Saeid Aminjafari

Ph.D. in Hydro-Geodesy

Affiliations	Department of Physical Geography, Stockholm University Bolin Centre for Climate Research, Stockholm University
General info	Date of Birth: 22 Jan 1988 Languages: English (C1), Persian (native), Swedish (B1), Arabic (B1)
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Education & Research

2019 – 2023	**Ph.D. in Hydro-Geodesy** **Department of Physical Geography, Stockholm University, Sweden.** Thesis title: Monitoring Water Availability in Northern Inland Waters from Space, available on DiVA - I used Landsat images and maximum likelihood classification to quantify water occurrence and its changes in the Selenga River Delta. I used hydroclimatic data such as runoff, temperature, suspended sediment concentration, and lake water level to understand the drivers of the change in surface water occurrence. - I developed the InSAR methodology to quantify water levels in Swedish lakes. - I studied changes in a large set of lakes in Sweden and answered the questions regarding those changes and their drivers. I assessed the impact of human regulation (such as damming for hydropower, mining, irrigation, and transportation canals) on changes in lake water levels. - I also taught hydrology courses (such as advanced hydrology and Water and Land Risk Assessment) and mentored Ph.D. and master's students. ***Skills:*** *Hydrology · Remote Sensing · Earth Science · Geographic Information Systems (GIS) · Hydrogeodesy · InSAR · Altimetry · SAR . Python & MATLAB programming . Machine Learning*
2011 - 2014	**M.Sc. in Marine Geodesy** **School of Surveying and Geospatial Engineering, University of Tehran, Iran.** - Tidal modelling - Bathymetry & geostrophic currents - Advanced Global Positioning System - Monitoring embankment dam deformation with InSAR ***Skills:*** *Remote Sensing · Hydrography . Bathymetry . Geographic Information Systems (GIS) · InSAR · MATLAB & Python programming Languages*

2006 - 2010	**B.Sc. in Geomatics** **Tafresh University, Tafresh, Iran.**

Teaching & Supervision

2020 - 2022	**Advanced Hydrology 7.5 credits (Stockholm University)** Teacher assistant in Hydro-Geodesy. In this module, I taught students how to generate interferograms and interpret the fringe patterns relating to hydrologic connectivity and water level changes. I used ISCE software in this course.
2021 - 2021	**Water Management and Pollution, 15 credits (Stockholm University)** Teacher assistant in optimization. In this module, students learned how to model the most efficient way to mitigate pollutants' flow in a basin. I used the Pyomo model in this course.
2021 - 2022	**Co-supervision of two Master's students in Hydro-Geodesy (Stockholm University)**
2019 - 2021	**Tellus I – Physical Geography, 15 credits (Stockholm University)** The course deals with hydrology, mass movements, rivers and flooding, oceans, coastlines, groundwater, the atmosphere and climate, arid regions, geomorphology, Quaternary geology, and global changes.

Training & Conferences

2021	Pedagogical training: "Professional development course 1, Teaching and Learning" 7.5 credits (Centre for the Advancement of University Teaching, Stockholm University)
2021	Geo-computation and machine learning for environmental applications, 7.5 credits (Bolin Centre, Stockholm University)
2020	Course: "Scientific Writing in English" 1 credit (Stockholm University)
2019	COMET InSAR training workshop (University of Leeds, UK)
2013 - 2022	Active participation in many international conferences such as the ESA Living Planet Symposium (2013 & 2022), EGU (2020-2022), AGU (2021-2022), Swedish Climate Symposium (2022), and Baltic Sea Science Congress (2019 & 2021 & 2023).

