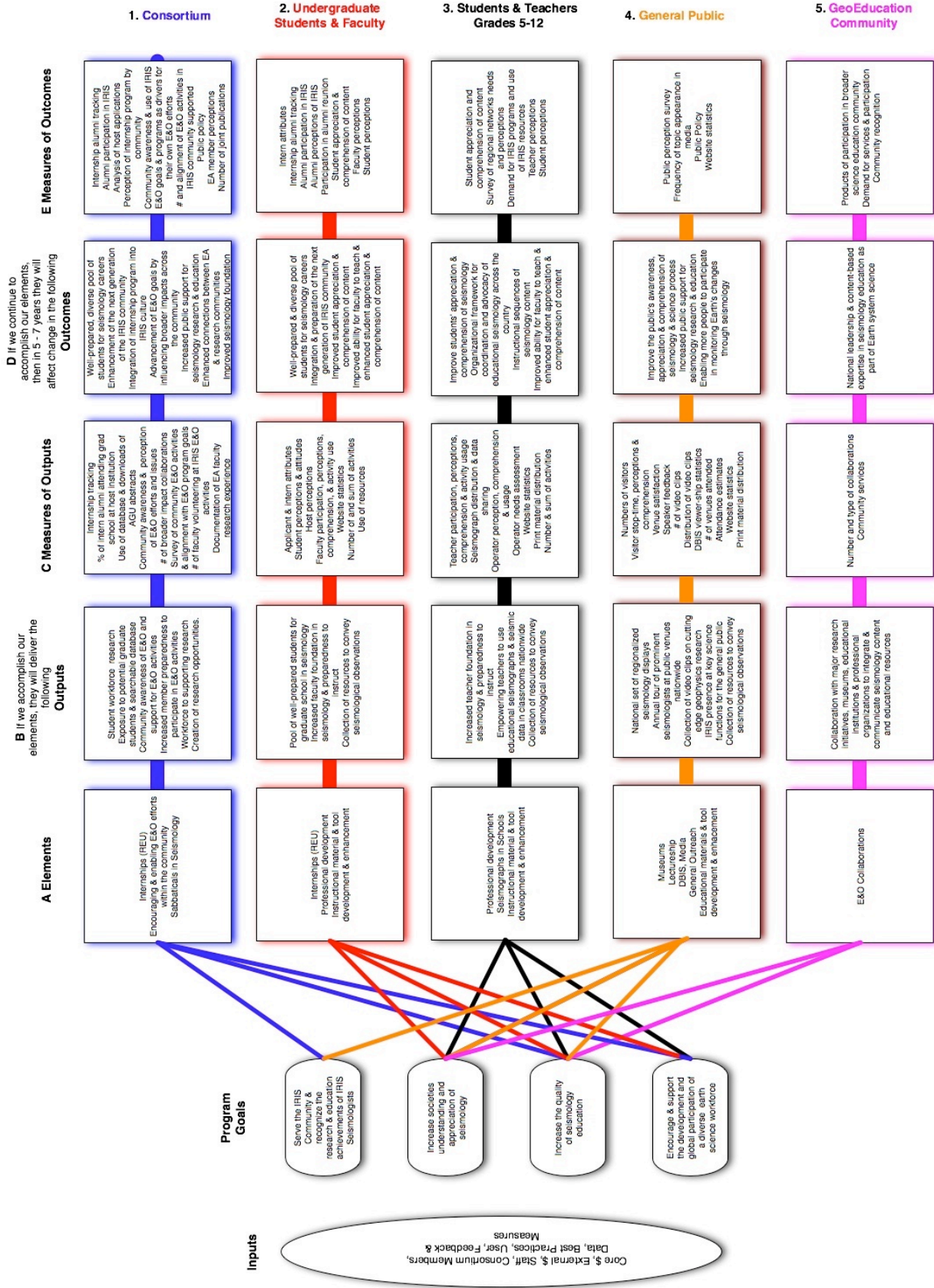


Appendix B. IRIS E&O Logic Model



Model audiences and elements

The following section briefly describes each audience in the logic model and the elements of the program that address that audience.

Consortium

Individuals who are associated with IRIS Consortium member institutions are an important audience as the IRIS facility strives to serve its members.

Internships (REU): The Internship Program provides students with engaging 8-10 week research opportunities through partnerships with the universities and scientists of the IRIS consortium and the USGS. Consortium members gain access to highly-qualified potential graduate students (nearly half of the interns who go on to graduate school do so at the school where they did their internship) and are assisted in their research.

