

19th Plinius Conference Detailed Programme

Campus de La Merced, Murcia · 5–9 October 2026

Map here: <https://maps.app.goo.gl/ZN95vWLeCECPf7cv6>

Sessions

PL1. Diagnosis, trends, causalities, and predictions of extreme weather events in a climate change environment.

Conveners: Mario Marcello Miglietta, Cindy Lebeau-pin Brossier, Amar Halifa Marín.

PL2. Earth Observation data and techniques for the definition, characterisation, and monitoring of natural hazards.

Conveners: Giulia Panegrossi, Enrique Pravia-Sarabia, Yves Tramblay.

PL3. Hydro-geological effects of extreme events.

Conveners: Salvador Gil-Guirado, Giorgio Boni, Federico Martellozzo.

PL4. Socio-economic impacts: exposure, vulnerability, perspectives, and adaptation.

Conveners: Maria-Carmen Llasat, Sonia Jerez, Olga Petrucci.

PL5. Safeguarding and management of cultural and natural heritage at risk from climate extreme events.

Conveners: Alessandra Bonazza, Constantinos Cartalis, Dimitrios Alexakis, Nieves Espinosa.

PL6. Impacts of climate change and extremes on ecosystems and agriculture.

Conveners: Julia Martínez-Fernández, Jose Alberto Egea, Pedro Jimenez-Guerrero.

PL7. Air quality, Heat and Health in the Mediterranean.

Conveners: Francesca Costabile, Tareq Hussein, Christos Giannaros, Pedro Jimenez-Guerrero.

PL8. Current and emerging challenges of wildfires.

Conveners: Theodore Giannaros, Mario Miguel Valero Pérez, Marco Turco.

Monday 5 October

18:00–20:00 Registration

Oral programme

Tuesday 6 October

Time	Session	Abstract	Presentation	Presenter
09:00–09:30			Registration	
09:30–10:30			Conference opening Speakers: • Christian de la Fe Rodríguez, Vice-Rector for Research and Knowledge Transfer, University of Murcia. • María de las Nieves Espinosa Martínez, Chair of the Conference Organising and Scientific Committee, Ramón y Cajal Research Fellow, University of Murcia. • Giorgio Boni, Chair of the Plinius Steering Committee. • Juan María Vázquez Rojas, Regional Minister for Environment, Industry, Universities, Research and the Mar Menor, Region of Murcia.	

