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I am an Associate Professor at the School of Chemical and Environmental Engineering of the Technical University of Crete. My research focuses on the field of hydroclimatology, hydrological extremes (floods-droughts) and climate change impacts on water resources. I have participated in a number of research and innovation projects (24) in the field of geosciences.

I have a rich publication record. So far, I have co-authored more than 150 publications in international journals, book chapters, conference proceedings and technical reports. Two recent publications are placed in the top 1% of the academic field of Environment/Ecology and Physics. I have been listed in the 2% top scientists in the field of environmental engineering for the years 2019 to 2023 according to the science-wide author databases of standardized citation indicators. My work has provided extensive contribution to the IPCC Special Reports on 1.5°C Global Warming, Climate Change and Land and the Climate Change 2022: Impacts, Adaptation and Vulnerability.

I am serving as an associate editor of the Climate Services Journal in the areas of Hydroclimatology, Environmental Hydraulics, Hydrological Extremes, Climate Change Impacts and Adaptation and Water Resources. I am contributing author for the Water Chapter - Working Group II of the Sixth Assessment Report (AR6) for the IPCC, also a Lead Author for the chapter WATER of the Mediterranean First Assessment Report by the MedECC community. My teaching responsibilities are in the field of hydrology and climate change. I served as an expert reviewer of the last four synthesis reports of the IPCC. I also served as expert evaluator for the EC (Marie S. Curie and COST actions). I am a member of the SDG Assessment Core Group of Sustainable Water Future Programme and of the Inter-Sectoral Impact Model Intercomparison Project (ISI-MIP) contributing to the Global Water sector. I am also acting as a Climate Service provider of the Climate Knowledge Hub network.

EDUCATION

- 2011 PhD, School of Environmental Engineering, Technical University of Crete, Greece.
Doctoral Thesis: "Extreme hydrometeorologic phenomena and impact of climatic change. Application in the region of Crete, Greece."
- 2005 MASc School of Environmental Engineering, Technical University of Crete, Greece.
Master Thesis: "Simulation of flash flood events at poorly gauged basins. Application at the Giofiros pilot river basin, Crete."
- 2002 Engineering Diploma, School of Mineral Resources Engineering, Technical University of Crete, Greece. Thesis title: "Development, construction and application of a specialized flow system for simulating efficient cuttings transport in horizontal and deviated Wellbores in Coil Tubing Drilling." Diploma Degree: 8.04/10

STATISTICS

Total number of articles published in peer review journals: **72**

Other publications total: **145**

h-index: **36** (Scopus), **39** (Google Scholar)

Times cited: **5413** (Scopus), **8062** (Google Scholar)

ULRs: [\[Google Scholar\]](#), [\[ResearcherID\]](#), [\[Research Gate\]](#), [\[ORCID\]](#), [\[Hydromech\]](#)

EXPERIENCE - SUMMARY

- 2022-today **Associate Professor** “Applied Hydraulics and Hydrology”. Technical University of Crete, School of Chemical and Environmental Engineering.
- 2024-2024 **Visiting Professor:** Tokyo University of Agriculture and Technology, Japan.
- 2001-2022 **Research Scientist** involved in European and National research projects (18): SoilCare-H2020, IMPREX - H2020, HELIX - FP7, RECARE - FP7, CASCADE - FP7, IMPACT2C – FP7, ECLISE – FP7, REINFORCE – GSRT, SATFLOOD, COMBINE – FP7, SIMFLOOD – ESA, WATCH – FP6, SCENES – FP6, HYDRATE – FP6, FFF – GSRT, HarmoniRiB – FP5, BEWARE – CRINNO.
- 2014-2022 **Lecturer/Laboratory Teaching Staff.** School of Environmental Engineering, Technical University of Crete. Specific laboratory/applied teaching work conducting laboratory and practical exercises for the courses «Hydrology», «Hydraulic Works», «Fluid Mechanics» and «Hydraulics II».
- 2006-2014 **Research Engineer** at Water Resources Management and Coastal Engineering Laboratory of Technical University of Crete. 2002-2004 Lecturing for the courses: “Computational Hydraulics”, “Environmental Hydraulics”, “Numerical Methods in Environmental Engineering”. School of Environmental Engineering, Technical University of Crete.

RESEARCH PROJECT FUNDING* & PARTICIPATION

- (R26)* **OLIVADAPT:** Assessment of climate change impacts olive oil production and implementation of sustainable agricultural adaptation practices. Minerva Ltd. 2025
- (R25)* **CLIMAAX:** Climate risk assessments for every European region - Horizon Europe, (2024-2027)
- (R24) **CLIMPACT2:** Support for the upgrading of the National Climate Change Network (CLIMPACT) (2023-2025).
- (R23) **FutureMed:** A TRANSDISCIPLINARY NETWORK TO BRIDGE CLIMATE SCIENCE AND IMPACTS ON SOCIETY. COST Action (2023-2027).
- (R22)* **REACT4MED:** Inclusive Outscaling of Agro-ecosystem REstoration ACTions for the MEDiterranean. Topic 1.1.1-2021(RIA) Sustainable soil and water management for combating land degradation and desertification and promoting ecosystem restoration, PRIMA (2022-2025). (Principal Investigator).
- (R21)* **STREAM:** STREAM-SusTainable REservoir mAnagement in water-stressed Mediterranean areas (2021-2023). Prince Albert II Foundation. (Coordinator).
- (R20) **PROCLIAS:** Process-based models for climate impact attribution across sectors. COST Action (2020 – 2024).
- (R19) **FIRElinks:** Fire in the Earth System: Science and Society. COST Action (11/2019 – 10/2023).
- (R18) **SOILCARE:** Soil Care for profitable and sustainable crop production in Europe. H2020 SFS-02b-2015 - Assessing soil-improving cropping systems. (3/2016 – 8/2021)
- (R17) **IMPREX:** IMproving PRedictions and management of hydrological Extremes (Research and Innovation Action, H2020- WATER-2a-2014), (10/2015-09/2019).
- (R16) **HELIX:** High-End cLimate Impacts and eXtremes (Collaborative Large Scale Integrated Project, FP7-ENV.2013.6.1-3) (11/2013-10/2017).
- (R15) **RECARE:** Preventing and Remediating degradation of soils in Europe through Land Care (Collaborative Large Scale Integrated Project, FP7-ENV.2013.6.2-4), (11/2013-10/2017).
- (R14) **CASCADE:** CAstrophic Shifts in drylands; how CAn we prevent ecosystem DEgradation (Collaborative Large Scale Integrated Project, FP7-ENV.2011.2.1.4-2), (5/2012-06/2017).

