

General Data

Qualifications	Research Scientist, National Observatory of Athens/ Institute for Environmental Research and Sustainable Development (NOA / IERSD)
Place and date of birth	Montpellier, France, 2 November 1975
Office address	National Observatory of Athens, P. Penteli, 152 36
Telephone	+30-2108109134
e-mail	katpap@noa.gr

Education

- 2011 PhD Thesis at the Laboratory of Industrial and Energy Economics, School of Chemical Engineering, National Technical University of Greece, with subject “Climate Change and Transportation: Decomposition Analysis and Policy Valuation”.
- 2001 B.Sc. in Chemistry at the National Kapodistrian University of Athens.

Training courses

- 2012 ‘Inferential Statistics with SPSS software’: National Centre for Public Administration and Local Government

Areas of expertise

Societal Impact Analysis; High-impact weather events; Index decomposition analysis; Climate change impacts; Estimation of greenhouse gas emissions; Assessment of policy strategies for climate change mitigation.

Currently, major research interests lie in the area of **weather-related hazards and societal impacts**. Relevant activities concern:

Contributions to the European Project **HyMeX** (HYdrological cycle in the Mediterranean Experiment), as co-Leader of the ‘Flash-flood and social vulnerability’ Science Team of the working group WG5: ‘Societal and economic impacts’: development of FLOOD-HyMeX database in collaboration with researchers from Academic and Research Institutes of Spain, Italy and France; societal impact analysis of high-impact weather events in the Mediterranean basin; identification and analysis of common flash flood impact and vulnerability indicators; development of common HyMeX database on human fatalities related to floods/flash floods, and statistical analysis of collected data.

Design and analysis of **behavioral surveys** to examine human related drivers of the social vulnerability and to identify behavioral characteristics related to flash flood risk awareness and preparedness.

Development of the **Database of high-impact weather events in Greece**, covering the period 2000 – to date; systematic ‘on-line’ recording of these events at meteo.gr and analysis of their weather and impact intensities.

Development of the **Database of severe flash-flood events** that occurred in the period 1980-to date; societal impact analysis of severe flash-flood events; Analysis of the relationship between hydro-meteorological variables and societal impact in urban areas of Greece.

Development of the **Database of flood-related human fatalities** in Greece for the period from 1980 to date; combination of physical and human data to analyze how hydro-meteorological conditions relate to casualties.

Professional experience

2017-

Research Associated Scientific personnel in the Institute for Environmental Research and Sustainable Development of the **National Observatory of Athens**, holding position entitled ‘Societal impacts of climate and weather related phenomena’.

2006-2016

Scientific technical personnel in the Institute for Environmental Research and Sustainable Development of the **National Observatory of Athens**.

2001-2006

Research Associate in the Institute for Environmental Research and Sustainable Development of the **National Observatory of Athens**, participating in research projects and activities.

Member of UNFCCC **expert review teams**, reviewing National GHG Inventory reports.

Participation in International Committees

Co-Leader of the ‘Flash-flood and social vulnerability’ Science Team of the working group WG5: ‘Societal and economic impacts’, of the European Project **HyMeX** (HYdrological cycle in the Mediterranean Experiment).

Participation in research projects and activities

2011-

Interreg Balkan-Med Project ‘**DISARM**’, Drought and Fire Observatory and Early Warning System, coordinating beneficiary NOA, scientific responsible V. Kotroni, Research Director in IERSD/NOA (2017-2020).

European Project **HyMeX** (HYdrological cycle in the Mediterranean Experiment). Co-Leader of the ‘Flash-flood and social vulnerability’ Science Team of the working group WG5: ‘Societal and economic impacts’. International coordination (2010-2020)

Spanish Project **HOPE** (CGL2014-52571-R), leaded by University of Barcelona in collaboration with University of the Balearic Islands, Italian National Research Council, Paul Valéry University, Montpellier, National Observatory of Athens. The project objectives are to improve the estimates of the present and future impacts of floods in the Eastern of the Iberian Peninsula and to design proposals for improving the resilience and adaptation strategies.

