

Dr Sotirios Koukoulas

Associate Professor of Remote Sensing, Spatial and Environmental Planning
Department of Planning and Regional Development
University of Thessaly

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383 34, Volos, Greece

Education

- **King's College London** Dept. of Geography
PhD in Geography
 - PhD Thesis on: *Analysing the spatial structure of semi-natural deciduous woodlands through high resolution airborne imagery and Geographical Information Systems*
- **Lancaster University** Dept. of Mathematics and Statistics
MSc in Statistics
 - Key Courses: Likelihood Inference, Bayesian Inference, Computationally intensive methods, Generalised Linear Models, Spatial Epidemiology, Model Based Geostatistics, Stochastic Processes, Extremes
 - Thesis on Spatial dependence in extreme water level heights
- **University of the Aegean** Dept. of Environment
BSc in Environmental Sciences
 - Key Courses: Terrestrial Ecosystems, Aquatic Ecosystems, Environmental Engineering, Geographic Information Systems, Photogrammetry and Remote Sensing, Spatial Environmental Planning, Environmental Chemistry
 - Thesis on Remote Sensing, Land cover mapping using Landsat TM images: Assessing the productivity of Olive groves

Work Experience

- **Planning and Regional Development** University of Thessaly, Greece
Assoc. Professor of Remote Sensing, Spatial and Env. Planning June 2023-today
- **Dept. of Geography** University of the Aegean, Greece
Professor of Applied GIS in Geography May 2022 - June 2023
- **Dept. of Geography** University of the Aegean, Greece
Associate Professor of Applied GIS in Geography May 2016 - May 2022
- **Dept. of Geography** University of the Aegean, Greece
Assistant Professor of Applied GIS in Geography May 2007 - May 2016
- **Dept. of Geography** University of the Aegean, Greece
Lecturer of Applied GIS in Geography Feb 2002- May 2007
- **Dept. of Geography** University College Cork, Ireland
Hourly paid Lecturer (Remote Sensing) Sep. 2001 - Jan. 2002
- **Coastal and Marine Research center** University College Cork, Ireland
Postdoctoral Research Fellow Jan. 2001 - Jan. 2002
 - GIS and Environmental modelling project
 - Development of a GIS model for the location of landfill sites (INTERREG II)
- 1994 - 1996: National (Military) Service
- **Department of Environment** University of the Aegean
Research Assistant 1992 - 1994
 - Olive Trees - Primary Sector and Environment in mountainous Greece; the potential of Landsat-5 imagery to estimate the coverage of Olive trees with different productivity was investigated for a number of islands and regions. Four publications were produced with my contribution during this period
 - Development of a GIS model for the location of landfill sites (INTERREG II)

Teaching

- Undergraduate level:

Department of Planning and Regional Development:

- Remote Sensing (Co-teaching): 2023 -
- Geographical Information Systems I (Co-teaching): 2023 -
- Statistics I: 2023 -

Dept. of Geography, University of the Aegean:

- Introduction to GeoInformatics (Co-teaching 2020-2023)
- Geographical Information Systems: 2002-2023
- Applied GIS: 2002 -2023
- Introduction to Remote Sensing (2002-2008)
- Spatial Statistics I (2006)
- Special Topics in GIS (up to 2015)
- BSc dissertations supervision

- Postgraduate level:

Dept. of Geography, University of the Aegean: MSc in Applied Geoinformatics and Geography

- Remote Sensing and Digital Image Analysis (2019 - Feb 2023)
- Special Topics in Geoinformatics (2016 - Jun 2023)
- Introduction to Applied Geoinformatics (2015 - 2019)
- Special topics in GIS (2015-2016)
- Spatial Analysis (2002-2008, co-teaching)
- Geographical Information Systems (MSc in Tourism administration, planning and Development, 2002 - 2015)
- Methods and Techniques in Environmental Research, Cyprus Open University, 2013-2014
- Supervision of 18 MSc dissertations

- PhD Supervision, member of advisor panel:

