

## CARLOS CALVO-SANCHO

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### EDUCATION

2021 – 2024. **Ph.D.: Physics**, University of Valladolid. Segovia, Spain 40005.

2020 – 2021. **MSc, GISc: GIS and Remote Sensing**, University of Zaragoza. Zaragoza, Spain 50009.

2019 – 2020. **MSc, Meteorology**, University of Barcelona. Barcelona, Spain 08007.

2014 – 2019. **BS. Geography and Spatial Planning**, University of Zaragoza. Zaragoza, Spain 50009.

### PROFESSIONAL APPOINTMENTS

2025 – current. **Postdoctoral researcher at Spanish National Research Council (CSIC)**. Moncada, Valencia, Spain.

2024 – 2025. **Postdoctoral researcher at University of Valladolid (UVa)**. Segovia, Spain.

2021 – 2024. **Research assistantship at University of Valladolid (UVa) – FPI Program**. Segovia, Spain.

March – April 2026. **Visitor Postdoc researcher**. Servicio Meteorológico Nacional. Host: Dr. Luciano Vidal. Buenos Aires, Argentina.

October 2024 – February 2025. **Visitor Postdoc researcher**. Climatoc-Lab – CIDE-CSIC. Host: Dr. César Azorín-Molina. Moncada, Valencia, Spain.

September – December 2023. **Visitor PhD student**. National Center for Atmospheric Research (NCAR). Host: Dr. Richard Rotunno. Boulder, CO, US.

November 2022 – February 2023. **Visitor PhD student**. Agencia Estatal de Meteorología (AEMET). Host: Dr. Juan Jesús González Alemán. Madrid, Spain.

February – May 2020. **Intern at Agencia Estatal de Meteorología (AEMET)** (Cataluña delegation – Ministry of Ecological Transition and Demographic Challenge, Spain) Barcelona, Spain.

### FELLOWSHIPS

#### Fellowships

- o **FPI program**. Sponsorship: Spanish Ministry of Science and Innovation. €98960. 2021 - 2024.
- o **Erasmus+ Europe Union Grant**. Sponsorship: Europe Union and Government of Spain. €3800. 2017-2018.

### JOURNAL ARTICLES, CONFERENCES AND SCIENTIFIC OUTREACH ACTIVITIES

#### Referred Journal Articles

16. Calvo-Sancho, C., Díaz-Fernández, J., González-Alemán, J.J., Halifa-Marín, A., Miglietta, M.M., Azorín-Molina, C., Prein, A.F., Montoro-Mendoza, A., Bolgiani, P., Morata, A., & Martín, M.L. (2026). Human-induced climate change amplification on storm dynamics in Valencia's 2024 catastrophic flash flood. *Nature Communications*. <https://doi.org/10.1038/s41467-026-68929-9>

15. Montoro-Mendoza, A., Calvo-Sancho, C., González-Alemán, J.J., Díaz-Fernández, J., Bolgiani, P., & Martín, M.L. (2026). Strengthening of favorable environments for North Atlantic tropical cyclogenesis in midlatitudes in a warmer climate. *npj Climate and Atmospheric Science*. <https://doi.org/10.1038/s41612-025-01317-0>

14. Díaz-Fernández, J., Calvo-Sancho, C., Bolgiani, P., González-Alemán, J.J., Morata, A., Santos-Muñoz, D., & Martín, M.L. (2026). A comparative analysis of the nesting approach in HARMONIE-AROME for a case study of a supercell outbreak. *Atmospheric Research*. <https://doi.org/10.1016/j.atmosres.2026.108774>

