

Dr. Armelle Reca Remedio

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"Men and Women for Others. –Fr. Pedro Arrupe, S.J."

Research interests

regional climate systems, regional climate change assessments, extreme events

Education

2008–2013 **PhD**, *Universität Hamburg and the International Max Planck Research School for Earth System Modelling*, Hamburg, Germany.

title *Connections between low level jets and mesoscale convective systems in South America*

supervisors Prof. Dr. Hartmut Graßl and Prof. Dr. Daniela Jacob

2006–2007 **Diploma on Earth System Physics**, *the abdu salam International Centre for Theoretical Physics*, Trieste City, Italy.

title *Detection of climate change using the extreme precipitation events from 1961 to 1998 in the Philippines*

supervisor Dr. Claudio Piani

1997–2003 **Bachelor of Science in Physics with Computer Engineering**, *Ateneo de Manila University*, Quezon City, Philippines, University and government scholar.

thesis *Study on interfacing a mass comparator using a computer*

supervisor Carlos M. Oppus

thesis *Study on global positioning system (GPS) application on climate variability in Metro Manila*

supervisor Fr. Jose Ramon T. Villarin, PhD

Stipends/Awards

2006–2007 **ICTP Diploma Scholarship**, *the abdu salam International Centre for Theoretical Physics*, Trieste City, Italy.

1997–2003 **University Scholarship**, *Ateneo de Manila University*, Quezon City, Philippines.

1997–2002 **Department of Science and Technology–Science Education Institute Scholarship**, *Ateneo de Manila University*, Quezon City, Philippines.

Work Experience

- 2015–present **Scientist**, *Climate Service Center Germany*, Hamburg City.
Actively participates in the WCRP Initiative on CORDEX and CORDEX-CORE especially in contributing climate simulations, as well as data distribution and processing of REMO output in various domains (e.g. Europe, Africa, South America, Southeast Asia, and South Asia).
Contributes in the Nonhydrostatic Climate Modelling 2 (NHCM-2) Project.
Works in the The Future of Extreme Precipitation Events in the Alpine Region under High End Climate Change Conditions (HighEnd:Extremes) Project.
- WP4: User-relevant climate indices in the Alpine Region.
- 2013–2014 **Postdoctoral fellow**, *Climate Service Center Germany*, Hamburg City.
Worked in the EU FP7 Pan-European Gas-Aerosols-climate interaction Study (PEGASOS) Project.
- WP12: quantification of interactions in the air quality-climate system;
 - WP14/15: model projections of air quality and climate change.
- 2008–2013 **Scientific researcher**, *Max Planck Institute for Meteorology*, Hamburg City.
Assisted in the EU FP7 Hydroclimate and Society in La Plata Basin (CLARIS-LPB) Project.
- WP5: regional climate simulations for climate change assessments;
 - WP6: analysis on extreme events.
- 2007–2008 **Scientific research assistant**, *Manila Observatory*, Quezon City.
Assisted in downscaling climate change scenario simulations in the Philippines and surrounding areas.
Assisted in the climate and weather-related risk mapping of the project entitled “Monitoring the Impacts of Disaster Risk in Albay Province: Towards Risk-Sensitive Development”.
Assisted in teaching graduate students in the Atmospheric Science Program of the Ateneo de Manila University, Philippines.
- 2003–2006 **Scientific research assistant**, *Manila Observatory*, Quezon City.
Assisted in the modeling of climatological rainfall over the Philippines.
Assisted in the development and verification of typhoon forecasting system in the Philippines using numerical models.
Assisted in the modeling of air pollution and transboundary air transport.
Assisted in the quality control, quality assurance, and interpretation of air pollution data.
- 2002–2003 **Science Research Specialist II**, *National Metrology Laboratory*, Taguig City.
Assisted in the research for the upgrade and development of the laboratories.

Teaching Experience

- 2016–2017 **Guest lecturer**, *HafenCity Universität*, Hamburg City.
Taught data processing for oceanography and served as a co-lecturer for introduction to Physical Oceanography for Masters students in Geomatiks

Languages

- Filipino** Fluent in reading and writing
English Fluent in reading and writing
German Advance, completed **B1** level

Computer skills

- OS** Linux, Windows

Programming Fortran, Python, C/C++
RCMs REMO, MM5, RegCM
Tools cdo, unix shell scripting, NetCDF-Tools
Visualization PyRemo, jupyter, GrADS

Memberships

- American Geophysical Union, member 2015
- Young Earth System Scientists community, member 2010
- European Geophysical Union, member 2009
- Asia Oceania Geosciences Society, member from 2006 to 2009
- Samahang Pisika ng Pilipinas (Physics Society of the Philippines), member from 2003 to 2006

