woody species in the Mediterranean-type climate region of central Chile. Master's Thesis (Natural Resources). Pontificia Universidad Católica de Chile. Supervisor: Pablo Becerra.
- **Fernando González.** 2021. To be determined. PhD in Engineering Sciences. Pontificia Universidad Católica de Chile. Supervisor: Jorge Gironás. Jorge Renaud. To be determined. PhD in Engineering Sciences. Pontificia Universidad Católica de Chile. Supervisor: Francisco Suárez.
- **Josefina Mosre.** 2020. Actual evapotranspiration estimates in arid regions using machine learning algorithms with in-situ and remote sensing data. Master's Thesis in Engineering. Pontificia Universidad Católica de Chile. Supervisor: Francisco Suárez.
- **Francisco Aguayo.** 2020. Master's Thesis. Temporal analysis of primary productivity anomalies associated with fire events in Mediterranean forests of Chile and Spain. Master's Thesis (Natural Resources). Pontificia Universidad Católica de Chile. Supervisor: Marcelo Miranda.
- **Tomas Quiñones.** 2020. Master's Thesis. Functional diversity associated with primary productivity and relationships between structure and species composition in central Chile ecosystems. Master's Thesis (Natural Resources). Pontificia Universidad Católica de Chile. Supervisor: Marcelo Miranda.

- **Mauricio Caroca.** Master's Thesis. Proposal of a landscape flammability index: spatial connectivity and fuel characteristics. Master's Thesis (Natural Resources). Pontificia Universidad Católica de Chile. Supervisor: Horacio Gilabert.
- **Nicole Montenegro.** Master's Thesis. Application of information theory and complexity for identifying spatial-temporal landscape patterns in the influence area of copper smelters in the Valparaíso region. Master's Thesis (Natural Resources). Pontificia Universidad Católica de Chile. Supervisor: Marcelo Miranda.

6. **INNOVATION IN TEACHING**

• 2018. FONDEDOC. Educational Material for the Multidisciplinary Teaching of Climate Change. FONDEDOC 2018 Competition.

• 2016 FONDEDOC. Program to promote academic integrity among undergraduate and graduate students of the Faculty of Agronomy and Forest Engineering: role of students, teaching assistants, and professors. (Principal Investigator Tania Zaviezo)

• 2004 PROJECT MANAGER OF SIMCLIMA. Improvement of the Climatology course website through the incorporation of a meteorological variable simulation software for teaching purposes. 17th Teaching Development Fund Competition, Academic Vice-Rector's Office / General Directorate of Undergraduate Studies.

7. RESEARCH PROJECTS

7.1 QUALITY OF PRINCIPAL INVESTIGATOR

- **2021-2025**: Multivariate drought monitor system: biophysical modeling, remote sensing, and hydroclimatic information for drought analysis and forecasting in agriculture. Fondecyt 1210526. MM$186.5
- **2019-2020**: Climate Risk Atlas. Ministry of the Environment – GIZ. July 2019-June 2020
- **2019-2020**: Zoning of forage production potential and animal carrying capacity in the provinces of Osorno and Llanquihue. CIREN-FIA
- **2018**: Digital agriculture network to strengthen agricultural resilience under climate change. Conicyt International Cooperation Program. REDES 180025
- **2017**: Strengthening multidisciplinary activity through the implementation of a climate change impact experimentation unit for the adaptation of agriculture and water resources. FONDEQUIP EQM170024
- **2017-2021**: Integrating crop simulation models, ground observations, and remote sensing data to improve the estimation of actual evapotranspiration. Fondecyt 1170429 (Apr 2017-Mar 2021)
- **2016**: Crossing scales and disciplines understanding challenges for climate change adaptation and water resources management in Chile and California. PUC.