13. López-Reyes, M., Martín, M.L., **Calvo-Sancho, C.** & González-Alemán, J.J. (2026). Dynamic Forcing Behind Hurricane Lidia's Rapid Intensification. *Weather and Climate Dynamics*. <https://doi.org/10.5194/wcd-7-523-2026>
12. Díaz-Fernández, J., **Calvo-Sancho, C.**, Bolgiani, P., Sastre, M., López-Reyes, M., Fernández-González, S., & Martín, M. L., (2024). Effect of complex orography on numerical simulations of a downburst event in Spain. *Atmospheric Research*. 107821. <https://doi.org/10.1016/j.atmosres.2024.107821>
11. Pantillon, F., Davolio, S., Avolio, E., **Calvo-Sancho, C.**, Carrió, D.S., Dafis, S., Flaounas, E., Gentile, E.S., González-Alemán, J.J., Gray, S., Miglietta, M.M., Patlakas, P., Pytharoulis, I., Ricard, D., Ricchi, A. & Sanchez, C. (2024). The crucial representation of deep convection for the cyclogenesis of Medicane Ianos. *Weather and Climate Dynamics*, 5(3), 1187-1205. <https://doi.org/10.5194/wcd-5-1187-2024>
10. Montoro-Mendoza, A., **Calvo-Sancho, C.**, González-Alemán, J. J., Díaz-Fernández, J., Bolgiani, P., Sastre, M., Moreno-Chamarro, E., & Martín, M. L., (2024). Environments conducive to tropical transitions in the North Atlantic: Anthropogenic climate change influence study. *Atmospheric Research*, 310, 107609. <https://doi.org/10.1016/j.atmosres.2024.107609>
9. López-Reyes, M., González-Alemán, J.J., **Calvo-Sancho, C.**, Bolgiani, P., Sastre, M., & Martín, M.L. (2024). Remote Interactions between tropical cyclones: The case of Hurricane Michael and Leslie's high predictability uncertainty. *Atmospheric Research*, 107697. <https://doi.org/10.1016/j.atmosres.2024.107697>
8. Martín, M. L., **Calvo-Sancho, C.**, Taszarek, M., González-Alemán, J. J., Montoro-Mendoza, A., Díaz-Fernández, J., Bolgiani, P., Sastre, M., & Martín, Y. (2024). Major role of marine heatwave and anthropogenic climate change on a Giant hail Event in Spain. *Geophysical Research Letters*, 51(6), e2023GL107632.
7. Díaz-Fernández, J., **Calvo-Sancho, C.**, Bolgiani, P., González-Alemán, J. J., Farrán, J. I., Sastre, M., & Martín, M. L. (2024). On the Precursor Environments to Mountain Lee Wave Clouds in Central Iberia under CMIP6 Projections. *Atmosphere*, 15(1), 128. <https://doi.org/10.3390/atmos15010128>
6. **Calvo-Sancho, C.**, Quitián-Hernández, L., González-Alemán, J. J., Bolgiani, P., Santos-Muñoz, D., & Martín, M. L. (2023). Assessing the performance of the HARMONIE-AROME and WRF-ARW numerical models in North Atlantic Tropical Transitions. *Atmospheric Research*, 291, 106801. <https://doi.org/10.1016/j.atmosres.2023.106801>
5. **Calvo-Sancho, C.**, Quitián-Hernández, L., Bolgiani, P., González-Alemán, J. J., Santos-Muñoz, D., & Martín, M. L. (2023). Assessment of HARMONIE-AROME in the simulation of the convective activity associated to a subtropical transition using satellite data. *Atmospheric Research*, 106794. <https://doi.org/10.1016/j.atmosres.2023.106794>
4. **Calvo-Sancho, C.**, Bolgiani, P., Subias, A., Sastre, M., González-Alemán, J.J. and Martín, M.L. (2023): Horizontal Kinetic Energy Analysis of Tropical Transition Simulations with the WRF and HARMONIE-AROME Models. *Quarterly Journal of the Royal Meteorological Society*. <https://doi.org/10.1002/qj.4523>
3. **Calvo-Sancho, C.**, Díaz-Fernández, J., Martín, Y., Bolgiani, P., Sastre, M., González-Alemán, J. J., Santos-Muñoz, D., Farrán, J. I., & Martín, M. L. Supercell Convective Environments in Spain base don ERA5: hail and non-hail differences. *Weather and Climate Dynamics*. <https://doi.org/10.5194/wcd-3-1021-2022>
2. **Calvo-Sancho, C.**, González-Alemán, J. J., Bolgiani, P., Santos-Muñoz, D., Farrán, J. I., & Martín, M. L. An Environmental Synoptic Analysis of Tropical Transitions in the Central and Eastern North Atlantic. *Atmospheric Research*. 278, 106353. <https://doi.org/10.1016/j.atmosres.2022.106353>
1. Bolgiani, P., **Calvo-Sancho, C.**, Díaz-Fernández, J., Quitián-Hernández, L., Sastre, M., Santos-Muñoz, D., Farrán, J. I., González-Alemán, J. J., Valero, F. & Martín, M. L. (2022). Wind kinetic energy climatology and effective resolution for the ERA5 reanalysis. *Climate Dynamics*, 1-16.

#### Invited conferences

**Calvo-Sancho, C.:** Human-induced climate change amplification on storm dynamics in Valencia's 2024 catastrophic flash flood. Servicio Meteorológico Nacional (SMN). 31<sup>th</sup> March 2026. Buenos Aires, Argentina.