Time	Session	Abstract	Presentation	Presenter
10:30–11:30			Coffee break	
Chairperson: Marco Turco				
11:30–11:45	PL8	Plinius19-12	Fire regimes are becoming increasingly volatile: implications for managing extreme fire events in the Mediterranean	Zak Derler
11:45–12:00	PL8	Plinius19-20	Intertwined drivers of wildfire occurrence in Southern Europe: climate, landscape flammability and WUI expansion	Onofrio Cappelluti
12:00–12:15	PL8	Plinius19-106	From Occurrence to Impact: A Multi-Scale Machine Learning Pipeline for High-Resolution Wildfire Modelling	Jesús Peña-Izquierdo
12:15–12:30	PL8	Plinius19-56	National-Scale GIS-Based Visibility Analysis of Fire Lookout Towers and Identification of Surveillance Deficit Zones in Türkiye	Mehmet Altuğ Küçükosmanoğlu
12:30–12:45	PL8	Plinius19-2	Wildfire preparedness, awareness and action plan - ready, set, go!	Zsolt Katay
12:45–13:00	PL8	Plinius19-117	A new Mediterranean network to assess post-fire forest trajectories: Invitation for input and participation	Alexandro B. Leverkus
13:00–15:00			Lunch break	
Chairpersons: Leandro Segado-Moreno, Eloisa Raluy-López				
15:00–15:15	PL7	Plinius19-98	Compound heatwave-stagnation episodes amplify tropospheric ozone and fine particulate matter attributable mortality across the Mediterranean	Pedro Jimenez-Guerrero
15:15–15:30	PL7	Plinius19-94	Circulation Patterns of Compound Atmospheric Events Associated with Wintertime Mortality Excess in Mainland Spain	Pedro Jimenez-Guerrero
15:30–15:45	PL7	Plinius19-19	The VITALITY Project: an analysis of the impact of climate change on diabetic patients in a region of central Italy (Abruzzo, Italy)	Alessandra Mascitelli
15:45–16:00	PL7	Plinius19-35	Heat stress in the Mediterranean, 1940–2023: trends, drivers and vulnerability	Bogdan Antonescu
16:00–16:15	PL7	Plinius19-43	Assessment of Heat Stress in Schoolyards in Belgrade (Serbia) Using Micrometeorological Measurements	Milica Pecelj
16:15–16:45			Coffee break	
Chairpersons: Leandro Segado-Moreno, Eloisa Raluy-López				
16:45–17:00	PL7	Plinius19-130	Chemistry – Climate Interactions over Scales: Project FOCI - Non-CO2 Forcers and Their Climate, Weather, Air Quality and Health Impacts	Tomas Halenka
17:00–17:15	PL7	Plinius19-72	Urban climate and air quality feedbacks: a high-resolution WRF-Chem study	Eloisa Raluy-López
17:15–17:30	PL7	Plinius19-132	CORDEX Flagship Pilot Study URB-RCC: Urban Environments and Regional Climate Change	Tomas Halenka
17:30–17:45	PL7	Plinius19-71	Wildfires as an emerging source of microplastics: transport and regional impacts over Portugal	Leandro Segado-Moreno
17:45–18:00	PL7	Plinius19-50	Long-Range Aerosol Transport to the Central Pyrenees: Impacts of Wildfire Smoke, Saharan Dust and Climate-Driven Events	Jorge Pey
18:30–20:30			Icebreaker at ITACA Map here: https://maps.app.goo.gl/nTGXt1u2HEqqrPG7	

Wednesday 7 October

Time	Session	Abstract	Presentation	Presenter
Chairperson: Amar Halifa Marín				
09:00–09:15	PL1	Plinius19-13	Recent trends in probability of African dust outbreaks occurrence over Spain: Quantitative partitioning of dynamic and thermodynamic effects.	Pedro Salvador
09:15–09:30	PL1	Plinius19-22	Past and Future Changes in African Dust-Favourable Atmospheric Circulation over Iberia	David Scofield-Teruel
09:30–09:45	PL1	Plinius19-89	Identifying the spatio-temporal drivers of Mediterranean heatwaves: a machine learning feature selection framework	Jorge Pérez-Aracil
09:45–10:00	PL1	Plinius19-96	Assimilation of GNSS delays along slant paths into the WRF model: two experiments over Italy	Rosa Claudia Torcasio
10:00–10:15	PL1	Plinius19-37	Statistical Modelling of Extreme Heat Events Using Geopotential Height Covariates	Elsa Barrio-Torres
10:15–10:30	PL1	Plinius19-27	Seasonal Predictability and Dynamical Representation of Mediterranean Heatwaves Using WRF Simulations	Kondylia Velikou
10:30–10:45	PL1	Plinius19-30	Detection of potential extreme precipitation events in convection-permitting climate simulations using statistical methods in global climate models	Branimir Omazić
10:45–11:45			Coffee break and Poster Session A · PL1, PL8, PL7, PL3	
Chairperson: Mario Marcello Miglietta				
11:45–12:00	PL1	Plinius19-52	Deep analysis of convective trends in Catalonia	Tomeu Rigo
12:00–12:15	PL1	Plinius19-68	Temporal evolution of drought in Spain over the last 500 years using historical documentary sources and instrumental records	Josep Barriendos
12:15–12:30	PL1	Plinius19-101	Insights into the December 1944 Extreme Cold–Wet Event in Southeastern Spain: Evidence of Change in Its Present-Day Analogues	Amar Halifa-Marín
12:30–12:45	PL1	Plinius19-61	High-resolution atmosphere-ocean coupling impact on North-Western Mediterranean severe event forecasts with the AROBASE prediction system	Cindy Lebeau-pin Brossier
12:45–13:00	PL1	Plinius19-81	LAM-EPS Systems at AEMET: Evolution, Current Capabilities, and Future Perspectives	Juan José Gómez-Navarro
13:00–15:00			Lunch break	
Chairperson: Giorgio Boni				
15:00–15:15	PL3	Plinius19-7	Detecting trends in different types of floods in Mediterranean basins using hourly data	Yves Tramblay
15:15–15:30	PL3	Plinius19-14	Climate stressors and hydrogeomorphological instability in Mediterranean agricultural soils: from drought to successive storm rainfall	Lucía Moreno Cuenca
15:30–15:45	PL3	Plinius19-11	A new classification of the magnitude of hydrological events and extremes using the Z value	Guido Leone
15:45–16:00	PL3	Plinius19-134	The flood frequency analysis of the catastrophic flash flood event of October 2024 in southern Valencia	Félix Francés

