

# ANNA KARALI

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DATE OF BIRTH:18/06/1983  
NATIONALITY: GREEK

## EDUCATION

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- 2015-now      PhD student, Department of Geology and Climatology, Faculty of Geology and Geoenvironment, School of Science, National and Kapodistrian University of Athens, Greece
- Thesis title: Simulation and assessment of potential fire risk in global and regional scale in the framework of climate change
- 2007-2010
- National and Kapodistrian University of Athens, Physics Department, MSc. in Environmental Physics and Meteorology
- Thesis title: Theoretical estimation of isoprene gas emissions over Europe-Effects on gas chemistry
- 2001-2007      University of Crete, Division of Physics, Bachelor in Physics  
Degree: 7.02/10

## PROFESSIONAL EXPERIENCE

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- 2010-now      Research Associate at the Institute of Environmental Research and Sustainable Development (IERSD), National Observatory of Athens
- Research Interests: the study of climate change in relation to anthropogenic changes in the chemical composition of the atmosphere by analyzing and evaluating data acquired from global and regional climate models. Evaluation and analysis of future fire risk in the Mediterranean. Climate change impact and adaptation assessments with special focus on fire risk assessments.

**EU funded  
Projects**

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- 2017-now **SOCLIMPACT**-DownScaling CLImate ImPACTs and decarbonisation pathways in EU islands, and enhancing socioeconomic and non-market evaluation of Climate Change for Europe, for 2050 and Beyond. Funded by: H2020-EU.3.5.1. Fighting and adapting to climate change
- 2016-now **UrbanProof** - Climate Proofing Urban Municipalities. Funded by: LIFE programme for the Environment and Climate Action (2014-2020).
- 2015-now **ADAPT2CLIMA** -Adaptation to Climate change Impacts on the Mediterranean islands' Agriculture. Funded by: LIFE programme for the Environment and Climate Action (2014-2020).
- 2015 **Treasure**- Thermal Risk Reduction Actions and Tools for secure cities. Funded by: DG ECHO
- 2012-2014 **CLIMRUN** - Climate Local Information in the Mediterranean region Responding to end User Needs. Funded by: European Commission's FP7
- 2012-2014 **XENIOS** - Climate change impacts on the tourism development of sensitive areas of Greece. Pilot area: Messinia- Areas of integrated tourism development. Funded by: NSRF Research Funding Programme COOPERATION 2009.
- 2010-2011 **CIRCE** - Climate Change & Impact Research: The Mediterranean Environment. Funded by: European Commission's FP6