IERSD/NOA project '**Network of Automated Meteorological Stations**'.

Development and continuous update of the **Databases on high-impact weather events** and flood-related **human fatalities** in Greece; development and systematic update of the on-line version of the high-impact weather events Database, relevant summary reports and interactive maps:

http://www.meteo.gr/meteoplus/weather_cases.cfm

<http://www.meteo.gr/meteoplus/weatherEvents.cfm>

Design and statistical analysis of behavioral surveys that concern social vulnerability to extreme weather events, in collaboration with researchers of the **CNRS-LTHE, France**.

Member of the organizing committee of the **9th HyMeX Workshop**, 21-25 September 2015, Mykonos, Greece.

2001-2011

Development and implementation of methodology for calculating criteria impact factors for the assessment of the **National Energy Strategy**, elaborated by the Schools of Chemical and Mechanical Engineering for National Energy Strategy Council.

Participation in EEA (**European Environmental Agency**) expert meetings on GHG emission sources and estimation; Participation in in-country reviews of GHG Inventory reports, as member of **UNFCCC** expert review teams.

Development and formulation of **National Inventories for the emissions of greenhouse gases and other air pollutants**, as well as of good practice and uncertainty management methodologies in greenhouse gases inventories, within the field of the program "Climate Change", elaborated by the National Observatory of Athens (NOA).

Development and formulation of **the Report on Greek Activities in relation to Systematic Climate Observations and Global Climate Observing Systems (GCOS)**, according to Decisions 4/CP5 and 5/CP5 of the Conference of the Parties to the UNFCCC.

Development and formulation of the **National Action Plan for the reduction of greenhouse gas emissions in Greece** during the period 2000-2010, in order to fulfil the national emission reduction target within the framework of the **Kyoto Protocol**. Determination and assessment of mitigation options in the non-energy sector (agriculture and waste).

Formulation of the **3rd and 4th National Communications** within the framework of the United Nations Convention on Climate Change (UNFCCC) and the Monitoring Mechanism for the emissions of carbon dioxide and other gases in the European Union.

Capacity-Building Program in Balkan countries (namely Bulgaria, Romania, Bosnia-Herzegovina, Yugoslavia, FYROM and Albania) in order to deal with the Climate Change problem. A program of bilateral development assistance on environmental issues, according to the criteria of the Development Assistance Committee of OECD

(DAC/OECD), carried out by the National Observatory of Athens, the National Technical University of Athens and private consulting companies. Estimation of the impact of greenhouse gases and other air emissions scenarios on climate parameters in Greece and the broader Balkan region.

Publications in international peer-reviewed scientific journals

Papagiannaki, K., Kotroni, V., Lagouvardos, K., Ruin, I., and Bezes, A. “**Urban areas response to flash flood-triggering rainfall, featuring human behavioural factors: The case of 22 October, 2015, in Attica, Greece**”. *Weather, Climate, and Society*, 0, null, 10.1175/wcas-d-16-0068.1 (in press).

Lagouvardos, K., Kotroni, V., Bezes, A., Koletsis, I., Kopania, T., Lykoudis, S., Mazarakis, N., Papagiannaki, K., and Vougioukas, S. “**The Automatic Weather Stations Network of the National Observatory of Athens: Operation and Database**”. *Geoscience Data Journal*, early view, doi:10.1002/gdj3.44.

Papagiannaki, K., Lagouvardos, K., Kotroni, V. and Bezes, A. “**Flash flood occurrence and relation to the rainfall hazard in a highly urbanized area**”. *Nat. Hazards Earth Syst. Sci.*, 15 (8), 1859-1871, doi:10.5194/nhess-15-1859-2015, 2015.

