**Survey: 2014-15 results:**

We have had ~455 respondents to the online, ongoing survey with: 354 academics (78%), 76 industry (17%), 13 government agencies (3%), 7 other (1%), 5 professional society representatives (1%). Of these, 85% were not Summit participants, indicating that between the ~200 Summit participants and the ~390 non-participant survey respondent, we are receiving input from a large segment of the geoscience community. The gender distribution on the survey is 308 male and 147 female.
Major conclusion of Summit: Developing competencies, skills, and conceptual understanding is more important than taking specific courses

Survey Responses:
Breakdown by Employment Category

Earth as complex, dynamic system with linkages between different systems (lithosphere, atmosphere, biosphere, etc.)

Academics
Industry
Govt.
Prof. societies/other

Deep time (including the origin and evolution of life)

Academics
Industry
Govt.
Prof. societies/other
In addition to geoscience concepts, the Summit identified specific skills and competencies that undergraduate students should have when they graduate. These were divided into skills that all science students should have, such as communication, use of the scientific method, etc. and those that were specific to the geosciences, such as solving problems that require spatial and temporal (3D and 4D) thinking, working with uncertainty, etc. The survey also asked the respondents to indicate how important each of these skills were.
Breakdown by Employment Category

**Critical thinking/problem solving skills**

- Academics
- Industry
- Govt.
- Prof. societies/other

**Communicate effectively to scientists & non-scientists**

- Academics
- Industry
- Govt.
- Prof. societies/other

**Make inferences about Earth system from observations of natural world combined with experimentation and modeling**

- Academics
- Industry
- Govt.
- Prof. societies/other

**Readily solve problems, especially those requiring spatial and temporal (i.e. 3D and 4D) interpretations**

- Academics
- Industry
- Govt.
- Prof. societies/other

**Work with uncertainty, non-uniqueness, incompleteness, ambiguity and indirect observations**

- Academics
- Industry
- Govt.
- Prof. societies/other

**Ability to access and integrate information from different sources and to continue to learn**

- Academics
- Industry
- Govt.
- Prof. societies/other
Understand and use scientific research methods

Have strong quantitative skills and ability to apply

Integrate data from different disciplines and apply systems thinking

Have strong field skills and a working knowledge of GIS

Work in interdisciplinary teams and across cultures

Have strong computational skills and the ability to manage and analyze large datasets
Additional questions focused on pedagogy, departmental practices, requirements, and learning outcomes and K-12 teacher preparation and recruiting and retaining underrepresented groups. This data was analyzed at an early stage (~250 respondents), but needs to be reanalyzed now that the database is larger.