
PERSONAL INFORMATION

Name: Stavros Kolios
Date of Birth: 13. 04. 1978
email: skolios@aerospace.uoa.gr

STUDIES

Title: P.H.D
Title of PHD thesis: Development of an automated short-range forecasting system of Mesoscale Convective Systems for the Mediterranean basin using satellite Meteosat Second Generation imagery
Organization: University of the Aegean, Department of Geography (Greece)
Scientific field: Physical Geography focused on the specific scientific field of satellite Meteorology and Climatology
Duration: October 2005 – November 2009

Title: MSc in Environmental Physics
Title of MSc thesis: Application of Geographical Information Systems (G.I.S) techniques in satellite data analysis
Organization: Aristotle University of Thessaloniki (Au.th), Department of Physics (Greece)
Duration: October 2003 – September 2005

Title: Bachelor Degree in Physics
Title of MSc thesis: Analysis of UltraViolet solar radiation with the use of Geographical Information Systems
Organization: Aristotle University of Thessaloniki (Au.th), Department of Physics (Greece)
Duration: September 1998 – July 2003

EDUCATIONAL EXPERIENCE

Organization: National and Kapodistrian University of Athens, School of Science
Undergraduate program: Department of Aerospace Science and Technology
Thematic area / lesson: (i) Digital signal and image analysis, (ii) Satellite remote sensing, (iii) Satellite-based services and application for Earth Observation
Role: Assistant Professor
Duration: 2021 -

Organization: Open University of Cyprus, Faculty of Pure and Applied Sciences
Postgraduate program: Environmental conservation and management
Thematic area / lesson: Methods and techniques in Environmental Research (emphasis in GIS and satellite remote sensing)
Role: Adjunct Faculty (Tutor)
Duration: 2013 – 2016 & 2019 - 2022

Organization: Open Hellenic University, School of Science and Technology

Postgraduate program: Environmental conservation and management
Thematic area / lesson: Environmental Design / Environmental Planning to Address Climate Change
Role: Adjunct Faculty (Tutor)
Duration: 2017 – 2019

Organization: University of Ioannina, Department of physics
Postgraduate program: Atmospheric Sciences and Environment
Thematic area / lesson: Remote Sensing methods
Role: Adjunct Faculty (Tutor)
Duration: 2021-2022

RESEARCH EXPERIENCE

Project: European Regional Development Fund (ERDF), through Structural Funds and Cohesion Fund 2014–2020, Operational Program “Epirus”, Priority Axis “Strengthening regional competitiveness by developing innovation and ICT”, title “Development and use of digital systems, products and services by the Local Authorities” and specific title “Online platform for automatic information of the public and local authorities for possible occurrence of severe weather phenomena in Epirus Prefecture, Greece”
Role: Main Researcher
Funding Unity: University of Ioannina
Project Code: 5032781
Duration: 2019-2022

Project: Through-foilage detection, including in the outermost regions of the EU
Acronym: FOLDOUT
Role: Research in satellite meteorology and early warning regarding extreme weather
Funding Unity: Center of Security Studies, Ministry of Civil Protection
Project Code: 787021
Duration: 2019 - 2021

Project: Early Warning for Increased Situational Awareness
Acronym: EWISA
Role: Research in satellite meteorology and early warning regarding extreme weather
Funding Unity: Center of Security Studies, Ministry of Civil Protection
Project Code: 787021
Duration: 2019 - 2021

Project: Climate-Smart Coastal Practices for Blue Governance – Blue Coast, funded by Interreg IPA II Cross- border cooperation programme Greece- Albania 2014-2020
Acronym: Blue Coast
Role: Researcher in satellite-based climatic data analysis
Funding Unity: Ionian University
Project Code: 5030943
Duration: July 2020 – September 2020

Project: postdoctoral fellowship entitled: “Automated early warning satellite-based system regarding heavy rainfall, hail and dust storms” funded by State scholarships Foundation (IKY) programme, co-financed by the European Union (European Social Fund - ESF) and Greek national funds through the action entitled “Reinforcement of Postdoctoral Researchers”, in the framework of the Operational Programme “Human Resources Development Program, Education and Lifelong Learning” of the National Strategic Reference Framework (NSRF) 2014–2020

Role: Main and exclusive researcher

Funding Unity: State scholarships Foundation (IKY)