## JOURNAL PUBLICATIONS

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- Bossioli, E., Tombrou, M., **Karali, A.**, Dandou, A., Paronis, D., and Sofiev, M. (2012): Ozone production from the interaction of wildfire and biogenic emissions: a case study in Russia during spring 2006, *Atmos. Chem. Phys.*, 12, 7931-7953, doi:10.5194/acp-12-7931-2012.
- Giannakopoulos C., LeSager P., Moriondo M., Bindi M., **Karali A.**, Hatzaki M., Kostopoulou E. (2012): Comparison of fire danger indices in the Mediterranean for present day conditions. *iForest* 5: 197-203, doi: 10.3832/ifor0622-005.
- **Karali A.**, Hatzaki M., Giannakopoulos C., Roussos A., Xanthopoulos G. and Tenentes V. (2014): Sensitivity and evaluation of current fire risk and future projections due to climate change: the case study of Greece, *Nat. Hazards Earth Syst. Sci* 14: 143-153, doi: 10.5194/nhess-14-143-2014.
- Kostopoulou, E., Giannakopoulos, C., Hatzaki, M., **Karali, A.**, Hadjinicolaou, P., Lelieveld, J., and Lange, M. A. (2014): Spatio-temporal patterns of recent and future climate extremes in the eastern Mediterranean and Middle East region, *Nat. Hazards Earth Syst. Sci.*, 14, 1565-1577, doi:10.5194/nhess-14-1565-2014.
- E. Athanasopoulou, D. Rieger, C. Walter, H. Vogel, **A. Karali**, M. Hatzaki, E. Gerasopoulos, B. Vogel, C. Giannakopoulos, M. Gratsea, A. Roussos (2014): Fire risk, atmospheric chemistry and radiative forcing assessment of wildfires in eastern Mediterranean, *Atmospheric Environment*, 95, 113-125.
- Mitsopoulos, I., Mallinis, G., **Karali, A.**, Giannakopoulos, C., Arianoutsou, M. 2016. Mapping fire behaviour under changing climate in a Mediterranean landscape in Greece. *Regional Environmental Change*, 16 (7), pp. 1929-1940.
- Giannakopoulos, C., Psiloglou, B., Lemesios, G., Xevgenos, D., Papadaskalopoulou, C., **Karali, A.**, ... Loizidou, M. (2016). Climate change impacts, vulnerability and adaptive capacity of the electrical energy sector in Cyprus. *Regional Environmental Change*, 16(7), 1891–1904. <https://doi.org/10.1007/s10113-015-0885-z>
- Lemesios, G., Giannakopoulos, C., Papadaskalopoulou, C., **Karali, A.**, Varotsos, K. V., Moustakas, K., ... Loizidou, M. (2016). Future heat-related climate change impacts on tourism industry in Cyprus. *Regional Environmental Change*, 16(7), 1915–1927. <https://doi.org/10.1007/s10113-016-0997-0>
- Keramitsoglou, I., Sismanidis, P., Analitis, A., Butler, T., Founda, D., Giannakopoulos, C., Giannatou, E., **Karali, A.**,... Kiranoudis, C. T. (2017) Urban thermal risk reduction: Developing and implementing spatially explicit services for resilient cities. *Sustainable Cities and Society*, 34(Supplement C), 56–68. <https://doi.org/10.1016/j.scs.2017.06.006>