**Calvo-Sancho, C.:** ¿Está el cambio climático reforzando los eventos extremos en España? Granizo gigante de Girona 2022 e inundaciones de València 2024. Ciclo de Coloquios del Departamento de Ciencias de la Atmósfera y los Océanos (DCAO). Universidad de Buenos Aires. 26<sup>th</sup> March 2026. Buenos Aires, Argentina.

**Calvo-Sancho, C.:** Human-induced climate change amplification on storm dynamics in Valencia's 2024 catastrophic flash flood. Universidad de León. 8<sup>th</sup> March 2026. León, Spain.

**Calvo-Sancho, C.:** Human-induced climate change amplification on storm dynamics in Valencia's 2024 catastrophic flash flood. Ciclo de seminarios CaFeCiCo. CIDE (CSIC-UV-GVA). 12<sup>th</sup> February 2026. Valencia, Spain.

**Calvo-Sancho, C.:** ¿Está el cambio climático reforzando los eventos extremos en España? Granizo gigante de Girona 2022 e inundaciones de València 2024. Las Charlas del IPE. IPE-CSIC. 5<sup>th</sup> February 2025. Zaragoza, Spain.

**Calvo-Sancho, C.:** ¿Está el cambio climático reforzando los eventos extremos en España? Granizo gigante de Girona 2022 e inundaciones de València 2024. XXXI Jornades de Meteorologia Eduard Fontserè - ACAM. 6<sup>th</sup> November 2025. Barcelona, Spain.

**Calvo-Sancho, C.:** Storm Dynamics-based Attribution to the Valencia's deadly floods. Seminars Master of Meteorology. Universidad Complutense de Madrid. 6<sup>th</sup> November 2025. Madrid, Spain.

**Calvo-Sancho, C.** (presenter), Díaz-Fernández, J., González-Alemán, J. J., Azorín-Molina, C., Halifa-Marín, A., Montoro-Mendoza, A., Bolgiani, P., Beguería, S., Vicente-Serrano, S. M., Morata, A., and Martín, M. L.: Anthropogenic Climate Change Attribution to a Record-breaking Precipitation Event in October 2024 in Valencia, Spain, EGU General Assembly 2025, Vienna, Austria, 27 Apr–2 May 2025, EGU25-15941, <https://doi.org/10.5194/egusphere-egu25-15941>, 2025.

#### **Presentations – as presenter: 17 oral – 2 solicited, 9 posters**

**Calvo-Sancho, C.** (presenter), Díaz-Fernández, J., González-Alemán, J. J., Halifa-Marín, A., Miglietta, M. M., Azorin-Molina, C., Prein, A. F., Montoro-Mendoza, A., Bolgiani, P., Morata, A., and Martín, M. L.: Storm Dynamics-based Attribution to the Valencia's deadly floods, 5<sup>th</sup> Workshop on Convective Organization, São José dos Campos, Brazil, 9–12 Mar 2026, 2026. **Oral.**

**Calvo-Sancho, C.** (presenter), Díaz-Fernández, J., González-Alemán, J. J., Halifa-Marín, A., Miglietta, M. M., Azorin-Molina, C., Prein, A. F., Montoro-Mendoza, A., Bolgiani, P., Morata, A., and Martín, M. L.: Storm Dynamics-based Attribution to the Valencia's deadly floods, XXXVII Jornadas Científicas de la Asociación Meteorológica Española, Málaga, España, 25-27 February 2026. **Oral.**

Azorin-Molina, C., Granell, F., Gomez-Reyes, J., **Calvo-Sancho, C.** (presenter), Barrio-Martín, A., Plaza-Martín, N. P., Prein, A. F., Vicente-Serrano, S. M., Gimeno, L., Nieto, R., Chen, D., McVicar, T. R., Zeng, Z., Pirooz, A., Martínez-Roig, M., González-Alemán, J. J., and Martín, M. L.: The DOWNBURST MXO: a real-time downburst monitoring service in eastern Spain, XXXVII Jornadas Científicas de la Asociación Meteorológica Española, Málaga, España, 25-27 February 2026. **Oral.**

Azorin-Molina, C., Pirooz, A., Kay, N., Gomez-Reyes, J., and **Calvo-Sancho, C.** (presenter): A new low-cost Unmanned Aerial Vehicle (Meteo-Dron) for monitoring upper air weather data and severe weather phenomena, XXXVII Jornadas Científicas de la Asociación Meteorológica Española, Málaga, España, 25-27 February 2026. **Oral.**