Project Code: 5001552

Duration: 2017 - 2019

Project: Project entitled “Integrated information system for flood events monitoring, management and early warning in the wider area of Arachthos”, Operational Programme «Epirus» 2014-2020, Priority Axis 2 «Environmental Protection and Sustainable Growth», Co-financed by the European Regional Development Fund (ERDF)

Role: Research and data analyses related to meteorological parameters and geoinformation issues through Geographic Information Systems

Funding Unity: Technological Educational Institute of Epirus

Duration: November 2017- February 2018

Project: Lean innovative connected vessels”, under the EU research and innovation framework programme HORIZON 2020

Acronym: Licoln

Role: Researcher with role to design and development of a customized module for vessels regarding the short-range forecast and early warning of extreme weather events

Funding Unity: Technology Institute and Press "Diophantus" (CTI)

Project Code: 727982

Duration: December 2016 – December 2017

Project: Project with title “A satellite-based automated system to detect and forecast cloud storms focused on the protection of the Greek agricultural sector”

Acronym: AgroETAK

Role: Main and exclusive Researcher

Funding Unity: Hellenic Agricultural Organisation "DEMETER"

Project Code: 453350

Duration: 2014 - 2015

Project: The program implemented in the framework of INTERREG which co-funded by the European Union (ERDF) and by the National Funds of Greece & Italy

Acronym: ARGES

Role: Researcher in extreme weather conditions for safe sea transportation

Funding Unity: Computer Technology Institute and Press "Diophantus" (CTI)

Project Code: 453350

Duration: February 2014 – September 2015

Project: European Territorial Cooperation Programme DEMSNIISI (Development of an Environmental-Meteorological Stations Network on the Ionian Islands and Southern Italy). The program implemented in the framework of INTERREG which co-funded by the European Union (ERDF) and by the National Funds of Greece & Italy

Acronym: DEMSNIISI

Role: Researcher in extreme weather conditions for safe sea transportation

Funding Unity: TOPOS P.C.

Project Code: 902016

Duration: January 2014 – June 2014

Project: Transnational Enhancement of ECOPORT”. TEN ECOPORT - Transnational ENhancement of ECOPORT8 network. South East Europe Transnational Cooperation Programme, priority axis 2: “Protection and Improvement of the Environment”, area of intervention 2.2.: “Improve prevention of environmental risks”

Acronym: TEN-ECOPORT

Role: Researcher in environmental risks using satellite data

Funding Unity: Technological Educational Institute of Epirus, Greece

Project Code: SEE/D/0189/2.2/X

Duration: 2012 – 2014

PUBLICATIONS

Scientific Journal (peer reviewed):

1. **Kolios S.**, Hatzianastassiou N., Lolis C.J., Bartzokas A., 2022. *Accuracy assessment of a satellite-based rain estimation algorithm using a network of meteorological stations over Epirus region, Greece*. Atmosphere, 13(8), 1286; <https://doi.org/10.3390/atmos13081286>
2. **Kolios S.**, Ntogas G., Zervas E., 2020. *Spatial changes of forests in a coastal and a remote mountainous area of Greece over a 65-year period*. European Journal of Geography, 11(4), 93-109, <https://doi.org/10.48088/ejg.s.kol.11.4.93.109> (I.F.: 0.42, SJR: Q3)
3. Kalimeris A., **Kolios S.**, 2019. *TRMM-based rainfall variability over the Central Mediterranean and its relationships with atmospheric and oceanic climatic modes*. Atmospheric Research, Vol.230, <https://doi.org/10.1016/j.atmosres.2019.104649>, (I.F.: 4.676, SJR: Q1)
4. **Kolios S.**, Kalimeris A., 2019. *Evaluation of the TRMM rainfall product accuracy over the central Mediterranean during a twenty-year period (1998-2017)*. Theoretical and Applied Climatology, 139(3-4):1-15, DOI: 10.1007/s00704-019-03015-3 (I.F.: 2.882, SJR: Q2)
5. **Kolios S.**, Hatzianastassiou N., 2019. *Quantitative Aerosol Optical Depth detection during dust outbreaks from Meteosat imagery using an Artificial Neural Network model*. Remote Sensing, 11(9), 1022, doi.org/10.3390/rs11091022, (I.F.: 2.397, SJR: Q2)
6. **Kolios S.** Mitrakos S., Stylios C., 2018. *Detection of areas susceptible for land degradation in Cyprus using remote sensed data and environmental quality indices*. Land Degradation & Development. 29 (8), 2338-2350, <https://doi.org/10.1002/ldr.3024> (I.F: 9.787, SJR: Q1)
7. **Kolios S.** 2018. *Study of Mesoscale Cloud System Oscillations Capable of Producing Convective Gravity Waves*. Climate, 6(2), 25, <https://doi.org/10.3390/cli6020025> (I.F: 1.87, SJR: Q3)
8. **Kolios S.** Antonatou G., Zervas E., 2017. *Observed temperature extremes in Greece and their*