Papagiannaki, K., Lagouvardos, K., Kotroni, V. and Papagiannakis, G. “**Agricultural losses related to frost events: use of the 850 hPa level temperature as an explanatory variable of the damage cost**”. *Nat. Hazards Earth Syst. Sci.*, 14, 2375-2386, 2014.

Papagiannaki, K., Lagouvardos, K., and Kotroni, V. “**A database of high-impact weather events in Greece: a descriptive impact analysis for the period 2001–2011**”. *Nat. Hazards Earth Syst. Sci.*, 13, 727–736, 2013, doi:10.5194/nhess-13-727-2013, 2013.

Mirasgedis S., Georgopoulou E., Sarafidis Y., Papagiannaki K., Lalas D.P. “**The impact of climate change on the demand pattern of bottled water and non-alcoholic beverages**”. *Business Strategy and the Environment*. doi: 10.1002/bse.1782, 2013.

Papagiannaki, K., Diakoulaki, D. (2009) “**Decomposition analysis of CO₂ emissions from passenger cars: The cases of Greece and Denmark**”. *Energy Policy* 37 (8), 3259-3267.

Publications in international conferences

Papagiannaki K., Lagouvardos K., Kotroni V., and Papagiannakis G. ‘**Drivers of individual flood risk perception and preparedness: a behavioural survey targeting the citizens of Greece**’. 10th HyMeX Workshop, Barcelona, Spain, 4-7 July 2017.

M.C.Llasat, M.Llasat-Botija, M. Cortés, V.Kotroni, K.Papagiannaki, O. Petrucci, A.A. Pasqua, J. Rosselló, F.Vinet. **Coping with floods in the Northern part of the Mediterranean: the application of an international database on flood events for a 35 years period**’. 10th HyMeX Workshop, Barcelona, Spain, 4-7 July 2017.

Petrucci, O., Aceto, L., Boissier, L., Kotroni, V., Llasat, M.C., Llasat-Botija, M., Rosselló, J., Papagiannaki, K., Pasqua, A., and Vinet, F. **‘People-flood interaction: victims throughout four Mediterranean countries (France, Italy, Spain, and Greece) in 34 years’**. EGU General Assembly 2017, Vienna, Austria, 23–28 April 2017.

Papagiannaki, K., Kotroni, V., Lagouvardos, K., and Bezes, A. **‘Flash Flood Risk and Vulnerability Analysis in Urban Areas: The Case of October 22, 2015, in Attica, Greece’**. Chapter 31 in ‘Perspectives on Atmospheric Sciences’, Springer Atmospheric Sciences (ed), COMECAP 2016 Proceedings, 2016. doi: 10.1007/978-3-319-35095-0_31

Llasat, M.C., V. Kotroni, K. Lagouvardos, O. Petrucci, J. Rosselló, F. Vinet, M. Llasat-Botija, K. Papagiannaki, A. A. Pasqua. **‘Building a platform to show the flood events recorded in the Mediterranean area’**. 9th HyMeX Workshop, Mykonos, Greece, 21-25 September 2015.

Papagiannaki, K., Lagouvardos, K., Kotroni, V., and Bezes, A. **‘Flash flood occurrence and relation to the rainfall hazard in Attica, Greece’**. 9th HyMeX Workshop, Mykonos, Greece, 21-25 September 2015.

Papagiannaki, K., Bezes, A., Lagouvardos, K., and Kotroni, V. **‘Visualization of high-impact weather events that occurred in Greece from 2000 to date’**. 9th HyMeX Workshop, Mykonos, Greece, 21-25 September 2015.

Papagiannaki, K., Lagouvardos, K., Kotroni, V., and Papagiannakis, G. **‘The relationship between frost events and agricultural losses: An empirical analysis’**. 12th International Conference on Meteorology, Climatology and Atmospheric Physics - COMECAP 2014.

