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Cyberinfrastructure and Geosciences:

Advice, Comment, Opportunities and Challenges Offered to National Science Foundation by the U.S. Geosciences Community

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Since the release of the report Revolutionizing Science and Engineering through Cyberinfrastructure report to National Science Foundation (NSF) in 2003, the Geosciences community has embarked on a series of studies to consider how the vision outlined in this report could be most effectively implemented for the Geosciences community. Independent groups from the Solid Earth, Ocean, and Atmospheric Sciences Communities have produced reports that provide advice to NSF's Directorate

for Geosciences. In addition, eclectic members of the U.S. science and education communities have produced two reports that provide recommendations for a synergistic union of cyberinfrastructure and NSF research foci in Environmental Science and Engineering for the 21 Century and improving the quality and reach of science, engineering, and mathematics education. In a separate but parallel effort, members of the Geosciences community have begun to consider what it will take to build a Petascale computing capability devoted to advancing the science agendas of the entire Geosciences community. Within Europe similar planning efforts have been undertaken. This talk presents a summary of the advice, comment, opportunities, and challenges outlined these reports and European activities.