González-Alemán, J. J., Oltmanns, M., Gonzalez, S., Vitard, F., Donat, M., Doblas-Reyes, F., Riboldi, J., Barriopedro, D., **Calvo-Sancho, C.**, and Jiménez-Esteve, B.: From Greenland to the Mediterranean: Unveiling a new cascading atmospheric circulation mechanism promoting extreme convective activity?, XXXVII Jornadas Científicas de la Asociación Meteorológica Española, Málaga, España, 25-27 February 2026. **Oral.**

**Calvo-Sancho, C.** (presenter), Díaz-Fernández, J., González-Alemán, J. J., Halifa-Marín, A., Miglietta, M. M., Azorin-Molina, C., Prein, A. F., Montoro-Mendoza, A., Bolgiani, P., Morata, A., and Martín, M. L.: Storm Dynamics-based Attribution to the Valencia's deadly floods, 12th European Conference on Severe Storms, Utrecht, The Netherlands, 17–21 Nov 2025, ECSS2025-54, <https://doi.org/10.5194/ecss2025-54>, 2025. **Oral.**

Azorin-Molina, C., Granell, F., Gomez-Reyes, J., **Calvo-Sancho, C.** (presenter), Barrio-Martín, A., Plaza-Martín, N. P., Prein, A. F., Vicente-Serrano, S. M., Gimeno, L., Nieto, R., Chen, D., McVicar, T. R., Zeng, Z., Pirooz, A., Martínez-Roig, M., González-Alemán, J. J., and Martín, M. L.: The DOWNBURST MXO: a real-time downburst monitoring service in eastern Spain, 12th European Conference on Severe Storms, Utrecht, The Netherlands, 17–21 Nov 2025, ECSS2025-55, <https://doi.org/10.5194/ecss2025-55>, 2025. **Poster.**

González-Alemán, J. J., Oltmanns, M., Gonzalez, S., Vitard, F., Donat, M., Doblas-Reyes, F., Riboldi, J., Barriopedro, D., **Calvo-Sancho, C.**, and Jiménez-Esteve, B.: From Greenland to the Mediterranean: Unveiling a new cascading atmospheric circulation mechanism promoting extreme convective activity?, 12th European Conference on Severe Storms, Utrecht, The Netherlands, 17–21 Nov 2025, ECSS2025-274, <https://doi.org/10.5194/ecss2025-274>, 2025. **Poster.**

González-Alemán, J. J., Gómez-Plasencia, P., **Calvo-Sancho, C.**, Gómara, Í., and Martín-Pérez, M. L.: Convective activity behaviour on tropical cyclones impacting Europe in a warmer world, 12th European Conference on Severe Storms, Utrecht, The Netherlands, 17–21 Nov 2025, ECSS2025-202, <https://doi.org/10.5194/ecss2025-202>, 2025. **Poster.**

**Calvo-Sancho, C.** (presenter), Martín, Y., González-Alemán, J. J., Azorin-Molina, C., and Martín, M. L.: Supercells and large hail in Spain, 12th European Conference on Severe Storms, Utrecht, The Netherlands, 17–21 Nov 2025, ECSS2025-53, <https://doi.org/10.5194/ecss2025-53>, 2025. **Poster.**

González-Alemán, J. J., **Calvo-Sancho, C.**, Fernández-Castillo, P., Martín-Pérez, D., Viana, S., Calvo, J., Suárez, D., and Azorín-Molina, C.: Evaluating sub-kilometric simulations in the HARMONIE-AROME model on high-impact convective storms, 12th European Conference on Severe Storms, Utrecht, The Netherlands, 17–21 Nov 2025, ECSS2025-205, <https://doi.org/10.5194/ecss2025-205>, 2025. **Poster.**

Azorin-Molina, C., Pirooz, A., Kay, N., Gomez-Reyes, J., and **Calvo-Sancho, C.** (presenter): A new low-cost Unmanned Aerial Vehicle (Meteo-Dron) for monitoring upper air weather data and severe weather phenomena, 12th European Conference on Severe Storms, Utrecht, The Netherlands, 17–21 Nov 2025, ECSS2025-56, <https://doi.org/10.5194/ecss2025-56>, 2025. **Poster.**

**Calvo-Sancho, C.** (presenter), Díaz-Fernández, J., González-Alemán, J. J., Halifa-Marín, A., Miglietta, M. M., Azorín-Molina, C., Prein, A. F., Montoro-Mendoza, A., Bolgiani, P., Morata, A., and Martín, M. L.: Anthropogenic Climate Change Attribution to the Valencia's deadly floods, EMS Annual Meeting 2025, Ljubljana, Slovenia, 7–12 Sep 2025, EMS2025-504, <https://doi.org/10.5194/ems2025-504>, 2025. **Oral.**