- Dimitrios Gounaridis: Multi-scale modelling of land cover/land use (LCLU) change with geoinformatics and scenario-based simulation (2018) Role: Supervisor
- Nikolaos Rempis: Framework preparation and procedures investigation for the implementation of marine spatial planning in Greece (2020). Role: Member of the advisor panel
- Evangelia Theodora Derdemezi : Multitemporal change detection of urban areas in Cyclades, viewed through a theoretical debate of planning practices (in progress). Role: Member of the advisor panel
- Marianthi Svinterikou: Microsimulation models in geography using object-oriented programming: an application to residential mobility (2007) Role: Member of the advisor panel

- Administrative duties:

Department of Planning and Regional Development:

- Member of the departmental staff meeting, 2023 -
- Coordinator of the departmental Computing Center: Jun 2023 -

Dept. of Geography, University of the Aegean (Feb 2002 - Jun 2023):

- Member of the departmental staff meeting, 2002-2023
- PhD studies coordinator, 2015-2016, 2021-22
- Associate Director of MSc program in Applied Geoinformatics 2018-2022
- Member of the Erasmus, Informatics and Library committees (2002-2010)
- Member of various *ad hoc* committees for the selection of temporary staff, and various University competitions

Funded Research

- 2021-22: National Spatial Strategy for marine areas, Dept. of Planning and Regional Development, University of Thessaly (Member of the research group).
- 2014-2015 (Coordinator): University Research grant - Grid based Population density estimation of Greece.
- 2014-2015 (Coordinator): GSRT 2010-2013 matching funds on CIRCE, ClimateCost.
- 2009-2010 (Coordinator): GSRT 2008-2009 matching funds on Monitoring Land Cover, CIRCE, ClimateCost.
- 2008-2011, 18 months (WP Co-Coordinator): ClimateCost, Full costs of climate change, 7TH FRAMEWORK PROGRAMME, GLOBAL CHANGE AND ECOSYSTEM (with N. Vafeidis).
- 2009-2010, 12 months (Coordinator): GSRT 2008,2009 matching funds on Monitoring Land use change and CIRCE, ClimateCost
- 2008-2009, 12 months (Coordinator): GSRT 2007 matching funds on Monitoring Land use change
- 2007-2011, 18 months (WP Co-Coordinator): CIRCE: Climate Change and Impact Research: the Mediterranean Environment, 6TH FRAMEWORK PROGRAMME, PRIORITY 1.1.6.3, GLOBAL CHANGE AND ECOSYSTEM, RL11, WP10.6 (with N. Vafeidis)
- 2007-2008 (Coordinator): 12 months, GSRT 2006 matching funds on Monitoring Land use change
- 2005-2008 (Coordinator): 36 months: MONITORING LAND USE CHANGE, Marie Curie Outgoing International Fellowships (OIF), Programme: Structuring the European Research Area - Call identifier: FP6-2002 Mobility-6.
- 2006 – 2007 (Coordinator): Monitoring and modelling land use/land cover change in coastal areas using Remote Sensing and GIS, Call identifier: Pythagoras II- Supporting research groups in Universities, Special Service on management of the operational program for education and employment (EPEAEK II), Ministry of National Education and Religious Affairs, Greece.
- 2001 - 2002: GIS and environmental modeling for coastal areas, Irish Research Council, Ireland (Member of the research group).
- 2001 - 2002: The Development of a GIS Model for the Location of Landfill Sites in Ireland and Portugal, INTERREG II, Ireland (Member of the research group).

