S. Onur Karaca

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https://github.com/onurkaraca87?tab=repositories

Education

2024-Present	**Ph.D. at University of Houston, EAS, Geology,** Graduate Teaching Assistant / Remote Sensing and GIS
2019-2021	**MS. University of Houston, Earth and Atmospheric Science,** Thesis: Neotectonic Study of The Sibi Re-Entrant (For publication: "Neotectonics of the Western Suleiman Fold Belt, Pakistan: Evidence for Bookshelf Faulting" Remote Sensing - MDPI. https://doi.org/10.3390/rs13183593)
2018- 2018	**University of Delaware** - English Language Institute (ELI) (6 months)
2018-2017	**Middle East University** - English Language Institute (4 months)
2012-2015	**MS. Cukurova University, Department of Geology,** Thesis: Determination of Sweep Parameters by Using Vibroseismic Source in Geothermal Research
2005-2011	**BS. Dokuz Eylul University, Department of Geophysics**

Research Interests: Remote Sensing, GIS, InSAR, 2D-3D Land/Marine Seismic Acquisition, Seismic Interpretation, Seismic Reflection, Tectonic, Surface Deformation, Natural Hazard, Ground Subsidence Hyperspectral Remote Sensing, Python-Spider, GDAL, GeoPandas, Rasterio, Numpy, MintPy, ISCE, Hyp3, SBAS-PS, Envi-SarScape, Petrel, Kingdom IHS

Professional Experience

Feb 2021- 2024	**Remote Sensing and GIS Division, Department of Geological Research, Directorate General of Mineral Research and Exploration (MTA), Turkey** **Position**: Remote Sensing and GIS Expert **Responsibilities**: Use remote sensing data (Sentinel-1, TerraSaar-X, Alos-Palsar) for deformation or tectonic activities to assess the impact of environmental change by using Envi-SarScape (SBAS-PS), SNAP (DinSAR), Python and Geographic Information Systems (GIS). Prepare or deliver reports or presentations of geospatial project information. Mineral research by using Sentinel 2, Landsat-8 and Aster images. Participate in fieldwork
2020-2021 (11 Months)	**University of Houston,** Earth and Atmospheric Science, Texas-USA **Position**: Research Staff - Remote Sensing and GIS Scientist **Responsibilities**: Brazil Braskem Project - I processed InSAR (SBAS-PS-Sentinel-1), GPS and Seismic datasets to look for deformation and structures of study area IN Brazil.
2015-2017	**Dokuz Eylul University, Institute of Marine Science and Technology Seismic Laboratory (Seislab)** **Position**: R&D personnel **Responsibilities**: 2D multichannel seismic, sparker seismic systems, multibeam bathymetry and chirp sub-bottom profiler data acquisitions, Seismic processing with using ProMax, on-board and full data processing, Seismic data interpretation using Kingdom Suite and Petrel E&P Software Multibeam bathymetry data processing (Caraibes)

2013-2015	**Guney Yildizi Oil Production Co. - Petroleum Geophysical Services Co.**

Position: Geophysics engineer / Junior Observer

Responsibilities: Online observation; the operations with recording hardware, constant monitoring of the seismic system, ensuring that noise signal parameters are acceptable, logging and checking the data quality

Operate and maintain seismic acquisitions systems and associated equipment (Sercel 428XL)

Control the quality of the seismic source signal (Vibroseis)

Projects

2021-2023 **Investigation of the Activity of Faults on Cities Project (No: 2022-30-14-02-2)** I have been working in this project almost two years as Remote Sensing Expert to do InSAR analysis. The aim of the project is look for deformation along the East and North Anatolion Faults. I usually work with Sentinel-1 and ALOS-Palsar datasets to apply SBAS. I discovered the biggest deformation area in Turkey (velocity is 25 cm/year). So, I processed the Sentinel-1 dataset to show deformation and decompose east-west and subsidence-uplifting. I also used some Python scripts to show time series profiles.

The article I wrote was accepted, now it is in press. For publication: "Anthropogenic problems threatening major cities: Largest surface deformations observed in Hatay, Turkey based on SBAS-InSAR".

https://dergi.mta.gov.tr/article/show/2773.html

2021-2022 **Remote Sensing Project: Displacement observation of the Atatürk Dam, Turkey by multi-temporal InSAR analysis**. The biggest dam in Turkey is Atatürk Dam. For displacement observation, I used SBAS and PS methods. I have got really consistent results, however, I am not legally authorized to share these results, so we did not have any publication (Directorate General of Mineral Research and Exploration-MTA).