Azorin-Molina, C., **Calvo-Sancho, C.** (presenter), Martín-Barrio, A., Granell-Haro, F., Gomez-Reyes, J., Prein, A. F., Gonzalez-Aleman, J. J., Vicente-Serrano, S. M., McVicar, T. R., Chen, D., Zeng, Z., Pirooz, A., Gimeno, L., Nieto, R., Martinez-Roig, M., Plaza-Martin, N. P., and Martin, M. L.: The DOWNBURST MXO: a real-time downburst monitoring service in eastern Spain, EMS Annual Meeting 2025, Ljubljana, Slovenia, 7–12 Sep 2025, EMS2025-446, <https://doi.org/10.5194/ems2025-446>, 2025. **Poster.**

**Calvo-Sancho, C.** (presenter), Díaz-Fernández, J., González-Alemán, J. J., Azorín-Molina, C., Halifa-Marín, A., Montoro-Mendoza, A., Bolgiani, P., Beguería, S., Vicente-Serrano, S. M., Morata, A., and Martín, M. L.: Anthropogenic Climate Change Attribution to a Record-breaking Precipitation Event in October 2024 in Valencia, Spain, EGU General Assembly 2025, Vienna, Austria, 27 Apr–2 May 2025, EGU25-15941, <https://doi.org/10.5194/egusphere-egu25-15941>, 2025. **Oral - Solicited.**

Halifa-Marín, A., **Calvo-Sancho, C.**, Gil-Guallar, M., Royo-Aranda, A., Beguería, S., and Vicente-Serrano, S. M.: Reconstructing Extreme Weather Events in the Southeastern Iberian Peninsula: Lessons from the Winter of 1944/45, EGU General Assembly 2025, Vienna, Austria, 27 Apr–2 May 2025, EGU25-18487, <https://doi.org/10.5194/egusphere-egu25-18487>, 2025. **Poster.**

**Calvo-Sancho, C.** (presenter), Díaz-Fernández, J., González-Alemán, J. J., Halifa-Marín, A., Azorín-Molina, C., Montoro-Mendoza, A., Plaza-Martin, N.P., Gómez-Reyes, J., Bolgiani, P., Morata, A., and Martín, M. L.: Evaluación de la DANA de octubre 2024 en la península ibérica: ¿es atribuible al cambio climático? **XIII Congreso Internacional de la Asociación Española de Climatología (AEC). San Lorenzo del Escorial, Spain. 2025. Oral - Solicited.**

**Calvo-Sancho, C.** (presenter), Rotunno, R., Montoro-Mendoza, A., González-Alemán, J. J., López-Reyes, M. and Martín, M. L.: Evolución del calentamiento en la transición tropical del huracán Ophelia **XIII Congreso Internacional de la Asociación Española de Climatología (AEC). San Lorenzo del Escorial, Spain. 2025. Oral.**

Montoro-Mendoza, A., **Calvo-Sancho, C.** (presenter), González-Alemán, J. J., Díaz-Fernández, J., Bolgiani, P., Sastre, M., and Martín, M. L.: Influencia del cambio climático antropogénico en ambientes favorables para el desarrollo de transiciones tropicales en el Atlántico Norte. **XIII Congreso Internacional de la Asociación Española de Climatología (AEC). San Lorenzo del Escorial, Spain. 2025. Oral.**

**Calvo-Sancho, C.** (presenter), Montoro-Mendoza, A., Taszarek, M., González-Alemán, J. J., Díaz-Fernández, J., Farrán, J. I., Sastre, M., Santos-Muñoz, D., Luna, M. Y., and Martín, M. L.: Global Warming Influence on a Giant Hailstorm in Spain via the Pseudo-Global Warming Approach, EMS Annual Meeting 2024, Barcelona, Spain, 1–6 Sep 2024, EMS2024-679, <https://doi.org/10.5194/ems2024-679>, 2024. **Oral**.

**Calvo-Sancho, C.** (presenter), Montoro-Mendoza, A., González-Alemán, J. J., Díaz-Fernández, J., Bolgiani, P., López-Reyes, M., and Martín, M. L.: Assessing Heavy Precipitation Event Response to Global Warming Using the Pseudo-Global Warming Approach: Implications for Future High-Impact Weather Events in Southern Europe, EMS Annual Meeting 2024, Barcelona, Spain, 1–6 Sep 2024, EMS2024-534, <https://doi.org/10.5194/ems2024-534>, 2024. **Oral - Solicited**.