Publications

Google Scholar profile: Sotirios Koukoulas

Scopus profile: Sotirios Koukoulas

WOS profile: Sotiris Koukoulas

ORCID:0000-0002-2647-9078 Sotirios Koukoulas

1. REFEREED ARTICLES IN JOURNALS

- 1.1. Loumou A., Ch. Giourga, P. Dimitrakopoulos and **S. Koukoulas**, 2000. Tourism Contribution to Agro-Ecosystems Conservation; The Case of Lesbos Island, Greece. *Environmental Management*, Vol. 26, No. 4, pp. 363-370.
- 1.2. **Koukoulas S.** and Blackburn, G.A., 2001. Introducing new indices for accuracy evaluation of classified images representing semi-natural woodland environments, *Photogrammetric Engineering and Remote Sensing*, Vol. 67, No. 4, pp. 499-511.
- 1.3. Costa C.N., A. Allen, M.G. Brito, P.S. Caetano, V. Cummins, J. Donnelly, **S. Koukoulas**, V. O'Donnell, C. Robalo, D. Vendas, 2003. GIS model for landfill site selection (Model SIG para seleccao de locais para aterros de residuos), *Finisterra: Portuguese Journal of Geography*, XXXVIII, 75, pp 85-99. (In Portuguese)
- 1.4. **Koukoulas, S.** and Blackburn, G.A., 2004. Quantifying the spatial properties of forest canopy gaps using LiDAR imagery and GIS, *International Journal of Remote Sensing*, Vol. 25, No. 15, pp. 3049-3071.
- 1.5. **Koukoulas, S.** and Blackburn, G.A., 2005. Mapping individual tree location, height and species in broadleaved deciduous forest using airborne LiDAR and multi-spectral remotely sensed data. *International Journal of Remote Sensing*, Vol. 26, No. 3, pp 431-455.
- 1.6. **Koukoulas, S.** and Blackburn G.A., 2005. Spatial relationships between tree species and gap characteristics within broadleaved deciduous woodland. *Journal of Vegetation Science*, 16, pp. 587-596.
- 1.7. Brown I., Jude S.R., **Koukoulas S.**, Nicholls R., Dickson M. and Walkden, M. 2006. Dynamic Simulation and Visualisation of Coastal Erosion. *Computers, Environment and Urban Systems* 30 (6), pp. 840-860.
- 1.8. Dawson RJ, Dickson ME, Nicholls RJ, Hall JW, Walkden MJA, Stansby P, Mokrech M, Richards J, Zhou J, Milligan J, Jordan A, Pearson S, Rees J, Bates P, **Koukoulas S**, Watkinson A., 2009. Integrated analysis of risks of coastal flooding and cliff erosion under scenarios of long term change. *Climatic Change* 3:89-102
This paper won the 2012 Lloyds Science of Risk prize. See the Lloyds press release, and the CESER release.
- 1.9. Choriantopoulos I, Pagonis A, **Koukoulas S.** and Drymoniti S. 2010. Planning, competitiveness and sprawl in the Mediterranean city: The case of Athens, *Cities*, Volume 27, Issue 4, pp 249-259.
- 1.10. Arianoutsou M., **S. Koukoulas**, and D. Kazanis, 2011. Evaluating post-fire resilience using GIS and multicriteria analysis: an example from Cape Sounion National Park, Greece. *Environmental Management*. 47 (3), pp. 384-397.
- 1.11. Rapaglia J., **S. Koukoulas**, L. Zaggia, M. Lichter, G. Manfe and A. Vafeidis, 2012. Quantification of Submarine Groundwater Discharge and Optimal Radium Sampling Distribution in the Lesina Lagoon, Italy. *Journal of Marine Systems*. 91(1), pp. 11-19.
- 1.12. Symeonakis E., P. Caccetta, **S. Koukoulas**, S. Furby, N. Karathanasis, 2012. Multi-temporal land cover classification and change analysis with Conditional Probability Networks: the case of