- **2015-2016**: International Water Security Network. Lloyd's Register Foundation
- **2014-2019**: Chilean viticultural zoning based on climatic and geological (soil) data for still and sparkling wines. Innova-Corfo.
- **2012**: Innovative Science and Influential Policy Dialogues for Water Security in the Arid Americas. CRN3. Interamerican Institute for Global Change. (Oct 2013-Oct 2017)
- **2012**: Combination of weather information and remotely sensed data to analyze the variability of water footprint indicators at a basin scale. Fondecyt 1120713 (Mar 2012-Mar 2015)
- **2011**: Towards an integrated assessment of water security under global change in the Americas: Exploring synergies and expanding current IAI networks. Interamerican Institute for Global Change. Mar 2012-Mar 2015
- **2011**: Decision support system to reduce vulnerability to climate variability and change in irrigated agriculture. FONDEF D10I1051. Dec 2011-Dec 2014
- **2010**: Implementation of new scientific capabilities in the Faculty of Agronomy and Forestry Engineering UC and strengthening of the UC Global Change Center through the development of innovative research lines in areas of Molecular Ecology and Hydrology. Conicyt 79100019 (Jan 2010-Dec 2012)
- **2010**: Chile's vulnerability to climate change and potential adaptation measures. CONAMA-PNUD. Second National Communication. 2010
- **2010**: National Circumstances. CONAMA-PNUD. Second National Communication. 2010
- **2009**: Strengthening Capacities to Address Global Change in Chile. CORFO-INNOVA 2009-2012
- **2009**: Vulnerability of Mediterranean basins to global change: An assessment of the relevance of climate change, land use change, and their synergies as driving forces in the Maipo Basin. Fondecyt 1090393 (Mar 2009-Mar 2012)
- **2007**: Climate Change and Irrigated Agriculture: Towards a better understanding of driving forces and feedbacks between decision makers and the biophysical environment and their impacts on the hydrological cycle and land use. InterAmerican Institute for Global Change Research. (Oct 2007-Oct 2011)
- **2006**: Integrated model for estimating actual evapotranspiration based on satellite images, numerical atmospheric models, and surface observations. Fondecyt 1060544 (Mar 2006-Mar 2009)
- **2005**: Topo-Climatic Modeling for the generation of higher spatial and temporal resolution Micro and Meso Meteorological information: Productive applications and Differentiation of Wines under the Terroir Concept. FIA

- **2004**: Optimal strategies for incorporating crop adaptation to climate change based on its magnitude and trend. DIPUC
- **2004**: Impacts of Climate Change on wheat (Triticum aestivum) and corn (Zea mays) crops in Chile: Changes in Production and Adaptation Strategies. Career Start Program for Young Researchers. Andes Foundation.
- **2003**: Where and When do we need water? Development of a regional crop yield and water demand model based on sea surface temperature forecasts. The International Global Change Systems Analysis, Research and Training (START) and The David and Lucile Packard Foundation.
- **1998**: Development of Environmental Accounts for Water Resources in Chile. Environmental Economics Unit. National Environment Commission.
- **1997**: Use of pine bark as a substrate for gardening. Forestal San José.
- **1996**: DIUC Project "Characterization of the Thermal Environment of a Greenhouse".

7.2 QUALITY OF CO-INVESTIGATOR

- **2024-2028**: Fondecyt Regular ID 20968, “Approach to the quantification of the water demand of native ornamental vegetation of greater potential use for green areas and restauration zones of the Mediterranean Semiarid area of Chile”. Responsible: Pilar Gil
- **2022-2025**: Semi-arid coastal basins as indicators of climate crisis adaptation (SACBAD). Alternate Director. Responsible: Sebastian Vicuña. \$612,000,000
- **2021**: Integrating Drought Monitoring and Public Policy Design Towards the Proactive Management of Droughts. FSEQ210018. Responsible: Jorge Gironás. \$296,000,000
- **2020**: Water Technology Consortium. CoTH2O. CONSORTIUM FOR THE MANAGEMENT OF WATER RESOURCES IN THE CENTRAL SOUTH MACROZONE OF CHILE. CORFO. Alternate Director of the proposal. Amount: \$3,000,000,000
- **2020**: Assessing the local Time of Emergence of Hydroclimatic variables for adaptation in decision-making. Fondecyt 1200135
- **2020**: Transfer of predial actions in sustainable fruit growing. FIC. O’Higgins Region. Responsible: Eduardo Arellano. 2020-2023 IDI 40017922-0. Amount: \$200,000,000
- **2020**: Transfer, innovation, and training for sustainable irrigation in the Coquimbo Region. BIP Code 40014376-0. Execution period: January 2020 to January 2022. Amount funded by FIC: \$135,000,000. Alternate Director and co-investigator
- **2018**: Integrated information system to improve the competitiveness of the citrus industry through the use of anti-pollination mesh in mandarins. Corfo Strategic Public Goods Program for Competitiveness.

