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The role of scientists in developing the next generation of decision-makers

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Although relatively few students will become professional scientists (i.e. producers of scientific information), essentially every student is a future consumer of scientific information. Government agencies, environmental organizations, businesses, and special interest groups use scientific arguments to make decisions, set policy, create legislation, and develop international agreements. Such decisions frequently have severe social, economic, and political consequences. If we are to improve national and international decision-making, it becomes the responsibility of the scientific community both to educate society on how science works and to educate scientists about the societal impacts of their work.

Many universities are actively developing a new generation of science courses for non-majors. Such courses emphasize the nature of scientific information, rather than the standard overview of traditional disciplinary material. The goal is to make students sophisticated consumers of scientific information through exercises that directly involve such concepts as valid inference, representative sampling, uncertainty, signal-vs.-noise, and decision-making with ambiguous or conflicting data

Similarly, the National Science Foundation recognizes the role of science in society is central to the concept of scientific literacy, and NSF promotes the integration of research and education. Major projects such as EarthScope, with over 3,000 sites across the US, are encouraging a broad range of students and the public to participate in a national experiment. Such projects provide compelling examples of how scientific understanding advances, introduces students and the public to the scientific process, and generates excitement for science as geological processes are openly observed within the time-frame of an academic school year.