Papagiannaki, K., Lagouvardos, K., and Kotroni, V. **‘A descriptive analysis of high-impact weather events in Greece, for the period 2001-2011’**. 14th EGU Plinius Conference on Mediterranean Storms and Medex Final Conference. Palma de Mallorca, Spain, 2012.

Papagiannaki, K., Diakoulaki. **‘Decomposition analysis of CO₂ emissions from passenger cars: The cases of Greece and Denmark’**. International Conference on Policy Modeling – EcoMod2008.

Papagiannaki, K., Diakoulaki. **‘Decomposition Analysis of CO₂ emissions from passenger cars in Greece’**. 10th International Conference on Applications of Advanced Technologies in Transportation – AATT2008.

Papagiannaki, K., Leontarakis, G., and Diakoulaki, D. **‘Decomposition analysis of CO₂ emissions from road transport in EU15’**. 11th International Conference on Environmental Science and Technology – CEST2007.

Papagiannaki, K., Mirasgedis, S., Georgopoulou, E., Sarafidis, Y., and Lalas, D.P. **‘Estimate of emissions scenarios effects on climate parameters in the Balkan region’**. 8th International Conference on Environmental Science and Technology - CEST2003.

Collaboration with Research & Academic Institutions

With Prof. Maria Carmen Llasat, **University of Barcelona (Spain)**: in the frame of the Spanish research project HOPE: in the frame of the Spanish research project HOPE, as well as for the common study of flash-flood human fatalities in Mediterranean European countries.

With Researcher Olga Petrucci, **CNR/IRPI (Italy)**: in the frame of the Spanish research project HOPE, as well as for the common study of flash-flood human fatalities in Mediterranean European countries.

With Prof. Freddy Vinet, **Paul Valery University, Montpellier (France)**: in the frame of the Spanish research project HOPE, as well as for the common study of flash-flood human fatalities in Mediterranean European countries.

With Researcher Joan Rossello, **University of the Balearic Islands (Spain)**: in the frame of the Spanish research project HOPE.

With Prof. Isabell Ruin, **University of Grenoble (France)**: for the development of a human behavioral survey in the frame of the study of urban areas response to flash flood-triggering rainfall, featuring human behavioural factors.

With Prof. Marco Borga, **University of Padova (Italy)**: for the development of the HyMeX Science Team 'Flash Floods and Social Vulnerability' working plan 2016-2020

With Researcher Isabelle Braud, Institut national de recherche en sciences et technologies pour l'environnement et l'agriculture, **IRSTEA (France)**: for the development of the HyMeX Scienc Team 'Flash Floods and Social Vulnerability' working plan 2016-2020

With Prof. D. Diakoulaki, **National Technical University of Athens (NTUA)**: research collaboration, in the frame of the PhD Thesis, studying decomposition analysis of CO2 emissions from passenger cars.

With Prof. G. Mavrotas, **NTUA**: research collaboration, in the frame of the PhD Thesis, studying decomposition analysis of CO2 emissions from passenger cars.

Other scientific activities

Reviewer in international scientific journals (**Energy Policy, Nat. Hazards, NHESS, ADGEO, STOTEN**).

Participation in **ECOMOBILITY & FREEMOBILITY** projects organized by NGO ECOCITY.

Participation in **operational activities** relating to the coordination, monitoring and maintenance of the network of automated weather stations, as member of the atmospheric modeling group of IERSD/NOA.

Participation in activities related to meteo.gr: database of high-impact weather events; meteorological bulletins and reports on the high-impact weather events in Greece; surveys to study flood impacts and human response.

Interviews for **press articles**, highlighting scientific results of high-impact weather events and societal impact studies

Languages

English, French, Italian

Computer Literate

Microsoft Office, Access databases

Statistical softwares **StataSE**, **SPSS**

Linux environment and **FORTRAN**

Researcher id

Research-Gate: https://www.researchgate.net/profile/Katerina_Papagiannaki

Scholar: <https://scholar.google.gr/citations?user=9hn4KeUAAAAJ&hl=el>