- (R13) **REINFORCE**: Remote sEnsing meteorologlcal data fusioN for effective Flood mitigatiOn and foReCasting over Eastern Mediterranean, GSRT, ARISTEIA II Action, Greece (7/2014-8/2015).
- (R12) **IMPACT2C**: Quantifying projected impacts under 2°C warming. (Collaborative Large Scale Integrated Project, FP7-ENV.2011.1.1.6-1), (10/2011-09/2015).
- (R11) **ECLISE**: Enabling CLimate Information Services for Europe. (Collaborative project, FP7-ENV.2010.1.1.4-1), (2/2011-05/2014).
- (R10) **SATFLOOD**: Integrated Use of Satellite Remote Sensing and Hydraulic Modelling for the Flood Risk Assessment at Catchment Scale in Cyprus, Institute for Research Advancement, Nicosia, Cyprus, (11/2011-11/2013).
- (R09) **COMBINE**: Comprehensive Modelling of the Earth System for Better Climate Prediction and Projection. (Collaborative Large Scale Integrated Project, FP7-ENV.2008.1.1.4.1), (5/2009-10/2013).
- (R08) **SIMFLOOD**: High Resolution Satellite Imagery for Floodplain Mapping, European Space Agency (5/2009-8/2011).
- (R07) **WATCH**: WATer & global CHance (Collaborative Large Scale Integrated Project, FP6-ENV.6.3. II.1.1), (2/2007-7/2011).
- (R06) **SCENES**: Water Scenarios for Europe and for Neighboring States (Collaborative Large Scale Integrated Project, FP6-ENV.6.3. II.4.1), (11/2006-4/2011).
- (R05) **HYDRATE**: Hydrometeorological data resources and technologies for effective flash flood forecasting (Specific Targeted Research Project – FP6 SUB-PRIORITY 1.1.6.3), (9/2006-7/2010).
- (R04) **FFF**: Flash Flood Forecasting with the Use of C-Band Radar in the Island of Crete: General Secretariat for Research and Technology, International S & T Cooperation Directorate - Bilateral Relations Division, Scientific and Technological Cooperation between RTD Organizations in Greece and RTD Organizations in USA & Canada, (11/2006-3/2008).
- (R03) **HarmoniRiB**: Harmonized Techniques and Representative River Basin Data for Assessment and Use of Uncertainty Information in Integrated Water Management (Research and technological development (RTD) project, FP5- EVK1-CT-2002-00109), (10/2002-7/2007).
- (R02) **BEWARE**: Best Water use innovative Practices towards a Sustainable Water Resources Management, CRINNO-Regional Program of Innovative Action, European Community innovative Program, (1/2003-12/2005).
- (R01) **Environmental Database for Chania Prefecture**: Web-Site Development, Local Authority of Municipalities of Chania, Crete (9/2002-6/2003).

PUBLICATIONS

Published in Peer Reviewed Journals

- (J72) Vicente-Serrano, S. M., Trambly, Y., Murphy, C., Ocampo-Melgar, A., Guan, H., Spinoni, J., Marengo, J. A., Ghosh, S., Yang, Y., Cheval, S., **Koutroulis, A.**, Wutich, A., Stahl, K., Aich, V., Beguería, S., Hannaford, J., & Quiring, S. First Issue of Water Scarcity and Drought. Water Scarcity and Drought. 2024. doi: Retrieved from <https://www.sciltp.com/journals/wsd/article/view/479>
- (J71) Stamou, A.I., Mitsopoulos, G., Sfetsos, A., Stamou, A.T., Varotsos, K.V., Giannakopoulos, C. and Koutroulis, A., 2024. Typologizing the Hydro-Environmental Research on Climate Change Adaptation of Water Infrastructure in the Mediterranean Region. *Atmosphere*, 15(12), p.1526.
- (J70) Flaounas, E., Dafis, S., Davolio, S., Faranda, D., Ferrarin, C., Hartmuth, K., Hochman, A., **Koutroulis, A.**, Khodayar, S., Miglietta, M. M., Pantillon, F., Patlakas, P., Sprenger, M., and Thurnherr, I.: Dynamics, predictability, impacts, and climate change considerations of the catastrophic Mediterranean Storm Daniel (2023), *EGUsphere* [preprint], <https://doi.org/10.5194/egusphere-2024-2809>, 2024.

