



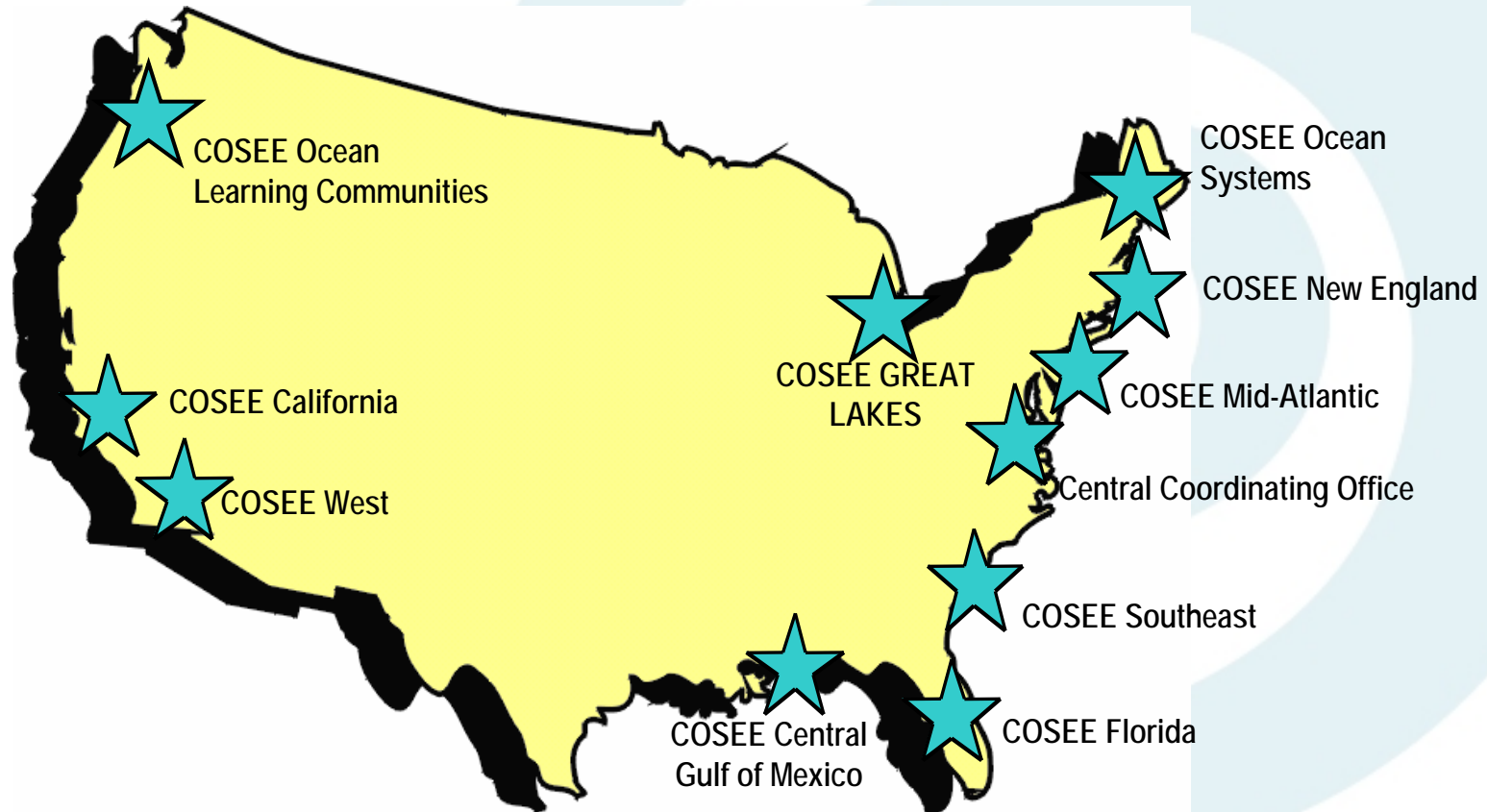
Limno-Links: Why Great Lakes scientists should engage in educational outreach

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National COSEE Network

The National COSEE Network comprises 10 centers that act locally, regionally and nationally.



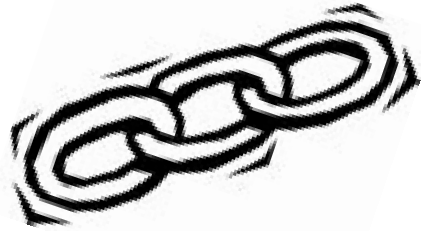
COSEE Great Lakes Objectives



Facilitate collaboration between scientists and educators:

- enhance teacher capabilities in science
- assist scientists in education and public outreach





