

CURRICULUM VITAE  
**LELYS ISAURA BRAVO DE GUENNI**  
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## RESEARCH INTEREST

My research focus is on Environmental Statistics. My research interests are centered in developing statistical and data science methods for spatial-temporal modeling of environmental risk components including hazards and vulnerability, with applications to epidemiological and population risk assessments to extreme weather events, which might be exacerbated by climate change.

## EDUCATION

DEGREE	INSTITUTION
<b>PhD</b> (Dissertation: Stochastic modeling of temporal and spatial variability of weather patterns for crop model applications)	Division of Environmental Sciences, Griffith University, Australia. 1992
<b>MSc</b> (Dissertation: An alternative method of flood routing in rivers with tributaries)	Graduate program in Water Resources. Universidad Simón Bolívar. Venezuela. 1982
<b>Bachelor in Mathematics</b> (Major in Probability and Statistics, Numerical Analysis and Optimization)	Division of Physical and Mathematical Sciences. Universidad Simón Bolívar. Venezuela. 1980

## EMPLOYMENT HISTORY

DATE	POSITION	LOCATION
Oct 2022 - Present	Clinical Associate Professor	University of Illinois at Urbana-Champaign, Department of Statistics, USA
May 2019 – Oct 2019	Visiting Professor	University of Illinois at Urbana-Champaign, Department of Statistics, USA
Ago 2017– May 2019	Visiting Professor	Northern Illinois University, Dekalb Division of Statistics, USA
Sep 2016 – Mar 2017	Visiting Professor	University of California, Santa Cruz. Department of Applied Mathematics and Statistics, USA
Mar 2016 – Jun 2016	Visiting Professor	University of California, Santa Cruz. Department of Applied Mathematics and Statistics, USA
Aug 2015 – Feb 2016	Invited Professor	Escuela Superior Politécnica del Litoral, Climate Change Master Program. Guayaquil, Ecuador
Mar 2015 – Jun 2015	Visiting Professor	University of California, Santa Cruz. Department of Applied Mathematics and Statistics, USA
Jan 2014 – Sep 2014	Ecuador Prometheus Program Researcher	Climate Change Master Program. Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador
Mar 2013 – Jun 2013	Visiting Professor	University of California, Santa Cruz.

Oct 2012 – Mar 2013	Retired Professor under contract	Department of Applied Mathematics and Statistics, USA Universidad Simón Bolívar.
Jan 2012 – Jun 2012	Visiting Professor	Department of Scientific Computing and Statistics. Caracas – Venezuela University of California, Santa Cruz.
Sep 2007– Dec 2011	Retired Professor under contract	Department of Applied Mathematics and Statistics, USA Universidad Simón Bolívar.
Jun 2011 – Jul 2011	Research Associate	Department of Scientific Computing and Statistics. Caracas – Venezuela University of California, Santa Cruz.
Jul 2008 – Aug 2008	Research Associate	Department of Applied Mathematics and Statistics, USA University of California, Santa Cruz.
Feb 1999 – Jul 2007	Full Professor	Department of Applied Mathematics and Statistics, USA Universidad Simón Bolívar.
Jan 1996 – Jan 1999	Associate Professor	Department of Scientific Computing and Statistics. Caracas – Venezuela Universidad Simón Bolívar.
Jan 1994 – Dec 1995	Assistant Professor	Department of Scientific Computing and Statistics. Caracas – Venezuela Universidad Simón Bolívar.
Sep 1993 – Dec 1993	Lecturer	Department of Scientific Computing and Statistics. Caracas – Venezuela Universidad Central de Venezuela, Facultad de Agronomía, Maracay-Venezuela
May 1993 – Oct 1993	Lecturer	Universidad Central de Venezuela, Facultad de Agronomía, Maracay - Venezuela
Sep 1992 – Dec 1993	Lecturer	Universidad Simón Bolívar. Departamento de Matemáticas. Caracas – Venezuela
Sep 1992 – Dec 1992	Lecturer	Universidad Central de Venezuela, Facultad de Agronomía, Maracay - Venezuela
Oct 1991 – Feb 1992	Mathematician/ Consultant	Queensland Department of Primary Industries. Brisbane, Australia.
Feb 1988 – Nov 1991	Graduate Teaching Assistant	Griffith University. Brisbane, Australia.
Jun 1984 – Mar 1994	Researcher	National Center for Agricultural Research (on-leave from Jan 1987- Mar 1992 for PhD studies)
Sep 1982 – Dec 1982	Lecturer	Universidad Simón Bolívar. Departamento de Matemáticas. Caracas – Venezuela
Sep 1980 – Sep 1982	Graduate Teaching Assistant	Universidad Simón Bolívar. Departamento de Matemáticas. Caracas – Venezuela
Sep 1979 – Dec 1979	Undergraduate Teaching Assistant	Universidad Simón Bolívar. Departamento de Matemáticas, Caracas – Venezuela
Sep 1978 – Jul 1979	Undergraduate Teaching Assistant	Universidad Simón Bolívar. Departamento de Matemáticas. Caracas – Venezuela
Jan 1978 – Jul 1978	Undergraduate Teaching Assistant	Universidad Simón Bolívar. Departamento de Matemáticas. Caracas – Venezuela

## AWARDS AND HONORS

2019	Elected Member of the International Statistical Institute (ISI)
2014	Prometheus Program Scholarship Award, granted by the National Secretary of Science and Technology of Ecuador
2013- Present	Corresponding member of the Venezuelan Academy of Physics, Mathematics and Natural Sciences (ACFIMAN)

- 1995 –2010 Researcher Level II. Venezuelan System for the promotion of research (SPI)
- 2005 Zayed International Prize for the Environment 2005, Second Category, to all co-authors of the Millennium Ecosystem Assessment.
- 1999 - 2000 Annual prize for the best scientific paper (Engineering area). Venezuelan Council of Scientific Research. Sansó, B. and **Guenni, L.** 1999. Venezuelan rainfall data analyzed using a Bayesian space-time model. *Applied Statistics. Journal of the Royal Statistical Society*, 48 (3): 345-362
- 1989 - 1991 Griffith University (Brisbane-Australia) Postgraduate Research Scholarship Award
- 1982 Master Thesis Honor Award. Universidad Simón Bolívar, Caracas-Venezuela

## TEACHING EXPERIENCE

### INSTITUTIONS

University of Illinois at Urbana- Champaign

Northern Illinois University  
Division of Statistics

University of California  
Department of Applied Mathematics and Statistics

Universidad Simón Bolívar  
Departamento de Cómputo Científico y Estadística

Universidad Central de Venezuela  
Facultad de Agronomía

Escuela Superior Politécnica del Litoral,  
FIMCBOR. Guayaquil-Ecuador

Griffith University  
School of Environmental Sciences  
Brisbane, Australia

Universidad Simón Bolívar  
Department of Mathematics

### COURSE

Advance Data Analysis with SAS (STAT448)  
Applied Regression and Design (STAT425)  
Sampling and Categorical Data Analysis (STAT426)  
Environmental Statistics (STAT430)

Statistical Models I (STAT 473/573); Forecasting models (STAT 478/578. Statistical Software (STAT473A/573A), Statistical Methods for Spatial Data (STAT679)

Statistical methods for the Biological, Environmental and Health Sciences (AMS7); Gaming and Gambling (AMS80A); The Art of Data Visualization AMS80B); Statistics (AMS5); Introduction to probability (AMS131/203); Classical and Bayesian Inference (AMS132/206)

Environmental Statistics (CO6324); Statistical Methods (CO6341); Statistical Inference I (CO6311); Statistical Inference II (CO6312); Statistical Modelling (CO5312); Multivariate Analysis Methods (CO6111); Data Analysis I (CO5313); Data Analysis II (CO5314); Statistics for Engineers (CO3321); Probability for Engineers (CO3121); Statistical Methods I (CO2121); Statistical Methods II (CO2122)

Time Series Analysis in Agricultural Applications;  
Agricultural Climatology

Oceanographic Data Analysis. Master thesis advisor in the Master Program of Climate Change