- [J69] Cózar, A., Arias, M., Suaria, G., Viejo, J., Aliani, S., **Koutroulis, A.**, Delaney, J., Bonnery, G., Macías, D., de Vries, R., Sumerot, R., Morales-Caselles, C., Turiel, A., González-Fernández, D., & Corradi, P. (2024). Proof of concept for a new sensor to monitor marine litter from space. *Nature Communications*, 15(1), 4637. <https://doi.org/10.1038/s41467-024-48674-7>
- [J68] Heinicke, S., Volkholz, J., Schewe, J., Gosling, S. N., Müller Schmied, H., Zimmermann, S., Mengel, M., Sauer, I. J., Burek, P., Chang, J., Kou-Giesbrecht, S., Grillakis, M., Guillaumot, L., Hanasaki, N., **Koutroulis, A. G.**, Otta, K., Qi, W., Satoh, Y., Stacke, T., Yokohata, T., Frieler, K. Global hydrological models continue to overestimate river discharge. *Environmental Research Letter*, (2024). <https://iopscience.iop.org/article/10.1088/1748-9326/ad52b0>
- [J67] Müller Schmied, H., Gosling, S. N., Garnsworthy, M., Müller, L., Telteu, C.-E., Ahmed, A. K., Andersen, L. S., Boulange, J., Burek, P., Chang, J., Chen, H., Grillakis, M., Guillaumot, L., Hanasaki, N., **Koutroulis, A.**, Kumar, R., Leng, G., Liu, J., Liu, X., Menke, I., Mishra, V., Pokhrel, Y., Rakovec, O., Samaniego, L., Satoh, Y., Shah, H. L., Smilovic, M., Stacke, T., Sutanudjaja, E., Thiery, W., Tsilimigkras, A., Wada, Y., Wanders, N., and Yokohata, T.: Graphical representation of global water models, *EGUsphere* [preprint], <https://doi.org/10.5194/egusphere-2024-1303>, 2024.
- [J66] Gnann, S., Reinecke, R., Stein, L., Wada, Y., Thiery, W., Müller Schmied, H., Satoh, Y., Pokhrel, Y., Ostberg, S., **Koutroulis, A.** and Hanasaki, N., 2023. Functional relationships reveal differences in the water cycle representation of global water models. *Nature Water*, 1(12), pp.1079-1090.
- [J65] Stamou, A., Mitsopoulos, G. & Koutroulis, A. Proposed Methodology for Climate Change Adaptation of Water Infrastructures in the Mediterranean Region. *Environ. Process.* 11, 12 (2024). <https://doi.org/10.1007/s40710-024-00691-w>
- [J64] Crippa N, Grillakis M, Tsilimigkras A, Yang G, Giuliani M, **Koutroulis A**, 2023. Seasonal forecast-informed reservoir operation. Potential benefits for a water-stressed Mediterranean basin. *Climate Services*, doi.org/10.1016/j.cliser.2023.100406
- [J63] Kreibich, H. et al: Panta Rhei benchmark dataset: socio-hydrological data of paired events of floods and droughts, *Earth Syst. Sci. Data*, 15, 2009–2023, <https://doi.org/10.5194/essd-15-2009-2023>, 2023.
- [J62] Tichavský, R., Fabiánová, A., **Koutroulis, A.** and Spálovský, V., 2022. Occasional but severe: Past debris flows and snow avalanches in the Helmos Mts. (Greece) reconstructed from tree-ring records. *Science of The Total Environment*, 848, p.157759.
- [J61] Kreibich, H., Van Loon, A.F., Schröter, K., Ward, P.J., Mazzoleni, M., Sairam, N., Abeshu, G.W., Agafonova, S., AghaKouchak, A., Aksoy, H. and Alvarez-Garretón, C., et al., 2022. The challenge of unprecedented floods and droughts in risk management. *Nature*, 608(7921), pp.80-86.
- [J60] Sarchani, S. and **Koutroulis, A.G.**, 2022. Probabilistic dam breach flood modeling: the case of Valsamiotis dam in Crete. *Natural Hazards*, 114(4) pp.1-52.
- [J59] Hessel, R., Wyseure, G., Panagea, I.S., Alaoui, A., Reed, M.S., Van Delden, H., Muro, M., Mills, J., Oenema, O., Areal, F. and Van den Elsen, E., 2022. Soil-Improving Cropping Systems for Sustainable and Profitable Farming in Europe. *Land*, 11(6), p.780.
- [J58] Grillakis, M., Voulgarakis, A., Rovithakis, A., Seiradakis, K.D., **Koutroulis, A.**, Field, R.D., Kasoar, M., Papadopoulos, A. and Lazaridis, M., 2022. Climate drivers of global wildfire burned area. *Environmental Research Letters*, 17(4), p.045021.
- [J57] Thiery W., Lange S., Rogelj J., Schleussner C-F., Gudmundsson L., Seneviratne S.I., Andrijevic M., Frieler K., Emanuel K., Geiger T., Bresch D., Zhao F., Willner S.N., Büchner M., Volkholz V., Bauer N., Chang J., Ciais P., Dury M., François L., Grillakis M., Gosling S.N., Hanasaki N., Hickler T., Huber V., Ito A., Jägermeyr J., Khabarov N., **Koutroulis A.**, Liu W., Lutz W., Mengel M., Müller C., Ostberg S., Reyer C., Stacke T., Wada Y. Intergenerational inequities in exposure to climate extremes. *Science*. 2021; science.org/doi/epdf/10.1126/