Interests

yoga Isha Yoga meditator
others travelling, reading, dancing

Publications

- [1] Jingwei Xu, Nikolay Koldunov, Armelle Reca C. Remedio, Dmitry V. Sein, Xiefei Zhi, Xi Jiang, Min Xu, Xiuhua Zhu, Klaus Fraedrich, and Daniela Jacob. On the role of horizontal resolution over the Tibetan Plateau in the REMO regional climate model. *Climate Dynamics*, 51(11):1–18, 2018.
- [2] E. M. de Jesus, R. P. da Rocha, M. S. Reboita, M. Llopart, L. M. Mosso Dutra, and A. R. C. Remedio. Contribution of cold fronts to seasonal rainfall in simulations over the southern La Plata Basin. *Climate Research*, February 2016.
- [3] E. Sánchez, S. Solman, A. R. C. Remedio, H. Berbery, P. Samuelsson, R. P. Da Rocha, C. Mourão, L. Li, J. Marengo, M. de Castro, and D. Jacob. Regional climate modelling in CLARIS-LPB: a concerted approach towards twentyfirst century projections of regional temperature and precipitation over South America. *Climate Dynamics*, January 2015.
- [4] Natalia L. Pessacg, Silvina A. Solman, Patrick Samuelsson, Enrique Sanchez, José Marengo, Laurent Li, Armelle Reca C Remedio, Rosmeri P. da Rocha, Caroline Mourão, and Daniela Jacob. The surface radiation budget over South America in a set of regional climate models from the CLARIS-LPB project. *Climate Dynamics*, 43(5-6):1221–1239, sep 2014.
- [5] S. A. Solman, E. Sanchez, P. Samuelsson, R. P. da Rocha, L. Li, J. Marengo, N. L. Pessacg, A. R C Remedio, S. C. Chou, H. Berbery, H. Le Treut, M. de Castro, and D. Jacob. Evaluation of an ensemble of regional climate model simulations over South America driven by the ERA-Interim reanalysis: Model performance and uncertainties. *Climate Dynamics*, 41(5-6):1139–1157, 2013.
- [6] N. L. Pessacg, S. A. Solman, P. Samuelsson, E. Sanchez, J. Marengo, Laurent Li, A. R. C. Remedio, R. P. Rocha, C. Mourão, and D. Jacob. The surface radiation budget over South America in a set of regional climate models from the CLARIS-LPB project. *Climate Dynamics*, August 2013.