- **2017**: Satellite Agricultural Platform for monitoring and determining the water requirements of the main agricultural crops in the country. FIA PYT2018-0033
- **2017**: Dynamic daily scale map of reference Evapotranspiration (ETo) to determine irrigation needs in Chile. FIA PYT2018-0189
- **2017**: Application of the methodology for updating the national water balance in the basins of the northern and central macrozones. General Directorate of Water. (2016-2018)
- **2017**: Measuring evaporative water loss in arid environments using optical and microwave scintillometers. Fondecyt 1170921
- **2016**: Update of the National Water Balance. General Directorate of Water. (2016-2017)
- **2014**: EDUNEXUS. Education and Research Related to the Water-Energy and Food Security Nexus at a River Basin Scale. DAAD. (2014-2016)
- **2012**: Vulnerability and adaptation to variability and climate change in the Maipo River Basin in Central Chile. IDRC (Aug 2012-Aug 2015)
- **2011**: Design of a certification system for pisco by origin, variety, and aging time. FIA
- **2011**: Evaluation of the Social Impact of Climate Change in Chile. UNDP-CONAMA
- **2011**: Development of adaptation measures to cope with the impacts of climate change at the basin level. Fondecyt 1110297 (Mar 2011-Mar 2014)
- **2010**: A stop in the desert: tools to combat desertification. Coquimbo Region. Explora Project for the Valuation and Dissemination of Science and Technology. CONICYT
- **2010**: Vulnerability, Impacts, and Adaptation to climate change on water resources in Ibero-America. CYTED Project.
- **2010**: Quantification and Carbon Flow in the Cienágas del Name Wetland, VII Region. ARAUCO S.A.
- **2010**: Diagnosis of the Challenges Posed by Climate Change for Chile. Inter-American Development Bank
- **2009**: Study of Vulnerability of Terrestrial Biodiversity in the Mediterranean Ecoregion, at the Ecosystem and Species Level, and Adaptation Measures to Climate Change Scenarios. CONAMA
- **2009**: Regional Study of the Economics of Climate Change for Chile (ERECC). ECLAC
- **2008**: "Climate change impacts and adaptation on a strategic hydropower generating basin in Ecuador, the Rio Paute Basin". GEF-UNDP Project “Adaptation to Climate Change through Effective Water Governance in Ecuador”
- **2008**: Public Policies for Adaptation to the Impacts of Climate Change in Irrigated Agriculture in Central Chile. Vice-Rectorate of Communications and Public Affairs

- **2006-2010**: Integrated development of Rice for high yields and quality. TUCAPEL S.A.
- **1998**: Comprehensive Diagnosis of Easter Island. Horticultural Irrigation Project. National Irrigation Commission.
- **1996**: Feasibility study project for the Corrales reservoir. General Directorate of Water. M.O.P.
- **1995**: Ministry of Public Works Project. "Economic Impact of Hydrological Droughts".
- **1994**: DIUC Project "Thermophysiological Quantification of Development in Micropropagated and Seed-Derived Cauliflower (Brassica oleraceae var. Botrytis)".

