



Issues, Challenges, and Opportunities in Geoscience Education and Broadening Participation in the Geosciences at Two-year Colleges

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Why are 2yc important?

- 44% of all U.S. Undergraduates, 42% of all first generation¹
- 55% of all Native Americans, 45% of all Asian/Pacific Islander, 44% of all African American, and 52% of all Hispanic students¹
- 40% of K-12 teachers have taken at least some of their science and math at a community college²
- 44% of all science and engineering (S&E) bachelor's and master's degree recipients had attended community college³

¹ <http://www.aacc.nche.edu/AboutCC/Documents/factsheet2011.pdf>

² Shkodriani, G. (2004). Seamless pipeline from two-year to four-year institutions for teacher training (PT3 Policy Brief). Denver, CO: Education Commission of the States.

³ Tsapogas J. 2004. *The Role of Community Colleges in the Education of Recent Science and Engineering Graduates*. InfoBrief NSF 04-315. Arlington, VA: National Science Foundation

Emergence of Geo 2YC

- Planning Workshop, 2000; funded by NSF DUE
- GSA 2008 Survey¹
- GSA 2009 (Riggs, Houlton & Granshaw²): Focused conversations, special 2YC session & funding for faculty-student teams
- Workshop, 2010; funded by NSF OEDG

¹ Peterson, et al (2011). Enhancing participation of two-year college faculty in the Geological Society of America. *GSA Today*, 21(12), 36-38, doi: 10.1130/G130GW.1

<http://www.geosociety.org/educate/documents/1106-2YCsurvey.pdf>

²Riggs, Houlton & Granshaw, 2009, Issues, Opportunities & Concerns in the Geosciences at Community Colleges: Results & Insights from Focus Groups conducted at the 2009 Portland GSA



Geoscience in Two-year Colleges > The Role of Two-Year Colleges In Geoscience Education > Program

- Geoscience in Two-year Colleges
- 2010 GSA Opportunities
- 2011 GSA Opportunities
- The Role of Two-Year Colleges in Geoscience Education**
- Program**
- Private Workspace
- Participants and Materials
- Activities
- Courses
- Posters
- Participant Checklist
- Logistics
- Essay Upload
- Materials Upload
- Submit an Activity
- Share a Syllabus
- Photo Upload
- Discussion Board

The Role of Two-Year Colleges in Geoscience Education and in Broadening Participation in the Geosciences

Workshop Program

All events are at the Richard J. Ernst Community Cultural Center, Northern Virginia Community College (NOVA), Annandale Campus. Most events are in the Forum; concurrent sessions will be in the Forum or one of the Seminar Rooms (A, B, C, or D). Breakfast is provided at the hotel.

Thursday, June 24

5:00 pm Vans depart from the Comfort Inn University Center

5:15 **Workshop registration opens**

5:30 **Opening Reception, Icebreaker, Welcome, and Dinner**

7:00 **Workshop Goals, Introductions and Evening Program**

The Role of Two-year Colleges in Geoscience Education and Broadening Participation in the Geosciences: Goals, Challenges, and Opportunities

8:30 pm Vans depart from the Ernst Community Cultural Center, NOVA Annandale Campus

Friday, June 25

Supporting Students in Two-year Colleges

8:00 am Vans depart from the Comfort Inn University Center

8:30-10:00 **Teaching General Education: Strategies for Supporting All Students to be Successful**

Regardless of whether we recruit students to become majors or not, we want all of our students to be successful, regardless of