Graduate TA in Data Analysis I and II

TA in Advanced Calculus I, II and III, and Mathematics IV, and VI

## STUDENT SUPERVISION

GRAD. YEAR	STUDENT NAME	DEGREE/INSTITUTION
2021	Eliana Vivas	Master Program in Statistics. Universidad Simón Bolívar. Venezuela
2018	Desireé Villata	Doctorate in Interdisciplinary Sciences. Universidad Simón Bolívar, Caracas, Venezuela
2015	Alba Pincay and Alfredo Cañas	Master Program in Climate Change. Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador.
2015	Joffre Mendoza and Henry Correa	Master Program in Climate Change. Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador.
2015	Carlos Rosero	Master Program in Climate Change. Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador
2014	Dmitri Strauss	MSc in Statistics. Universidad Simón Bolívar, Caracas, Venezuela
2013	Rosa Barrios	Doctorate in Inter-disciplinary Sciences. Universidad Simón Bolívar, Caracas, Venezuela
2013	Rafael Rebolledo	Doctorate in Sustainable Development (with honors). Universidad Simón Bolívar, Caracas, Venezuela.
2013	Raquel Vásquez	MSc in Statistics. Universidad Simón Bolívar, Caracas, Venezuela
2013	Angel Álvaro	MSc in Statistics. Universidad Simón Bolívar, Caracas, Venezuela
2013	Lenin Crespo	MSc in Statistics. Universidad Simón Bolívar, Caracas, Venezuela
2012	Nele Tim	MSc in Meteorology (Co-supervisor). Universität Hamburg, Hamburg, Germany
2011	Hector Millan	MSc in Statistics. Universidad Simón Bolívar, Caracas, Venezuela
2009	Desireé Villalta	MSc in Statistics. Universidad Simón Bolívar, Caracas, Venezuela
2009	Pedro Sequera	MSc in Statistics (with honors). Universidad Simón Bolívar, Caracas, Venezuela
2008	Jhan Rodríguez	MSc in Statistics. Universidad Simón Bolívar, Caracas, Venezuela
2008	Alexis Durán	MSc in Statistics. Universidad Simón Bolívar, Caracas, Venezuela
2005	María Dolores Delgado	MSc. in Biological Sciences (with honors). Universidad Simón Bolívar. Caracas, Venezuela.
2005	Lisbeth Torres	MSc. in Computer Sciences. Universidad Simón Bolívar, Caracas, Venezuela
2005	Aracelis Hernández González	Doctorate in Engineering and Applied Sciences. Universidad Simón Bolívar. Caracas, Venezuela.
2002	Carlos Dommar	Specialist in Computacional Statistics. Universidad Simón Bolívar, Caracas, Venezuela.
2001	Dhamelys Saade	Specialist in Computational Statistics. Universidad Simón Bolívar, Caracas, Venezuela.
2000	Lisbeth Betancourt	MSc. in Statistics (with honors). Universidad Simón Bolívar. Caracas, Venezuela.

1998	Aracelis Hernández González	MSc. in Mathematics. Universidad Simón Bolívar Caracas, Venezuela.
1996	Marisabel Rojas Polanco	MSc. in Statistics. Universidad de Los Andes, Mérida, Venezuela.
1995	Oscar Silva	MSc. in Soil Sciences (with honors). Universidad Central de Venezuela, Maracay, Venezuela.

## VISITING FELLOWSHIPS

Sep – Dec 2008	Visiting Scientist at the National Institute of Spatial Research (INPE). Sao José dos Campos. Brazil. Funded by FAPESP
Jul - Aug 2008	Research Associate. University of California, Santa Cruz. Department of Applied Mathematics and Statistics, USA
Apr – Jun 2008	Visiting Scientist at the National Institute of Spatial Research (INPE). Sao José dos Campos. Brazil. Funded by FAPESP
Sep - Nov 2007	Visiting Professor. Stuttgart University, Water Resources Institute. Stuttgart, Germany. Funded by DAAD
Jul - Aug 2006	Research Associate. University of California, Santa Cruz. Department of Applied Mathematics and Statistics, USA.
Apr 2006	Visiting Professor. Mathematics Research Center (CIMAT), Guanajuato, México
Sep 2005	Visiting Professor. Stuttgart University, Water Resources Institute Stuttgart, Germany. Funded by DAAD
Aug – Sep 2005	Visiting Professor: Potsdam Climate Impact Research Institute (PIK). Potsdam, Germany.
Jul – Aug 2001	Visiting Professor: Laboratory GRESE (Laboratory for Risk Management in Water Sciences), ENGREF Paris, France.
Sep 2000 – Jul 2001	Visiting Professor (Sabbatical leave): University of New Hampshire, Institute for the Study of the Earth, Ocean and the Space, Complex Systems Research Center, Water System Analysis Group
May 1999	Visiting Professor: Bödenkultur University. Institute of Water Resources
Aug 1997	Visiting Professor: University of New Castle upon Tyne, Department of Civil Engineering, UK.
Jul – Aug 1996	Visiting Professor: Australian National University, Centre for Resources and Environmental Studies. Canberra, Australia.
Aug – Sep 1995	Visiting Professor: University of Stuttgart. Institute of Water Resources. Germany. Funded by DAAD

## ADMINISTRATIVE POSITIONS

DATE	ACTIVITIES	INSTITUTION
2010-2012	Coordinator of the Technical Admission Office	Universidad Simón Bolívar, Caracas-Venezuela
2005-2007	Head of the Information Technology Laboratory	Universidad Simón Bolívar, Caracas-Venezuela
2001-2003	Director of the Center of Statistics and Applied Mathematics (CESMa).	Universidad Simón Bolívar, Caracas-Venezuela
1992 – 1993	Head of the Agricultural Climatology Section	National Center for Agricultural Research (CENIAP). Maracay, Venezuela

## INDEPENDENT CONSULTING

DATE	ACTIVITY	CONTRACTOR
2012	Andean region hydrometeorological program evaluation	Finland International Cooperation office for the Andean region, Lima-Perú
2012-2013	Medical data analysis for graduate medical students in Venezuela including data analysis training	Novartis-Venezuela
2013	Founder and CEO of HomoData Corp.	HomoData Corp, Florida, USA
2014-2015	Mathematician and Data Modeler in the development of the Health Ocean Index for Guayaquil Gulf, Ecuador	Biotica/Consulsua Consortium, Guayaquil-Ecuador
2016	Vulnerability and Adaptation to Climate Change for Risk reduction in Hydropower Generation of the Apanás-Asturias Lake in Nicaragua	Empresa Nacional de Energía Eléctrica-Nicaragua
2017	Development Structural Equations Models for Brand Equity estimation in the banking sector, using a Bayesian approach	Intelligent Corp., Caracas - Venezuela

## PUBLISHED WRITING AND CREATIVE ACTIVITIES

### *Journal Articles*

1. **Bravo de Guenni, L.**; Lenczewski, M.; Mallow, S.V.; Solanki, S. Assessing Water Quality Spatial Heterogeneity from Multiple Pollution Sources in the Boung Cheung Ek Wetland, Phnom Penh, Cambodia. *Water* **2024**, *16*, 4. <https://doi.org/10.3390/w16010004>
2. **Vivas, E.**, Bravo de Guenni, L., Allende-Cid, H. and Salas, R. 2022. Deep lagged-wavelet for monthly rainfall forecasting in a Tropical Region. *Stochastic Environmental Research and Risk Assessments*. <https://link.springer.com/article/10.1007/s00477-022-02323-x>
3. Rubio-Palis, Y., **Bravo, L.**, Guzmán, H., Caura, S., Song, C., Wang, S., & Ybarra, L. M. P. (2021). Respuesta a atrayentes químicos y actividad horaria de *Anopheles Meigen* spp. (Diptera:

Culicidae) en un área malárica del estado Bolívar, Venezuela. *Boletín de Malariología y Salud Ambiental*, 61(2), 267-274. <https://doi.org/10.52808/BMSA.7E5.612.016>