8. ACADEMIC PRODUCTIVITY

8.1 Publications in scientific journals with editorial committee

- **75**: Nelson, G.C., Cheung, W.W.L., Bezner Kerr, R., Franke, J., Meza, F., Oyinlola, M.A., Thornton, P. and Zabel, F. 2024. Adaptation to climate change and limits in food production systems: Physics, the chemistry of biology, and human behavior. Glob Change Biol, 30: e17489. https://doi.org/10.1111/gcb.17489
- **74**: Meza F, Darbyshire R, Farrell A, Lakso A, Lawson J, Meinke H, Nelson G, Stockle C. 2023. Assessing temperature-based adaptation limits to climate change of temperate perennial fruit crops. Glob Chang Biol. 29(9):2557-2571. doi: 10.1111/gcb.16601.
- **73**: Garcia-Gutiérrez, V., Meza F.J. 2023. Modeling phenology combining Data Assimilation techniques and Bioclimatic Indices in a Cabernet Sauvignon vineyard (Vitis vinifera L.) in Central Chile. Remote Sensing., 15, 3537. https://doi.org/10.3390/rs15143537
- **72**: Wakatsuki, H., Ju, H., Nelson, G., Farrell, A., Deryng, D., Meza, F., Hasegawa, T., 2023 Research trends and gaps in climate change impacts and adaptation potentials in major crops. Current Opinion in Environmental Sustainability. 60. https://doi.org/10.1016/j.cosust.2022.101249
- **71**: Meza, F., Darbyshire, R., Farrell, A., Lakso, A., Lawson, J., Meinke, H., Neslon, G., Stockle, C. 2023. Assessing temperature-based adaptation limits to climate change of temperate perennial fruit crops. Global Change Biology. DOI:10.1111/gcb.16601
- **70**: Winckler, P., Contreras-López, M., Garreaud, R., Meza, F., Larraguibel, C., Esparza, C., Gelcich, S., Falvey, M., Mora, J. 2022. ARClim: a web-based tool to assess climate-driven risks in Chilean coastal systems. Water 14, 3594. https://doi.org/10.3390/w14223594

- **69**: Aguirre, F., Hartogensis, O., Meza, F., Suarez, F. 2022. Refinements and analysis of the optical-microwave scintillometry method applied to measurements over a vineyard in Chile. Water. 14(3), 474; https://doi.org/10.3390/w14030474
- **68**: Hasegawa, T., Wakatsuki, H., Ju, H., Vyas, S., Nelson, G.C., Farrell, A., Deryng, D., Meza, F., Makowski, D. 2022. A global dataset for the projected impacts of climate change on four major crops. Scientific Data 9(58) DOI 10.1038/s41597-022-01150-7.
- **67**: Alders, R., Chadag, M., Debnath, N., Howden, M., Meza, F., Schipp, M., Swai, E.and Winglett, K. 2021. Planetary boundaries and Veterinary Services REVUE SCIENTIFIQUE ET TECHNIQUE-OFFICE INTERNATIONAL DES EPIZOOTIES. 40(2): 439-453. 10.20506/rst.40.2.3236
- **66**: del Pozo, A., Engler, A., Meza, F. 2021. Agricultural sciences in Chile: institutions, human resources, investment and scientific productivity. Chilean Journal of Agricultural Research 84(4): 664-673. http://dx.doi.org/10.4067/S0718-583920210004006
- **65**: Inocencio, T., Ribeiro-Neto, A., Oertel, M., Meza, F., Scott, C. 2021. Linking Drought Propagation with Episodes of Climate-Induced Water Insecurity in Pernambuco State - Northeast Brazil. Journal of Arid Environments. 193. https://doi.org/10.1016/j.jaridenv.2021.104593
- **64**: Tosoni, D., Meza, F.J., Lacy, S.N. 2021. Independent estimation of Sensible and Latent Fluxes in a Vineyard Using Improved Surface Renewal Analysis. Theoretical and Applied Climatology, https://doi.org/10.1007/s00704-021-03612-1.
- **63**: García-Gutiérrez, V., Stöckle, C., Gil, P., Meza, F. 2021. Evaluation of Penman-Monteith model based on Sentinel-2 data for the estimation of Actual Evapotranspiration in vineyards. Remote Sensing. 13(3), 478; https://doi.org/10.3390/rs13030478
- **62**: Chadwick, C., Gironas, J., Elshorbagy, A., Barría, P., Vicuña, S., Meza, F., McPhee, J. 2021. Assessing the reservoir performance under a climate change scenario for water management. When is it going to be too late? Water. 13, 64. https://doi.org/10.3390/w1301006461.
- **61**: Scott, C.A., Zilio, M.I., Perillo, G.M.E., Zuniga Teran, A., Harmon, T., Jaramillo, J.E., Díaz Caravantes, R., Meza, F., Martín, F., Ribeiro Neto, A., Piccolo, M.C., Rusak, J., Varady, R., Pineda, N., Hoyos, N., Mussetta, P., Velez, M.I., Montenegro, S., Reid, B. 2021. Do ecosystem insecurity and social inequity lead to failure of water security? Environmental Development. 38: 1-13. https://doi.org/10.1016/j.envdev.2020.100606