relation with the North Atlantic Oscillation. International Journal of Global Warming. Vol 15 (4), 392-412, DOI: [10.1504/IJGW.2018.093746](https://doi.org/10.1504/IJGW.2018.093746) (I.F: **0.66**, SJR: Q3)

9. **Kolios, S., Stylios C., 2015.** *A WebGIS platform to monitor environmental conditions in ports and their surroundings in South Eastern Europe*. Environmental Monitoring and Assessment, 187: 574 doi.org/10.1007/s10661-015-4786-x. (I.F: **1.687**, SJR: **Q2**)
10. **Kolios S., Georgoulas G., Stylios C., 2013.** *Achieving downscaling Meteosat thermal infrared imagery using artificial neural networks*. International Journal of Remote Sensing, 34 (21), 7706-7722. (I.F 2012: **1.138**, SJR: **Q1**)
11. **Kolios S., Stylios C., 2013.** *Identification of land cover/land use changes in the greater area of the Preveza peninsula in Greece using Landsat satellite data*. Applied Geography, 40, 150-160. (I.F2011: **3.082**, SJR: **Q1**)
12. **Kolios S., Feidas H., 2011.** *An automated nowcasting system of Mesoscale Convective Systems for the Mediterranean basin using Meteosat imagery. Part I: System description*. Meteorological Applications, 20 (3), 287-295, DOI: 10.1002/met.1282. (Impact factor 2011: **1.402**, SJR: **Q2**)
13. **Kolios S., Feidas H., 2011.** *An automated nowcasting system of Mesoscale Convective Systems for the Mediterranean basin using Meteosat imagery. Part II: Verification statistics*. Meteorological Applications, 20 (3), 296-307. DOI: 10.1002/met.1281. (Impact factor 2011: **1.402**, SJR: **Q2**)
14. **Kolios, S., Feidas H., 2010.** *A warm season climatology of Mesoscale Convective Systems in the Mediterranean basin using satellite data*. Theoretical and Applied Climatology, 102, 29-42. (Impact factor 2010: **1.684**, SJR: **Q2**)

Scientific Conferences (indicative papers):

Total number: 39

1. Katsaras E., **Kolios S., Koliou A., 2021.** *Climate Vulnerability in Greece using meteorological and demographic data*. 2nd International Conference on Environmental Design (ICED2021), 23-24 October 2021, Athens, Greece.
2. **Kolios S., Kalimeris A., 2021.** *Study of cloud convection during the Mediterranean tropical-like cyclones: The Medicane case of September 2018*. 15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP), 27-30 September, Ioannina, Greece.
3. Papadopoulou E., **Kolios S., Hatzianastasiou N., 2021.** *Early detection of the cloud convection in Meteosat imagery using Lightning activity*. 15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP), 27-30 September, Ioannina, Greece.
4. Zaverdinou M., **Kolios S., Hatzianastasiou N., 2021.** *Determine the atmospheric temperature profiles during dust storm events in the Mediterranean*. 15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP), 27-30 September,

Ioannina, Greece.