Professional Experience

2018 - 2019	**Geophysical marine surveyor, data processor (multibeam echosounder), and cartographer at SEA WORK SURVEY (SWS) EST, Tehran, Iran.** Geophysical Surveying . Multibeam echosounder data processing . Seafloor mapping and cartography . Navigating drilling rigs . Debris removal . Writing Daily Progress Reports (DPRs) . Writing industry prosposal ***Skills:*** *Qimera · QINSy · Geophysical Surveys · offshore · Multibeam Echosounder Data Processing · AutoCAD*
2015 - 2017	**Researcher and instructor at Hydrography and Tidal Affairs, National Cartographic Centre of Iran (NCC).** ***Skills:*** *Satellite Altimetry · Tidal modeling · Oceanography . Geostrophic Currents . Bathymetry*

Publications (8 published + 3 under-review)

Aminjafari, S., Brown, I., Frappart, F., Papa, F., Blarel F., Vahidi Mayamey, F., and Jaramillo, F., 2024 (accepted, in production). Distinctive Patterns of Water Level Change in Nordic Lakes Driven by Climate and Human Regulation. Water Resources Research, DOI: 10.1029/2023WR036160

Aminjafari, S., Brown, I., Vahidi Mayamey, F., and Jaramillo, F., 2024. Tracking Centimeter-Scale Water Level Changes in Swedish Lakes Using D-InSAR. Water Resources Research, https://doi.org/10.1029/2022WR034290

Jaramillo, F., **Aminjafari, S.,** Castellazzi, P., et al., (2023, preprint & under-review). The Potential of Hydrogeodesy to Address Water-related Problems and Sustainability Challenges. ESS Open Archive. 10.22541/au.170379692.29590839/v1

Aminjafari, S., Brown, I., Chalov, S., Simard, M., Lane, C.R., Jarsjö, J., Darvishi, M. and Jaramillo, F., 2021. Drivers and extent of surface water occurrence in the Selenga River Delta, Russia. Journal of Hydrology: Regional Studies, 38, p.100945. https://doi.org/10.1016/j.ejrh.2021.100945

Darvishi, M., Destouni, G., **Aminjafari, S**. and Jaramillo, F., 2021. Multi-Sensor InSAR Assessment of Ground Deformations around Lake Mead and Its Relation to Water Level Changes. Remote Sensing, 13(3), p.406. https://doi.org/10.3390/rs13030406

Liu, D., Wang, X., **Aminjafari, S**., Yang, W., Cui, B., Yan, S., Zhang, Y., Zhu, J. and Jaramillo, F., 2020. Using InSAR to identify hydrological connectivity and barriers in a highly fragmented wetland. Hydrological Processes, 34(23), pp.4417-4430. https://doi.org/10.1002/hyp.13899

Soltanpour, A., Pirooznia, M., **Aminjafari, S**. and Zareian, P., 2018. Persian Gulf and Oman sea tide modeling using satellite altimetry and tide gauge data (TM-IR01). Marine Georesources & Geotechnology, 36(6), pp.677-687. https://doi.org/10.1080/1064119X.2017.1366608

Aminjafari, S., 2017. Monitoring of Masjed-Soleiman embankment dam's deformation using a combination of Interferometric Synthetic Aperture Radar (InSAR) and finite element modeling. Geodesy and Cartography, 43(1), pp.14-21. https://doi.org/10.3846/20296991.2017.1299842

Aminjafari, S., Brown, I., Frappart, F., Papa, F., and Jaramillo, F., (under-review). Improved Temporal Resolution of Altimetry-Derived Lake Water Levels with D-InSAR.

Aminjafari, S., Brown, I., and Jaramillo, F., (under- review). Evaluating D-InSAR Performance to Detect Small Water Level Fluctuations in Lakes.

Reviewer for Journals

2023	AGU - Water Resources Research (1)
2023	Elsevier - Advances in Water Resources (1)
2023	IEEE - Geoscience and Remote Sensing Letters (1)
2023	AGU - Geophysical Research Letters (1)
2022-2024	Elsevier - Journal of Hydrology: Regional Studies (2)
2021	Elsevier - Science of the Total Environment (1)

Grants

2021	Travel grant: Donation scholarship, 600 €
2020	Bolin Centre Seed-money Research Grant, 5000 €
2020	Alice Wallenbergs Stipendship 600 €
2019 - 2022	Bolin Centre conference participation grant, 1000 €

References (will be gladly sent upon request)