

## InTeGrate: Enabling Inclusive, Undergraduate Sustainability Education in the US

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The NSF InTeGrate project built interdisciplinary capacity to teach about the Earth in the context of environmental and resource challenges across the United States. Interinstitutional, interdisciplinary teams of faculty developed and tested teaching materials that could be used to bring interdisciplinary perspectives on these issues into Earth science courses and to bring Earth science into courses in other disciplines. Departments, programs and interinstitutional collaborations developed and tested different models for implementing this approach to Earth science learning at scales larger than an individual course. A combination of face-to-face and virtual professional development opportunities and the project website supported the development of a national community expanding and supporting learning about the Earth in the context of societal issues.

Important elements of this community building were targeted efforts to engage and support participation by diverse faculty and institution. This strategy resulted in an increased emphasis on aspects of environmental justice in the teaching materials, the development of expanded expertise for supporting students from groups underrepresented in the US, and a base for strengthening teaching about the Earth in institutions serving large numbers of minority students.

At the close of the project in 2019, the materials had influenced more than 3000 courses across the United States and use was growing rapidly increasing interdisciplinary approaches to issues such as water resources, food security, climate change, and mineral resources. Participants in materials development and development of model programs focused more on introductory courses, interdisciplinary courses, and institutional requirements than on transforming the core of the geoscience major. Early data do not show an increase in interest in geoscience careers as a result of interdisciplinary context in geoscience courses.