4. García, I., Huo, S., Prado, R., **Bravo, L.** 2020. Dynamic Bayesian temporal modeling and forecasting of short-term wind measurements. *Renewable Energy*, 161:55-64, ISSN 0960-1481; <https://doi.org/10.1016/j.renene.2020.05.182>.
5. Villalta, D., **Bravo de Guenni, L.** and Sajo-Castelli, A. 2020. Spatio-temporal modelling of hydro-meteorological derived risk using a Bayesian approach: a case study in Venezuela. *Stochastic Environmental Research and Risk Assessment*, 34:513-529. <https://doi.org/10.1007/s00477-020-01783-3>
6. E. Vivas, H. Allende-Cid, R. Salas and **L. Bravo**. 2019. Polynomial and Wavelet-Type Transfer Function Models to Improve Fisheries' Landing Forecasting with Exogenous Variables. *Entropy* 2019, 21, 1082; [doi:10.3390/e21111082](https://doi.org/10.3390/e21111082).
7. Gensini, V.A and **Bravo de Guenni, L.** 2019: Environmental covariate representation of Seasonal U.S. tornado frequency. *Journal of the American Meteorological Society*, 58: 1353:1367. DOI: [10.1175/JAMC-D-18-0305.1](https://doi.org/10.1175/JAMC-D-18-0305.1).
8. Diodatto, N., **Bravo de Guenni, L.**, García, M. and Bellochi, G. 2019. Decadal Oscillation in the predictability of Palmer Drought Severity index in California. *Climate*, 7(1), 6; <https://doi.org/10.3390/cli7010006>.
9. Méndez, M., Córdova, J., **Bravo de Guenni, L.**, Pacheco, H., Chunga, K., Toulkeridis, T. 2019. Predictive models to estimate sediment volumes deposited by debris flows (Vargas state, Venezuela): an adjustment of multivariate statistical techniques. *Environmental Earth Sciences*, 78:350, <https://doi.org/10.1007/s12665-019-8346-5>
10. Guenni, O., E. Romero, Y. Guédez, **L.B. Guenni**, and J. Pittermann. 2018. Influence of low light intensity on growth and biomass allocation, leaf photosynthesis and canopy radiation interception and use in two forage species of *Centrosema* (DC). *Benth. Grass Forage Sci.* 73:967–978. DOI: [10.1111/gfs.12368](https://doi.org/10.1111/gfs.12368).
11. Guenni, O.; Prías, L.; **Bravo de Guenni, L.** 2017. Caracterización de la germinación en la semilla comercial de ocho cultivares de gramíneas forrajeras tropicales. *Rev. Fac. Agron. (LUZ)*, 34: 348-370. <http://agronomiamjournal.com/index.php/path/article/view/87/82>
12. **Bravo de Guenni, L.**, M. García, A.G. Muñoz, J.L. Santos, A. Cedeño, A. Perugachi, J.E. Castillo. 2017.. Predicting precipitation along coastal Ecuador: ENSO and transfer function models. *Journal of Theoretical and Applied Climatology*. <https://doi.org/10.1007/s00704-016-1828-4>.
13. Rebolledo Wueffer, R. y **Bravo de Guenni, L.** 2016. Variaciones del Potencial de Energía Eólica en el Norte de Venezuela en el siglo XXI, bajo las Condiciones de Cambio Climático. *Acta Biol. Venez.* 36 (1): 57-70. [http://saber.ucv.ve/ojs/index.php/revista\\_abv/issue/view/1445](http://saber.ucv.ve/ojs/index.php/revista_abv/issue/view/1445).
14. Tim, Nele and **Guenni, L.** 2016. Oceanic influence on precipitation in Venezuela under current and future climates. *Journal of Climate Dynamics*. <https://doi.org/10.1007/s00382-015-2832-6>
15. Méndez M., W.J., Córdova, J.R., **Bravo de Guenni, L.** 2015. Predictive models of instantaneous maximum discharges for catchments of mountainous environments, supported by morphometric parameters. *Revista Técnica de la Facultad de Ingeniería Universidad del Zulia* 38(3):229-238. <http://revencyt.ula.ve/storage/repo/ArchivoDocumento/rtz/v38n3/art06.pdf>
16. Cores, D., **Guenni, L.** and Torres, L. 2015. A deterministic optimization approach for solving the Rainfall Disaggregation problem. *Bull. Comp. Appl. Math.* Vol. 3, No. 2, pp. 7-29. <https://drive.google.com/file/d/0B5GyVVQ6O030NUZLbE1JeFo1cEU/view>
17. Gómez, S.; Guenni, O.; **Bravo de Guenni, L.** 2013. Field growth, nutrient uptake, photosynthesis and light use efficiency under differing irradiance and soil N supplies in the forage grass *Brachiaria decumbens*. *Grass and Forage Sciences*, 68(3): 395-407. DOI: [10.1111/gfs.12002](https://doi.org/10.1111/gfs.12002)
18. **Guenni, L.**, Nobre, C., Marengo, J., Huerta, G., Sansó, B. 2013. Oceanic influence on Extreme Rainfall Trends in the North Central Coast of Venezuela: Present and future climate assessments. *Bull.*



Comput. Appl. Math. Vol. 1, No. 2: pp. 7-45.

<https://drive.google.com/file/d/0B5GyVVQ600300UJOT2tvQnhOcW8/view>

19. Vörosmary, C.V., **Bravo de Guenni, L.**, Woolheim, W., Pellerin, B., Cardoso, M., D'Almeida, C., Green, P. and Colon, L. 2013. Extreme-rainfall, vulnerability and Risk: A continental-scale assessment for South America. *Philosophical Transactions of the Royal Society, A Math Phys Eng Sci*, 371(2002): 20120408. <https://doi.org/10.1098/rsta.2012.0408>
20. Rodríguez, J and **Guenni, L.** 2013. Bayesian analysis of population vulnerability to rainfall events in Venezuela. *Journal Integrated Disaster and Risk Management (IDRiM)*, 3(1): 137-154. DOI: 10.5595/idrim.2012.0034
21. Bravo de **Guenni, L.** and Simmons, S. (Guest Editors). 2012. Modern Quantitative Methods for Environmental Risk Assessment. *Environmetrics* (Special Issue), 23(8):637. DOI: **10.1002/env.2191**
22. Villalta, D., Guenni, L., Rubio-Palis, Y. and Ramírez, R. 2013. Bayesian space-time modeling of malaria incidence in Sucre state, Venezuela. *ASSTA Adv Stat Anal* 97: 151–171. <https://doi.org/10.1007/s10182-012-0190-9>
23. Hernández, A., **Guenni, L.** and Sansó, B. 2011. Características de la precipitación extrema en algunas localidades de Venezuela. *Interciencia*. 36(03): 185-191. <https://www.interciencia.net/wp-content/uploads/2018/01/185-HERNANDEZ-7.pdf>
24. Li, J., Bardossy, A., **Guenni, L.** and Liu, M. 2011. A Copula based observation network design approach. *Environmental Modelling and Software*. 26(11):1349-1357. <https://doi.org/10.1016/j.envsoft.2011.05.001>.
25. Durán, A. and **Guenni, L.** 2010. Probabilistic Estimation of Climate Change in Venezuela using a Bayesian Approach. *Revista Colombiana de Estadística*. 33(2):191-218. <http://www.scielo.org.co/pdf/rce/v33n2/v33n2a02.pdf>
26. Hernandez, A., **Guenni, L.** and Sansó, B. 2009. Extreme limit distributions of truncated models for daily rainfall. *Environmetrics*. 20(8): 962-980. <https://doi.org/10.1002/env.967>
27. **Guenni, L.**, Degryze, E. y Alvarado, K. 2008. Análisis de la tendencia y la estacionalidad de la precipitación mensual de Venezuela. *Revista Colombiana de Estadística*. 31(1): 41-65. <http://www.scielo.org.co/pdf/rce/v31n1/v31n1a03.pdf>
28. Sansó, B. and **Guenni, L.** 2004. A Bayesian approach to compare observed rainfall data to deterministic simulations. *Environmetrics*, 15:1-16. <https://doi.org/10.1002/env.660>
29. **Guenni, L.**, Hernandez, A. and Fillipone, M. 2003. Modeling population vulnerability and risk to extreme rainfall events in Venezuela. *Acta Científica Venezolana*, Vol. 54, Sup. 1: 2-12.
30. **Guenni, L.** and Bárdossy, A. 2002. A two-step disaggregation method for highly seasonal monthly rainfall. *Stochastic Environmental Research and Risk Assessment*. 16 (3): 188-206. <https://doi.org/10.1007/s00477-002-0094-4>
31. **Guenni, L.**, Sansó, B. and Betancourt, L. 2002. Oceanic influence on the precipitation of the South East of Venezuela. *Environmetrics*. 13: 263-279. <https://doi.org/10.1002/env.513>
32. Castrillo, M., Fernandez, D., Calcagno, A.M., Trujillo, I and **Guenni, L.** 2001. Responses of ribulose-1,5-bisphosphate carboxylase, protein content, and stomatal conductance to water deficit in maize, tomato and bean. *Photosynthetica*, 39(4): 221-226. <https://doi.org/10.1023/A:1013731210309>
33. Sanso, B. and **Guenni, L.** 2000. A nonstationary multisite model for rainfall. *Journal of the American Statistical Association*, 95(452):1089-1100. <https://doi.org/10.1080/01621459.2000.10474305>
34. Pielke, R.A. (Sr.) and **L. Guenni.** 1999. Vulnerability assessment of water resources to changing environmental conditions. *Global Change Newsletter*, No. 39, pp. 22-23. [http://www.igbp.net/download/18.950c2fa1495db7081e133/1416232601347/NL\\_391999.pdf](http://www.igbp.net/download/18.950c2fa1495db7081e133/1416232601347/NL_391999.pdf)
35. Sansó, B. and **Guenni, L.** 1999. Venezuelan rainfall data analyzed using a Bayesian space-time model. *Applied Statistics. Journal of the Royal Statistical Society*, 48 (3): 345-362. <https://doi.org/10.1111/1467-9876.00157>
36. Sansó, B. and **Guenni, L.** 1999. A stochastic model for tropical rainfall at a single location. *Journal of Hydrology*, 214:64-73. [https://doi.org/10.1016/S0022-1694\(98\)00241-8](https://doi.org/10.1016/S0022-1694(98)00241-8)