## CONFERENCES

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- **A. Karali**, E. Bossioli, M. Tombrou, D. Paronis, A. Dandou, "Modeling study of the impact of isoprene biogenic emissions on ozone levels in Europe", 10th International Conference on Meteorology, Climatology and Atmospheric Physics, Patra, Greece, 25-28 May 2010, Conference Proceedings: Atmospheric Physics 901-908.
- Giannakopoulos, C., **A. Karali**, A. Roussos, M. Hatzaki, G. Xanthopoulos, and K. Kaoukis, 2011: Evaluating present and future fire risk in Greece, 8th International EARSeL FF-SIG Workshop, 20 - 21 October 2011, Stresa, Italy.
- Giannakopoulos, C., **A. Karali**, A. Roussos, M. Hatzaki, G. Xanthopoulos, and K. Kaoukis, 2011: Evaluating present and future fire risk due to climate change in the Mediterranean: a case study for Greece. AGU 2011 Fall Meeting, 5-9 December 2011, San Francisco, USA.
- Athanasopoulou, E., C. Giannakopoulos, H. Vogel, D. Rieger, C. Knote, M. Hatzaki, B. Vogel, and **A. Karali**, 2012: Fire risk and air pollution assessment during the 2007 wildfire events in Greece using the COSMO-ART atmospheric model. Geophysical Research Abstracts, Vol. 14, EGU2012-9558-1, EGU General Assembly 2012, 22–27 April 2012, Vienna, Austria.
- Giannakopoulos, C., A. Roussos, **A. Karali**, M. Hatzaki, G. Xanthopoulos, E. Chatzinikos, N. Fyllas, N. Georgiades, G. Karetzos, G. Maheras, I. Nikolaou, N. Proutsos, T. Sbarounis, K. Tsaggari, I. Tzamtzis, and C. Goodess, 2012: Climate change impacts on forest fires: the stakeholders' perspective. Geophysical Research Abstracts, Vol. 14, EGU2012-13309-2, EGU General Assembly 2012, 22–27 April 2012, Vienna, Austria.
- Giannakopoulos, C., E. Kostopoulou, P. Hadjinicolaou, M. Hatzaki, **A. Karali**, J. Lelieveld, and M.A. Lange, 2012: Impacts of climate change over the Eastern Mediterranean and Middle East region using the Hadley Centre PRECIS RCM. 11th International Conference on Meteorology, Climatology and Atmospheric Physics, COMECAP2012, Athens, Greece, 29 May-1 June 2012. In Proc. C.G. Helmis and P.T. Nastos (eds.), *Advances in Meteorology, Climatology and Atmospheric Physics*, Springer Atmospheric Science, pp 457–463. doi:10.1007/978-3-642-29172-2\_65, Springer-Verlag Berlin Heidelberg 2012.
- **Karali, A.**, A. Roussos, C. Giannakopoulos, M. Hatzaki, G. Xanthopoulos, and K. Kaoukis, 2012: Evaluation of the Canadian fire weather index in Greece and future climate projections. 11th International Conference on Meteorology, Climatology and Atmospheric Physics, COMECAP2012, Athens, Greece, 29 May-1 June 2012. In Proc.: C.G. Helmis and P.T. Nastos (eds.), *Advances in Meteorology, Climatology and Atmospheric Physics*, Springer Atmospheric Science, pp 501–508. doi:10.1007/978-3-642-29172-2\_71, Springer-Verlag Berlin Heidelberg 2012
- Kostopoulou, E., C. Giannakopoulos, M. Hatzaki, **A. Karali**, P. Hadjinicolaou, J. Lelieveld, and M. A. Lange, 2012: Assessment of climate change extremes over the Eastern Mediterranean and Middle East region using the Hadley Centre PRECIS Regional Climate Model. 11th International Conference on Meteorology, Climatology and Atmospheric Physics, COMECAP2012, Athens, Greece, 29 May-1 June 2012. In Proc.: C.G. Helmis and P.T. Nastos (eds.), *Advances in Meteorology, Climatology and Atmospheric Physics*, Springer Atmospheric Science, pp 547–554. doi:10.1007/978-3-642-29172-2\_78, Springer-Verlag Berlin Heidelberg 2012
- Giannakopoulos, C., V. Kotroni, K. Lagouvardos, E. Korakaki, A. Roussos, M. Hatzaki, **A. Karali**, G. Xanthopoulos, and C.M. Goodess, 2012: Addressing stakeholder needs in the Mediterranean climate services: the wildfires case studies. EMS Annual Meeting Abstracts, Vol. 9, EMS2012-423, 12th EMS / 9th ECAC, 10–14 September 2012, Łódź, Poland.
- **Karali, A.**, C. Giannakopoulos, M.D. Frias, M. Hatzaki, A. Roussos, and A. Casanueva, 2013:

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Assessing Fire Weather Index using statistical downscaling and spatial interpolation techniques in Greece. Geophysical Research Abstracts, Vol. 15, EGU2013-11726, EGU General Assembly 2013, 07–12 April 2013, Vienna, Austria.