Time	Session	Abstract	Presentation	Presenter
16:00–16:15	PL3	Plinius19-67	Study of major flood events in Spain over the last 750 years	Mariano Barriendos
16:15–16:45			Coffee break	
Chairpersons: Federico Martellozzo, Alfredo Pérez-Morales				
16:45–17:00	PL3	Plinius19-28	An Artificial-Intelligence-based application for short-term river water-level prediction and flood early warning in Thessaly, Greece.	Christos-Panagiotis Giannaklis
17:00–17:15	PL3	Plinius19-102	Impact of preprocessing and input data quality on urban pluvial flood simulations, with focus on 1D–2D coupled modelling. The case of Sampierdarena district of Genova using Iber-SWMM	Giorgio Boni
17:15–17:30	PL3	Plinius19-79	Event-based assessment of coastal flood damages under 100-year extreme sea-level scenarios in Spanish coastal hotspots	Juan Francisco Amor Amor
17:30–17:45	PL3	Plinius19-114	Morphological change indicators in a semi-arid braided system, the Fiumara Amendolea (Calabria, Italy): multi-temporal evaluation and analysis	Ángela Bellido Solano
20:30			Conference dinner at the <i>Real Casino de Murcia</i> Map here: https://maps.app.goo.gl/rs3ySh3bQTQ1QZmo8	

Thursday 8 October

Time	Session	Abstract	Presentation	Presenter
Chairperson: Cindy Lebeauupin Brossier				
09:00–09:15	PL1	Plinius19-33	A data-driven regionalization and point-scale exceedance framework for tornado and waterspout hazard assessment in peninsular Spain and the Balearic Islands	Gonzalo Agurto Barragán
09:15–09:30	PL1	Plinius19-91	Toward the identification of different subcategories of medicanes	Mario Marcello Miglietta
09:30–09:45	PL1	Plinius19-128	On the Air Sea interaction and Future Climate Sensitivity of a Winter Tropical-Like Cyclone Jolina	Antonio Ricchi
09:45–10:00	PL1	Plinius19-59	Synoptic Environments of Northward-Recurving African Easterly Waves: An Emerging Threat for Southwestern Europe	Ernesto Javier Rodríguez Acosta
Chairpersons: Alessandro Sardella, Nieves Espinosa				
10:00–10:15	PL5	Plinius19-40	THESAN Project: the role of a changing climate in Mediterranean cultural hypogea	Francesca Frasca
10:15–10:30	PL5	Plinius19-51	Sharing experiences in the sustainable management of cultural and natural heritage at risk under climate change scenario: the INACO Project	Alessandro Sardella
10:30–10:45	PL5	Plinius19-86	Multi-temporal NBR Analysis and Neural Network-Based Wildfire Risk Assessment for Ecologically Sensitive Protected Areas: The Case of Vesuvius National Park	Claudio Sossio De Simone
10:45–11:45			Coffee break and Poster Session B · PL4, PL2, PL5, PL6	