- **60**: Ocampo, D., Meza, F.J. 2020. Exploring the fingerprints of past rain-on-snow events in the central Andean mountain range using satellite imagery. Remote Sensing 12, 4173; doi:10.3390/rs12244173
- **59**: Araya Vargas, J., Gil, P.M., Meza, F.J., Yáñez, G., García, V., Luque, A., Menanno, G., Poblete, F., Figueroa, R., Maringue, J., Estay, N.P., Sanhueza, J. 2020. Time-lapse electrical resistivity tomography to evaluate irrigation systems efficiency at the field scale: a case study in a vineyard in Central Chile. Irrigation Science. https://doi.org/10.1007/s00271-020-00708-w
- **58**: Peña, D., Nauditt, A., Ribbe, L., Muñoz, C., Meza, F. 2020. Drought impacts on water quality and quantity for agricultural requirements in the Maipo River Basin, Chile. Hydrological Sciences Journal. DOI: 10.1080/02626667.2020.1711911
- **57**: Oertel, M., Meza, F.J., Gironás, J. Observed trends and relationships between ENSO and standardized hydrometeorological drought indices in central Chile. Hydrological Processes. 2020; 34 (2): 159–174. https://doi.org/10.1002/hyp.13596
- **56**: Rouault, F., Ossio, F., González-Levín, P., Meza, F. 2019. Impact of Climate Change on the Energy Needs of Houses in Chile. Sustainability 11, 7068; doi:10.3390/su11247068
- **55**: Lacy, S., Corcoran, D., Aló, D., Lessman, J., Meza, F.J., Marquet, P. 2019. Main Drivers of Freshwater Fish Diversity across Extra-tropical Southern Hemisphere Rivers. Hydrobiologia. 843: 1: 155-172. https://doi.org/10.1007/s10750-019-04044-9
- **54**: Chadwick, C., Gironas, J., Vicuña, S., Meza, F. 2019. Estimating the Local Time of Emergence of Climatic Variables Using an Unbiased Mapping of GCMs. An Application in Semiarid and Mediterranean Chile. Journal of Hydrometeorology. 20: 1635-1647. 10.1175/JHM-D-19-0006.1
- **53**: Morales-Moraga, D., Meza, F.J., Miranda, M., and Gironás, J. 2019. Spatio-temporal estimation of climatic variables for gap filling and record extension using Reanalysis data. Theoretical and Applied Climatology. 137(1-2): 1089-1104. 10.1007/s00704-018-2653-8
- **52**: Oertel, M., Meza, F.J., Gironás, J., Scott, C., Rojas, F., Pineda, N. 2018. Drought propagation in semi-arid river basins in Latin America: Lessons from Mexico to the Southern Cone. Water 10 (11). 10.3390/w10111564
- **51**: Albrecht, T.R., Varady, R.G., Zuniga-Teran, A.A., De Grenade, R., Lutz-Ley, A., Martín, F., Megdal, S.B., Meza, F., Ocampo Melgar, D., Pineda, N., Rojas, F., Taboada, R., Willems, B. 2018. Unravelling transboundary water security in the arid Americas. Water International. 43(8): 1075-1113.
- **50**: Chadwick, C., Gironas, J., Vicuña, S., Meza, F., McPhee, J. 2018. Using a Statistical Preanalysis Approach as an Ensemble Technique for the Unbiased

Mapping of GCM Changes to Local Stations. Journal of Hydrometeorology. 19: 1447-1465.