- (J56) Satoh, Y., Shiogama, H., Hanasaki, N., Pokhrel, Y., Boulange, J. E. S., Burek, P., Gosling, S. N., Grillakis, M., Koutroulis, A., Schmied, H. M., Thiery, W., & Yokohata, T. (2021). A quantitative evaluation of the issue of drought definition: a source of disagreement in future drought assessments. *Environmental Research Letters*, 16(10), [104001]. <https://doi.org/10.1088/1748-9326/ac2348>
- (J55) Tsanis IK, Seiradakis KD, Sarchani S, Panagea IS, Alexakis DD, **Koutroulis AG**. The Impact of Soil-Improving Cropping Practices on Erosion Rates: A Stakeholder-Oriented Field Experiment Assessment. *Land*. 2021; 10(9):964. <https://doi.org/10.3390/land10090964>
- (J54) Fernandez-Anez, N., Krasovskiy, A., Müller, M., Vacik, H., Baetens, J., Hukić, E., Kapovic Solomun, M., Atanassova, I., Glushkova, M., Bogunović, I. and Fajković, H., 2021. Current Wildland Fire Patterns and Challenges in Europe: A Synthesis of National Perspectives. *Air, Soil and Water Research*, 14, p.11786221211028185.
- (J53) Telteu, C.-E., Müller Schmied, H., Thiery, W., Leng, G., Burek, P., Liu, X., Boulange, J. E. S., Andersen, L. S., Grillakis, M., Gosling, S. N., Satoh, Y., Rakovec, O., Stacke, T., Chang, J., Wanders, N., Shah, H. L., Trautmann, T., Mao, G., Hanasaki, N., **Koutroulis, A.**, Pokhrel, Y., Samaniego, L., Wada, Y., Mishra, V., Liu, J., Döll, P., Zhao, F., Gädeke, A., Rabin, S. S., and Herz, F.: Understanding each other's models: an introduction and a standard representation of 16 global water models to support intercomparison, improvement, and communication, *Geosci. Model Dev.*, 14, 3843–3878, <https://doi.org/10.5194/gmd-14-3843-2021>, 2021.
- (J52) Grillakis, M.G., **Koutroulis, A.G.**, Alexakis, D.D., Polykretis, C. and Daliakopoulos, I.N., 2021. Regionalizing Root-Zone Soil Moisture Estimates From ESA CCI Soil Water Index Using Machine Learning and Information on Soil, Vegetation, and Climate. *Water Resources Research*, 57(5), p.e2020WR029249.
- (J51) Gudmundsson L., H. X. Do, Simon N. Gosling, M. G. Grillakis, **A. G. Koutroulis**, M. Leonard, J. Lui, H. M. Schmied, L. Papadimitriou, Y. Pokhrel, J. Schewe, S. I. Seneviratne, W. Thiery, S. Westra, X. Zhang, F. Zhao. (2021). Globally observed trends in mean and extreme river flow attributed to climate change. *Science* Vol. 371, 6534, pp. 1159-1162, doi:10.1126/science.aba3996.
- (J50) Pokhrel, Y., Felfelani, F., Satoh, Y., Boulange, J., Burek, P., Gädeke, A., Gerten, D., Gosling, S. N., Grillakis, M., Gudmundsson, L., Hanasaki, N., Kim, H., **Koutroulis, A.**, Liu, J., Papadimitriou, L., Schewe, J., Müller Schmied, H., Stacke, T., Telteu, C. E., Thiery, W., Veldkamp, T., Zhao, F., Wada, Y., Global Terrestrial Water Storage and Drought Severity under Climate Change, *Nature Climate Change*, 11(3), pp.226-233.
- (J49) Reinecke, R., Müller Schmied, H., Trautmann, T., Burek, P., Flörke, M., Gosling, S. N., Grillakis, M., Hanasaki, N., **Koutroulis, A.**, Pokhrel, Y., Seaby, L., Thiery, W., Wada, Y., Yusuke, S., and Döll, P.: Uncertainty of simulated groundwater recharge at different global warming levels: A global-scale multi-model ensemble study, *Hydrol. Earth Syst. Sci.*, <https://doi.org/10.5194/hess-25-787-2021>, 2021.
- (J48) Lange, S., Volkholz, J., Geiger, T., Zhao, F., Vega, I., Veldkamp, T., Reyher, C.P.O., Warszawski, L., Huber, V., Jägermeyr, J., Schewe, J., Bresch, D.N., Büchner, M., Chang, J., Ciais, P., Dury, M., Emanuel, K., Folberth, C., Gerten, D., Gosling, S.N., Grillakis, M., Hanasaki, N., Henrot, A., Hickler, T., Honda, Y., Ito, A., Khabarov, N., Koutroulis, A., Liu, W., Müller, C., Nishina, K., Ostberg, S., Müller Schmied, H., Seneviratne, S.I., Stacke, T., Steinkamp, J., Thiery, W., Wada, Y., Willner, S., Yang, H., Yoshikawa, M., Yue, C., Frieler, K., (2020). Projecting exposure to extreme climate impact events across six event categories and three spatial scales. *Earth's Future*. <https://doi.org/10.1029/2020EF001616> (J47)
- (J47) Tramblay Y., **Koutroulis A.**, Samaniego L., et al (2020) Challenges for drought assessment in the Mediterranean region under future climate scenarios. *Earth-Science Rev* 103348. doi: 10.1016/j.earscirev.2020.103348

- [J46] Gädeke A, Krysanova V, Aryal A, Chang J, Grillakis M, Hanasaki N, **Koutroulis A**, Pokhrel Y, Satoh Y, Schaphoff S, Schmied HM. Performance evaluation of global hydrological models in six large Pan-Arctic watersheds. *Climatic Change* 163, 1329–1351 (2020). <https://doi.org/10.1007/s10584-020-02892-2>.
- [J45] Tichavský, R., **Koutroulis, A.**, Chalupová, O., Chalupa, V., Šilhán, K. Flash flood reconstruction in the Eastern Mediterranean: Regional tree ring-based chronology and assessment of climate triggers on the island of Crete. *Journal of Arid Environments* 2020, 177,104135, <https://doi.org/10.1016/j.jaridenv.2020.104135>
- [J44] Hunink J., G. Simons, S. Suárez, A. Solera, J. Andreu, M. Giuliani, P. Zamberletti, M. Grillakis, **A. Koutroulis**, I. Tsanis, F. Schasfoort, S. Contreras, E. Ercin, W. Bastiaanssen. A simplified water accounting procedure to assess climate change impact on water resources for agriculture across different European river basins. *Water*, 2019, 11, 1976.
- [J43] Nerantzaki, S.D., Efstathiou, D, Giannakis, G.V., Kritsotakis, M., Grillakis, M.G., **Koutroulis, A.G.**, Tsanis, I.K., Nikolaidis, N.P. “Climate change impact on the hydrological budget of a large Mediterranean island”. *Hydrological Sciences Journal*. 64 (10), 2019, pp. 1190-1203
- [J42] **Koutroulis A.G.**, Papadimitriou L.V., Grillakis M.G., Tsanis I.K., Warren R., Betts R.A., “Global water availability under high-end climate change: a vulnerability based assessment”, *Global and Planetary Change*, 2019, 175, pp.52-63.
- [J41] Shannon, S., Smith, R., Wiltshire, A., Payne, T., Huss, M., Betts, R., Caesar, J., **Koutroulis, A.**, Jones, D., and Harrison, S.: Global glacier volume projections under high-end climate change scenarios, *The Cryosphere*, 13, 325-350, <https://doi.org/10.5194/tc-13-325-2019>, 2019.
- [J40] **Koutroulis, A. G.** (2019). Dryland changes under different levels of global warming. *Science of the Total Environment*, 655, 482-511. <https://doi.org/10.1016/j.scitotenv.2018.11.215>.
- [J39] Grillakis, M.G., **Koutroulis, A.G.**, Tsanis, I.K., “Improving seasonal forecasts for basin scale hydrological applications” *Water*, October 2018, 10(11), 1593; <https://doi.org/10.3390/w10111593>.
- [J38] **Koutroulis, A.G.**, Papadimitriou, L.V., Grillakis, M.G., Tsanis, I.K., Ceasar K., Wyser K., Betts R.A. “Simulating hydrological impacts under climate change. Implications from methodological differences of a Pan-European assessment”, *Water*, September 2018, 10(10), 1331; <https://doi.org/10.3390/w10101331>.
- [J37] **Koutroulis A.G.**, Grillakis, M.G., Tsanis, I.K., D. Jacob, “Mapping the vulnerability of European summer tourism under 2°C global warming”, *Climatic Change*, September 2018. <https://doi.org/10.1007/s10584-018-2298-8>.
- [J36] Richard A. Betts, L. Alfieri, J. Caesar, J. Chang, P. Ciais, L. Feyen, P. Friedlingstein, L. Gohar, **A.G. Koutroulis**, L. Papadimitriou, I. Tsanis, K. Wyser, “Changes in climate extremes, fresh water availability and vulnerability to food insecurity projected at 1.5°C and 2°C global warming with a higher-resolution global climate model”, *Philosophical Transactions of the Royal Society A*. 376 (2119), 20160452, February 2018, doi:10.1098/rsta.2016.0452.
- [J35] **Koutroulis, A.G.**, Papadimitriou, L.V., Grillakis, M.G., Tsanis, I.K., Wyser K., Betts R.A., “Freshwater vulnerability under high end climate change. A pan-European assessment” *Science of the Total Environment*, 613-614, pp.271-286, doi.org/10.1016/j.scitotenv.2017.09.074. September 2017.
- [J34] Jacob D., L. Kotova, C. Teichmann, S.P. Sobolowski, R. Vautard, C. Donnelly, **A.G. Koutroulis**, M.G. Grillakis, I.K. Tsanis, A. Damm, A. Sakalli, M.T.H. van Vliet, “Climate impacts in Europe under +1.5°C global warming”, *Earth’s Future*, 6(2), pp. 264-285, January 2018. doi: 10.1002/2017EF000710.