5. **Kolios S.**, Sotiropoulos S., 2020. *Spatial detection of potential areas with high ecotourism development in Evros prefecture through GIS analysis*. 1st International Conference on Environmental Design (ICED2020), 24-25 October 2020, Athens, Greece.
6. **Kolios S.**, Defteraios G., 2020. *Interannual spatiotemporal variations of basic biophysical parameters in the Mediterranean using satellite-based and model data products*. OpenEarth Conference on Climate Change Adaptation and Mitigation, 12-14 February, Thessaloniki.
7. **Kolios S.**, Dogas G., Zervas E. 2019. *Spatial changes of forests in a coastal and a remote mountainous area of Greece over a 65-year period*. 12th International Conference of the Hellenic Geographical Society (ICHGS), 1-4 November, Athens, Greece.
8. Hatzianastassiou N., Manthos I., Mihailidis I., **Kolios S.**, Sionti A., Stavroulas I., Bougiatioti A., Grivas G., Liakakou E., Papayannis A., Gerasopoulos E., Mihalopoulos N. 2019. *Assessment of aerosol particulate matter levels at the city Ioannina, Greece, during the 1st Panacea campaign (July-August 2019)*. Crete, Heraklion, Greece, 23 – 24 September.
9. **Kolios S.**, Hatzianastassiou N. 2018. *Automated algorithm for dust monitoring based on Meteosat imagery and Neural Networks*. 14th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP), 19-21 October, Alexandroupolis, Greece.
10. **Kolios S.**, Karvelis P., Stylios C. 2018. *Web-based Geographical Information System for real-time flood monitoring of the river Arachthos in Epirus Region, Greece*. 10th International Conference on Advances in Satellite and Space Communications SPACOMM 2018, April 22-26 2018, Athens, pp. 36-39.
11. **Kolios S.**, Stylios C. 2018. *Development of weather application for enhancing sea safety and rescue operations*. Proceedings of 7th Transport Research Arena TRA 2018, April 16-19, 2018, Vienna, Austria
12. Karvelis P., Georgoulas G., **Kolios S.**, Stylios C., 2017. *Ensemble learning for forecasting main meteorological parameters*. IEEE International Conference on Systems, Man and Cybernetics. October 5-8, Banff, Canada.
13. **Kolios S.**, Hatzianastassiou N., 2017. *Machine learning methods for detection of dust from Meteosat imagery*. European Geosciences Union General Assembly (EGU), 23 - 28 April 2017.
14. **Kolios S.**, Kalimeris A., 2016. *Annual and monthly precipitation variability in the Ionian Islands using 16-year TRMM data*. 13th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP), 19-21 September, Thessaloniki, Greece, 491-497.
15. Georgoulas G., Karvelis P., **Kolios S.**, and Stylios C.D., *Examining nominal and ordinal classifiers for forecasting wind speed*. In proc. IEEE Intelligent Systems'2016, 3-5 September, Sofia, Bulgaria, 2016, pp. 504-509.

16. **Kolios S.**, Petsios S., Loukadakis D., Stylios C., 2015. *Marine weather monitoring through a WebGIS application*. Toward Emerging Technology for Harbour SYstems and Services (TETHYS 2015) Workshop, Bari (Italy), 14-15 December.
17. **Kolios S.**, Stylios C., 2014. *Spatiotemporal relation between sea surface temperature and cloud convection in the Mediterranean basin during warm season*. Earth observation for ocean-atmosphere interactions science 2014. European Space Agency Conference, Rome, Italy, 28-31 October.
18. **Kolios S.**, Stylios C., 2014. *Coastal marine environment monitoring using satellite products derived from MODIS instrument*. First International Conference of the sea-corridors and coastal waters, Tirana, Albania, 3/4/2014.
19. **Kolios, S.**, karvelis P., Stylios C., 2013. *Cloud top height estimation from the Meteosat water vapor imagery using computational intelligence techniques: Preliminary results*. Fifth International Conference on Advances in Satellite and Space Communications, SPACOMM 2013, 21-26 April, Venice. Italy. p.p: 65-70 (προφορική παρουσίαση).
20. **Kolios, S.**, Feidas H., 2012. *Nowcasting a Mesoscale Convective System over Greece with a satellite-based algorithm*. Conference of Meteorology, Climatology and Atmospheric Physics (COMECAP) 2012, 31 May – 01 June, Athens, Greece.
21. **Kolios, S.**, Georgoulas G., Stylios C., 2011. *Downscaling Meteosat Second Generation Imagery*. International Conference on Information Technologies (InfoTech), 217-224, 15-16 September, Varna, Bulgaria.

Books

1. **Kolios S.**, Vorobev A.V., Vorobev G.R., Stylios C., 2017. ***GIS and Environmental Monitoring: Applications in the Marine, Atmospheric and Geomagnetic Fields***. Springer, Series: Geotechnologies and the Environment, DOI 10.1007/978-3-319-53086-4, Gewerbestrasse 11, 6330 Cham, Switzerland.

REVIEWER IN JOURNALS

Number of Journals: 18

Total number of reviews: > 45

CITATIONS & h-Index

Number of citations: 380 (Google Scholar), 197 (Scopus)

h-index (2022): 12 (Google Scholar), 9 (SCOPUS)