Redaelli, G., Liguori, G., Cavicchia, L., Miglietta, M. M., Bonaldo, D., Carniel, S., **Calvo-Sancho, C.**, Martín, M. L., González-Alemán, J. J., Richi, A., and Ferretti, R.: Exploring how a warmer Mediterranean Sea affects the origin and development of destructive Tropical-Like Cyclones IANOS and DANIEL, EMS Annual Meeting 2024, Barcelona, Spain, 1–6 Sep 2024, EMS2024-737, <https://doi.org/10.5194/ems2024-737>, 2024. **Poster**.

Pantillon, F., Davolio, S., Avolio, E., **Calvo-Sancho, C.**, Carrió, D. S., Dafis, S., Flaounas, E., Gentile, E. S., Gonzalez-Aleman, J. J., Gray, S., Miglietta, M. M., Patlakas, P., Pytharoulis, I., Ricard, D., Ricchi, A., and Sanchez, C.: The crucial representation of deep convection for the cyclogenesis of medicane Ianos, EMS Annual Meeting 2024, Barcelona, Spain, 1–6 Sep 2024, EMS2024-84, <https://doi.org/10.5194/ems2024-84>, 2024. **Oral - Solicited**.

González-Alemán, J. J., Gascon, E., Martín, D., Vannière, B., Maier-Gerber, M., Jimenez, A., **Calvo-Sancho, C.**, Viana, S., and Calvo, J.: Diagnostics-based evaluation of Mediterranean extreme convective storms on high-resolution simulations under Destination Earth initiative, EMS Annual Meeting 2024, Barcelona, Spain, 1–6 Sep 2024, EMS2024-380, <https://doi.org/10.5194/ems2024-380>, 2024. **Oral**.

Luna, M. Y., Díaz-Fernández, J., García-Miguel, A., **Calvo-Sancho, C.**, Castedo, R., Ortega, J. J., Bolgiani, P., Sastre, M., and Martín, M. L.: A wind energy resource analysis in the Iberian Peninsula under climate projections, EGU General Assembly 2024, Vienna, Austria, 14–19 Apr 2024, EGU24-6374, <https://doi.org/10.5194/egusphere-egu24-6374>, 2024. **Poster**.

Morata, A., Montoro-Mendoza, A., **Calvo-Sancho, C.**, González-Alemán, J. J., Díaz-Fernández, J., Bolgiani, P., Farrán, J. I., Santos, D., and Martín, M. L.: Anthropogenic Climate Change Attribution to a Giant Hail Event in August 2022 in Northeastern Spain, EGU General Assembly 2024, Vienna, Austria, 14–19 Apr 2024, EGU24-16821, <https://doi.org/10.5194/egusphere-egu24-16821>, 2024. **Poster**.

Redaelli, G., Liguori, G., Cavicchia, L., Miglietta, M. M., Bonaldo, D., Carniel, S., **Calvo-Sancho, C.**, Martín, M. L., Gonzalez-Aleman, J. J., Ferretti, R., and Ricchi, A.: Exploring how a warmer Mediterranean Sea affects the origin and development of destructive Tropical-Like Cyclones IANOS and DANIEL, EGU General Assembly 2024, Vienna, Austria, 14–19 Apr 2024, EGU24-19563, <https://doi.org/10.5194/egusphere-egu24-19563>, 2024. **Poster**.

**Calvo-Sancho, C.** (presenter), Montoro-Mendoza, A., González-Alemán, J.J., Díaz-Fernández, J., Bolgiani, P., Farrán, J.I., Luna, M.Y., Martín, Y., and Martín, M.L.: Granizo Gigante en España. ¿Fue el Cambio Climático?, XXXVI Jornadas Científicas de la Asociación Meteorológica Española, Cádiz, España, 13-15 March 2024. **Oral**.

**Calvo-Sancho, C.** (presenter), Martín, Y., González-Alemán, J.J., Morata, A., and Martín, M.L.: Supercélulas, Granizo Grande y Tornados en España, XXXVI Jornadas Científicas de la Asociación Meteorológica Española, Cádiz, España, 13-15 March 2024. **Oral**.

García-Miguel, A., **Calvo-Sancho, C.**, Díaz-Fernández, J., Castedo, R., Ortega, J.J., Luna, M.Y., Morata, A., and Martín, M.L.: Evaluación del impacto climático en el recurso eólico en la península ibérica, XXXVI Jornadas Científicas de la Asociación Meteorológica Española, Cádiz, España, 13-15 March 2024. **Oral**.

