

# Kostas Douvis

*Research Interests: Tropical-like cyclones (medicanes), convective circulations and clouds, numerical weather prediction, past and future climate change, global and regional climate models.*

## Personal information

### Address

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**Sex** Male

**Marital status** Single

**Nationality** Greek

## Academic Education

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|-------------|--|
| 2006 – 2009 | PhD in University of Athens, Faculty of Geology and Geoenvironment<br><br>Thesis title: “Study of the extreme climatic events in Greece using downscaling methods” |
| 2003 – 2006 | Master’s degree in Environmental Physics, University of Athens, Department of Physics<br><br>Thesis title: “Study of vorticity in the Mediterranean Sea”           |
| 1996 – 2003 | Bachelor’s degree in Physics, University of Athens, Department of Physics<br><br>Thesis title: “Calibration of meteorological instruments”                         |

## Projects and grants

- 2018/08 – 2019/10 Modeling of vertical structure of Tropical-like Mediterranean Cyclones using WRF ensemble forecasting simulations and the impact of climate change “MEDICANE”. ESPA 2014-2020, EDBM34
- 2013/03 – 2014/07 European Union Cloud Intercomparison, Process Study and Evaluation Project “EUCLIPSE”. EU - FP7 Environment
- 2011/10 – 03/2014 (sporadically) Impact of Climate Change on the Touristic Development of Sensitive Areas of Greece. Pilot Implementation: Messinia—Areas of Integrated Tourism Development “XENIOS”. Synergasia, ESPA 2007-2013
- 2010/02 – 2012/12 Infrastructure for the European Network for Earth System Modeling “IS-ENES”. EU - FP7 Environment Infrastructure
- 2006/01 – 2008/12 Study of extreme climatic phenomena in Greece using dynamic downscaling methods. PENED 2003, General Secretariat for Research and Innovation.

## Teaching experience

- 2004-05 & 2005-06 Physics I Lab (mechanics) in Department of Physics, National and Kapodistrian University of Athens, Greece
- 2004-05 Physics III Lab (electromagnetism) in Department of Physics, National and Kapodistrian University of Athens, Greece
- 2003-04 Physics II (thermodynamics and molecular physics) in Department of Physics, National and Kapodistrian University of Athens, Greece

## Review activity

- 1 article Atmosphere
- 1 article Theoretical and Applied Climatology

## Personal skills

### Languages

- Greek – native
- English – C2
- French – B1

(Based on Common European Framework of Reference for Languages Self-assessment grid)

### Computer skills

- Operating systems : Linux, Windows
- Numerical analysis : R, Matlab, GrADS, NCL

- Programming languages : Fortran
- Models : Regional Climate Model (RegCM3), Weather Research and Forecasting (WRF), Princeton Ocean Model (POM)

## PUBLICATIONS

### Peer reviewed articles

(Number of articles: 8, Web of Science citations: 368, h-index: 6)