- Lesvos Island (Greece). *International Journal of Remote Sensing*. 33(13), pp. 4075-4093.
- 1.13. Eastoe, E., **S. Koukoulas**, and P. Jonathan, 2013. Statistical measures of extremal dependence illustrated using measured sea surface elevations from a neighbourhood of coastal locations. *Ocean Engineering*. 62, pp. 68-77.
 - 1.14. Koerth J., N. Jones, A.T. Vafeidis, P. Dimitrakopoulos, A. Melliou, E. Chatzidimitriou and **S. Koukoulas**, 2013. Household adaptation and adaptation intention to coastal flooding in the Axios Loudias Aliakmonas National Park. *Ocean and Coastal Management*. 82, pp. 43-50.
 - 1.15. Gkoltsiou A., T. Terkenli, and **S. Koukoulas**, 2013. Landscape indicators for the evaluation of tourist landscape structure. *International Journal of Sustainable Development and World Ecology*, 20(5), pp. 461-475.
 - 1.16. Jones N., **S. Koukoulas**, J.R.A. Clark, I.K. Evangelinos, and P.G. Dimitrakopoulos, 2014. Social capital and citizens' perceptions of proposed coastal management zone policies for tackling climate change impacts in Greece. *Regional Environmental Change*,14(3), pp. 1083-1093.
 - 1.17. Chorianopoulos I., G. Tsilimigkas, **S. Koukoulas** and T. Balatsos, 2014. The shift to competitiveness and a new phase of sprawl in the Mediterranean city: Enterprises guiding growth in Messoghia - Athens. *Cities*, 39, pp.133-143
 - 1.18. Gounaridis D., G.N. Zaimis and **S. Koukoulas**, 2014. Quantifying spatio-temporal patterns of forest fragmentation in Hymettus Mountain, Greece. *Computers, Environment and Urban Systems*, 46, pp. 35-44.
 - 1.19. Symeonakis E., N. Karathanasis, **S. Koukoulas** and G. Panagopoulos, 2016. Monitoring Sensitivity to Land Degradation and Desertification with the ESAI Methodology: the Case of Lesvos Island. *Land Degradation and Development*, 27(6), pp 1562-1573
 - 1.20. Gounaridis D., A. Apostolou, M. Riga, P. Moustos, K. Mpika, D. Kontou and **S. Koukoulas**, 2016. Change detection of forests and semi-natural areas in Greece for the period 1990-2010. *Aegean Journal of Environmental Sciences (AEJES)*
 - 1.21. Gounaridis D. and **S. Koukoulas**, 2016. Urban land cover thematic disaggregation, employing datasets from multiple sources and RandomForests modeling. *International Journal of Applied Earth Observation and Geoinformation*. 51, pp.1-10
 - 1.22. Gounaridis D., A. Apostolou and **S. Koukoulas**, 2016. Land Cover mapping of Greece: a semi-automated classification approach based on Landsat data and Random Forests. *Journal of Maps*, 12(5), pp.1055-1062
 - 1.23. Symeonakis E., P. Caccetta, J. Wallace, E. Arnau, A. Calvo and **S. Koukoulas**, 2017. Multi-temporal Forest Cover Change and Forest Density trend detection in a Mediterranean environment. *Land Degradation and Development*. 28. pp. 1188-1198
 - 1.24. Dimitrakopoulos P. G., **S. Koukoulas**, A. Galanidis, P. Delipetrou, D. Gounaridis, K. Touloumi, and M. Arianoutsou. 2017. Factors shaping alien plant species richness spatial patterns across Natura 2000 Special Areas of Conservation in Greece. *Science of the Total Environment*. 601-602. pp. 461-468
 - 1.25. Gounaridis D., Chorianopoulos I., and **S. Koukoulas**, 2018. Exploring prospective urban growth trends under different economic outlooks and land-use planning scenarios: The case of Athens. *Applied Geography*. 90. pp. 134-144
 - 1.26. Gounaridis D., Symeonakis E., Chorianopoulos I., and **S. Koukoulas**, 2018. Incorporating Density in Spatiotemporal Land Use/Cover Change Patterns: The Case of Attica, Greece. *Remote Sensing*,10(7),1034; doi:10.3390/rs10071034
 - 1.27. Gounaridis D., Chorianopoulos I., Symeonakis E.,and **S. Koukoulas**, 2019. A Random

Forest-Cellular Automata modelling approach to explore future land use/cover change in Attica (Greece), under different socio-economic realities and scales. *Science of the Total Environment*. Vol. 646, pp. 320–335

- 1.28. Nababa I.I., E. Symeonakis, **S. Koukoulas**, T.P. Higginbottom, G. Cavan, S. Marsden, 2020. Land cover dynamics and mangrove degradation in the Niger Delta Region. *Remote Sensing*, 12(21), 3619; <https://doi.org/10.3390/rs12213619>
- 1.29. Papayiannis G.I., G. N. Domazakis, D. Drivaliaris, **S. Koukoulas**, A. E. Tsekrekos and A. N. Yannacopoulos, 2021. On clustering uncertain and structured data with Wasserstein barycenters and a geodesic criterion for the number of clusters, *Journal of Statistical Computation and Simulation*, 91(13), pp. 2569-2594; (DOI: 10.1080/00949655.2021.1903463)
- 1.30. Dimitrakopoulos, P.G., **S. Koukoulas**, C. Michelaki, A. Galanidis, 2022. Anthropogenic and environmental determinants of alien plant species spatial distribution on an island scale, *Science of the Total Environment*, 2022, 805, 150314; <https://doi.org/10.1016/j.scitotenv.2021.150314>

