What makes a good proposal?

- An intriguing idea
- That will advance science in each stated discipline
- Framed in specific hypothesis or science questions
- With a clear, innovative experimental plan
- That will collect (or use) specific types of data
- And with explicit methods to analyze the data to answer the questions or test the hypotheses
- So that what you learn can be extrapolated beyond the place you conducted the experiment

But the trick is that it can't be so well defined that it looks like a lists of tasks with risk-free outcomes that are known a priori!
Common Pitfalls

• Work is too close to what has been done before - i.e., incremental advance
• Project has too large a scope or is too narrowly focused to be exciting
• Proposed research plan will not clearly answer/test the stated questions/hypotheses
• Techniques + methodology are not cutting edge
• One of multiple disciplines is seen as an “add-on” and not well integrated
Broader Impacts

- Advance discovery and understanding while promoting teaching, training, and learning curriculum; students; REU; teachers; K-12; RET; mentoring; postdoc

- Broaden participation of underrepresented groups community college; HBCU; minority; Native Americans

- Build or enhance partnerships with industry, internationally, with other federal agencies, etc.

- Enhance infrastructure for research and education international collaboration in developing countries; equipment; laboratories

- Broad dissemination to enhance scientific and technological understanding blogs; citizen-science; local media; museums

- Benefits to society hazards; policy; environmental impacts; local + state agencies

It is better to do one or two of these solidly and well, than to try and cover a number of them superficially.
Contact Your Program Director!

- to learn about existing and new programs
- to gain program insights, learn about priorities
- to volunteer to review
- to determine the appropriateness of a proposal
- to ask administrative questions
- to discuss reviews and possible resubmittal