37. **Guenni, L.**, Ojeda, F. and M.C. Key. 1998. Periodic model selection for rainfall using Conditional Maximum Likelihood. *Environmetrics*, 9:407-417. [https://doi.org/10.1002/\(SICI\)1099-095X\(199807/08\)9:4%3C407::AID-ENV311%3E3.O.CO;2-N](https://doi.org/10.1002/(SICI)1099-095X(199807/08)9:4%3C407::AID-ENV311%3E3.O.CO;2-N)
38. **Guenni, L.** and M.F. Hutchinson. 1998. Spatial Interpolation of the parameters of a rainfall model from ground-based data. *Journal of Hydrology*, 212-213 (1-4): 335-347. [https://doi.org/10.1016/S0022-1694\(98\)00215-7](https://doi.org/10.1016/S0022-1694(98)00215-7)
39. Hutjes, R.W.A. *et al.* (**L. Guenni** included). 1998. Biospheric Aspects of the Hydrological Cycle. *Journal of Hydrology*, 213-214(1-4):1-21. [https://doi.org/10.1016/S0022-1694\(98\)00255-8](https://doi.org/10.1016/S0022-1694(98)00255-8)
40. **Guenni, L.** 1997. Spatial Interpolation of Stochastic Weather Model Parameters. *Journal of Environmental Management*, 49:31-42. <https://doi.org/10.1006/jema.1996.0114>
41. **Guenni, L.**, Hutchinson, M.F., Hogarth, W., Rose, C.W. and Braddock, R. 1996. A model for the Seasonal Variation of Rainfall at Adelaide and Turen. *Ecological Modelling*, 85:203-217. [https://doi.org/10.1016/0304-3800\(94\)00189-8](https://doi.org/10.1016/0304-3800(94)00189-8)
42. **Guenni, L.**, Charles-Edwards, D., Rose, C.W., Braddock, R. and Hogarth, W. 1990. Stochastic weather modelling: A phenomenological approach. *Mathematics and Computers in Simulation*, 32:113-118. [https://doi.org/10.1016/0378-4754\(90\)90224-7](https://doi.org/10.1016/0378-4754(90)90224-7)
43. **Guenni, L.**, Rose, C.W., Hogarth, W., Braddock, R. and Charles-Edwards, D. 1990. Seasonal Changes in the Interrelationships between Climatic Variables. *Agricultural and Forest Meteorology*, 53:45-58. [https://doi.org/10.1016/0168-1923\(90\)90123-N](https://doi.org/10.1016/0168-1923(90)90123-N)
44. Wagner, M., A. Barrios, G. Medina y **L. de Guenni**. 1988. Evaluación de un modelo de riego en caraota (*Phaseolus vulgaris* L.) en la Estación Experimental de Santa Cruz, Estado Aragua. *Agronomía Tropical*, 38:109-133.
45. Wagner, M., **L.B. de Guenni**, G. Medina y M. Mujica. 1986. Evaluación de un Modelo de Riego aplicado en plantillas de caña de azúcar (*Saccharum sp.*) en condiciones de suelo Mollisol. *Caña de Azúcar*. 4(2):143-167.
46. Comerma, J.A., **L.B. de Guenni** y G. Medina. 1985. Validación del Balance Hídrico del modelo CERES-MAIZ en la zona de Maracay, Estado Aragua, Venezuela. *Agronomía Tropical*, 35:115-132.
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### **Book Chapters**

1. **Bravo de Guenni, L.**, Villalta, D. and Sajo-Castelli, A. 2021. Extreme Events, Population, and Risks: An Integrated Modeling Approach. In: V. Lyubchich, Y.R. Gel, K.H. Kilbourne, T.J. Miller, N.K. Newlands and A.B. Smith (Eds.): *Evaluating Climate Change Impacts, Chapter 11*, pp: 235-257. CRC Press, Boca Raton FL, USA. ISBN: 978-0-8153-9237-8 (book)/ 978-1-351-19083-1 (ebook)..
2. Llatas, I., Sajo-Castelli, A.M., Araya, L., Lairet C., R., Ovalles, P., Villalta, D. **Bravo, L.** 2018. Modelaje y Estadística. In: ACFIMAN-SACC, 2018: "Primer Reporte Académico de Cambio Climático 2018: Contribución de los Grupos de Trabajo I, II y III al Primer Reporte Académico de Cambio Climático (PRACC) de la Secretaría Académica de Cambio Climático (SACC) de la Academia de Ciencias Físicas, Matemáticas y Naturales (ACFIMAN) de Venezuela". [Villamizar, A., E. Buroz Castillo, R. Lairet Centeno, & J. A. Gómez (Eds.)]. EDICIONES ACFIMAN – CITECI, CARACAS, pp: 3-44. <http://www.acading.org.ve/info/publicaciones/libros/pubdocs/PRACC.pdf>

3. Sajo-Castelli, A.M., Villalta, D., Ovalles, P.J., García, I., **Bravo de Guenni, L.** 2014. Calidad de Datos de la Red de Medición de Lluvias para Venezuela. Boletín de La Academia De Ciencias Físicas, Matemáticas y Naturales de Venezuela. Vol. 74, 1-169.  
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4. **Guenni, Bravo de, L.**, Cardoso, M., Goldammer, J., Hurtt, G., Mata, J.L., Ebi., K, House, J., Valdes, J. Norgaard, R. (rev. Ed.). 2005: Regulation of Natural Hazards: Floods and Fires. In: Rashid Hassan and Robert Scholes (Eds.): *The Millennium Ecosystem Assessment, Vol. I, Current State and Trends, Chapter 16, Part II*, pp. 441-454, Island Press, Washington DC. **ISBN (book) 1-55963-228-3. ISBN (book) 1-55963-227-5**
5. **Guenni, L.** 1995. Spatial Interpolation of the Parameters of Stochastic Weather Models. In: G. Paoli (ed.) *Climate Change, Uncertainty and Decision-Making*. Institute for Risk Research, University of Waterloo, Waterloo, Canada. pp. 61-79. **ISBN 10: 0969674732/ ISBN 13: 9780969674733**
6. Comerma, J.A. and **L.B. de Guenni.** 1987. The IBSNAT simulation models as a mean of Quantitative Land Evaluation in Development countries. In: Beek, K. J., Burrough, P. A., & McCormack, D. E. (eds.). *Quantified Land Evaluation Procedures: Proceedings of the International Workshop on Quantified Land Evaluation Procedures Held in Washington, DC, 27 April-2 May 1986*. ITC Publication No. 6, Enschede. pp. 44-49.

### **Books**

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2. **Bravo de Guenni L**, Llatas I, Abad Mota S, Salcedo A, Delgado L, Ramos S y Códova K . 2012. *HIDROX: Repositorio de datos hidroclimáticos para la gestión de riesgos epidemiológicos y ambientales*. Fondo Nacional de Ciencia, Tecnología e Innovación, Caracas, Venezuela. 88 pp. **ISBN 987-9-8012596-2-6.**
3. **Bravo de Guenni, L.**, Llatas, I. y M.E. Pérez. 2008. *Análisis de datos con Técnicas Bayesianas*. Ediciones IVIC. Caracas, Venezuela., pp. 145. **ISBN 978-980-261-099-0.**

### **Proceedings**

1. Villalta, D. E.; **de Guenni, L. B.**; Sajo-Castelli, A. 2017. Spatio-temporal Bayesian Modelling of the hydrometeorological risk in Venezuela. *SPSAS Climate Change*. São Paulo School of Advanced Science on Climate Change: Scientific basis, adaptation, vulnerability and mitigation. 3-15 July 2017, São Paulo, Brazil, p: 129.  
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2. Villalta, D., **Guenni, L.** and Sajo-Castelli, A. 2015. Spatio-temporal issues in environmental risk assessment and modeling. *Proceedings of the 60<sup>th</sup> World Statistics Congress (ISI, 2015)*, 26-31 July 2015, Rio de Janeiro, Brazil. <http://2015.isiproceedings.org/Files/STS069-P3-S.pdf>
3. Bárdossy, A., Li, J. and **Guenni, L.** 2008. Observation network design for environmental variables using a copula-based approach. *Proceedings of the Eighth International Geostatistics Congress (Geostats) 2008*. 1-5 Dec. 2008, Santiago, Chile. In: Julián M. Ortiz, Xavier Emery (eds.). Santiago, Chile. Gecamin. **ISBN: 9789568504182 9568504184** <http://hdl.handle.net/2440/65751>