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- (J32) Papadimitriou, L.V., **Koutroulis, A.G.**, Grillakis, M.G., Tsanis, I.K., "The effect of GCM biases on global runoff simulations of a land surface model", *Hydrology & Earth System Sciences*, 21, pp.4379-4401, September 2017. doi.org/10.5194/hess-21-4379-2017, 2017.
- (J31) Daliakopoulos, I.N., Panagea, S.I., Tsanis, I.K., Grillakis, M.G., **Koutroulis, A.G.**, Hessel, R., Mayor, A.G., and Ritsema, C.J., "Yield Response of Mediterranean Rangelands under a Changing Climate", *Land Degradation & Development*, 28 (7), pp.1962-1972, doi.org/10.1002/ldr.2717. May 2017.
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- (SR-08) Tsanis, I.K., Koutsogiannaki I.G., Daliakopoulos I.N. and **Koutroulis A.G.**, “Development of protocols for assessing data uncertainties variability and feedbacks”. SCENES FP6 - Water Scenarios for Europe and Neighboring States, 2008.
- (SR-07) Borga M., G. Delrieu, G. Blöschl, E. Gaume, D. Sempere-Torres, I. K. Tsanis, **A. G. Koutroulis**, E. N. Anagnostou, J. Szolgay, G. Stancalie, M. Barbuc, P. Samuels, “Report on collation of detailed data from major flash flood events”. HYDRATE - Hydrometeorological data resources and technologies for effective flash flood forecasting (Specific Targeted Research Project – FP6), 2008.

- (SR-06) Tsanis, I.K., **A.G. Koutroulis**. "Analysis of flash flood regimes in Crete" Intermediate Report, HYDRATE - Hydrometeorological data resources and technologies for effective flash flood forecasting (Specific Targeted Research Project – FP6), 2008.
- (SR-05) Tsanis, I.K., **A.G. Koutroulis**, I.N. Daliakopoulos. "Geropotamou basin, Greece – A Harmonib Case Study" Final Report, Harmonized Techniques and Representative River Basin Data for Assessment and Use of Uncertainty Information in Integrated Water Management (HarmoniRiB), European Community EC-RS (Energy, Environment and Sustainable Development Key Action 1: Sustainable Management and Quality of Water, 2006.
- (SR-04) Tsanis, I.K., **A.G. Koutroulis**, I.N. Daliakopoulos. "Geropotamou River Basin Data Report", Harmonized Techniques and Representative River Basin Data for Assessment and Use of Uncertainty Information in Integrated Water Management (HarmoniRiB), European Community EC-RS (Energy, Environment and Sustainable Development Key Action 1: Sustainable Management and Quality of Water, 2006.
- (SR-03) Tsanis, I.K., **A.G. Koutroulis** "Estimation of Water Resources of Geropotamou and Keritis Basins", Best Water Use Innovative Practices towards a Sustainable Water Resources Management (BEWARE), Crete Innovative Region (CRINNO), 2005.
- (SR-02) Tsanis, I.K., Seiradakis, K., **Koutroulis A.G.** "Data processing and results", Best Water Use Innovative Practices towards a Sustainable Water Resources Management (BEWARE), Crete Innovative Region (CRINNO), 2005.
- (SR-01) Tsanis, I.K., Seiradakis, K., **Koutroulis A.G.** "Digital data (topographic, satellite) and equipment.", Best Water Use Innovative Practices towards a Sustainable Water Resources Management (BEWARE), Crete Innovative Region (CRINNO), 2005.