- **Karali A.**, Giannakopoulos C., Roussos A., Lemesios G., 2014: Assessing vulnerability of Greek forests to fires within the context of climate change, ADAPTtoCLIMATE, 27-28 March 2014, Nicosia, Cyprus, ([http://adapttoclimate.uest.gr/full\\_paper/karali\\_et\\_al.pdf](http://adapttoclimate.uest.gr/full_paper/karali_et_al.pdf))
- Mitsopoulos I., Mallinis G., **Karali A.**, Giannakopoulos C., Arianoutsou M., 2014: Mapping fire behaviour in a Mediterranean landscape under different future climate change scenarios, ADAPTtoCLIMATE, 27-28 March 2014, Nicosia, Cyprus ([http://adapttoclimate.uest.gr/full\\_paper/Mitsopoulos\\_et\\_al.pdf](http://adapttoclimate.uest.gr/full_paper/Mitsopoulos_et_al.pdf)).
- Lemesios G., **Karali A.**, Papadaskalopoulou C., Pitsari S., Malamis D., Ioannou K., Zachariou-Dodou M., Giannakopoulos C., Petrakis M., Loizidou M., 2014: Future vulnerability assessment of forest fire sector to climate change impacts in Cyprus, ADAPTtoCLIMATE, 27-28 March 2014, Nicosia, Cyprus, ([http://adapttoclimate.uest.gr/full\\_paper/Lemesiosetal.pdf](http://adapttoclimate.uest.gr/full_paper/Lemesiosetal.pdf)).
- **Karali A.**, Giannakopoulos C., E. Kostopoulou, Varotsos K., Hatzaki M., Gerasopoulos E., Zerefos C.S, 2014: An integrated assessment of climate change impacts from the regional scale of the area of Peloponnese to the local scale of the area of Messinia, 12th International Conference on Meteorology, Climatology and Atmospheric Physics, COMECAP 2014, Heraklion, Greece, 28-31 May 2014. In Proc. M. Kanakidou, N. Mihalopoulos, P. Nastos (eds) Comecap 2014, Abstracts and e-contributions, pp. 121, Crete University Press.
- C. Giannakopoulos, A. **Karali**, A. Roussos, P. Hatzinikolaou, Y. Poroestos, J. Lelieveld, 2015: Climate change and fire risk: successful stakeholder products provide the roadmap for additional research in the East Mediterranean, ECCA 2015, 12-14 May 2015, Copenhagen, Denmark
- Kostopoulou E., Giannakopoulos C., Krapsiti D., **Karali A.**, 2016: Temporal and spatial trends of the Standardized Precipitation Index (SPI) in Greece using observations and output from regional climate models, 13th International Conference on Meteorology, Climatology and Atmospheric Physics-COMECAP 2016, 19-21 September 2016, Thessaloniki, Greece.
- Christos Giannakopoulos, **Anna Karali**, Giannis Lemesios, Maria Loizidou, Christina Papadaskalopoulou, Konstantinos Moustakas, Maria Papadopoulou, Marco Moriondo, Marinos Markou, Eleni Hatziyanni, Luigi Pasotti, 2016: Adaptation to Climate change Impacts on the Mediterranean islands' Agriculture (ADAPT2CLIMA), EGU 2016, 17-22 April 2016, Vienna, Austria.
- Christos Giannakopoulos, Marco Moriondo, **Anna Karali**, Christina Papadaskalopoulou, Camilla Dibari, Vassiliki Assimakopoulos, Giannis Lemesios, Lorenzo Brilli, and Konstantinos V. Varotsos, 2016: Developing a stakeholder tool to assess impacts and adaptation options for Mediterranean islands' agriculture through climate and crop modeling, 16th EMS Annual Meeting & 11th European Conference on Applied Climatology (ECAC), 12–16 September 2016, Trieste, Italy.
- Iphigenia Keramitsoglou, Chris T. Kiranoudis, Christos Giannakopoulos, **Anna Karali**, Panagiotis Sismanidis, Giannis Lemesios, 2016: Towards intelligent spatially detailed heat wave risk assessments for authorities and personalized tools for citizens, 16th EMS Annual Meeting & 11th European Conference on Applied Climatology (ECAC), 12–16 September 2016, Trieste, Italy.
- C. Giannakopoulos, **A. Karali**, G. Lemesios, V. Tenentes, K.V. Varotsos, 2016: Using high resolution CORDEX RCMs to assess impacts on Mediterranean islands' agriculture, International Conference on Regional Climate (ICRC)-CORDEX 2016, 17-20 May 2016, Stockholm, Sweden.
- Christos Giannakopoulos, Maria Papadopoulou, **Anna Karali**, Giannis Lemesios, Konstantinos V. Varotsos, Despoina Charchousi, 2016: Developing a stakeholder tool to assess impacts and adaptation options for Mediterranean islands agriculture through climate and hydrological

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modeling, MEDCLIVAR2016, 26-30 September 2016, Athens, Greece.