1. Mylonas, M. P., **Douvis, K. C.**, Polychroni, I. D., Politi, N., & Nastos, P. T. (2019). Analysis of a Mediterranean Tropical-Like Cyclone. Sensitivity to WRF Parameterizations and Horizontal Resolution. *Atmosphere*, 10(8), 425. <https://doi.org/10.3390/atmos10080425>
2. Nastos, P. T., Kapsomenakis, J., & **Douvis, K. C.** (2013). Analysis of precipitation extremes based on satellite and high-resolution gridded data set over Mediterranean basin. *Atmospheric Research*, 131, 46-59. <https://doi.org/10.1016/j.atmosres.2013.04.009>
3. Tselioudis, G., **Douvis, C.**, & Zerefos, C. (2012). Does dynamical downscaling introduce novel information in climate model simulations of precipitation change over a complex topography region?. *International journal of climatology*, 32(10), 1572-1578. <https://doi.org/10.1002/joc.2360>
4. Asimakopoulos, D. A., Santamouris, M., Farrou, I., Laskari, M., Saliari, M., Zanis, G., Giannakidis, G., Tigas, K., Kapsomenakis, J., **Douvis, C.**, Zerefos, S.C., Antonakaki, T., & Giannakopoulos, C. (2012). Modelling the energy demand projection of the building sector in Greece in the 21st century. *Energy and Buildings*, 49, 488-498. <https://doi.org/10.1016/j.enbuild.2012.02.043>
5. Philandras, C. M., Nastos, P. T., Kapsomenakis, J., **Douvis, K. C.**, Tselioudis, G., & Zerefos, C. S. (2011). Long term precipitation trends and variability within the Mediterranean region. *Natural Hazards and Earth System Sciences*, 11(12), 3235-3250. <https://doi.org/10.5194/nhess-11-3235-2011>
6. Eleftheratos, K., Tselioudis, G., Zerefos, C., Nastos, P., **Douvis, C.**, & Kapsomenakis, I. (2011). Observed and predicted climate changes in Uruguay and adjacent areas. *Hell J Geosci*, 45, 83-90. <http://www.hellenjgeosci.geol.uoa.gr/45/Eleftheratos%20et%20al.pdf>
7. Zanis, P., **Douvis, C.**, Kapsomenakis, I., Kioutsoukis, I., Melas, D., & Pal, J. S. (2009). A sensitivity study of the Regional Climate Model (RegCM3) to the convective scheme with emphasis in central eastern and southeastern Europe. *Theoretical and Applied Climatology*, 97(3), 327-337. <https://doi.org/10.1007/s00704-008-0075-8>
8. Zanis, P., Kapsomenakis, I., Philandras, C., **Douvis, K.**, Nikolakis, D., Kanellou, E., Zerefos, C., & Repapis, C. (2009). Analysis of an ensemble of present day and future regional climate simulations for Greece. *International Journal of Climatology: A Journal of the Royal Meteorological Society*, 29(11), 1614-1633. <https://doi.org/10.1002/joc.1809>

### Book chapters

1. Kapsomenakis J., Nastos P.T., **Douvis K.**, Philandras C.M., Tselioudis G., & Zerefos C.S. (2013) Regional Climate Models' Future Simulations of Mean Air Temperature in Greece. In: Helmis C., Nastos P. (Eds.) *Advances in Meteorology, Climatology and Atmospheric Physics*. Springer Atmospheric Sciences. Springer, Berlin, Heidelberg. [https://doi.org/10.1007/978-3-642-29172-2\\_70](https://doi.org/10.1007/978-3-642-29172-2_70)
2. **Douvis K.**, Tselioudis G., Bauer M., & Zerefos C.S. (2013) Objective Recognition of Low Pressure Systems and Their Characteristics in the Area of Greece. In: Helmis C., Nastos P. (Eds.) *Advances in*

*Meteorology, Climatology and Atmospheric Physics*. Springer Atmospheric Sciences. Springer, Berlin, Heidelberg. [https://doi.org/10.1007/978-3-642-29172-2\\_60](https://doi.org/10.1007/978-3-642-29172-2_60)

3. Zerefos, C., Repapis, C., Giannakopoulos, C., Kapsomenakis, J., Papanikolaou, D., Papanikolaou, M., Poulos S., Vrekoussis M., Philandras C., Tselioudis G., Gerasopoulos E., **Douvis C.**, Diakakis M., Nastos P., Hadjinicolaou P., Xoplaki E., Luterbacher J., Zanis P., Tzedakis C., Founda D., Eleftheratos K., & Repapis, K. (2011). The climate of the Eastern Mediterranean and Greece: past, present and future. In Climate Change Impacts Study Committee (Eds.), *The environmental, economic and social impacts of climate change in Greece* (pp. 1-125). Bank of Greece.
4. Zerefos C., Kapsomenakis J., **Douvis C.**, Xepapadeas A., Skourtos M., Stournaras G., Kontogianni A., Papoutsoglou S., Koundouri P., Papaconstantinou C., Karamanos A, Nastis A, Tsioussi V, Sartzetakis E, Karatzoglou B., Santamouris M., Asimakopoulos D., Giannopoulos G., Yfantopoulos J., Oikonomopoulos I., Damigos D., Capros P, Zambara M, Paroussos L, Tasios N., & Sabethai I. (2011). Findings and strategy for addressing climate change in Greece. In Climate Change Impacts Study Committee (Eds.), *The environmental, economic and social impacts of climate change in Greece* (pp. 443-468). Bank of Greece.
5. Kapsomenakis J., Nastos P., **Douvis C.**, Eleftheratos K. & Zerefos C. (2011) Estimation of precipitation change over Greece during the 21st century, using RCM simulations. In: Lambrakis N., Stournaras G., Katsanou K. (Eds.) *Advances in the Research of Aquatic Environment*. Environmental Earth Sciences. Springer, Berlin, Heidelberg. [https://doi.org/10.1007/978-3-642-19902-8\\_6](https://doi.org/10.1007/978-3-642-19902-8_6)