Time	Session	Abstract	Presentation	Presenter
Chairpersons: Julia Martínez-Fernández, Jose Alberto Egea				
11:45–12:00	PL6	Plinius19-74	Past trends and future projections in water resources in the Mediterranean Basin	Joris Eekhout
12:00–12:15	PL6	Plinius19-38	Climate Change Impacts on Water Availability in Mediterranean Balkan River Basins: A Case Study of the Seman River Basin, Albania	Alban Doko
12:15–12:30	PL6	Plinius19-55	Mapping Decadal Soil Dynamics and Projecting Climate-Driven Degradation Impacts on Global Agricultural Yields: The HUMERIS Framework	Matteo Dalle Vaglie
12:30–12:45	PL6	Plinius19-105	Leveraging bud sport-derived low-chill alleles to sustain Mediterranean stone fruit production under warming winters	Daniel González-Palazón
12:45–13:00	PL6	Plinius19-69	Challenges for the conservation of Mediterranean vulnerable species under climate change. The case of Testudo graeca	Julia Martínez-Fernández
13:00–13:15	PL6	Plinius19-110	Extensive livestock farming movement under climate change	Roberto Pascual Rico
13:15–15:00			Lunch break	
Chairperson: Giulia Panegrossi				
In memory of Dr. Claudia Adamo and Prof. Eric A. Smith				
15:00–15:15	PL2	Plinius19-45	Mediterranean Cyclone Jolina: Near Real-Time Detection of Medicanes Formation Using Multi-Sensor Earth Observation	Giulia Panegrossi
15:15–15:30	PL2	Plinius19-126	DeMeTrA: A Two-Stage Coarse-to-Fine Deep Learning Framework for Medicanes Detection and Tracking from MSG SEVIRI Image Sequences	Daniele D'Armiento
15:30–15:45	PL2	Plinius19-48	New Capabilities for Observing Precipitation Intensity and Structure Provided by the NASA TROPICS Microwave Radiometer Constellation Mission	William Blackwell
15:45–16:00	PL2	Plinius19-18	Comparison of precipitation interpolation methods applied to the October 2024 extreme rainfall event in Valencia (Spain)	Ángela Masiel Zaragoza-Paredes
16:00–16:45			Coffee break	
Chairperson: Yves Trambly				
16:45–17:00	PL2	Plinius19-111	The impact of ASCAT surface winds data assimilation on medicanes prediction: results for two cases.	Stefano Federico
17:00–17:15	PL2	Plinius19-65	SAPHIR DATA SERVICE: Environmental Forecastability and Hydro-Meteorological Nowcasting	Xavier Silvani
17:15–17:30	PL2	Plinius19-97	Spatial clustering of drought and wet spell regimes over Italy: a feature-based network approach across multiple SPEI timescales	Luciano Telesca
17:30–17:45	PL2	Plinius19-113	Assessment of temperature and precipitation variability over a complex terrain. Multi-resolution model evaluation.	Sara Madera Sánchez
17:45–18:00	PL2	Plinius19-77	Rapid emulation of Regional Climate Models via deep learning for impact studies: evaluating inter-GCM generalization	Enrique Pravia-Sarabia
19:00			Guided city tour Meeting point: <i>Claustro de La Merced</i> , University of Murcia Map here: https://maps.app.goo.gl/E6nPc2S5sVRtB1W99	

