

# IOANNIS KAMARINAS

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## WATERSHED SCIENCE/ GIS ANALYST

### Watershed Modeling – Geomorphology – Land Cover Change Analysis – Digital Mapping Satellite Image Processing – Big Spatial Data Modeling – Spatial Statistics

Watershed Scientist with 5+ years of experience applying geospatial analysis. Expertise includes advanced watershed modeling (calibration, validation, future scenarios); satellite image processing, land cover mapping and related accuracy assessment; time-series analysis; land use/land cover change analysis with a focus on agricultural areas; developing geospatial tools to process big geospatial datasets; program reporting, monitoring, and evaluation.

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## TECHNICAL SKILLS

- Programming Languages: R, Python.
  - Remote sensing and GIS analysis.
  - Software: ArcGIS, ERDAS Imagine, IDRISI, ENVI, SWAT, Visual MODFLOW, SPSS, Adobe Photoshop.
  - Proficient in Windows environment, Microsoft Office suite.
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## EDUCATION

- Doctor of Philosophy (PhD) - Geographic Information Science** Aug. 2017  
*Texas State University, San Marcos, TX, USA.*
- Master of Science (MS) - Environmental Science** Aug. 2012  
*The University of Michigan-Dearborn, Dearborn, MI, USA.*
- Bachelor of Science (BS) - Marine Sciences** Apr. 2010  
*University of Aegean, Mytilene, Greece.*
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## PROFESSIONAL EXPERIENCE

- GIS Intern-Special Projects** Jun. 2016 – Aug. 2016  
*Planning and Development Services, City of San Marcos, TX*
- Redesigned Land Use Suitability (LUS) maps for the City of San Marcos to enhance accuracy and quality of the data. Documented standardized procedures to ensure reproducibility of the results. Developed a Python toolkit to quantify environmental constraints effects on individual land parcels.
  - Assisted planners with preliminary case research (zoning research, prepping staff reports with background information for Planner's analysis, GIS map making and analysis).
- Graduate Teaching Assistant** Sep. 2014 – Present  
*Department of Geography, Texas State University, San Marcos, TX.*
- Lab Instructor for the Geographic Information Systems graduate level course and Water Resources, Fundamentals of GIS and Field Methods undergraduate level courses.
  - Designing lab assignments and quizzes on a weekly basis and grade and monitoring students' performance.
- Visiting Researcher** Jun. 2014  
*National Institute of Water and Atmospheric Research, Auckland, New Zealand.*
- Through exploratory visits, established contacts and interviewed with stakeholders and government officials on agricultural use and socioeconomics; research presentations at various agencies and universities.
  - Conducted the evaluation of study areas and data collection for NASA Land-cover/Land-use Change project.
- Graduate Research Assistant, Landscape Land Use Change Institute** Aug. 2013 – Present  
*Department of Geography, Texas State University, San Marcos, TX.*
- Pioneered a multi-threshold model to replace the old inflexible area threshold model employed for network delineation. Enhanced headwater mapping techniques from aerial images by establishing clear mapping protocols. This work was awarded at *Southwest Association of American Geographers* (2015).
  - Design a statistical methodology to identify connections between land cover disturbance and stream water quality parameters and apply this methodology to assess land cover change impacts on water quality of New Zealand's rivers, across political boundaries. This project was funded by NASA Land-cover/Land-use Change Program.
  - Use modeling of critical source areas of sediment through slope, flow direction and proximity to floodplain and assess the performance of satellite-derived indices as water quality indicators under different climatic conditions. This work was awarded at *Southwest Association of American Geographers* (2016).
  - Collect and analyze remote-sensing and geospatial data at multiple scales. Investigate if hydrologic and geomorphic processes are connected across multiple spatial-temporal scales. This project was funded by the National Science Foundation.

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## Program Manager Assistant

Aug. 2012 – Jul. 2013

*Friends of the Rouge, Dearborn, MI.*

- Assisted at administering the Benthic Macroinvertebrate and Frog and Toad Program.
- Developed GIS maps for program reports and volunteer events. Data input and quality control, site visits and field work.