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6. Hutchinson, M.F. and **Guenni, L.** 1992. Spatial interpolation of Real Time monthly rainfall for Queensland. Proceedings of the Sixth Queensland Hydrology Symposium. 11-12 February, 1992. The University of Queensland, Brisbane, Australia.
7. **Guenni, L.**, Rose, C.W., Hogarth, W. and Braddock, R. 1991. Use of stochastically simulated weather for crop model predictions. Proceedings of the Conference on Agricultural Meteorology. 17-19 July, 1991. The University of Melbourne, Parkville, Australia. Australian Bureau of Meteorology, pp. 65-68. <https://trove.nla.gov.au/version/24098294>
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#### *Technical Reports*

1. **Bravo de Guenni, L.** 2015. Clima, Población y Riesgo: Un enfoque integrado. Report presented to the Venezuelan Academy of Physical, Mathematical and Natural Sciences, for the designation as a Corresponding Member. 82 pp.
2. **Guenni, L.**, Nobre, C., Marengo, J., Huerta, G. And Sansó, B. 2009, Oceanic influence on extreme rainfall trends in the North central coast of Venezuela: Present and future climate assessments. UCSC, Jack Baskin School of Engineering. Technical Report UCSC-SOE-09-36. <https://www.soe.ucsc.edu/research/technical-reports/UCSC-SOE-09-36>
3. **Guenni, L.** and Andrés Bárdossy. 1998. Disaggregation of highly seasonal monthly rainfall. Centro de Estadística y Software Matemático (CESMa), Universidad Simón Bolívar. Tech. Rep. 98-10. 23 pp. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.8.5167&rep=rep1&type=pdf>
4. **Guenni, L.** and M. Loreto. 1998. Space-time modelling of monthly rainfall for climate impact studies in Venezuela. Centro de Estadística y Software Matemático (CESMa), Universidad Simón Bolívar. Tec. Rep. 98-06. 14 pp. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.7.7629&rep=rep1&type=pdf>
5. **Guenni, L.**, Ojeda, F. and M.C. Key. 1997. Periodic model selection for rainfall using Conditional Maximum Likelihood. Centro de Estadística y Software Matemático (CESMa). Tech. Rep. 97-03. Universidad Simón Bolívar, Caracas, Venezuela.
6. Sansó, B. and **Guenni, L.** 1997. A dynamic model for Tropical rainfall. Centro de Estadística y Software Matemático (CESMa) Tech. Rep. 97-02. Universidad Simón Bolívar, Caracas, Venezuela.

7. Sansó, B. and **Guenni, L.** 1996. A Bayesian estimation of the parameters of a space-time model for rainfall. Centro de Estadística y Software Matemático (CESMa) Tech. Rep. 96-01. Universidad Simón Bolívar, Caracas, Venezuela. 14 pp.
8. **Guenni, L.**, Bárdossy, A. and U. Haberlandt. 1996. Spatial Interpolation of rainfall data at different time scales. Centro de Estadística y Software Matemático (CESMa) Tech. Rep. 96-11. Universidad Simón Bolívar, Caracas, Venezuela.
9. **Guenni, L.** and M. Hutchinson 1994. Discussion on Spatial-Temporal Analysis of Weather Data and its relationship with Downscaling. Downscaling workshop of the Weather Generator Project. BAHF-F4, Rep. No. 4. 25-28, June, 1994. Karlsruhe, Germany, pp. 53-57.
10. **Guenni, L.** y Prada, Y. 1993. Evaluación de la disponibilidad de humedad de los suelos para el proyecto de evaluación de tierras Hamaca 400. Reporte Técnico. Contrato de Servicios FONAIAP-PALMAVEN. 52 pp.
11. **Guenni, L.B.** de y Wiedenhofer, H. 1985. Aplicación de una metodología propuesta de validación de los modelos de simulación IBSNAT. Centro Nacional de Investigaciones Agropecuarias. Serie A. Maracay. Venezuela.

## RESEARCH PROJECTS

TITLE	YEAR	Funding Agency	Project Role
Applications of statistical methodologies for the development of oceanic indexes at the local scale	2014	Senescyt. Programa Prometeo, Ecuador.	<b>Prometheus Researcher</b>
Environmental Risk Analysis Group Coordination	2009-2016	Decanato de Investigación y Desarrollo, Universidad Simón Bolívar, Caracas-Venezuela	<b>Group Leader</b>
Development of community-based early warning systems in Vargas state, Venezuela	2009-2013	British Council and PNUD Small Grant Programs	<b>Project Leader</b>
Analysis of the extreme events occurred in Venezuela in Dec 1999	2008	FAPESP, Sao Paulo, Brazil	<b>CO-PI</b>
Development of a hydro-climatic data repository for epidemiological and environmental risk assessment	2005 - 2010	Venezuelan Fund of Scientific Research. Group support program project No. 2005-000184	<b>CO-PI</b>
Water Quality Modeling-Elkhorn Slough, California	2006	Department of Applied Mathematics and Statistics. University of California in Santa Cruz, USA	<b>Research Associate</b>
Development of Indicators of inter-annual variability of precipitation for South America: Period 1960-2000	2003	UNESCO – Regional Office for Latin America and the Caribbean (ROLAC), Montevideo, Uruguay	<b>CO-PI</b>
Risk Factors in habitats reduction of La Gran Sabana, Canaima National Park, vulnerability and tools for sustainable development	2006-2015	Research Groups Support Program- Venezuelan Fund of Scientific Research	<b>CO-PI</b>

Downscaling activities in the context of the LBA	2000-2002	IAI-PESCA Program	CO-PI
Statistical modeling of the vulnerability and risk of the Venezuelan population to extreme rainfall	2003-2007	Venezuelan Fund of Scientific Research. Project No. 2001003497	Project Leader
Network HYDEL (Hydrology for Europe and Latin America	1999	ALFA Program – European Union	CO-PI
Biosphere-Atmosphere interactions in La Gran Sabana, Parque Nacional Canaima, Estado Bolívar, Venezuela	1998-2005	Research Groups Support Program- Venezuelan Council of Scientific Research. Project No. G98-001124	CO-PI
Development and application of computational methods for the quantitative analysis of data and complex models.	1995-1998	Project funded by the Venezuelan Council of Scientific Research.	CO-PI
Precipitation modeling in space and time for climate impact studies in Venezuela.	1995-1998	Project funded by the Venezuelan Council of Scientific Research. Project No. S1-2770	Project Leader
Development of algorithms for the simulation of climatic variables	1985	Decanato de Investigación y Desarrollo, Universidad Simón Bolívar, Caracas-Venezuela	Project Leader
Development of Climate Surfaces	1991-1992	Drought Research Group. Queensland Department of Primary Industries. Brisbane, Australia	Research Scientist
Validation of IBSNAT Crop models for Venezuela	1985-1987	Centro Nacional de Investigaciones Agropecuarias, Maracay-Venezuela	Associate Scientist
Rainfall modelling using Point Processes	1982-1984	Graduate program of Water Resources, Engineering and Planning. Universidad Simón Bolívar, Caracas – Venezuela	Research Scientist
National Plan of Land Evaluation	1980	Ministry of Environment and Natural Resources. (MARNR). Caracas, Venezuela.	Computer Assistant

## PROFESSIONAL CONFERENCES, SYMPOSIA AND CONGRESS

1. **Bravo de Guenni, L.,** Park, H. and Sun, M. “Statistical tools to identify causal relationships in modeling vulnerability to extreme events”. New England Statistics Symposium, Boston, Massachusetts, USA, June 5-6, 2023. **Invited Paper.**