TEACHING EXPERIENCE

2001-2023 Teaching, and co-lecturing a number of courses at the School of Chemical and Environmental Engineering Technical University of Crete, Greece:

- *Climate Change Impact Assessment in Practice (Master)*
- *Hydraulics I*
- *Hydraulics II*
- *Hydraulic Works*
- *Hydrology*
- *Introduction to Programming*
- *Fluid Mechanics*
- *Water Supply and Drainage*
- *Environmental Hydraulics*
- Numerical Methods in Environmental Engineering
- Coastal Engineering
- Computational Hydraulics
- Hydraulics for Environmental Engineers
- Borehole Engineering

THESES AND COMMITTEES

Theses (co)supervision* assistantship and

2025 *Master Degree: «Climate projections for Greece: Insights from the CMIP6 multimodel Ensemble» Ioanna Kaza.

- 2024 *Diploma Degree: «Evaluation of precipitation datasets over Greece» Mikaela Papa.
- 2023 *Diploma Degree: «Filling gaps in precipitation time series: a reanalysis aided approach for the region of Greece» Panagiotis Evangelou.
- 2023 Doctoral Degree: «Impact of climate change on hydrology and hydraulics of two catchments of small and medium size» Sofia Sarchani.
- 2023 *Diploma Degree: «Evaluation of seasonal climate forecasts for the region of Crete» Asimina Fragki.
- 2022 *Diploma Degree: Spatially distributed parametrization of the «Total Runoff Integrating Pathways (TRIP) scheme for improved river routing at the global scale» Athanasios Tsilimigkras.
- 2021 Doctoral Degree: «Impact of climate change on water resources and adaptation to extremes» Sofia Sarchani.
- 2018 Master Degree: «Sensitivity analysis of hydrological modeling parameters for flash flood simulation» Sofia Sarchani.
- 2017 Doctoral Degree: «A study of the effects of high-end climate change scenarios on the global hydrological regime.» Lamprini Papadimitriou.
- 2016 Doctoral Degree: «Extreme Hydro-meteorologic Phenomena in Eastern Mediterranean» Vasiliki Iordanidou.
- 2014 Doctoral Degree: «Climate change impact in basic hydrological parameters and the role of climate model biases» Manolis Grillakis.
- 2013 Doctoral Degree: «Spatiotemporal Drought Analysis and Climate Change impact on Hydrometeorological variables for the island of Crete» Aggeliki – Eleni Vrochidou.
- 2013 Diploma Degree: «Climate change impact analysis to the hydrology of the Giofrou river basin », Anastasios Skitzis.
- 2013 Diploma Degree: « Climate change impact on Photovoltaic Energy Output: The case of Greece », Ioanna Panagea.
- 2013 Diploma Degree: «Climate change and Tourism. Impact of a global warming of 2 degrees to the Mediterranean summer tourism», Konstantinos Konstantopoulos.
- 2010 Master Degree: «Stochastic analysis of the 17 October 2006 flash flood event in the Almirida river basin», Nikolaos Papastefanakis.
- 2009 Master Degree: «Spatiotemporal analysis of droughts for the island of Crete», Aggeliki – Eleni Vrochidou.
- 2009 Master Degree: «Post event flash flood survey. Simulation of the 17/10/2006 flash flood event in the Almirida river basin», Sotirios Tsitsilonis.
- 2005 Master Degree: «Estimation of water budget and water resources management of the Keritis river basin», Kiki Chatzievangelou.
- 2005 Diploma Degree: «Analysis of the water budget of the Keritis river basin», Sotirios Tsitsilonis.
- 2006 Diploma Degree: «Mapping and simulating the surface runoff of the Keritis river basin », Manolis Grillakis.

Evaluation and advisory committees

- 2019 Doctoral Degree: «Impact of climate change on water resources and adaptation to extreme events». Sofia Sarhani.
- 2018 Master thesis: «Sensitivity analysis of hydrological flood event simulation & flood wave simulation in a small hydrological basin» Sofia Sarchani. (Member of the evaluation committee).
- 2017 Doctoral Degree: «A study of the effects of high-end climate change scenarios on the global hydrological regime» Lamprini Papadimitriou. (Member of the tripartite advisory and the evaluation committee).

- 2017 Master thesis: «Simulation of Greenhouse Tomato Growing with SALTMED Model: Scenarios of Irrigation Quality and Climate Change» A. Apostolakis. (Member of the evaluation committee).
- 2017 Diploma Degree: « Cost-benefit analysis of rainwater collection tank construction for greenhouse irrigation», C. Nevras. (Member of the evaluation committee).
- 2016 Doctoral Degree: «Extreme Hydro-meteorologic Phenomena in Eastern Mediterranean» Vasiliki Iordanidou. (Member of the tripartite advisory and the evaluation committee).
- 2016 Master thesis: «Greenhouse irrigation on salinisation affected soils» P. Pappa. (Member of the evaluation committee).
- 2013 Diploma Degree: «Climate change impact analysis to the hydrology of the Giofrou river basin», Anastasios Skitzis. (Member of the evaluation committee).
- 2013 Diploma Degree: « Climate change impact on Photovoltaic Energy Output: The case of Greece», Ioanna Panagea. (Member of the evaluation committee).

ORGANIZATIONAL AND ADMINISTRATIVE EXPERIENCE

- 2020-2025 Associate Editor in Climate Services Journal, Elsevier. Fields: Hydroclimatology, Environmental Hydraulics, Hydrological Extremes, Climate Change Impacts and Adaptation, Water Resources.
- 2020-2021 Editorial Board Member, Frontiers Water, Water MDPI
- 2019 Co-Convener of the session «Data-mining and methods for modeling and assessing state and fate of soil water» for the international conference TERRAenVISION, Barcelona, 2 – 7 Sept 2019.
- 2018-2019 Co-Guest Editor for the Special Issue "Water Resources and Climate Change" Resources journal MDPI. 2018-2019.
- 2018 Co-Convener of the session «Data-mining and methods for modeling and assessing state and fate of soil water» for the international conference TERRAenVISION, Barcelona, 29 Jan–2 Feb 2018.
- 2006-2018 Administration, organization and technical-financial management of fourteen (14) European and national research programs of the Water Resources Management and Coastal Engineering Laboratory (coordinator Dr. Ioannis K. Tsanis.)
- 2016-2018 Management of the MODIP evaluation Information System for the School of Environmental Engineering and management of the Students Evaluation reports.
- 2006-2018 Member of the tendering committees for the Procurement Department of TUC and the Special Research Funds Account.
- 2014-2018 Regular Member of the receipt committee of the Division of Environmental Hydraulics and Geoenvironmental Engineering, School of Environmental Engineering.
- 2016 Organization of the first annual three-day meeting for the research program IMPREX - H2020 with the participation of 60 partners from Europe, Australia and the USA The conference was held at the Panorama Hotel, Kalamaki, Chania.
- 2014-2015 Management of the Hellenic Authority for Higher Education (HAHE) evaluation Information System for the School of Environmental Engineering and management of the Students Evaluation reports.
- 2014 Organization of the 2nd annual three-day meeting of the research program HELIX -FP7 with the participation of 45 partners from Europe, India, Africa and Bangladesh. The conference was held in Hotel Minoa Palace, Platanias, Chania.
- 2014 Open discussion - lecture organization entitled "Climate Change above 2°C: What does it mean?" by Prof. And Dr. Richard Betts and Dr. Francois Gemenne. Auditorium Building Sciences University of Crete, October 29, 2014.