Friday 9 October

Time	Session	Abstract	Presentation	Presenter
Chairperson: Olga Petrucci				
09:00–09:15	PL4	Plinius19-24	Assessing rainfall hazard and local factors associated with societal flood impacts in Greece	Katerina Papagiannaki
09:15–09:30	PL4	Plinius19-63	From flood chronologies to exposure tipping points: preliminary evidence from the Segura River Basin District, SE Spain	Alfredo Pérez-Morales
09:30–09:45	PL4	Plinius19-54	FFEM, the dataset of flood fatalities in the Euro-Mediterranean Region (1980-2024): results and perspectives	Olga Petrucci
09:45–10:00	PL4	Plinius19-8	Flood related mortality in North Africa : first outcomes of a new comprehensive database	Freddy Vinet
10:00–10:15	PL4	Plinius19-9	Flood related mortality in France over the period 1980-2025	Emilie Nardon
10:15–10:30	PL4	Plinius19-75	The political attribution of risk: floods and election results	Ester García Fernández
10:30–10:45	PL4	Plinius19-87	In the footsteps of Water	Maria-Carmen Llasat
10:45–11:30			Coffee break	
Chairperson: Maria-Carmen Llasat				
11:30–11:45	PL4	Plinius19-93	Participatory co-design of climate adaptation scenarios for flood and drought mitigation in a semi-arid Mediterranean catchment	Clara Bosch
11:45–12:00	PL4	Plinius19-58	Potential impacts of Tropical Storm Delta in the Canary Islands under warmer ocean conditions	Pedro Gómez-Plasencia
12:00–12:15	PL4	Plinius19-10	First results from a wind-related fatalities French national database over the period 1980-2025	Anaïs Le Golvan
12:15–12:30	PL4	Plinius19-32	Assessing Seasonal Weather Forecasts for Water Resource Management and Hydropower Production	Matteo Pesce
12:30–12:45	PL4	Plinius19-16	Adapting Adriatic Tourism to Climate Change: Challenges of Summer Heat and Opportunities for Seasonal Extension	Slavica Malinović-Milićević
12:45–13:00			Closing ceremony	

Poster programme

Posters will be displayed from 09:00 to 18:00 on their respective days in the Poster hall. Attendance period is indicated below.

Poster Session A • Wednesday 7 October • 10:45–11:45

Session	Abstract	Poster title	Presenter
PL1	Plinius19-104	The Mediterranean Storm 'Jolina': Sensitivity to SST and Model configuration on Heavy Rainfall and Tropical-Like Development	Elenio Avolio
PL1	Plinius19-108	Human-induced climate change amplification on storm dynamics in Valencia's 2024 catastrophic flash flood	Amar Halifa-Marín
PL1	Plinius19-109	Diagnosing Downburst-prone environments with machine learning	Andrés Barrio-Martin
PL1	Plinius19-15	The relationship between flash drought and dry-hot winds in Ukraine	Inna Semenova
PL1	Plinius19-29	Causal Drivers of Mediterranean Temperature and Drought: A Time-Lagged Network Analysis using PCMCi and Synoptic Weather Types	Alexandros Papadopoulos Zachos
PL1	Plinius19-60	Reconstructing Historical Droughts in Spain (1806–1865): Atmospheric Dynamics versus Qualitative Impact Records	Josep Barriendos
PL1	Plinius19-78	Analysis and numerical simulation of the Exceptional Rainfall Event over the Iberian Peninsula between October 28 and November 4, 2024	Enrique Jara Lopez
PL1	Plinius19-84	Intensification of Tropical-Like Cyclones Over the Black Sea In the Future Climate: Blackcane Simulations	Sinan Sahinoglu
PL3	Plinius19-119	A raster-based non-homogeneous Poisson process approach for drought trends detection in Italian catchments	Giorgio Roth
PL3	Plinius19-64	Surface Free Energy Characterization of Reddish Volcanic Tephra (Almagres) from Deception Island: Implications for Granular Cohesion	José Alberto Moleón
PL3	Plinius19-66	The AMARNA Platform as a resource for knowledge of extraordinary meteorological events on the Spanish Mediterranean Basin on a historical scale	Mariano Barriendos
PL3	Plinius19-76	Tipping Points in Coastal Flood Risk : High-Resolution Inundation and Damage Functions under Sea-Level Rise in the Spanish Mediterranean coast	Javier Mirete
PL7	Plinius19-116	Airborne legacy and emerging pollutants in the Murcia-Alicante region	Nuno Ratola
PL7	Plinius19-23	Air Quality and Breast Malignancy Risk Stratification in the Mediterranean: Integrating Copernicus Reanalysis Data with Mammographic Feature	Alessandra Mascitelli
PL7	Plinius19-90	Improving the Spatial Representation of Emission Sources for Regional Air Quality Modelling	Alejandro Cordero
PL7	Plinius19-92	Assessing Long-Term Trends in Heat Stress in Murcia using the Wet Bulb Globe Temperature Index over the ERA5 Period	Miguel Huerta de la Asunción
PL8	Plinius19-103	MRBA60: A harmonised global burned area record bridging the MODIS and Sentinel-3 eras (2003-present)	Miguel Ángel Torres-Vázquez
PL8	Plinius19-47	Record-breaking 2025 wildfires in Northwest Iberia: extreme fire weather, fuel continuity and emerging Mediterranean fire risk	Marco Turco