2. Rubio-Palis, Y., **Bravo de Guenni, L.**, Song, C., Wand, S., Feng, L., Zhang, X. and Duchnicki, T<sup>2</sup> “Collaborative Groups for Modeling Mosquito Abundance Dynamics and Malaria Case Fluctuations in Remote Amerindian Regions”. World Statistics Congress 2023, Ottawa, Canada, July 16-20, 2023. **Invited Paper**.
3. Vivas, E.; **Bravo de Guenni, L.**, Allende-Cid, H. and Salas, R. Deep-Lagged wavelet for Rainfall monthly forecasting in a Tropical Region. Joint Statistical Meetings, Aug 6-11, 2022. Washington DC, USA.
4. Bravo de Guenni, L. Deep-Lagged wavelet for Rainfall monthly forecasting in a Tropical Region. Celebrating Women in Mathematics 2022, May 09-13, 2022 (Virtual). Universidade Federal do Rio de Janeiro, Brazil. **Invited paper**.
5. Bravo de Guenni, L. Ocean Health Index: an open data science experience for handling local marine and coastal resources. World Statistics Congress, July 11-16, 2021 (Virtual). **Invited Paper**.
6. Bravo de Guenni, L. A quantitative view of the environmental impacts of COVID-19. Primer Simposio Científico Internacional (On-line). Universidad Técnica de Manabí, Ecuador. June 23, 2020 (**Keynote speaker**).
7. Bravo de Guenni, L. Spatio-Temporal Modeling of Risk to Environmental Hazards: approaches, examples and challenges. The International Environmetrics Society (TIES) 2018 conference. July 16-20. Guanajuato, Mexico (**Invited Paper**).
8. Bravo de Guenni, L. Towards a sustainable environment: the challenge of persuading a skeptical audience of the important impacts predicted from scientific research. World Statistical Congress (WSC 2017). July 17-21, Marrakech, Morocco (**Invited Paper**).
9. D. Villalta, L. Guenni, A. Sajo-Castelli and J.M. Campos. Spatio-temporal issues in environmental risk assessment and modeling. World Statistical Congress (WSC 2015). July 26-31, Rio de Janeiro, Brazil. (**Invited Paper**).
10. Bravo de Guenni L., García M., Muñoz Á. G.; Santos J. L.; Perugachi C.; Cedeño A.; Castillo J. Modeling Enso Signal Impacts On Precipitation In The Coastal Zone Of Ecuador. Third International Conference on El Niño (2014). November 12-14, Guayaquil, Ecuador (Poster).
11. D. Villalta, L. Guenni, A. Sajo-Castelli and J.M. Campos. Risk analysis to extreme rainfall: A retrospective approach. The International Environmetrics Society Conference (TIES 2013). June 10-14, Anchorage, Alaska. (**Invited Paper**).
12. Bravo de Guenni, L., Barreto, E., Rodriguez, J., Villalta, D., Campos, JM and Ramirez, R. Adaptation measures in Venezuela to extreme weather: from nationwide risk assessments to community based actions. Third International Conference of the International Society for Integrated Disaster Risk Management (IDRIM 2012). Beijing, China, 7-9 Sep, 2012. (**Invited Paper**).
13. Desiree Villalta, Lelys Guenni and Yasmin Rubio. Modeling malaria incidence in Sucre state, Venezuela, using a Bayesian approach. Spatial 2 Conference. Foggia, Baia delle Zagare, Italy, 1-2 Sep, 2011. (**Invited Paper**).
14. Lelys Guenni, Bruno Sanso and Marc Los Huertos. Trend and Seasonal Analysis of Dissolved Inorganic Nutrientes in the Elhorn Slough National Estuary. 58<sup>th</sup> ISI World Statistics Congress. Dublin, Ireland, 22-26 Aug, 2011. (**Invited Paper**).
15. Lelys Guenni, Raúl Ramírez, Elvin Barreto and Isabel Llatas. Vulnerability mapping approaches: from continental to local scales. 2<sup>nd</sup> Annual conference of the International Society for Integrated Disaster Risk Management. Los Angeles, California. 14-16 Jul, 2011
16. Lelys Guenni, José Rafael Hernández, Isabel Llatas and Abraham Salcedo. Community based early warning systems in Vargas state, Venezuela. 1<sup>st</sup> Annual conference of the International Society for Integrated Disaster Risk Management. Vienna, Austria. 1-3 Sep, 2010.
17. Lelys Guenni. Evaluation of extreme precipitation changes in the north central coast of Venezuela using time-varying extreme value models. 11<sup>th</sup> International Conference on Statistical Climatology. Poster Presentation. Edinburgh, UK, 5-9 July, 2010.

18. Alexis Duran and Lelys Guenni. Probabilistic estimation of climate change in Venezuela using a Bayesian approach. "21<sup>th</sup> International Conference of the International Environmetrics Society, Isla de Margarita, Venezuela, 20-25 June, 2010.
19. Lelys Guenni, Jesús Yerena, Pedro Sequera. Spatial and Space-Time models for historical monthly rainfall in Venezuela. "21<sup>th</sup> International Conference of the International Environmetrics Society, Isla de Margarita, Venezuela. Poster Presentation. 20-25 June, 2010.
20. Desireé Villalta and Lelys Guenni. Spatio-Temporal models for risk mapping of malaria incident in Sucre State, Venezuela. "21<sup>th</sup> International Conference of the International Environmetrics Society, Isla de Margarita, Venezuela. Poster Presentation. Best Poster Award Winner TIES 2010. 20-25 June, 2010.
21. Pedro Sequera and Lelys Guenni. Analysis of the dependence between large scale climatic variables and rainfall in Venezuela using Copulas. "21<sup>th</sup> International Conference of the International Environmetrics Society, Isla de Margarita, Venezuela. 20-25 June, 2010.
22. Lelys Guenni, Carlos Nobre, José Marengo, Gabriel Huerta and Bruno Sansó. Oceanic influence in the detection of extreme rainfall events in the North Central Coast of Venezuela. "20<sup>th</sup> International Conference of the International Environmetrics Society, Bologna, Italy. 5-9 Jul, 2009. **(Invited Paper)**.
23. Alexis Durán y L. Bravo de Guenni. Estimación probabilística del cambio climático en Venezuela mediante un enfoque Bayesiano. XXI Jornadas Matemáticas Venezolanas. Barquisimeto, 10-13 Mar, 2008.
24. Jhan Rodríguez y L. Bravo de Guenni. Modelaje Bayesiano de la Vulnerabilidad de la población a anomalías de lluvia en Venezuela. XXI Jornadas Matemáticas Venezolanas. Barquisimeto. 10-13 Mar, 2008.
25. Desireé Villalta y L. Bravo de Guenni. Modelaje Bayesiano espacio-temporal de la incidencia de malaria en el estado Sucre-Venezuela. XXI Jornadas Matemáticas Venezolanas. Barquisimeto. 10-13 Mar, 2008.
26. Pedro Sequera y L. Bravo de Guenni. Dos estrategias para medir la influencia del ENSO y otras variables macroclimáticas en Venezuela. XXI Jornadas Matemáticas Venezolanas. Barquisimeto. 10-13 Mar, 2008.
27. Guenni, L., Sansó, B. y Los Huertos, M. *Modelos de Series de Tiempo Ambientales con Errores de Medición*. XX Jornadas Venezolanas de Matemáticas, USB, Caracas, 10-13 Apr, 2007.
28. Guenni, L., Rodríguez, J., Prieto, J.R. and Moreno, E. *Vulnerability Assessment of Population to Water Related Hazards*. American Geophysical Union 2007 Joint Assembly. Acapulco, Mexico, 22-25 May, 2007.
29. Guenni, Bravo de L., Delgado, M, Torres, L. Y DeGryze, E. Importancia y Aplicación del registro Climático a largo plazo para estudios ecológicos de y de biodiversidad: el caso de la cuenca del Caroní. I Congreso Internacional de Biodiversidad del Escudo Guayanés. Estado Bolívar, Venezuela. 20 – 24 Mar, 2006.
30. Delgado, M y Guenni, Bravo de L. *Evapotranspiración y humedad del suelo en la cuenca del río Caroní: El papel regulador de los bosques*. . I Congreso Internacional de Biodiversidad del Escudo Guayanés. Estado Bolívar, Venezuela. 20 – 24 Mar, 2006.
31. Delgado, M y Guenni, Bravo de L. *Climate variability and land cover change impacts on the water balance of the Caroní river basin, Venezuela. 8th Internacional Conference on Southern Hemisphere Meteorology and Oceanography, Foz do Iguazu, Brazil, 24 – 28 Apr, 2006.*
32. Guenni, L.. Modelaje jerárquico de la vulnerabilidad de la población a anomalías de lluvia en Venezuela. XXXVI Jornadas Venezolanas de Matemáticas. Facultad de Ciencias. Universidad Central de Venezuela, Caracas, Venezuela. 14-17 Mar, 2005.
33. Hernandez, A., Guenni, L. and Sansó, B. Distribución límite de los extremos de modelos truncados para lluvia diaria. Segundo Encuentro Binacional de Estadística. Mérida, Venezuela. 9 – 13 May, 2005.
34. Guenni, L., Delgado, María Dolores, Vörösmarty, Charles and Wollheim, Wil. The contribution of precipitation and population changes to population risk to flooding in South America during 1960-2000. First Alexander von Humboldt conference on El Niño. Guayaquil, Ecuador. 16 – 20 May, 2005