## Peer reviewed conference proceedings

1. Πολίτη, Ν., Νάστος, Π., & **Δουβής, Κ.** (2010). Χωρική και χρονική μεταβλητότητα του δείκτη ξηρότητας στην Ελλάδα = Spatial and temporal variability of the aridity index. *Πρακτικά του 9ου Πανελληνίου Γεωγραφικού Συνεδρίου της Ελληνικής Γεωγραφικής Εταιρείας*, Αθήνα 4-6 Νοεμβρίου 2010. <http://geolib.geo.auth.gr/index.php/pgc/article/download/9939/9687/9939-9919-1-PB.pdf>

## Peer reviewed conference abstracts

- **Douvis K.**, Polychroni I., Mylonas M., Politi N., & Nastos P. (2019). Thermodynamic structure of medicanes against hurricanes. European Meteorological Society Annual Meeting (EMS2019) held 9-13 Sep 2019 in Copenhagen, Denmark. EMS Annual Meeting Abstracts Vol. 16, EMS2019-362, 2019. <https://meetingorganizer.copernicus.org/EMS2019/EMS2019-362.pdf>
- Mylonas, M.P., Polychroni, I.D., Politi, N., **Douvis, K.C.** & Nastos, P.T. (2019). The effect of WRF nudging techniques on fine-scale variability of a Mediterranean cyclone event. 21st European Geosciences Union General Assembly, EGU2019, Proceedings from the conference held 7-12 April, 2019 in Vienna, Austria, id.6098. <https://meetingorganizer.copernicus.org/EGU2019/EGU2019-6098-1.pdf>
- Nastos, P.T., Zerefos, C.S., Kapsomenakis, I.N., **Douvis, K.**, Konsta, D. & Matzarakis, A. (2014). Present and future bioclimatic conditions of importance to tourism over the Mediterranean", European Geosciences Union (EGU) General Assembly 2014, Vienna, Austria, 27 April-2 May 2014. <https://meetingorganizer.copernicus.org/EGU2014/EGU2014-8334.pdf>
- Nastos P.T., Kapsomenakis, J., & **Douvis, K.C.** (2011). Comparison of satellite precipitation extremes of TRMM 3B42 Products with high-resolution gridded data set (E-OBS dataset) for precipitation extremes over Mediterranean region. European Geosciences Union General Assembly 2011, Vienna, Austria, 3 - 8 April 2011.

- Philandras, C.M., Nastos, P.T., **Douvis, K.C.**, Tselioudis, G.B., & Zerefos, C.S. (2010). Precipitation Trends in the Mediterranean Region. Plinius Conference Abstracts, Vol 12, Corfu Island, Greece, September 2010.
- Zerefos, C., Philandras, K., **Douvis, C.**, Kapsomenakis, I., Tselioudis, G., & Eleftheratos, K. (2010). Long term changes of precipitation in Greece, MedCLIVAR side event at the 12th Plinius Conference on Mediterranean Storms, Corfu, Greece, 3 September 2010.
- Nastos P., Politi N., & **Douvis K.** (2010). Spatial and temporal variability of Aridity Index in Greece. EGU General Assembly 2010, held 2-7 May, 2010 in Vienna, Austria, p.7198.
- **Douvis K.**, Tselioudis G., Zanis P., & Zerefos C. (2009). Seasonal contrasts of precipitation change over Greece from a high-resolution RCM simulation. EGU General Assembly 2009, held 19-24 April, 2009 in Vienna, Austria, p.2092.
- Kapsomenakis, J., Zanis, P., Philandras, C., **Douvis, K.** & Repapis. C. (2007) Validation of an ensemble of regional climate model simulations for the area of Greece, IUGG XXIV General Assembly: "Earth: our changing planet", Perugia, Italy 2-13 July, 2007.
- **Douvis, K.**, Zanis, P., Kapsomenakis, I., Melas, D. & Repapis, C. (2007). Comparison Between Grell and Emanuel Convective Scheme in RegCM3 for a European Domain", IUGG XXIV General Assembly: "Earth: our changing planet", Perugia, Italy 2-13 July, 2007.