

Charge to first breakout groups:

- Identify geoscience problems that could benefit from new mathematical research.
- Identify areas of mathematics that could benefit from new geoscience research.
- Summarize discussion for presentation to plenary session.
- Identify areas of mathematics for discussion by the second set of breakout groups.

Questions for the breakout groups to consider:

- What are the current areas of intense focus and activity in this field of geoscience?
- What are the current areas of overlapping interdisciplinary research between this field and other geoscience fields (including those being discussed in other breakout groups)?
- How is mathematics currently being used in these areas of geoscience?
- What are key problems and challenges for the near future?
- How will or might mathematical techniques play a role in meeting these challenges?
- Are there innovative ways that math could be used? Are there areas of math NOT traditionally used in this area of geosciences?
- What (new) mathematical techniques or areas need to be developed to meet these challenges?
- What new mathematical techniques, areas, or approaches could be stimulated in response to the current problems and needs of this geoscience area?

Strategies for breakout groups:

- Introduce members and areas of interest.
- Collect “first impression” answers to these questions before proceeding to full discussion.

- Identify major overlapping ideas.