Brenna Hatch

(208) 283-4885 • brenna.hatch98@gmail.com • Brenna Hatch | LinkedIn

About Me

I am a Geoscientist specializing in the visible to thermal ranges of the electromagnetic spectrum. I use geospatial products such as radiation, land surface temperature, and evapotranspiration to address ecological questions related to water resources, wildfires, and land cover. My experience includes ground-truthing these products by maintaining and building radiometer kits and measuring the reflectance and emissivity of both natural and man-made samples for the spectral library.

Education

B.S. Geosciences

University of Montana - Missoula, MT | Department of Geosciences (*2017- 2021)*

Certificate in GIS Sciences and technologies

University of Montana - Missoula, MT | Department of Geography (*2017-2021)*

Professional Experience

JPL NASA Technologist | *NASA Jet Propulsion Laboratory*

Technologist | Thermal Calibration and Validation Laboratory, Earth Science Spectroscopy Laboratory *(* September *2022- Current)*

- Manage the U.S. field sites for the Thermal Calibration and Validation Laboratory and build mobile radiometer kits for international field sites that validate and calibrate thermal satellites
- Data validation of various NASA surface geophysical products derived from the sensor data such as temperature and evapotranspiration products for ECOSTRESS and MEaSUREs
- Take emissivity and reflectance spectra of field samples and blackbody plates for JPL/NASA, collaborating universities and agencies for the Earth Science Spectroscopy Laboratory
- Data analyst for HyTES to process raw radiance data from the airborne spectrometer for various campaigns and ground truthing the instrument

NASA DEVELOP Participant | Science Systems and Applications, Inc. (SSAI)

Project Lead Geospatial Researcher | NASA Jet Propulsion Laboratory *(*September *2021- August 2022)*

- Worked with 3 researchers on a wildfire project utilizing NASA Earth Observations to understand the Bootleg Fire vegetation moisture, topography, and vegetation structure to create new geospatial layers to be used in wildfire modeling in partnership with Pacific Northwest National Laboratory (PNNL) and United States Forest Service (USFS)
- Used Python to create time series plots and vegetation moisture maps of daily evapotranspiration and evaporative stress index using ECOSTRESS products

Geospatial Researcher | NASA Jet Propulsion Laboratory *(January 2022- April 2022)*

- Worked with 3 researchers on a water resource project utilizing NASA Earth Observations to understand groundwater recharge in the Mississippi embayment regional aquifer system in a partnership with Protect Our Aquifer (POA)
- Used RStudio to create time series plots and maps of evapotranspiration and precipitation products from Terra MODIS and GPM IMERG

Geospatial Researcher | Boston, MA Node *(September 2021- November 2021)*

- Worked with 4 researchers on a GIS project focusing on sediment dynamics and turbidity on Fire Island, NY in a partnership with the National Parks Service (NPS)
- Used ArcGIS Pro, ACOLITE, and SeaDAS to processes and analyze Landsat 5/8, Sentinel-2, and WorldView-2 imagery

Autonomous Aerial Systems Office Intern | Montana Space Grant Consortium | Montana State University

GIS/Remote Sensing Intern **|** *Missoula, Montana* *(May 2021- July 2021)*

- Planned UAV flights, processed imagery and maps for the forest service and University of Montana and classified 10-layer packages of Aerial Firefighting Use and Effectiveness (AFUE) fire imagery with standardized symbology