Montoro-Mendoza, A., **Calvo-Sancho, C.**, González-Alemán, J.J., Díaz-Fernández, J., Bolgiani, P., Sastre, M., and Martín, M.L.: Influencia del cambio climático antropogénico en ambientes favorables para el desarrollo de transiciones tropicales en el Atlántico Norte, XXXVI Jornadas Científicas de la Asociación Meteorológica Española, Cádiz, España, 13-15 March 2024. **Oral**.

González-Alemán, J. J., Calvo, J., Martín, D., Viana, S., **Calvo-Sancho, C.** and Fernández-Castillo Pablo: Evaluación en simulaciones a escala sub-kilométrica de actividad convectiva de alto impacto en el contexto de la

iniciativa "Destination-Earth", XXXVI Jornadas Científicas de la Asociación Meteorológica Española, Cádiz, España, 13-15 March 2024. **Oral.**

**Calvo-Sancho, C.** (presenter), Montoro-Mendoza, A., González-Alemán, J.J., Díaz-Fernández, J., Bolgiani, P., Santos-Muñoz, D., Sastre, M., Farrán, J.I., and Martín, M.L.: Assessing Giant Hailstorm Response to Global Warming Using the Pseudo-Global Warming Approach: Implications for Future Severe Weather Events in Southern Europe, AGU General Assembly 2023, San Francisco, CA, USA, 11-15 December 2023, AGU23 A33R-2769. **Poster.**

González-Alemán, J. J., Calvo, J., Martín, D., Viana, S., and **Calvo-Sancho, C.**: Testing sub-km simulations for Medicane Ianos in Destination Earth's On-Demand Extremes. 2st MedCyclones Workshop & Training School. Toulouse, France. 2023. **Poster.**

**Calvo-Sancho, C.** (presenter), González-Alemán, J. J., Martín, Y., Calvo, J., Martín, M. L., Martín Pérez, D., and Viana Jiménez, S.: Testing very high-resolution simulations in a high-impact static convective system in Spain using HARMONIE-AROME model, 11th European Conference on Severe Storms, Bucharest, Romania, 8–12 May 2023, ECSS2023-66, <https://doi.org/10.5194/ecss2023-66>, 2023. **Poster.**

**Calvo-Sancho, C.** (presenter), Díaz-Fernández, J., González-Alemán, J. J., Martín, Y., Quitián-Hernandez, L., Bolgiani, P., Santos-Muñoz, D., Farrán, J. I., Sastre, M., and Martín, M. L.: Numerical Analysis of a Spanish Supercell Outbreak, EGU General Assembly 2023, Vienna, Austria, 23–28 Apr 2023, EGU23-15054, <https://doi.org/10.5194/egusphere-egu23-15054>, 2023. **Poster.**

**Calvo-Sancho, C.** (presenter), González-Alemán, J. J., Luna, M.Y., Bolgiani, P., Santos-Muñoz, D., Quitián-Hernández, L., Sastre, M., Valero, F., Farrán, J.I., Díaz-Fernández, J., and Martín, M. L.: Identificación y distribución temporal de transiciones tropicales en el Océano Atlántico Norte. **XII Congreso Internacional de la Asociación Española de Climatología (AEC). Santiago de Compostela, Spain. 2022. Oral.**

Díaz-Fernández, J., **Calvo-Sancho, C.**, Bolgiani, P., Martín, Y., Santos-Muñoz, D., Sastre, M., Valero, F., Farrán, J. I., Quitián-Hernández, L., and Martín, M. L.: Analysis on performance of HARMONIE-AROME model in a Spanish supercell event. **Mini-European Conference on Severe Storms, ESSL, Online. 2022. Oral.**

**Calvo-Sancho, C.** (presenter), Bolgiani, P., Díaz-Fernández, J., Fernández-González, S., Martín, Y., González-Alemán, J. J., Sastre, M., Santos-Muñoz, D., Farrán, J. I., and Martín, M. L.: Microburst evento in Zaragoza's Airport: preliminary results. **Mini-European Conference on Severe Storms, ESSL, Online. 2022. Oral.**

**Calvo-Sancho, C.** (presenter), González-Alemán, J. J., Díaz-Fernández, J., Quitián-Hernández, L., Bolgiani, P., Santos-Muñoz, D., Farrán, J. I., Sastre, M., Calvo, J., and Martín, M. L.: Ianos in the HARMONIE-AROME. **1<sup>st</sup> MedCyclones Workshop & Training School. Athens, Greece. 2022. Oral.**

