Brayden Noh

1200 E California Blvd, Pasadena, CA 91125

snoh@caltech.edu

334.707.9970 (Cell)

Education

California Institute of Technology (Caltech)   Pasadena, CA
- Geological & Planetary Sciences   May 2025
- Cumulative GPA: 3.6/4.0

Research Experiences

Caltech Lamb Surface Processing Group, *Undergraduate Researcher*, Pasadena, CA   Dec 2021 – Current
- Developed risk maps for river migration by adapting deterministic models into probabilistic forecasts with Monte Carlo simulations, using Bayesian parameter inference from satellite data.
- Addressed uncertainties and parameter variability, enhancing risk assessment reliability for erosion hazards.

Georgia Tech TECHtonic Research Group, *Undergraduate Researcher*, Atlanta, GA   May 2023 - July 2023
- Translated photogrammetry algorithms from MATLAB to Python, enhancing data processing efficiency.
- Created 3D riverbed maps to develop a probabilistic sediment transport model for rivers in Puerto Rico..

Auburn University Mechanics of Materials Laboratory, *High School Researcher*, Auburn, AL   Aug 2020 - Nov 2021
- Utilized the Simplified Arbitrary Lagrangian Eulerian (SALE) hydrocode in Fortran to simulate impact craters.
- Modeled the effects of Earth's atmosphere on meteoroid entry and resulting impact craters.

Publications

- Noh, B., Wani, O., Dunne, K. B., & Lamb, M. P. (2024). Geomorphic risk maps for river migration using probabilistic modeling–a framework. Earth Surface Dynamics, 12(3), 691-708.
- Noh, B. (2020). Fabrication and empirical analysis of graphene dispersion/activated carbon on conductive networks in porous graphite felt supercapacitor. Journal of Energy Storage, 28, 101264.

Conference Papers

- Wani, O., Noh, B., Dunne, K., & Lamb, M. P. Quantifying Geomorphic Risk due to Migrating Fluvial Systems-a Probabilistic Framework. AGU24.
- Noh, B., Lang, K. A., Rivera-Hernandez, F., & Hughes, K. S. (2023, December). Constraining paleo-discharge from boulder size distributions in tropical mountain rivers, new observations from Puerto Rico. In AGU Fall Meeting Abstracts (Vol. 2023, No. 2387, pp. EP41D-2387).
- Noh, B., Wani, O., Dunne, K., & Lamb, M. P. (2022, December). Predicting River Migration Hazards with Stochastic Modeling. In AGU Fall Meeting Abstracts (Vol. 2022, pp. EP35A-06).
- Noh, B. (2022, September). Visualizing how asteroids deform during atmospheric entry. In European Planetary Science Congress (pp. EPSC2022-73).

Awards and Grants

- 2024 ThinkSwiss Summer School Travel Grants: Awarded by the Embassy of Switzerland to attend the Swiss Federal Institute of Aquatic Science and Technology (EAWAG) Summer School in Environmental System Analysis.
- 2024 Caltech James Michelin Scholarship: Recognizes undergraduate student for their contributions to the field of geology or geophysics.
- 2023 Caltech Howard Reynolds Memorial Prize: Awarded to a student who demonstrates the potential to excel in the field of geology and who actively contributes to the quality of Caltech student life.
- 2021 AGU Michael H. Freilich Student Visualization: Awarded the Grand Prize, which includes travel grant and presenting on the NASA Hyperwall at the 2021 AGU Fall Meeting.
- 2018, 2019, 2020, 2021 International Science and Engineering Fair (ISEF) Finalist: Awarded the Grand Prize in Energy in 2019.