Poster Session B • Thursday 8 October • 10:45–11:45

Session	Abstract	Poster title	Presenter
PL2	Plinius19-122	First Implementation of CML-Based Rainfall Estimation in Türkiye: Focus on İstanbul	Melek Akın
PL2	Plinius19-112	CIMAs: A multi-source climate dataset for high-mountain environments in the Iberian Central System	Cristina Vegas Cañas
PL2	Plinius19-17	Precipitation Nowcasting over complex terrain in Greece, using weather radar and lightning data assimilation	Dimitrios Katsanos
PL2	Plinius19-44	New perspectives and advancements in microwave-based analyses and characterization of Medicanes	Giulia Panegrossi
PL2	Plinius19-49	Comparing remote sensing products for drought characteristics analysis in Italy	Tommaso Caloiero
PL4	Plinius19-100	Assessing Human Cognitive Resilience to Environmental Stressors: An AI-Driven Chess-Based Framework in the Mediterranean Context	Stefano Dietrich
PL4	Plinius19-36	Heat stress and outdoor-labour losses in Bucharest, Romania	Răzvan Pîrloagă
PL4	Plinius19-53	Assessing Coastal Flood Hazard and Damage from Cyclone Harry along the Calabrian Ionian Coast	Tommaso Caloiero
PL4	Plinius19-57	Flood Susceptibility Mapping and Impact Assessment on Road Networks and Urban Areas in the Calabria Region	Massimo Conforti
PL4	Plinius19-73	The champion 50–50 strategy against renewable energy droughts in Europe	Sonia Jerez
PL4	Plinius19-99	Investigating the potential of a comprehensive analysis of individual behaviors during urban floods: evidence from the city of Bari (southern Italy)	Olga Petrucci
PL5	Plinius19-21	Evolving diets in a changing climate: analysis of the European scenario, with a focus on Italian cuisine recognised as UNESCO intangible Cultural Heritage	Alessandra Mascitelli
PL5	Plinius19-25	Integrating Risk Mapping and Condition Reporting for Cultural Heritage at Risk: Synergies between ProteCht2save WebGIS and ChemiNova in Extreme Climate Events	Fernanda Prestileo
PL5	Plinius19-31	Impacts of the Mediterranean Cyclone Harry on coastal cultural heritage: Kamarina and Caucana archaeological sites (Ragusa, southern Sicily) case study	Fernanda Prestileo
PL5	Plinius19-41	Fire Risk Assessment of Cultural Landscapes in Two Mediterranean Regions	Francesca Frasca
PL6	Plinius19-46	Vertical agrivoltaics for climate adaptation in Mediterranean vineyards: a life cycle assessment	Nieves Espinosa
PL6	Plinius19-70	Climatic resilience in coastal areas. The Coastscapes approach	Julia Martínez-Fernández
PL6	Plinius19-80	Agroclimatic Metrics to support decision-making in stone fruit cultivation in Spain: Updates Incorporating AR6 Scenarios and Improved Spatial Interpolation	Jose A. Egea