- **49**: Henríquez-Dole, L., Usón, T., Vicuña, S., Henríquez, C., Gironás, J., Meza, F. 2018. Integrating strategic land-use planning in the construction of future land-use scenarios and its performance: the Maipo River Basin, Chile. Land Use Policy. 78: 353-366
- **48**: Sarabia, A., Meza, F., Suárez, F. 2018. Use of fiber-optic distributed temperature sensing to investigate erosion of the non-convective zone in salt-gradient solar ponds. Solar Energy. 170: 499-509
- **47**: Meza, F.J., Montes, C., Bravo-Martínez, F., Serrano-Ortiz, P., Kowalski, A. 2018. Soil water content effects on net ecosystem CO2 exchange and actual evapotranspiration in a Mediterranean semiarid savanna of Central Chile. Scientific Reports 8: 8570. DOI:10.1038/s41598-018-26934-z.
- **46**: Urdiales, D., Meza, F., Gironás, J., Gilabert, H. 2018. Improving Stochastic Modelling of Daily Rainfall using ENSO index: Model development and application in Chile. Water 10 (2): 145: 1-16. https://doi.org/10.3390/w10020145
- **45**: Amigo, J., Meza, F.J., Suarez, F. 2017. A transient model for temperature prediction in a salt-gradient solar pond and the ground beneath it. Energy. 132: 257-268.
- **44**: Lacy, S.N., Marquet, P., Meza, F.J. 2017. Can environmental impact assessments alone conserve freshwater fish biota? Review of the Chilean experience. Environmental Impact Assessment Review. 63: 87-94.
- **43**: Glade, F., Miranda, M., Meza, F.J., Van Leeuwen, W. 2016. Productivity and phenological responses of natural vegetation to present and future inter-annual climate variability across semi-arid river basins in Chile. Environmental Monitoring and Assessment. 188: 676.
- **42**: Roco, L., Poblete, D., Kerrigan, G., and Meza, F.J. 2016. Understanding farmers' decision to cope with drought and water scarcity: Case studies from two river basins of Chile in the context of Climate Change. Environmental Management. 58(6): 958-971.
- **41**: Mills-Novoa, M., Pszczolk
- **40**: Meza, F.J., Lorenzo, M. 2016. Estimation of daily global solar radiation as a function of routine meteorological data in Mediterranean areas. Theoretical and Applied Climatology 125(3), 479-488. DOI 10.1007/s00704-015-1519-6
- **39**: Meza, F.J., Vicuña, S., Gironás, J., Poblete, D., Suárez, F., Oertel, M. 2015. Water Food Energy Nexus in Chile: the challenges due to global change in different regional contexts. Water International. 40: 5-6, 839-855.

- **38**: Raab, N., Meza, F., Frank, N., and Bambach, N. 2015. Empirical stomatal conductance models reveal that the isohydric behavior of an Acacia caven Mediterranean Savannah scales from leaf to ecosystem. Agricultural and Forest Meteorology. 213: 203-216.
- **37**: Bustos, E., Meza, F.J. 2015. A method to estimate maximum and minimum air temperature using MODIS surface temperature and vegetation data: Application to the Maipo basin, Chile. Theoretical and Applied Climatology. 120(1-2): 211-216.
- **36**: Vicuña, S., Alvarez, O., Melo, L., Dale, F., Meza, F. 2014. Understanding future climate variability and climate change adaptation capacity through a historic perspective of irrigation infrastructure development: lessons from the Limarí basin in Central Chile. Water International. 39(5): 620-634.
- **35**: Bonelli, S., Vicuña, S., Meza, F.J., Gironás, J., Barton, J. 2014. Incorporating climate change adaptation strategies in urban water supply planning: The case of central Chile. Journal of Water and Climate Change. 5(3): 357-376.
- **34**: Orrego, R., Avila, A., Meza, F.J., Matus, F. 2014. Using a crop simulation model to select the optimal climate grid cell resolution. Journal of Soil Science and Plant Nutrition. 14(2): 407-420.
- **33**: Scott, C., Vicuña, S., Blanco-Gutierrez, I., Meza, F.J., Varela-Ortega, C. 2014. Irrigation efficiency and water-policy implications for river-basin resilience. Hydrology and Earth System Sciences. 18: 1339-1348.
- **32**: Meza, F.J., Vicuña, S., Jelinek, M., Bustos, E., Bonelli, S. 2014. Assessing water demands and coverage sensitivity to climate change in the urban and rural sectors in Central Chile. Journal of Water and Climate Change. 5(2): 192-203.
- **31**: Puertas, O., Henríquez, C., Meza, F.J. 2014. Assessing spatial dynamics of urban growth using an integrated land use model. Application in Santiago Metropolitan Area, 2010-2045. Land Use Policy. 38: 415-425.
- **30**: Lawford, R., Bogardi, J., Marx, S., Jain, S., Pahl-Wostl, C., Knüpe, K., Ringler, C., Lansigan, F., and Meza, F. 2013. Basin Perspectives on the Water-Energy-Food Security Nexus. Current Opinion in Environmental Sustainability. 5 (6): 607-616.
- **29**: Bambach, N., Meza, F.J., Gilabert, H., Miranda, M. 2013. Impacts of climate change on the distribution of species and communities in the Chilean Mediterranean ecosystem. Regional Environmental Change. 13 (6): 1245-1257.
- **28**: Demaría, E.M.C., Maurer, E.P., Thrasher, B., Vicuña, S., and Meza, F.J. 2013. Climate change impacts on an alpine watershed in Chile: do new model projections change the story? Journal of Hydrology. 502. 128-138.
- **27**: Vicuña, S., Gironás, J., Meza, F.J., Cruzat, M.L., Jelinek, M., Bustos, E., Poblete, D., and Bambach, N. 2013. Exploring possible connections between hydrological