- 2013 Organization of the 2nd annual three-day meeting of the research program ECLISE -FP7 with the participation of 35 partners from Europe. The conference was held at the Minoa Palace Hotel Platanias, Chania.
- 2007 Organization of the first annual three-day meeting of the research program HYDRATE -FP6 with the participation of 30 partners from Europe. The conference was held at the Panorama Hotel, Kalamaki, Chania.
- 2005 Organization of the third annual five-day meeting of the research program HarmoniRiB - FP5 with the participation of 28 partners from Europe. The conference was held in the Samaria Hotel, Chania.

SCIENTIFIC MEETINGS - VISITS

- 2022 ISIMIP global water sector paper writing workshop Frankfurt, Germany 21-22.09.2022
- 2022 Cross-sectoral ISIMIP and PROCLIAS, 16-19 May 2022 at the Potsdam, Germany
- 2021 Cross-sectoral ISIMIP and PROCLIAS online workshop, 11-15 January 2021
- 2020 PROCLIAS COST Action online kick-off meeting, 27-28 October 2020
- 2020 Cross-sectoral ISIMIP online Workshop 15-18 June 2020
- 2019 Sofia, Bulgaria, FIRElinks COST Action, 1st G.A. & 2nd MC meeting, 8-9 October, 2019.
- 2019 Heraklion, Greece, 2nd International Conference ADAPTtoCLIMATE, 24-25 June, 2019.
- 2019 Paris, France, cross-sectoral ISIMIP workshop, 4 -7 June, 2019.
- 2019 Montpellier, France, MISTRALS workshop on droughts, Joint workshop of the HYMEX, SICMED, BIODIVMEX and IMPACTCC actions. 24-26 April, 2019.
- 2019 Milan, Italy, 1st MedECC Assessment Report (MAR1) Lead Author Meeting 4-7 March 2019.
- 2018 Frankfurt, Germany. ISIMIP2b Cross-sectoral global water paper-writing workshop. 30 July – 1 August 2018.
- 2018 Vienna, Austria. EGU General Assembly 2018, 8 – 13 April 2018
- 2018 Barcelona, Spain, TERRAenVISION Environmental Issues Today: Scientific Solutions for Societal Issues. 29 Jan – 2 Feb 2018.
- 2017* Exeter, UK. Final GA HELIX-FP7. 3-5 October 2017.
- 2017* Reading, UK. IMPREX-H2020 2nd Annual meeting. 31 May -2 June 2017.
- 2016* ISPRA-JRC, Italy. Coordination Meeting Sectoral Survey “Agriculture and Drought” – IMPREX-H2020. 27-28 June 2016.
- 2016 Potsdam, Germany. ISIMIP Inter-sectoral Impact Model Intercomparison Project. 22-24 June 2016.
- 2015* Liege, Belgium. HELIX-FP7 2nd Annual meeting. 14-17 September 2015.
- 2014* Exeter, UK. HELIX-FP7 kick-off meeting. 29-31 January 2014.
- 2014* Valencia, Spain. RECARE-FP7 kick-off meeting. 13-17 January 2014.
- 2013* Wageningen, Netherlands. Final meeting of COMBINE-FP7. 2-4 October 2013.
- 2013 London, UK. Proposal writing meeting HELIX-FP7. 9-10 January 2013.
- 2012* Laxenburg, Austria. IMPACT2C-FP7 General Assembly Meeting. 12-19 November 2012.
- 2012* Norrköping, Sweden. ECLISE-FP7 General Assembly Meeting. 6-7 March 2012.
- 2011* Wageningen, Netherlands. ECLISE-FP7 User workshop. 7-8 September 2011.
- 2009* Wageningen, Netherlands. WATCH-FP6 General Assembly Meeting. 15-18 March 2009.
- 2009* Grenoble, France. HYDRATE-FP6 third mid-term meeting. 12-13 November 2009.

- 2008 Kerkrade, Netherlands. Summer school «Coping with Climate change in integrated Watershed Management». 29 June – 11 July 2008.
- 2007* Bucharest, Romania. HYDRATE-FP6 first mid-term meeting. 29-30 March 2007.
- 2006* Brussels, Luxembourg. HYDRATE-FP6 "Uncertainty in data and models: On the way to operational use in environmental management". 21 September 2006
- 2005 Grenoble, France. Proposal writing meeting HYDRATE-FP6. 25 September 2005.
- 2005* Horsholm, Denmark, HarmoniRiB-FP5 General Assembly Meeting. 21-23 September 2005.
- 2004* Amsterdam, Netherlands. HarmoniRiB-FP5 Uncertainty workshop. 29 November – 1 December 2004.
- 2004* Oxford, UK, HarmoniRiB-FP5 General Assembly Meeting. 27 September – 1 October 2004.
- 2004* Bari, Italy, HarmoniRiB-FP5 Midterm Technical meeting. 24-28 May 2004.
- 2004* Leipzig, Germany, HarmoniRiB-FP5 General Assembly Meeting. 20-23 January 2004.
- 2003* Albacete, Spain, HarmoniRiB-FP5 General Assembly Meeting. 7-10 May 2003.