2. BOOK CHAPTERS

- 2.1. Giourga Ch., A. Loumou, N.S. Margaritis, M. Theodorakakis and **S. Koukoulas**, Olive trees of the Aegean, in Rokos D. (ed) Environment and Sciences at the end of the Century - Problems and Outlooks, N.T.U Athens, K.E.M.D.I.P.A, Enallaktikes Pub. ISBN: 960-427-024-9, 1994. (In Greek)
- 2.2. **Koukoulas S.**, Geographical Information Systems, in Margaritis N.S, (ed), Agriculture and Environment, Philippoti Pub. Series: Human -Nature 6, pp. 117-120, Athens, 1997. (In Greek)
- 2.3. Jude, S.R., Brown, I., **Koukoulas, S.**, Dickson, M., Walkden, M., Jones, A.P. and Watkinson, A. (2005) Exploring Future Coastlines - Initial Steps Towards the Development of an Integrated Coastal Simulation and Visualisation System. p.69-76. In Buhmann, E., Paar, P., Bishop, I.J. and Lange, E. (eds.) Trends in Real-Time Landscape Visualization and Participation. Herbert Wichmann Verlag. Heidelberg. 361pp. ISBN: 3-87907-429-1.
- 2.4. Brown I., Jude S, **Koukoulas S.**, Nicholls R., Dickson M, Walkden M, (2007) Using Virtual Reality to Simulate Future Coastal Erosion: A Participative Decision Tool? In A. Lovett and K. Appleton (eds.) Environmental Decision Making and GIS. London, Series Innovations in GIS, Volume 12, Taylor and Francis, 288 pages.
- 2.5. Jude SR, Mokrech M, Walkden M, Thomas J and **Koukoulas S.** (2015) Visualising potential coastal change: communicating results using visualisation techniques. In: Broad Scale Coastal Simulation, Springer, p. 255-272.
- 2.6. Mokrech M., R.J. Nicholls, S. Day, R.J. Dawson, Jude S., and **S. Koukoulas**, (2015). GIS platforms for managing, accessing and integrating model results: The Tyndall Coastal Simulator experience. In: Nicholls RJ, Dawson RJ, Day SA (eds) Broad Scale Coastal Simulation. Springer, Pages 273-298.

3. CONFERENCE PAPERS

- 3.1. Gazis D.E., **S. Koukoulas** and J.N. Hatzopoulos, Bathymetry Study of the NW. Part of the Greek Island of Lesbos Using Satellite Landsat TM Images, Proceedings of the 3rd Meeting of the Technical Committee of the General Council of Fisheries for the Mediterranean of F.A.O., Thessaloniki, Greece, October 7-11, 1991. (In Greek)
- 3.2. Hatzopoulos J.N, C. Giourga, **S. Koukoulas** and N. Margaritis, Land Cover Classification of Olive Trees in the Greek Islands Using Landsat -TM Image, Proceedings of the ASPRS at the

International Conference in Washington D.C., Vol. 4, pp. 492-498, August 2-7,1992.

