

The Concept and Eventual Reality of a Geoswath

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This presentation looks back at the early ideas of a concept of a GeoSwath (or GeoFrame) associated with the USArray component of EarthScope. While the GeoSwath was never an official part of EarthScope, a series of EarthScope-funded projects occurred along the approximate geographic line that was originally envisioned, many of which contained integrated geophysical and geological approaches. These individual projects are in various stages of completion, but have generally been successful in answering the questions that they originally proposed. Several aspects, however, were lost in the individual project approach to a GeoSwath, including the connection between different projects. The focus necessarily became on understanding specific geologic provinces for any individual project, but not on the boundaries between adjacent geological provinces or a coast-to-coast perspective of the continent. Methods of recapturing this holistic approach may be partially possible after the completion of the independent projects. Moreover, the individual project approach also did not engage large segments of the geological community, as was envisioned for a cooperative, community-based approach in a more systematically organized GeoSwath.

Moving forward, a major focus could be put on higher resolutions studies that are specifically focused on crustal (even upper crustal) studies. This type of focus would closely align EarthScope with geological topics of societal concern (e.g., earthquakes, hazards, mineralization, resource extraction, hydrology), could engage new user communities, and would have obvious linkages to education and outreach.