35. Guenni, L. and M.E. Pérez. Bayesian Modeling of the Probability of Catastrophic Rainfall events in Venezuela. Poster Paper. Conference of the International Society of Bayesian Analysis 2004. Viña del Mar, Chile. 3 – 7 May, 2004.
36. Guenni, L., Delgado, María Dolores, Vörösmarty, Charles and Wollheim, Wil. Population vulnerability to rainfall anomalies in South America: example of La Plata river basin and the ENSO effect. III Encuentro RUPSUR. Santiago de Chile, Chile. 11 – 12 Nov, 2004. **(Invited Paper)**.
37. Guenni, L.: Global Change Research in Venezuela (Invited Conference). Third IGBP Congress. Banff, Canada. 19-24 Jun, 2003.
38. Guenni, L. Modeling the Probability of Catastrophic Rainfall Events in the Venezuelan States. Poster Paper. International Workshop on Bayesian Data Analysis. Santa Cruz, CA, USA. 7-10 Aug, 2003.
39. Guenni, L., Vörösmarty, C.; Degryze, E.; Delgado, M.D. and Wollheim, W. Indicators of Change in Precipitation for South America from 1960 until 2000 for Vulnerability Studies. Poster Paper. Global Water System Project. Open Science Conference. Portsmouth, NH, USA. 7-9 Oct, 2003.
40. Guenni, L. Indicadores de Cambio en el Ciclo Hidrológico en América de Sur. (Charla Invitada). V Reunión de los Comités Nacionales y Puntos Focales del Programa Hidrológico Internacional (PHI) UNESCO. Guayaquil 18-19 Nov, 2003.
41. Guenni, L. Approaches to improve precipitation data availability at different temporal and spatial resolutions. Second LBA-Hydronet workshop. Manaus, Brazil. 5-6 Jul. 2002.
42. Guenni, L. and Vörösmarty, C. Examples of Regional approaches and tools for Data Collection, Management and Access of Hydroclimatological Data in South America. GTNH (Global Terrestrial Network for Hydrology) Workshop. Toronto. Canada. 18-20 Nov, 2002. **(Invited Paper)**.
43. Guenni, L., Vörösmarty, C.J., Bjerklie, D.; Cardoso, M.; D’Almeida, C.; Green, P.; Pellerin, B. and Wollheim, W. A Biogeophysical approach to the vulnerability concept: Extreme Rainfall and Population Distribution in South America during 1999. Poster Paper. Global Change Open Science Conference. Amsterdam, The Netherlands. 10-13 Jul, 2001.
44. Guenni, L.: Modelos de vulnerabilidad y riesgo de la población a eventos extremos. 1ra. Feria del Agua de Centroamérica y el Caribe. Panamá. República de Panamá. 25-28 Oct, 2001. **(Invited Paper)**.
45. Guenni, L., Sansó, B. and L. Betancourt. Oceanic influence of the precipitation of the south-east of Venezuela. 15th conference on probability and statistics in the atmospheric sciences. Asheville, NC, USA. 8-11 May, 2000.
46. Guenni, L. and Sansó, B. Combining observed point data and dynamic downscaling using a Bayesian approach. Proceedings of the XX International Biometrics Conference. Berkeley, CA, USA. 2-7 Jul, 2000.
47. Guenni, L. and R. Pielke. Disaggregation, high resolution regional scenarios vs. an integrated approach towards system thresholds and vulnerability. First BAHC Synthesis Workshop. Obergeen, Italy. 7 - 11 Mar, 1999.
48. Guenni, L. and Sansó, B. Combining Stochastic and Dynamic Downscaling using a Bayesian approach. XXIV General Assembly of the European Geophysical Society. The Hague, Holland. 19-23 Apr, 1999.
49. Guenni, L. and A. Bárdossy. Disaggregation of highly seasonal monthly rainfall by simulating annealing. XXIII General Assembly of the European Geophysical Society. Nice, France. 20 – 24 Apr, 1998.
50. Guenni, L., M.C. Key and A. Hernandez. Periodic model selection for rainfall using Conditional Maximum Likelihood. Conference on Environmetrics. Innsbruck, Austria. 4 – 8 Aug, 1997.
51. Guenni, L. Space-time modelling of rainfall for climate impact assessment in the tropics. 51 Session of ISI. Istanbul, Turquía. 18 – 26 Aug, 1997. **(Invited Paper)**.
52. Guenni, L., Bárdossy, A. and Haberlandt, U. Una comparación empírica de Splines y Kriging para dos conjuntos de datos de lluvia en localidades contrastantes. IX Jornadas de Matemáticas. Maracaibo, Venezuela. 24-26 Abril, 1996.
53. Guenni, L., M.T. Martelo y A. Ramírez. Preparatory Activities of LBA in Venezuela. Reunión de Coordinación Científica del Experimento LBA (Large Scale Biosphere-Atmosphere Experiment in Amazonia). São José dos Campos, Brasil. 27 Jun - 1 Jul, 1996.

54. Guenni, L., M.C. Key and A. Hernández. Modelling monthly Rainfall in a Tropical Environment. Sydney International Statistical Congress. Sydney, Australia. 8 - 12 Jul, 1996.
55. Guenni, L. and M. Hutchinson. Spatial Interpolation of the Parameters of a Rainfall model from ground-based data. First Science Conference of the BAHC IGBP Core Project and XX General Assembly of the European Geophysical Society. 3-7 Apr, 1995. Hamburg, Germany.
56. Guenni, L. Spatial Interpolation of Rainfall Statistics at different time scales. Sixth International Meeting on Statistical Climatology. Galway, Ireland. 19-23 Jun, 1995.
57. Guenni, L., Bárdossy, A. and Haberlandt, U. The value of point data on the spatial interpolation of pollution related variables at different time scales. SPRUCE III Conference. Mérida, México. 11-15 Dec, 1995.
58. Ojeda, F., Key, M.C. y Guenni, L. Estudio de dos modelos estocásticos de precipitación mensual. XLV Convención Anual de ASOVAC. Caracas, Venezuela. Nov, 1995.
59. Guenni, L. Characterization of the interrelationships between climatic variables and their stochastic simulation. Workshop on risk estimation techniques for extreme weather events. Toronto, Canada. 20-22 Feb, 1994.
60. Guenni, L. and M. Hutchinson. Selección óptima del número de coeficientes de dos funciones periódicas ajustadas a un modelo de procesos puntuales de precipitación. VII Jornadas de Matemáticas. Barquisimeto, Venezuela. 23-25 Mar, 1994.
61. Guenni, L. and M. Hutchinson. Discussion on Spatial-Temporal Analysis of Weather Data and its relationship with Downscaling. Downscaling workshop of the Weather Generator Project (BAHC-F4). Karlsruhe, Germany. 25-28, Jun, 1994.
62. Guenni, L. Point Rainfall Generation for weather-driven Crop models: The Spatial Extension. Jornadas Panamericanas de Matemáticas Aplicadas y Computacionales. Brisbane, Australia. 1-15 Jan, 1993. Caracas, Venezuela.
63. Guenni, L. Research Activities in the Venezuelan Amazonia. Preliminary Workshop on the Atmosphere-Geosphere Experiment in the Amazonia (LAMBADA/BATERISTA). San José Dos Campos, Brazil. 8-11 Sep, 1993. **(Invited Paper)**.
64. Hutchinson, M.F. and Guenni, L. Spatial Interpolation of Real Time Monthly Rainfall for Queensland. Sixth Queensland Hydrology Symposium. 11-12 Feb, 1992.
65. Guenni, L., Rose, C., Hogarth, W. and Braddock, R. Use of stochastically simulated weather for crop model predictions. Conference on Agricultural Meteorology. Melbourne, Australia. 17-19 Jul, 1991.
66. Guenni, L. and M. Hutchinson. Stochastic Weather Modelling and the problem of Data Sparsity. International Symposium on Climatic Risk in Crop Production (Poster Paper Section). Brisbane, Australia. 2-6 Jul, 1990.
67. Guenni, L. and D. Charles-Edwards. Phenomenological Random Generator for Crop Models. Fourth Queensland Hydrology Symposium. Brisbane, Australia. 1-2 Feb, 1989.
68. Guenni, L., D. Charles-Edwards, C.W. Rose, W. Hogarth. and R. Braddock. Stochastic Weather Modelling: A phenomenological approach. VIII SSA-IMACS Biennial Conference on Modelling and Simulation. Canberra, Australia. 25-27 Sep, 1989.
69. Comerma, J.A. y Guenni, L. Perspectivas del uso de modelos de simulación de cultivos prioritarios como instrumento de transferencia de agrotecnologías. IX Congreso Latinoamericano Ciencias del Suelo. Cali, Colombia. 1986.
70. Comerma, J.A. and L.B. de Guenni. The use of Simulation Models for Agrotechnology Transfer in Venezuela. IBSNAT Symposium. XIII Congreso Intern. Soc. of Soil Sci. Hamburg, W. Germany. 1986.
71. Comerma, J. y B. de Guenni, L. Algunos Resultados sobre la Validación del Modelo CERES-MAIZ en Venezuela. XXXVI Convención Anual de ASOVAC. Valencia, Venezuela. 16 – 21 Nov, 1986.
72. Guenni, L.B. de, Valdés, J., Scherer, G. y Maulino, C. Un método alternativo para el tránsito de crecientes en ríos con tributarios. IV Jornadas Nacionales de Ingeniería Hidráulica. Caracas, Venezuela. 8 - 11 Jun, 1983.