- 3.3. **Koukoulas S.** and G.A. Blackburn, Monitoring Woodland Gap Dynamics Using High Resolution Imagery: But When Is a Gap Not a Gap? Proceedings of the 23rd Annual Conference of the Remote Sensing Society, University of Reading, pp. 147-152, 2-7 Sep. 1997.
- 3.4. **Koukoulas S.** and Alan Blackburn, An evaluation of Image Processing techniques for measuring canopy structure in deciduous woodlands using Digital aerial photographs, Proceedings of the 24th Annual Conference of the Remote Sensing Society, University of Greenwich, pp. 534-542, 8-11 Sep. 1998.
- 3.5. **Koukoulas S.** and Alan Blackburn, Tree-top extraction using optical airborne sensors and LIDAR: A GIS approach to feature identification, NERC ARSF Workshop, British Geological Survey, Keyworth, CD-ROM, 12-13 Dec 2000.
- 3.6. A. Allen, G. Brito, P. Caetano, C. Costa, V. Cummins, J. Donnelly, C. Fernades, **S. Koukoulas**, V. O'Donnell, C. Robalo, D. Vendas, Procedure for the location of landfill sites using a GIS model, 9th Congress of the International Association of Engineering Geology and the Environment, Durban, South Africa, September 2002. [Αναφορές Google Scholar: 12]
- 3.7. Allen, G. Brito, P. Caetano, C. Costa, V. Cummins, J. Donnelly, **S. Koukoulas**, V. O'Donnell, C. Robalo and D. Vendas. A Landfill Site Selection Procedure Incorporating GIS Modelling. Proceedings of Ninth International Waste Management and Landfill Symposium, Sardinia, Italy, October 6-10th, 2003.
- 3.8. Symeonakis E., **S. Koukoulas**, A. Calvo, and E. Arnau, A landuse change and land degradation study in Spain and Greece using Remote Sensing and GIS, International Archives of Photogrammetry and Remote Sensing, XXth International Society for Photogrammetry and Remote Sensing Congress, Istanbul, Turkey 12 - 23 July 2004.
- 3.9. Brown I., S. Jude, **S. Koukoulas**, R. Nicholls, M. Dickson, M. Walkden, and A. Jones, Dynamic Simulation and Visualisation of Coastal Erosion: Past, Present and Future, GISRUK04, University of East Anglia, Norwich, 28-30 April 2004.
- 3.10. **Koukoulas S.**, Nicholls R.J., Dickson M.E., Walkden M.J., Hall J.W., Pearson S.G., Mokrech, M. and Richards, J. 2005. A GIS tool for analysis and interpretation of coastal erosion model outputs (SCAPEGIS). Proceedings of Coastal Dynamics 2005, ASCE, New York.
- 3.11. Nicholls R., I. Brown, R. Dawson, M. Dickson, J. Hall, **S. Koukoulas**, M. Mokrech, S. Pearson, J. Rees, J. Richards, P. Stansby, M. Walkden, A. Watkinson, J. Zhou, An Integrated Assessment of Erosion and Flooding in North-East Norfolk, England, Coasts and Coastal People- Scenarios of change and responses, LOICZ II Inaugural Open Science Meeting, Egmod aan Zee, Netherlands, 27-29 June 2005.
- 3.12. Gkoltsiou E., T. Terkenli, and **S. Koukoulas**, Identifying Changes in Tourist Coastal Landscapes Using Landscape Metrics, 42nd World Congress International Federation of Landscape Architects (IFLA), Proceedings in CD-ROM, Edinburgh, 26-29 June 2005.
- 3.13. Symeonakis E., P.A. Caccetta, J.F. Wallace, **S. Koukoulas**, Multitemporal land use/cover change detection in the Spanish Mediterranean coast, ISPRS Mid-term Symposium 2006 "Remote Sensing: From Pixels to Processes" Enschede, the Netherlands, 8-11 May 2006.
- 3.14. Gatsis I., **S. Koukoulas**, A. Vafeidis, Lagoudakis E., and K. Gkoltsiou, Monitoring and mapping of land cover/use changes in an agricultural and natural environment, using multitemporal satellite data and GIS (Lesvos island, Greece), RSPSoc Annual Conference, Understanding a Changing World, Proceedings in CD-ROM, Cambridge, UK, 5-8 Sep. 2006.
- 3.15. Symeonakis E., Peter A. Caccetta, Suzanne Furby, Jeremy F. Wallace, **S. Koukoulas**, Mapping Land Use Change using Conditional Probability Networks: a Case Study in the Mediterranean

Island of Lesvos, 32nd International Symposium on Remote Sensing of Environment, Sustainable Development Through Global Earth Observations, Proceedings in CD-ROM, June 25 - 29, 2007. San Jose, Costa Rica.