- Konstantina Tourtsinaki , **Anna Karali** , Panagiotis T. Nastos, Maria Hatzaki, Christos Giannakopoulos, Akli Benali, 2016: Wildfire danger assessment in an eastern Mediterranean environment, MEDCLIVAR2016, 26-30 September 2016, Athens, Greece.
- Christos Giannakopoulos, Dimitra Founda, **Anna Karali**, Vasilis Tenentes, Iphigeneia Keramitsoglou and Chris T. Kiranoudis, 2016: Climate services for heatwave risk in Athens and Majorca: the EU Project TREASURE initiative, MEDCLIVAR2016, 26-30 September 2016, Athens, Greece.
- Konstantinos V. Varotsos, Christos Giannakopoulos, **Anna Karali**, Vasilis Tenentes, 2016: Evaluation of Cordex high resolution RCMs over the Mediterranean basin, Medclivar 2016, 26-30 September 2016, Athens, Greece.
- **Anna Karali**, Nikolaos M. Fyllas, Maria Hatzaki, Christos Giannakopoulos, Panagiotis Nastos. A global distribution of the ignitability component of flammability based on climatic drivers. 19th EGU General Assembly, 23-28 April 2017, Vienna, Austria.
- C. Giannakopoulos, **A. Karali**, M. Moriondo, C. Papadaskalopoulou, G. Lemesios, C. Dibari and M. Papadopoulou. Climate change Impacts and adaptation options in Mediterranean islands' Agriculture – ADAPT2CLIMA, 3rd European Climate Change Adaptation Conference, 5-9 June, Glasgow, Scotland.
- Despoina Charchousi, Maria P. Papadopoulou, Katerina Spanoudaki, Dimitris Alexakis, Christos Giannakopoulos, **Anna Karali**. Assessing the vulnerability of water for agricultural use to climate change: The case of Cyprus. 10th World Congress on Water Resources and Environment, 5 -9 July 2017, Athens, Greece.
- Giannakopoulos Christos, Moriondo Marco, Papadopoulou Maria, **Karali Anna**, Lemesios Giannis, Papadaskalopoulou Christina, Varotsos V. Konstantinos, Brilli Lorenzo, Charchousi Despoina. A tool for adaptation to Climate change Impacts on the Mediterranean islands' Agriculture: LIFE ADAPT2CLIMA. Climate Changing Agriculture, International Conference, 29 August – 2 September, 2017, Chania, Greece.
- **Anna Karali**, Maria Hatzaki, Christos Giannakopoulos, Nikolaos M. Fyllas, Panagiotis Nastos. Assessing fire danger under climate change conditions for the Euro-Mediterranean fire prone ecosystems. EMS Annual Meeting, 4-8 September 2017, Dublin, Ireland.
- C. Giannakopoulos, K.V. Varotsos, **A. Karali**, D. Founda, V. Tenentes and J. Lemesios. Climate proofing European cities: results from the EU LIFE UrbanProof project. Cities and Climate Conference 2017, 19-21 September 2017, Potsdam, Germany.
- Paolo Merante, Marco Moriondo, Christos Giannakopoulos, Maria Papadopoulou, Camilla Dibari, Lorenzo Brilli, **Anna Karali**, Giannis Lemesios, Despoina Charchousi, Christina Papadaskalopoulou, Vassilis Tenentes, Konstantinos V. Varotsos, Giacomo Trombi, Luisa Leolini, Sergi Costafreda-Aumedes. Providing accessible information and adaptation strategies for tackling impacts of climate change on cropping systems: The ADAPT2CLIMA tool. First Agroecology Europe Forum Fostering synergies between movement, science and practice, 25-27 October 2017, Lyon, France.
- Christos Giannakopoulos, Konstantinos V. Varotsos, **Anna Karali**, Myrto Gratsea. Evaluation of various bias correction methods for Mediterranean agro-climate projections: first results from the med-gold project MEDCLIVAR 2018, September 17-21, Belgrade, Serbia.
- Papagiannaki K., Kotroni V., Lagouvardos K., Giannaros T., **Karali A.**, and Lykoudis S. 'Defining country-specific thresholds of the Canadian Fire Weather Index for predicting wildfire risk, in the frame of the project DISARM: the case of Greece'. 12th HyMeX Workshop, Split, Croatia, 20-24 May 2019.

## COMPUTING SKILLS

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- Fortran and IDL (Interactive Data Language)
- Stata Statistics and Analytics Software Packages
- ArcGIS & QGIS Geographic Information Systems