LIMNO-links

Scientists engaged with

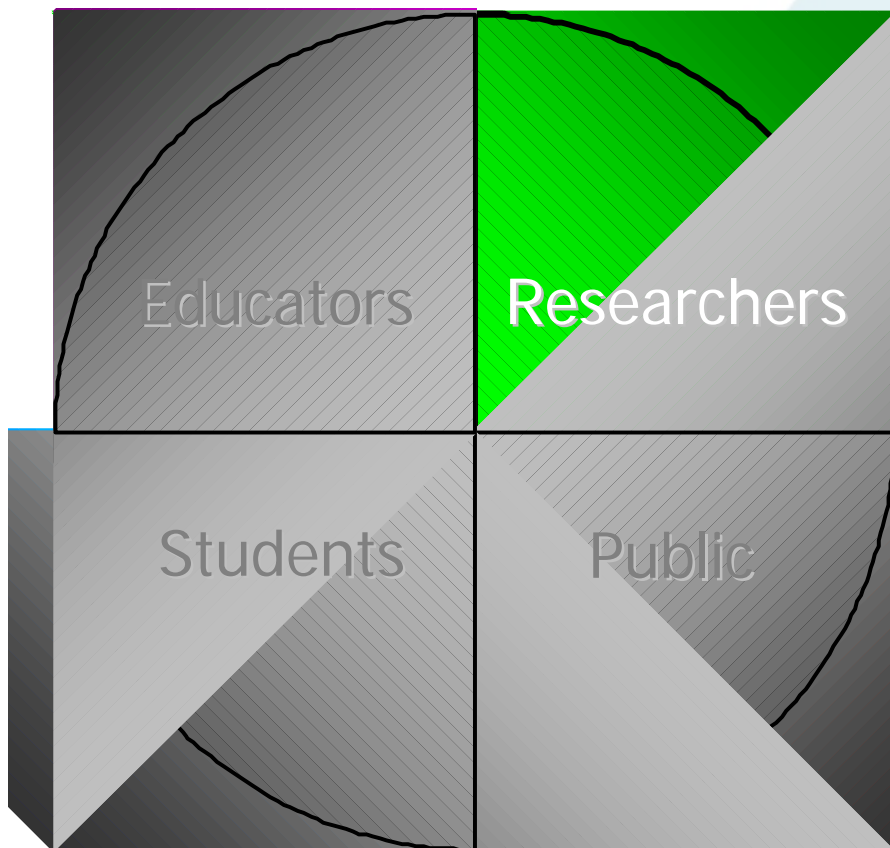
- Educators
- Students
- Public

Scientists alert to

- Opportunities
- Culture of education
- How people learn
- Standards for science

COSEE Activities by Group

Research Scientists



- Workshops & *Guardian*
- Educator House-calls '06 & '08
 - 5 teachers visit science facility for a day [3 events]
 - Sharing of science process and educator needs
 - Teachers assist with outreach ideas for science in schools
- School for Scientists
 - IAGLR workshop '07 & '09
 - Answers to your education Qs
 - Ideas for your BROADER IMPACT
- COSEE Summit 2010

What is *Educational Outreach*?

- Efforts to increase awareness and understanding of science.
- Audiences targeted can include:
 - students,
 - teachers,
 - children,
 - adults,
 - stakeholder groups,
 - and just about any conceivable subset of these (e.g., economically disadvantaged youth, adult education instructors, museum visitors, parents, newspaper readers, high school students).

How does educational
outreach benefit scientists?

Most scientists engage in educational outreach because of a sense of “professional responsibility (Hammond, 1994), ...to apply their knowledge toward the betterment of society”



Scientists and Public Outreach: Participation, Motivations, and Impediments. Andrews et al. *Journal of Geoscience Education*, v. 53, n. 3, May, 2005, p. 281-293.

Getting your science used

- Direct outreach to policymakers, managers and stakeholders about your research increases the likelihood that these groups will base their decisions in the science.

Increasing Science Literacy

...to help encourage students' and teachers' scientific knowledge and skills and interest in science as well as help increase science literacy, and correct misconceptions about science.



Scientists and Public Outreach:
Participation, Motivations, and
Impediments. Andrews et al. *Journal of
Geoscience Education*, v. 53, n. 3, May,
2005, p. 281-293.

Helping create the next generation of scientists

Science is a pretty exciting field. If one can explain that excitement to students in K-12, then some of them may then pick it up and make their own careers just on that basis. I think the hope that when you do these things is, some of them will think, "That is really interesting; I would like to follow that up."

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Promote public funding

“The more you can promote science, the better it is for the field, and the better it is for the sciences. ...If you're educating people, you're also encouraging people to think positively about funding science federally.”



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Proposal Writing

- Including an educational outreach component in a research proposal can give an advantage in the review process.
 - Sea Grant’s 3-legged stool (Research, Education and Outreach)
 - NSF “Broader Impact”
 - Other Federal Agencies
 - *Many grant competitions are willing to support additional \$\$\$ for an educational outreach component.*

Promotion and Tenure

- Educational Outreach activities are increasingly considered in promotion and tenure deliberations.
 - *Ask your EPO partner or the sponsor of the project to which you have contributed to write a letter of thanks outlining your contributions and the impact of your participation. Include this letter in the materials you submit to your department.*

Improve Teaching and Communication Skills

“In order to teach something, you often have to know how to explain it from many different angles and with different techniques. I gained many skills-public speaking, teaching, interpersonal-all worthwhile...”



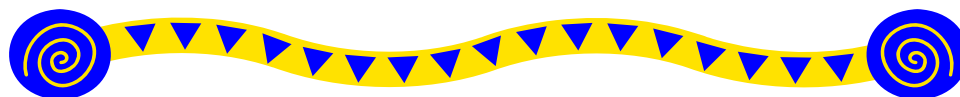
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Fun

- K-12 teachers and 10 year old kids have an energy that isn't there in the college freshmen I regularly teach. It “charges my batteries.” - COSEE Scientist-Participant

How to Get Started

“...the challenge is: How can researchers reach out to these audiences while staying focused on their primary responsibilities?”



“Scientists need not feel they are on their own in pursuing broader impact; there are now resources — organizations and individuals — that can be of assistance.”

Broader Impact: Guidance for Scientists
about Education and Public Outreach.
Eos, Vol. 86, No. 12, 22 March 2005

Some resources to get you started

- *School for Scientists*
- *COSEE Great Lakes*
<http://www.coseegreatlakes.net/>
Click the link for 'researchers'
- *Education and Public Outreach: A Guide for Scientists*
- *National Academy of Sciences RISE (Resources for Involving Scientists in Education)* <http://www.nas.edu/rise/>