## RECENT TALKS AND SEMINARS

1. "Deep-lagged wavelet for monthly rainfall forecasting in a Tropical region". Graduate Colloquium. Department of Statistics and Actuarial Sciences. Northern Illinois University, Dekalb, Illinois, USA. Feb 25th, 2022.
2. "Structural equation models: Applications and estimation using a Bayesian approach". Northern Illinois University, Dekalb, Illinois, USA. Nov 10<sup>th</sup>, 2017.
3. "Risk Analysis to Extreme Rainfall: A retrospective approach". Pan-American Advanced Study Institute. on Spatio-Temporal Statistics. Búzios, RJ, Brazil. June 16- 26, 2014.
4. "Métodos estocásticos de reducción de escala para la generación de escenarios de Cambio Climático". Escuela Superior Politécnica del Litoral. Facultad de Ciencias Matemáticas y Naturales, Guayaquil, Ecuador. Jul 18th, 2014.
5. "Modelos Espacio-Temporales no-estacionarios: Aplicaciones a las ciencias ambientales". Escuela Matemática Venezolana. Universidad de los Andes, Mérida, Venezuela. Aug 31st, 2014
6. "Las tareas pendientes del país ante el Cambio Climático". Universidad Central de Venezuela. Jornadas de Investigación. Facultad de Ingeniería. Caracas, Venezuela. Nov 25<sup>th</sup>, 2014.
7. "vetools: Una librería de R para el manejo de datos hidrometeorológicos de Venezuela". Jornada sobre Ingeniería Hidrometeorológica. Caracas, Venezuela. Oct 24th, 2013.
8. "El Cambio Climático: Causas y Consecuencias sobre los recursos hídricos". Primer congreso internacional del agua por la vida. Puerto Ordaz, 9-10 Jun, 2005.
9. "Space-time rainfall models". Short course. Workshop on risk and extreme value theory in environmental sciences and rainfall. Centro de Investigaciones Matemáticas (CIMAT). Guanajuato, México. Jan 24-25, 2011.
10. "Population Vulnerability and Extreme Weather". Sep, 2002. University of Bonn, ZEF, Germany.
11. "Space – Time models for rainfall". Oct, 2000. Water Systems Analysis Group. University of New Hampshire, USA.
12. "Oceanic influence in the detection of extreme rainfall events in the North Central Coast of Venezuela". Universidad de Puerto Rico en Río Piedras. Departamento de Matemática, San Juan de Puerto Rico. Jan 29th, 2010.
13. "Oceanic influence in the detection of extreme rainfall events in the North Central Coast of Venezuela". Universidad Federal de Río de Janeiro. Instituto de Matemática, Rio de Janeiro Brasil. Apr 29th, 2009.
14. "Estadística aplicada a la hidrología y al ambiente": Short course organized by the PROHIMET Network. Instituto Costarricense de Electricidad. San José, Costa Rica. 23-27 Feb, 2009.
15. "Análisis y diseño de redes de medición": Short course organized by the PROHIMET Network. Empresas Públicas de Medellín. Medellín, Colombia. 25-27 Aug, 2008.
16. "The value of stochastic approaches in the vulnerability assessment of extreme weather". Centro de Pronóstico del Tiempo y del Clima. Cachoeira Paulista, Brasil. May 29th, 2008.
17. "The value of stochastic approaches in the vulnerability assessment of extreme weather". Potsdam Institute for Climate Impact Research (PIK), Germany, November 22<sup>th</sup>, 2007.
18. "The concept of Entropy and Network Design". Institut für Wasserbau, Stuttgart University, Stuttgart, Germany, Oct 30th, 2007.
19. "El Papel de la Estadística en la Investigación sobre el Cambio Climático". V Jornadas de Aplicaciones Matemáticas. FACYT, Universidad de Carabobo, Valencia, Venezuela. May 20th, 2006.
20. "Extreme value limit distributions of truncated models for daily rainfall". Centro de Investigaciones Matemáticas, Guanajuato, México, Apr 20th, 2005.
21. "Extreme value limit distributions of truncated models for daily rainfall". Institut für Wasserbau, Stuttgart University, Stuttgart, Germany, Sep 27th, 2005.
22. "Population vulnerability and risk assessment to extreme rainfall events. Case study: South America". Potsdam Institute for Climate Impact Research (PIK), Germany, Sep 13<sup>th</sup>, 2005.

23. "Global Change Research Activities in Venezuela". Third IGBP Congress. Meeting of the IGBP National Committees. May, 2003. Banff, Canada.

## MEMBERSHIP OF EDITORIAL BOARDS, SCIENTIFIC COMMITTEES AND PROFESSIONAL NETWORKS

2021	Associate Editor of Hydrology and Earth System Sciences (06/01/2021 – Present)
2021	Associate Editor of Heliyon Journal (Mathematics Section) (03/15/2021- Present)
2019	President of the International Environmetrics Society (TIES-ISI) Period: 09/01/2019-08/31/2021
2018	Member of the SAMSI CLIM Program Working Group on Risk and Coastal Hazards. May 2017 – May 2018
2018	Elected member of the International Statistical Institute (ISI). Dec 2018 – Present.
2017	President Elect. <i>The International Environmetrics Society</i> . July 2017-July 2019.
2016	Member of the Scientific Program Committee of the 2017 World Statistics Congress. Marrakech, Morocco, 16 to 21 July 2017.
2015	Past Chair of the Risk Analysis Section. American Statistical Association.
2015-2020	Member of the American Statistical Association Advisory Committee on Climate Change Policy
2013	Member of the American Statistical Association
2013	Chair of the 1 <sup>st</sup> Symposium on Climate Change: A perspective for Venezuela. Nov 27-28, 2013. Universidad Central de Venezuela. Caracas.
2012 - Present	Associate Editor of Bulletin of Computational Applied Mathematics.
2010	Chair of the 21 <sup>st</sup> Conference of The International Environmetrics Society (TIES) 2010, Margarita Island, Venezuela, 20-25 June, 2010.
2010	Member of the IDRIM (International Disaster and Integrated Risk Management) Society.
2010-Present	Associate Editor of the Journal of Environmetrics
2006	Member of the PROHIMET Network (Red Iberoamericana para el monitoreo y pronóstico de fenómenos hidrometeorológicos) supported by the CYTED Program (Programa Iberoamericano de Ciencia y Tecnología para el Desarrollo) and the World Meteorological Organization.
2004-2013	Member of the Board of Directors of The International Environmetrics Society (TIES) as Regional Representative.
2003-2005	Coordinating Lead Author of the Millennium Ecosystem Assessment, Conditions Working Group chapter on <i>Regulation of Natural Hazards: floods and fires</i> .
1998-2000	Chair of the National Committee of the International Geosphere-Biosphere Program (IGBP) in Venezuela.
1997-2002	Member of the Science Steering Committee of the Core Project Biospherical Aspects of the Hydrological Cycle of the International Geosphere-Biosphere Program (IGBP).
1997-2000	Coordinator of the National Committee of the LBA project (Large Scale Biosphere-Atmosphere experiment in the Amazonia).
1992-1993	Member of the National Committee of Hydrology and Meteorology of the National Council of Scientific Research, Venezuela.