- 3.16. **Koukoulas S.**, Gatsis I., A. Vafeidis, and K. Gkoltsiou, Analysing spatial patterns of land cover/use change derived from satellite remote sensing, 32nd International Symposium on Remote Sensing of Environment, Sustainable Development Through Global Earth Observations, Proceedings in CD-ROM, June 25 - 29, 2007. San Jose, Costa Rica.
- 3.17. Gatsis I., **S. Koukoulas**, A. Vafeidis, and K. Gkoltsiou, A rule-based approach for mapping and monitoring of land cover changes in Lesvos with emphasis in deforestation and olive groves abandonment, CEST 2007 - 10th International Conference on Environmental Science and Technology, September 5th - 7th, 2007, Kos Island, Greece.
- 3.18. Vafeidis A.T. , **S. Koukoulas**, I. Gatsis , K. Gkoltsiou, Forecasting land-use changes with the use of neural networks and GIS, International Geoscience and Remote Sensing Symposium 2007 (IGARSS'07), Sensing and Understanding our Planet, 23-27 July 2007, Barcelona, Spain.
- 3.19. Vafeidis A.T. ,G. Vafeidis, and **S. Koukoulas**, Comparative evaluation of Different characteristics of neural network-based models for forecasting land-use and land-cover change, International Conference on Studying, Modeling and Sense Making of Planet Earth , 176 June, 2008, Dept. of Geography, University of the Aegean, Mytilene, Greece.
- 3.20. **Koukoulas S.**, A.T. Vafeidis, G. Vafeidis, The role of spatial metrics on the performance of an artificial neural-network based land-use change model, The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Vol. XXXVII. Part B7, XXI ISPRS Congress, Beijing 2008, pp.1661- 1666.
- 3.21. Pagonis T., Chorianopoulos I., **Koukoulas S.** and Drymoniti S., Urban Competitiveness and Sprawl as conflicting Planning Priorities: the Olympic legacy of Athens, Urban Growth without Sprawl - A way Towards Sustainable Urbanization, 44th ISOCARP Congress, 19-23 September 2008, Dalian, China.
- 3.22. Symeonakis, E., Karathanasis, N., Panagopoulos, G. and **Koukoulas, S.**, 2009. A Sensitivity Index for Land Degradation and Desertification Mapping and Monitoring: the case of the island of Lesvos. In: Proceedings of the EARSeL Special Interest Group on Land Use and Land Cover. Workshop, Bonn, Germany, 25-27 November. (Abstract)
- 3.23. Pagonis T., Chorianopoulos I., and **Koukoulas S.** Urban Competitiveness and Sprawl as conflicting Planning Priorities: the Olympic legacy of Athens, Urban Design, Planning and Regional Development Conference, University of Thessaly, 24-27 September 2009, Volos, Greece.
- 3.24. **Koukoulas S.**, Change detection under uncertainty: modelling the spatial variation of errors, International Archives of the Photogrammetry, Remote Sensing and Spatial Information Science, Volume XXXVIII, Part 8, Kyoto Japan 2010.
- 3.25. Tsilimigkas G., Chorianopoulos I., **Koukoulas S.** and Balatsos T. Spatial Planning and Areas Competitiveness: Multitemporal diffusion of new business locations in Athens-Greece, Planning and Regional Development Conference, University of Thessaly, 24-27 September 2012, Volos, Greece.
- 3.26. Panagopoulos G., Giannoulopoulos P. and **Koukoulas S.** Applying the DRASTIC index in Lesvos, 10th International Hydrogeological Congress, 8-10 October 2014, Thessaloniki, Greece
- 3.27. Aslanidou S. and **Koukoulas S.** Monitoring of urban sprawl and human imprint in Meshogeia Area using spectral indices. 6th Greek Congress of Planning and Regional Development, 29/09 - 02/10/2022, Volos, Greece.

4. OTHER PAPERS

- 4.1. **S. Koukoulas**, 1995, Geographical Information Systems (Agriculture and Environment), Oikonomikos Taxydromos, page.53, 3 Aug.
- 4.2. Aulakh G.S. and **Koukoulas S.**, 1993, Finding new sites for golf courses using GIS, Mapping Awareness Vol. 7, No. 9, pp. 41-43.