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- **26**: Meza, F. 2013. Recent trends and ENSO influences on droughts in Northern Chile: An Application of the Standard Precipitation Evapotranspiration Index. Weather and Climate Extremes: 1: 51-58.
- **25**: Puertas, O., Brenning, A., Meza, F.J. 2013. Balancing misclassification errors of land cover classification maps using support vector machines and Landsat imagery in the Maipo river basin Central Chile, 1975-2010. Remote Sensing of the Environment. 137: 112-123.
- **24**: van Leeuwen, W.J.D., Hartfield, K., Miranda, M., Meza, F.J. 2013. Trends and ENSO/AAO Driven Variability in NDVI Derived Productivity and Phenology alongside the Andes Mountains. Remote Sensing 5: 1177-1203.
- **23**: Jara, V., Meza, F.J., Zaviezo, T., Chordbajian, R. 2013. Climate change impacts on invasive potential of pink hibiscus mealybug, Maconellicoccus hirsutus (Green), in Chile. Climatic Change. 117 (1-2): 305-317.
- **22**: De Maria, E.M.C., Maurer, E., Sheffield, J., Bustos, E., Poblete, D., Vicuña, S., Meza, F.J. 2013. Using a Gridded Global Dataset to Characterize Regional Hydroclimate in Central Chile. Journal of Hydrometeorology. 14(1): 251-265.
- **21**: Scott, C.A., Meza, F.J., Varady, R.J., Tiessen, H., McEvoy, J., Garfin, G.M., Wilder, M., Farfán, L.M., Pineda Pablos, N., and Montaña, E. 2013. Water security and adaptive management in the arid Americas. Annals of the Association of American Geographers, 103, 2, 280-289.
- **20**: Meza, F.J., Wilks, D.S., Gurovich, L., Bambach, N. 2012. Impacts of climate change on irrigated agriculture in the Maipo Basin, Chile: reliability of water rights and changes in the demand for irrigation. Journal of Water Resources Planning and Management 138(5), 421–430.
- **19**: Scott, C., Varady, R., Meza, F.J., de Raga, G., Luckman, B., Montaña, E., and Martius, C. 2012. Science-Policy Dialogues for Water Security: Addressing Vulnerability and Adaptation to Global Change in the Arid Americas. Environment: Science and Policy for Sustainable Development, 54:3, 30-42.
- **18**: Artacho, P., Meza, F., Alcalde, J.A. 2011. Evaluation of the ORYZA2000 rice growth model under nitrogen-limited conditions in an irrigated Mediterranean environment. Chilean JAR. 71(1): 23-33.
- **17**: Silva, D., Meza, F.J., Varas, E. 2010. Estimating reference evapotranspiration (ETo) using numerical weather forecast data in central Chile. Journal of Hydrology. 382: 64-71.
- **16**: Núñez, C., Varas, E., Meza, F.J. 2010. Modelling Soil Heat Flow. Theoretical and Applied Climatology. 100: 251-260.