- [7] C. Teichmann, B. Eggert, A. Elizalde, A. Haensler, D. Jacob, P. Kumar, C. Moseley, S. Pfeifer, D. Rechid, A. R. C. Remedio, H. Ries, J. Petersen, S. Preuschmann, T. Raub, F. Saeed, K. Sieck, and T. Weber. How Does a Regional Climate Model Modify the Projected Climate Change Signal of the Driving GCM: A Study over Different CORDEX Regions Using REMO. *Atmosphere*, 4(2):214–236, June 2013.
- [8] A. R. C. Remedio. *Connections of low level jets and mesoscale convective systems in South America*. PhD thesis, Universität Hamburg, 2013.
- [9] J. Marengo, S. Chou, C. Mourao, S. Solman, E. Sanchez, P. Samuelsson, R. P. Rocha, L. Li, N. Pessacg, A. R. C. Remedio, A. F. Carril, I. F. Cavalcanti, and D. Jacob. Simulation of rainfall anomalies leading to the 2005 drought in Amazonia using the CLARIS LPB regional climate models. *Climate Dynamics*, 41(11-12):2937–2955, August 2013.
- [10] A. F. Carril, C. G. Menéndez, A. R. C. Remedio, F. Robledo, A. Sörensson, B. Tencer, J.-P. Boulanger, M. Castro, D. Jacob, H. Treut, L. Z. X. Li, O. Penalba, S. Pfeifer, M. Rusticucci, P. Salio, P. Samuelsson, E. Sanchez, and P. Zaninelli. Performance of a multi-RCM ensemble for South Eastern South America. *Climate Dynamics*, 39(12):2747–2768, October 2012.
- [11] D. Jacob, A. Elizalde, A. Haensler, S. Hagemann, P. Kumar, R. Podzun, D. Rechid, A. R. Remedio, F. Saeed, K. Sieck, C. Teichmann, and C. Wilhelm. Assessing the Transferability of the Regional Climate Model REMO to Different COordinated Regional Climate Downscaling EXperiment (CORDEX) Regions. *Atmosphere*, 3(4):181–199, February 2012.
- [12] I.F.A. Cavalcanti, A.F. Carril, M. Barreiro, M.L. Bettolli, A. Cherchi, A.M. Grimm, R. Tedeschi, D. Jacob, C.G. Menéndez, O. Penalba, N. Pessacg, S. Pfeifer, A.R.C. Remedio, M. Renom, J. Rivera, F. Robledo, R. Ruscica, S. Solman, A. Sorensson, B. Tencer, and P. Zaninelli. CLARIS LPB WP6: Processes and Future Evolution of Extreme Climate Events in La Plata Basin. *CLIVAR Exchanges No. 57 (Vol. 16, No.3): Special Issue on LPB*, pages 22–24, October 2011.
- [13] S. Solman, E. Sanchez, P. Samuelsson, E.H. Berbery, A.R.C. Remedio, R. da Rocha, S.C. Chou, and L. Li. CLARIS LPB WP5: Regional Climate Change assessments for La Plata Basin. *CLIVAR Exchanges No. 57 (Vol. 16, No.3): Special Issue on LPB*, pages 19–21, October 2011.
- [14] A.R.C. Remedio, S. Pfeifer, and D. Jacob. South American low level jet structure using a regional climate model. In *EGU*, volume 12, page 11660, 2010.
- [15] F. Giorgi, N.S. Diffenbaugh, X.J. Gao, E. Coppola, S.K. Dash, O. Frumento, S.A. Rauscher, A.R. Remedio, I.S. Sanda, A. Steiner, M.B. Sylla, and A.S. Zakey. The Regional Climate Change Hyper-Matrix Framework. *Eos, Transactions American Geophysical Union*, 89(45):445, 2008.
- [16] E.S. Im, J.B. Ahn, A.R.C. Remedio, and W.-T. Kwon. Sensitivity of the regional climate of East/Southeast Asia to convective parameterizations in the RegCM3 modelling system. Part 1: Focus on the Korean peninsula. *International Journal of Climatology*, 28:1861–1877, 2008.
- [17] M.A. Estoque and A.R.C. Remedio. Analysis of the Looping Track of Typhoon Muifa with the MM5 model. In *Asia Oceania Geosciences Society*, page 1, 2006.
- [18] A.M.A. Lagmay, J.B.T. Ong, D.F.D. Fernandez, M.R. Lapus, R.S. Rodolfo, A.M.P. Tengonciang, J.L.A. Soria, E.G. Baliatan, Z.L. Quimba, C.L. Uichanco, E.M.R. Paguican, A.R.C. Remedio,

- G.R.H. Lorenzo, F.B. Avila, and W. Valdivia. Scientists investigate recent Philippine landslide. *Eos, Transactions American Geophysical Union*, 87(12):121, 2006.
- [19] M.A. Estoque and A.R.C. Remedio. Simulations of Mesoscale Disturbance Over Metro Manila. In *Asia Oceania Geosciences Society*, 2006.
- [20] M.A. Estoque and A.R.C. Remedio. Simulation of Monthly Rainfall Climatology with the MM5 Model. In *IAMAS*, page 2005, 2005.
- [21] F.B. Avila, F.A.T. Cruz, A.R.C. Remedio, J.R.T. Villarin, and E.G. Anglo. Forecasting tropical cyclone precipitation in the Philippines using MM5. In *IAMAS*, 2005.
- [22] A.R.C. Remedio, R.T.F. Balmori, and M.A. Estoque. Diurnal variations of NO₂ concentrations at the Manila Observatory, Quezon City. *Loyola Schools Review*, (2):138–161, 2005.
- [23] A.R.C. Remedio and M.A. Estoque. A Comparative Study of Luzon Rainfall Simulations with the MM5 and the RegCM3 Models. In *Proceedings of the Samahang Pisika ng Pilipinas - The 23rd SPP Physics Congress*, pages 3–6, 2005.
- [24] A.R.C Remedio and M.A. Estoque. Simulation of Luzon Rainfall with the MM5 and the RegCM3 models: A comparative study. In *IAMAS*, 2005.
- [25] M.A. Estoque, A.R.C. Remedio, and E.G. Anglo. An Investigation of the Looping Track of Typhoon Muifa. In *Okinawa Typhoon Center Forum*, 2005.
- [26] M.A. Estoque and A.R.C. Remedio. A Rainfall Climatology of Luzon Using the MM5 Atmospheric Model. In *Proceedings of the Samahang Pisika ng Pilipinas - The 22nd SPP Physics Congress*, number mm, pages 2–5, 2004.
- [27] A.R.C. Remedio and M.A. Estoque. A Model Simulation of NO₂ Observations at the Manila Observatory, Quezon City, Metro Manila. In *Proceedings of the Samahang Pisika ng Pilipinas - The 21st SPP Physics Congress*, number 2, pages 2–6, 2003.