2015-2017 **Black Sea Natural Gas Hydrate Project** (I participated this project as Acquisition and QC engineer in Research vessel to collect different types of marine acoustic data)

2016-2017 **Preliminary Results from Acoustic Survey Offshore Kefken, Southwestern Black Sea Margin TUBITAK 115Y218 Project** (I participated this project as Acquisition and QC engineer in Research vessel to collect different types of marine acoustic data)

ALErT : Anatolian pLateau climatE and hazards (FP7-PEOPLE-2013-INT, Grant agreement no. 607996) (I participated this project as Acquisition and QC Engineer in Research Vessel to collect different types of marine acoustic data)

2013-2015 **2D/3D Land Seismic Data Acquisition Projects** (I worked as a Field Engineer and Junior Geophysicist - Coordination of daily recording operation with Chief Observer and Field Supervisor)

Education Courses

2022-2023	Advanced SAR Training Course (Udemy)
2022-2023	100 Days of Code: The Complete Python Pro Bootcamp for 2023 (Udemy)
2020-2021	Complete Remote Sensing Image Analysis with ENVI Software (Udemy)
2019-2021	Satellite Altimetry and InSAR, Remote Sensing, Geospatial Analysis, Application of GPS & Lidar, Satellite Positioning & Geodesy, Seismic Data Processing, Petroleum Geology and Seismic Structural Geology courses
2015-2016	Seismic Data Processing and Interpretation Course (Lecturer: Dr. Mustafa Ali Engin, University of Tulsa, USA)
2013-2014	Sercel 428XL Training course; Acquisition System; Source Controller
2013-2014	GLOBE Claritas Training Courses; Practical Introduction to Seismic Data Processing GNS Science

Honors

2016-2021   **The Republic of Turkey Ministry of National Education Scholarship** (All my expenses such as education fees, school tuitions and health insurance for my graduate education in the United States supported by Turkish government)

2020-2021   EAS Master's Excellence Scholarship (2020 Fall)
EAS Master's Excellence Scholarship (2020 Spring)
EAS Master's Excellence Scholarship (2019 Fall)

2016-2017   The Republic of Turkey Ministry Of National Education Scholarship (All my expenses such as education fees, school tuitions and health insurance for my graduate education in the United States supported by Turkish government)

2012-2015   Graduated with First Class Honors and a GPA of 4.0 at Master Degree at Cukurova University

Publications

2022-2024   **Karaca, Sukru O**., Erten G., Yimaz B. and Ozalp S., 2023. DInSAR analysis and geophysical modeling of 2022 November 23 Gölyaka-Düzce Earthquake, Turkish Journal of Earth Sciences (https://doi.org/10.55730/1300-0985.1906).

2021-2023   **Karaca, Sukru O**., Erten G., Ergintav S. and Khan D. Shuhab, 2023. Anthropogenic problems threatening major cities: Largest surface deformations observed in Hatay, Turkey based on SBAS-InSAR (Bulletin of the Mineral Research and Exploration. https://dergi.mta.gov.tr/article/show/2773.html

2022-2023   **Karaca, Sukru O.,** Erten G. 2023. DInSAR and Elastic Dislocation Modelling: A Case Study For The 24 January 2020 Elazig-Sivrice Earthquake, Turkish Journal of Remote Sensing. https://doi.org/10.51489/tuzal.1187819

2021-2022   **Karaca, Sukru O**., Ismail A. Abir, Shuhab D. Khan, Erman Ozsayın, and Kamil A. Qureshi. 2021. "Neotectonics of the Western Suleiman Fold Belt, Pakistan: Evidence for Bookshelf Faulting" Remote Sensing 13, no. 18: 3593. https://doi.org/10.3390/rs13183593

2017-2018   Dondurur D., **Karaca O**. and Nasıf A., Preliminary Results from Acoustic Survey Offshore Kefken, Southwestern Black Sea Margin, European Geosciences Union General Assembly 2017, 23–28 April, Vienna-Austria http://adsabs.harvard.edu/abs/2017EGUGA..1912036D

Software Skills

Arcmap, ArcGIS PRO, Arc Drone2Map, Envi, Envi-SarScape, SNAP, Petrel, Kingdom HIS, Python-Spider (GDAL-Rasterio, Matplotlib, Os, Tkinter), Erdas, PCI-Geomatica, Microsoft Office, CorelDraw

Volunteering
2009-2010   Member of GSM Youth Center International Youth Camps (Vichy-France)
2008-2009   Member of Volunteer Abi-Abla Project by Izmir Metropolitan Municipality
2008-2009   Member of AIESEC Izmir Young Leaders Project
2005-2006   Member of GSM Youth Center International Youth Camps (Nurnberg-Germany)