## Geospatial Analysis and Mapping Lab Assistant

Aug. 2012 – Jul. 2013

*University of Michigan, Dearborn, MI.*

- Collaborated with faculty on developing/implementing course assignments and hosting visiting classes. Provided technical support with GIS/IDRISI software/data.

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## HONORS AND AWARDS

**Recipient** - *Jeffries Family Geography Scholarship, Texas State University, 2017.*

**2<sup>nd</sup> place Winner** - *Graduate Student Paper Competition, SWAAG 2016, Denton, TX, 2016.*

**Recipient** - *Student Government Scholarship, Texas State University, 2016.*

**Recipient** - *Celebrity Classic Scholarship, Texas State University, 2016.*

**Recipient** - *Graduate College Scholarship, Texas State University, 2016.*

**Recipient** - *The Rising S.T.A.R. Travel Grant, Texas State University, 2016.*

**1<sup>st</sup> place Winner** - *Graduate Student Poster Competition, SWAAG 2015, San Antonio, TX, 2015.*

**Recipient** - *Graduate College Scholarship, Texas State University, 2015.*

**Academic Awardee** - *Attica Employees' Union, 2001.*

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## PUBLICATIONS

**I. Kamarinas**, J.P. Julian, Development of a multi-threshold drainage network delineation model, (under preparation).

**I. Kamarinas**, J.P. Julian, A. Hughes, B. Owsley, K. de Beurs. Nonlinear Changes in Land Cover and Sediment Runoff in a New Zealand Catchment Dominated by Plantation Forestry and Livestock Grazing. *Water* 2016, 8, 436.

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## CONFERENCE PRESENTATIONS

**I. Kamarinas**, J.P. Julian, Nonlinear relationships between land use/cover change and sediment runoff in an intensively managed landscape, Southwest Association of American Geographers (SWAAG) 2016, Denton, TX.

**I. Kamarinas**, J.P. Julian, B. Owsley, K. de Beurs, Using multi-resolution data to understand how land cover changes affect sediment runoff to rivers across multiple scales, American Association of Geographers (AAG) 2016, San Francisco, CA.

S. Abbot, J.P. Julian, **I. Kamarinas**, J. Dymont, Effects of land use and extreme precipitation on hillslope erosion and suspended sediment yields in the Manawatu River, New Zealand, American Geophysical Union (AGU) 2015, San Francisco, CA.

J.P. Julian, **I. Kamarinas**, K. de Beurs, B. Owsley, R.J. Davies, Twenty-five years of changes in agricultural production, land use/cover, and river water quality in New Zealand, Southwest Association of American Geographers (SWAAG) 2015, San Antonio, TX.

**I. Kamarinas**, J.P. Julian, Mapping stream networks in New Zealand using climate, geology and source of flow, Southwest Association of American Geographers (SWAAG) 2015, San Antonio, TX.

J.P. Julian, **I. Kamarinas**, K. de Beurs, B. Owsley, A. Hughes, Shifting sediment runoff regimes in a New Zealand watershed resulting from interactions between land management and climate, International Association of Landscape Ecology (IALE) 2015, Portland, OR.

**I. Kamarinas**, J.P. Julian, B. Owsley, K. de Beurs, A. Hughes, Assessing landscape connectivity and river water quality changes using an 8-day 30-meter land-cover dataset, American Geophysical Union (AGU) 2014, San Francisco, CA.

**I. Kamarinas**, J.P. Julian, B. Owsley, K. de Beurs, A. Hughes, Identifying critical source areas of sediment runoff and their effect on river water quality using high-resolution spatial temporal datasets, Southwest Association of American Geographers (SWAAG) 2014, Albuquerque, NM.

S. Abbott, **I. Kamarinas**, J.P. Julian, J. Dymont, Legacy effects of land-use and an extreme precipitation event on river turbidity in the Manawatu catchment, New Zealand, Southwest Association of American Geographers (SWAAG) 2014, Albuquerque, NM.

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## ACTIVITIES

**Active Member** - *Alpha Chi National College Honor Society, International Association for Mathematical Geosciences (IAMG), Society for Ecological Restoration (SER), American Geophysical Union (AGU), Association of American Geographers (AAG), Professional Education, Testing and Certification Organization International (PEOI).*

**Manuscript Reviewer** - *Journal of the American Water Resources Association, African Journal of Agricultural Research.*