5. SCIENTIFIC REPORTS

- 5.1. Hatzopoulos J.N. (Project Leader), Gazis J., Eleytheriadis M., **Koukoulas S.**, Christou G., Zisou A., Liakopoulos L., Kardoulas N., Papadopoulos B., Kontos E., Malis P., Halaris G., Digital Processing of SPOT PAN and Landsat TM Images to Update HAGS Maps (1:50000), Final Report, Ministry of Industry, Research and Technology / Hellenic Army Geographical Service (HAGS), University of the Aegean - Department of Environmental Studies - Digital Image Processing Lab., Mytilene 1992. (In Greek)
- 5.2. Troumpis A.Y. (Project Leader), Hatziantoniou M., Maziotis B., Drouza A., Mpimpitsos Chr., Mandylas Chr., Skrimpas G., **Koukoulas S.**, Study of the Ecological Status and Management of Ntipi Larissos Wetland, Gulf of Gera, Lesvos, Final Report, MOP for the Aegean Subprogram 5 / Ministry of the Aegean / Direction of Primary and Secondary Production, University of the Aegean - Department of Environmental Studies, Mytilene 1992. (In Greek)
- 5.3. Aravantinos A. (Project Leader), Agelidis M, Serraios K., Sarigianis G., Loukaitou - Sideri A., Antoniou L., Mpogris E., Rodi A., Triantafyllou B., Giotis A., Psarianos B., Themou M., Moshouros N., Santibatakis K., **Koukoulas S.**, Litsas P., Urban Land Use and building'As regulation along principal road network Case Study: Khfisias Ave.'A Final Report, Ministry of Environment and Planning, / Direction of Urban Planning/ National Technical University of Athens / Faculty of Architecture/ Dept. of Town and Regional Planning, Athens 1996. (In Greek)
- 5.4. Allen A. (Project Leader), G. Brito, P. Caetano, C. Costa, V. Cummins, J. Donnelly, C. Fernandes, **S. Koukoulas**, V. O'Adonnell, C. Robalo, D. Vendas, The Development of a GIS Model for the Location of Landfill Sites in Ireland and Portugal, Final Project Report, Atlantic Area INTERREG-IIC Programme, Project ref. n. EA-B1IRE-n 2.15, Coastal Resources Centre, University College Cork, Cork, Ireland, 2001.
- 5.5. Pearson, S., Rees, J., Poulton, C., Dickson, M., Walkden, M., Hall, J., Nicholls, R., Mokrech, M., **Koukoulas, S.** and Spencer, T. (2005) Towards an integrated coastal sediment dynamics and shoreline response simulator, Tyndall Centre Technical Report 38. [[Αναφορές Google Scholar: 17](#)]
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- 5.7. Gourgiotis A. and others 2022. National Spatial Strategy for marine areas, Dept. of Planning and Regional Development, University of Thessaly.

Editorials

- *PLOS ONE* (Member of the Editorial board)
- *Remote Sensing* (Member of the Editorial board: Section Board for 'Environmental Remote Sensing' and Section Board for 'Urban Remote Sensing')
- Special Issues edited:
 - *Remote Sensing*: Guest Editor for the special issue on "GIS and Remote Sensing advances in Land Change Science"
 - *Sustainability*: Guest Editor for the special issue on "GISc Contributions to the Study and Understanding of Geographies of Change"
 - *Climate*: Guest co-Editor for the special issue on "Climate Change Impacts at Various Geographical Scales"

Referee Service

Remote Sensing, International Journal of Remote Sensing, Photogrammetric Engineering and Remote Sensing, Remote Sensing of Environment, International Journal of Applied Earth Observation and Geoinformation, Sensors, Computers, Environment and Urban Systems, International Journal of Digital Earth, Earth Science Informatics, Journal of Vegetation Science, Journal of Environmental Management, Environmental Monitoring and Assessment, Energies, Annals of Forest Science, Sustainability, Climate Research, Landscape and Urban Planning, Land degradation and Development, Geoderma, Land, Land use Policy, Cities, Human and Ecological Risk Assessment: An International Journal, Polish Journal of Environmental Studies, Journal of Hazardous Materials, International Conference on Studying, Modeling and Sense Making of Planet Earth, 6th and 7th conference of the Hellenic Geographical Society, EPEAEK II, Pythagoras II call for research proposals, 2nd Conference of the Arabian Journal of GeoSciences (Scientific Committee), Living Planet Symposium (LPS19) Scientific Committee, Living Planet Symposium (LPS22) Scientific Committee, 43rd EARSeL Symposium (2024) Scientific Committee, GISTAM 2024, 10th International Conference on Geographical Information Theory, Applications and Management

Skills

Languages: English, Greek and Spanish (basic)

Computer Languages: R, Some C++, Python and Shell Scripting, L^AT_EX

Computer and OS: Debian based Linux, Virtualization & Linux guests using Sun VirtualBox; H/W and S/W knowledge and troubleshooting techniques

Software: R; GRASS GIS 8.x; QGIS 3.x; ArcGIS; Erdas Imagine; IDRISI; OpenDroneMap ; PDAL - Point Data Abstraction Library ; Office Suites