Encouraging and enabling E&O efforts; Supporting member E&O efforts provides significant leveraging of resources. For example, members run their own teacher workshops after assisting with IRIS-run workshops and there is a broader acceptance of E&O within the research community as more IRIS members become involved in the IRIS workshops. IRIS staff members also collaborate on E&O projects organized by researchers as part of the broader impacts of their research.

Sabbatical: The Sabbatical in Seismology program provides travel funds to an Educational Affiliate faculty member and, optionally, an undergraduate to conduct research at an IRIS institution. This both helps the Educational Affiliate member, by providing them with a research opportunity that might not exist at their school, and provides additional opportunities for collaboration for researchers at full-member institutions.

Undergraduate Students and Faculty

Many Consortium members are also part of undergraduate faculty. College faculty members educate the next generation of business, political, science and educational leaders and thus their impact is broad and long lasting. IRIS E&O also works directly with undergraduates via the internship program.

Internships (REU): The primary goal of the internship program is to provide students with research opportunities early in their educational careers, and thus to encourage students to choose careers in Earth science and seismology. The IRIS Undergraduate Internship Program continues to evolve to better meet the needs of both students and faculty, and is currently funded through additional NSF resources. Students now receive a

week of group training before they begin their individual research projects, and communicate between each other continuously using an advanced web-logging system to help solve research-related questions that arise within their research projects.

Professional development: The E&O Program develops and organizes an annual 1-day professional development experience to support the background and curricular needs of college faculty.

Instructional materials and tool development: Successful professional development depends on the use of appropriate tools and materials and these are created with specific audiences in mind. Tools include such items as software, web applications, and seismographs. Materials include 1-pagers, posters, journal articles and educational activities.

Grade 5-12 Students and Teachers

Middle school and high school teachers are a key audience because of the number of students they instruct every year and because they teach the bulk of the Earth science concepts that the majority of Americans will ever learn. Teachers are also in constant need of new resources and continued training.

Professional development: The E&O Program develops and organizes an annual set of highly effective, 1-3 day professional development experiences to support the background and curricular needs of formal educators. An evolving focus of these professional-development workshops is on multi-year, school system-wide interactions.

Seismographs in Schools: Sharing seismic data and the excitement of discovery that it offers with a general audience requires effective tools and an understanding of seismology with an educational perspective. To address this need, IRIS initiated a program to distribute educational seismographs to schools, and developed new display software and educational materials.

Instructional materials and tool development: Successful professional development depends on the use of appropriate tools and materials and these are created with specific audiences in mind. Tools include such items as software, web applications, and seismographs. Materials include 1-pagers, posters, journal articles targeted at teachers and educational activities.

General Public

One of the goals of the E&O Program is to increase society's understanding and

appreciation of science, and an important way to do this is by providing information and resources directly to the public.

Museum displays: Museum displays continue to be an important mechanism for scientific outreach to the general public, and the IRIS/USGS museum displays have been a very effective way of presenting seismology to large numbers of interested lay people. The IRIS/USGS museum displays are designed to engage many visitors for a short time and to convey the frequency and global distribution of earthquakes. The real-time aspect of the displays allow visitors to see the location and size of global and local earthquakes that occur every day and to see the recorded movement of the ground as seismic waves travel around the planet.

Lectureship: There is a strong demand at informal learning institutions like science museums to provide direct contact with distinguished scientists, and in 2003 IRIS and the Seismological Society of America (SSA) initiated the IRIS/SSA distinguished lecture series to help meet this need. These lectures reach a broad sector of the interested public, usually through well-attended and well-established lecture series hosted by science museums.

DBIS/Media: IRIS is a partner with the American Institute of Physics Discoveries and Breakthroughs inside Science (DBIS) program to provide 90-sec video clips on science applications that are broadcast on local evening news programs

General outreach: Where appropriate, IRIS takes part in public science displays and fairs such as AAAS Family Science Day and NSF's Taste of Science.

Educational materials and tool development: General audience tools include such items as software and web applications. Materials include 1-pagers, posters, and educational activities.

GeoEd Community

E&O collaborations: IRIS E&O has considerable experience that can be shared with the geoscience education community and at the same time can benefit greatly from the experience of other groups. Working together on selected projects and sharing expertise is both cost-effective and results in better educational products.