** In the context of research programs*

HONORS

- Listed in the 2% top scientists in the field of environmental engineering for the years 2019 to 2023 according to the science-wide author databases of standardized citation indicators as published by the Stanford University <http://dx.doi.org/10.17632/btchxktzyw.2>
- Contributing Author for the IPCC AR6 WGII Chapter 4 – Water.
- Lead author (after selection) of the Water Chapter of the 1st Mediterranean Assessment Report (MAR1), receiving the North South Prize 2020 from the Council of Europe.
- Member of the working group for the preparation of the Regional Climate Change Adaptation Plan for the Region of Crete.
- Review Editor on the Editorial Board of Frontiers in Water and Climate
- Member of the Editorial Board for Hydrology journal, MDPI.
- J34 published in Earth's Future, is one of the journal's top downloaded papers amongst articles published between January 2017 and December 2018. The work generated immediate impact and visibility, contributing significantly to the advancement of the field.
- Figure 3.15 of the 3rd chapter (pp. 45) of the special report on the impacts of global warming of 1.5 °C above pre-industrial levels report ([IPCC SR15](#)) and the corresponding text coming from J36 was a basic reference of the report for the section «Runoff and fluvial flooding».
- The journal publications J11, J23, J31, J33, J34 and J36 has been cited in the (IPCC SR15) 2018.
- J01 and J03 have received enough citations to place them in the top 1% of the academic field of Environmental Science articles of the same age and document type (Source: Scopus).
- J04 and J08 are cited in the Intergovernmental Panel on Climate Change (IPCC) Report Climate Change 2014: Impacts, Adaptation and Vulnerability Part B: Regional Aspects – Europe.
- Academic Excellence Scholarship for post graduate studies, Department of Environmental Engineering, Technical University of Crete, Greece
- 2nd Best undergraduate thesis award for the from the Technical Chamber of Greece, Association of Professional Engineers, Greece
- Scholarship excellence at graduation, Metropolis of Chania.
- Merit Based Scholarship (5yrs) in Engineering studies (Hazirakis)

- Scholarship for the fourth best score in Mineral Resources Engineering undergraduate program during the first year.

MEMBERSHIP

- PROCLIAS - Process-based models for climate impact attribution across sectors
- FIRElinks – Fire in the Earth System: Science & Society. Management Committee Substitute
- Mediterranean Experts on Climate and environmental Change (MedECC)
- SDG ASSESSMENT CORE GROUP of Sustainable Water Future Programme
- ISI-MIP. The Inter-Sectoral Impact Model Intercomparison Project.
- International Association of Hydrological Sciences.
- Climate Knowledge Hub.
- HEPEX - Hydrologic Ensemble Prediction Experiment
- EURO-CORDEX (European Climate Change Research in Europe)
- European Drought Center (EDC).
- Greek Committee for Water Resources Management.
- Member of the Technical Chamber of Greece (TCG)

EXPERT EVALUATOR

- 2023 External Expert HORIZON-CL5-2023 (European Climate, Infrastructure and Environment Executive Agency).
- 2022 External Expert HORIZON-CINEA-2022 (European Climate, Infrastructure and Environment Executive Agency)
- 2022 External Expert Marie Skłodowska-Curie Postdoctoral Fellowships, MSCA-PF 2022
- 2021 Expert reviewer for the "Helmholtz Young Investigator Groups" funding program
- 2021 External Expert HORIZON-CL6-2021 (Land, ocean and water for climate action)
- 2021 External Expert Marie Skłodowska-Curie Postdoctoral Fellowships, MSCA-PF 2021
- 2021 External Expert Horizon Green Deal (H2020-LC-GD-2020-2)
- 2021 Monitoring Expert Horizon 2020- Executive Agency for Small & Medium-sized Enterprises (EASME).
- 2020 External Expert H2020 - MARIE SKŁODOWSKA-CURIE INDIVIDUAL FELLOWSHIPS -2020
- 2020 Expert reviewer for the Dutch Research Council (NWO) Domain Science in the framework of our Vici Talent Scheme.
- 2020 Expert evaluation of two (3) research proposals on environmental research as commissioned by the National Science and Technology of the Ministry of Education and Science Center of the Republic of Kazakhstan.
- 2019 External Expert H2020 - MARIE SKŁODOWSKA-CURIE INDIVIDUAL FELLOWSHIPS -2019
- 2018 External Expert H2020 - MARIE SKŁODOWSKA-CURIE INDIVIDUAL FELLOWSHIPS -2018
- 2018 Expert reviewer IPCC Special Report on 1.5°C Climate Change and Land (CCL).
- 2017 External Expert COST Open Call OC-2017-1
- 2017 Expert evaluation of four (4) research proposals on environmental research as commissioned by the National Science and Technology of the Ministry of Education and Science Center of the Republic of Kazakhstan.
- 2017 Expert reviewer IPCC Special Report on 1.5°C Global Warming (SR15).

- 2014 Evaluation of Chapters 3-Freshwater resources and 23-Europe of the Intergovernmental Panel most recent report on Climate Change (IPCC).
- 2014 Expert evaluation of ten (10) research proposals on environmental research as commissioned by the National Science and Technology of the Ministry of Education and Science Center of the Republic of Kazakhstan.
- 2011 Expert assessment for chapters 1,3,4 and 5 of the Intergovernmental Panel Special Report on Climate Change (IPCC) entitled "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX) and the related Summary for Policy Makers.

Ad hoc REVIEWER

For the Journals:

- *Nature Reviews Earth & Environment*
- *Nature Communications*
- *Hydrology and Earth System Sciences*
- *Nature Scientific Reports*
- *Journal of Hydrology*
- *Journal of Hydrometeorology*
- *Journal of Geophysical Research*
- *Journal of Applied Meteorology and Climatology*
- *Science of the Total Environment*
- *Climatic Change*
- *Climate Services*
- *Natural Hazards and Earth System Sciences*
- *Journal of Hydroinformatics*
- *Ecohydrology & Hydrobiology*
- *Advances in Meteorology*
- *Water*
- *Hydrology*