- **15**: Wipf, S., Meza, F.J. 2009. International Young Scientists' perspective on global change issues. Climatic Change. 94 (1-2): 1-4.
- **14**: Meza, F.J., Silva, D. 2009. Dynamic adaptation of maize and wheat production to climate change. Climatic Change. 94 (1-2): 143-156.
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- **11**: Meza, F.J., Silva, D., and Vigil, H. 2008. Climate change impacts on irrigated maize in Mediterranean climates. Evaluation of double cropping as an emerging adaptation alternative. Agricultural Systems. 98: 21-30.
- **10**: Meza, F.J., J.W. Hansen, and D. Osgood. 2008. Economic value of seasonal climate forecasts: Review of ex-ante assessments and recommendations for future research. Journal of Applied Meteorology and Climatology. Vol. 47, No. 5. 1269-1286.
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- **6**: Meza, F.J., and Wilks, D.S. 2004. Use of seasonal forecasts of sea surface temperature anomalies for potato fertilization management. Theoretical study considering EPIC model results at Valdivia, Chile. Agricultural Systems: 82, 161-180.
- **5**: Meza, F.J., and Wilks, D.S. 2003. Value of operational forecasts of seasonal average sea surface temperature anomalies, for selected rain-fed agricultural locations of Chile. Agricultural and Forest Meteorology: 116 (3-4), 137-158.
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- **2**: Meza, F., and Uauy, C. 1998. Use of the Poisson probability function to model frosts. Ciencia e Investigación Agraria. 25(3): 127-132.
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8.2 Books and Book Chapters

- **Meza, F. 2024**. Climatic profile and drought characteristics in Chile. Donoso, G. eds. SPRINGER
- **Meza, F., Urbina, M., Urquiza, F. 2024**. Education for sustainable development. Ideas in Education 4.
- **Marín, F.R., Goncalves, I., Meza, F., Riaño, N., Peña, A., Heinneman, A., Streck, N., Zanon, A., Vianna, M., Silva, E., Vieira, N. 2023**. Modeling the impact of climate change on agriculture in Latin America. In Naandel, C. Ed. Modelling climate change impacts on agricultural systems. Burleigh Dodds Series in Agricultural Science. ISBN-13: 9781801461740
- **Bezner Kerr, R., T. Hasegawa, R. Lasco, I. Bhatt, D. Deryng, A. Farrell, H. Gurney-Smith, H. Ju, S. Lluch-Cota, F. Meza, G. Nelson, H. Neufeldt, and P. Thornton, 2022**: Food, Fibre, and Other Ecosystem Products. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 713–906, doi:10.1017/9781009325844.007.
- **Benavides, Carlos; Cifuentes, Luis A.; Díaz, Manuel; Gilabert, Horacio; Gonzales, Luis; González, Diego; Groves, David G.; Jaramillo, Marcela; Marinkovic, Catalina; Menares, Luna; Meza, Francisco; Molina, Edmundo; Montedónico, Marcia; Palma, Rodrigo; Pica, Andrés; Salas, Cristian; Torres, Rigoberto; Vicuña, Sebastián; Valdés, José Miguel; Vogt-Schilb, Adrien. 2021**. Options to Achieve Carbon Neutrality in Chile: An Assessment Under Uncertainty. http://dx.doi.org/10.18235/0003527. Monograph IDB 945
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- **Meza, F., Gil, P., Melo, O. 2021**. Agricultural Uses. In Water Resources in Chile. Fernandez, B., and Gironás, J. eds, 1st Ed. Springer 433 pp.
- **Oertel, M., Meza, F.J., Gironás, J. 2021**. Multivariate Standardized Drought Indices to Identify Drought Events: Application in the Maipo River Basin. In: Ribbe, L., Haarstrick, A., Bubel, M., Dehnavi, S., Biesalski, H. eds. Towards Water Secure Societies: Coping with water scarcity and quality challenges. SPRINGER BOOK SERIES. 196 pp.
- **Cambio Climático en Chile: Ciencia y desafíos en mitigación y adaptación. Castilla, J. C., Meza, F., Vicuña, S., Marquet, P., Montero, J. P. (eds.). Ediciones UC. Santiago, Chile, 2019, pp 480.**
- **Meza, F. 2019**. Atmosphere, Energy Balance, and Greenhouse Effect. In Climate Change in Chile: science and challenges in mitigation and adaptation. Castilla, J. C., Meza, F., Vicuña, S., Marquet, P., Montero, J. P. (eds.). Ediciones UC. Santiago, Chile, 2019, pp 480.
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- **Irarrazaval, R., Meza, F., Prieto, B., and Marshall, G. 2018**. Chapter 20: Contribution of higher education to a more sustainable society. In Ideas in Education II: Definitions in Times of Change. Sánchez, I. Ed. Ediciones Universidad Católica. 778 pages.
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