

RACHEL WALENCEUS

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EDUCATION

Bachelor of Science

May 2025

University of Iowa

- Major: Geoscience
- Certification in GIS

Associate of Arts

Iowa Western Community College

May 2021

- Major: Communications

GEOSCIENCE EXPERIENCE

Office of Undergraduate Research Student Member

January 2022 *University of Iowa*

to Present

Managed a soil health study and analysis at the Ashton Prairie Living Laboratory, an ongoing prairie restoration project on the University of Iowa Campus.

- Collected and prepared soil samples for soil characterization and a complete soil health analysis.
- Used a survey-grade Trimble r12 GPS to survey and stakeout sampling locations.
- Managed and compared two field seasons worth of health and location within an Excel spreadsheet and ArcGIS Pro.
- Interpolated soil chemistry and health data using ArcGIS Spatial Analyst for mapping and time comparisons.

Assisted with peers' APLL studies.

- Conducted water quality sampling on adjacent creek using Hach spectrometers (Fe, N, NH₄, Cl, etc) and YSI probes (pH, temperature, turbidity, dissolved oxygen, and conductivity, etc).
- Collected stream temperature data for evaluating groundwater-surface water interactions.
- Provided updates with soil health study at weekly meetings.
- Created standard operating procedure manuals for GPS setup and soil sampling.