**Calvo-Sancho, C.** (presenter), González-Alemán, J. J., Bolgiani, P., Santos-Muñoz, D., Farrán, J. I., Sastre, M., and Martín, M. L.: A Climatology of Tropical Transitions in the North Atlantic Ocean. **General Assembly 2022 of the European Geosciences Union. Vienna, Austria. 2022.** DOI 10.5194/egusphere-egu22-2395, 2022. **Oral.**

**Calvo-Sancho, C.** (presenter) and Martín, Y.: Supercell Pre-convective Environments in Spain: a dynamic downscaling of ERA-5 Reanalysis. **General Assembly 2021 of the European Geosciences Union. Vienna, Austria. 2021.** DOI:10.5194/egusphere-egu21-2967, 2021. **Poster.**

Rodríguez-Sánchez, A., Granda-Maestre, R., **Calvo-Sancho, C.**, and Oliver-García, Á.: An approach to Storm Filomena severe snowfall and precipitation in Spain: preliminary results. **General Assembly 2021 of the European Geosciences Union. Vienna, Austria. 2021.** DOI:10.5194/egusphere-egu21-10406, 2021. **Poster.**

Granda-Maestre, R., **Calvo-Sancho, C.**, and Martín, Y. Supercell predictability on Iberian Peninsula using WRF-ARW model. **General Assembly 2021 of the European Geosciences Union. Vienna, Austria. 2021.** DOI: 10.5194/egusphere-egu21-10376. **Poster.**

Martín, Y., **Calvo-Sancho, C.**, Cívica, M., Pham, E. Understanding supercell spatiotemporal and environmental patterns in Spain using two-dimensional radar, atmospheric reanalysis, and citizen science. **AGU Fall Meeting, United States. 2020. Poster.**

**Calvo-Sancho, C.** (presenter), and Martín, Y. The influence of synoptic weather patterns in supercell formation in Spain. **General Assembly 2020 of the European Geosciences Union. Vienna, Austria. 2020.** DOI: 10.5194/egusphere-egu2020-40. **Poster.**

## **Workshops**

- **2<sup>st</sup> MedCyclones Workshop and Training School.** June 26 – 30, 2023. University of Athens, Athens, Greece.
- **1<sup>st</sup> MedCyclones Workshop and Training School.** June 27 – July 2, 2022. University of Athens, Athens, Greece.
- **Glaciers, Snow and Permafrost: the cryosphere as climate indicator.** September 7-10, 2017. University of Menendez Pelayo. Ainsa, Huesca, Spain.

## **Courses**

- Participation in the XII Summer course: **Applied Statistics to Spatial Data with R.** Given by Dr. Santiago Beguería. Organized by the Spanish Association of Climatology, the Spanish National Research Council (CSIC) and the Geography and Land Management Department of the University of Zaragoza. Zaragoza. 2016.
- Participation in the XIII Summer course: **Applied Statistics to Climatology with R.** Given by Dr. Santiago Beguería. Organized by the Spanish Association of Climatology, the Spanish National Research Council (CSIC) and the Geography and Land Management Department of the University of Zaragoza. Zaragoza. 2017.
- Participation in the PATC course: **Earth Sciences Simulation Environments.** Given by Dr. M<sup>a</sup> Teresa Pay and Dr. Mario Acosta. Organized by the Partnership for Advanced Computing in Europe (PRACE) and the Barcelona Supercomputing Center (BSC). Barcelona. 2018.
- Participation in the XV Summer course: **Applied Statistics to Climatology with R.** Given by Dr. Roberto Serrano and Dr. Miquel Tomas. Organized by the Spanish Association of Climatology, the Spanish National Research Council (CSIC) and the Geography and Land Management Department of the University of Zaragoza. Zaragoza. 2019.
- ECMWF Training Course: **A hands-on introduction to Numerical Weather Prediction Models: Understanding and Experimenting.** Organized by the European Center for Medium-Range Weather Forecasts (ECMWF). Reading, UK. 2021.
- Participation in the ECMWF Training Course: **Predictability and Ensemble Forecast Systems.** Given by Dr. Andrew Brown. Organized by the European Center for Medium-Range Weather Forecasts (ECMWF). Reading, UK. 2020.

## **SKILLS**

- **Meteorological and Climatological Big Data Management.**
- **Database Management.**
- **Programming languages such as R, Python or NCL.**
- **Geographical Information Systems (GIS).**
- **Spatial and temporal analysis capabilities.**
- **Statistical analysis.**

## **MEMBERSHIPS**

Member of the Spanish Association of Climatology (AECLIM)

Member of the European Geosciences Union (EGU)

Member of the Spanish Meteorological Association (AME)