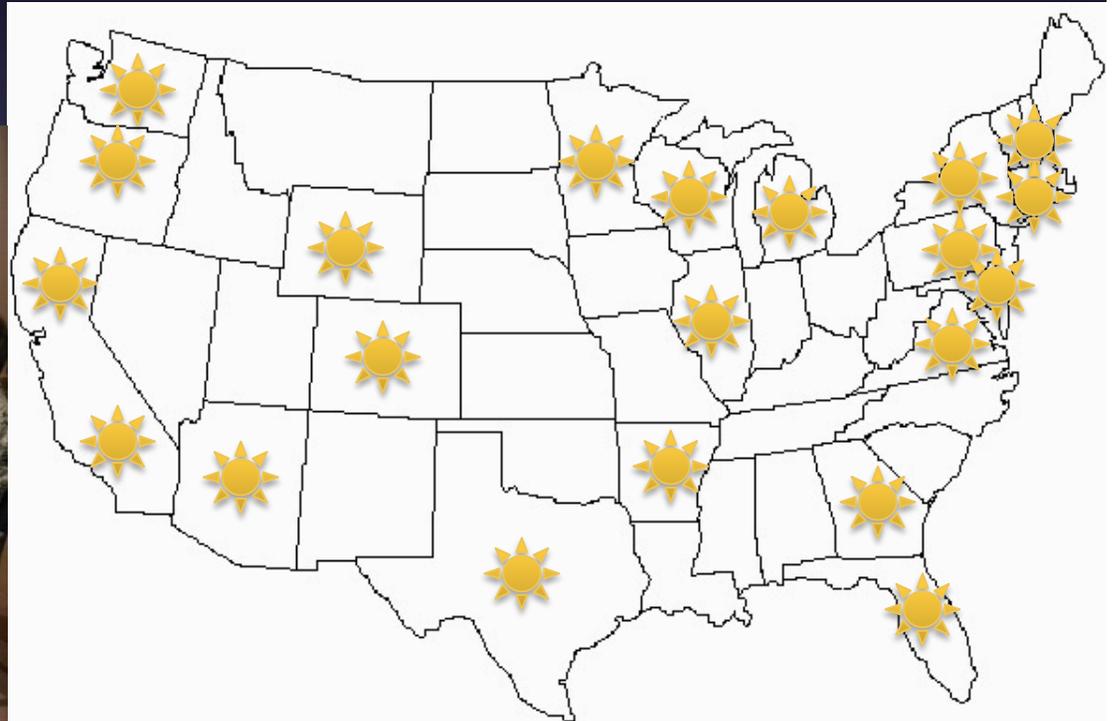


Show caption

<http://serc.carleton.edu/geo2yc/workshop2010/index.html>

Workshop, 2010

- Northern Virginia Community College
- 31-2yc faculty, 3-4yc faculty, and 5 organizations represented (NOAA, COSEE, AGI, NSF & IRIS)



Strategic Conversations

- Between national organizations (NOAA, COSEE, AGI, NSF & IRIS) and 2yc faculty
- “A much better understanding of the needs of 2YC faculty” –from a representative of a national organization
- “Applied for the “Teachers at Sea” program, which I had not heard of previously” –from a participant of the workshop

Common Themes

- Lack of diversity → Broaden Participation
- Isolation (disconnected from colleagues, professional, academic) → Build a community for opportunities to network, build skills for improved teaching & learning, share/develop programs that lead to student success.
- Lack of 2yc-4yc partnerships → Build programs/opportunities, elevate visibility & status of 2yc



Geo2YC Division for NAGT

<http://nagt.org/nagt/divisions/2yc/index.html>

- Serve as a forum for exchanging ideas, concerns & resources
- Establish a network of geoscience educators at 2Yc and other institutions with shared interests
- Sponsor NAGT 2YC activities and make recommendations to the NAGT Council
- Support and coordinate research on 2YC geoscience education
- Advocate for 2yc geoscience education within NAGT and with other organizations

Email Listserv: geo2yc@serc.carleton.edu

Building Community

- Geo2YC division within NAGT (2011)
- Funding for attending National GSA (Baer, 2010 & 2011) with special 2YC sessions and workshops about NSF funding
- 2YC social events at GSA & AGU (National)
- Web Resources:

<http://serc.carleton.edu/geo2yc/index.html>

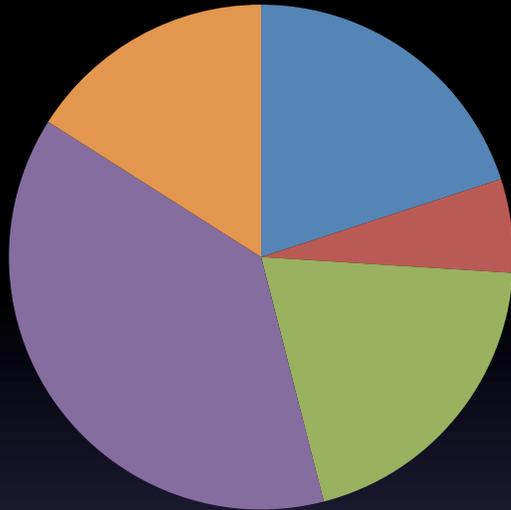
Building Programs & Partnerships

- Collaborative Research: Supporting and Advancing Geoscience Education at Two-Year Colleges through Workshops and Web Resources (Baer, Blodgett, Macdonald, & Hodder, 2011)
- “Vision Paper for the COSEE Network” (Macdonald, Julson & Guertin, 2010): <http://www.cosee.net/files/coseenet/MacDonald%202YC%20COSEE%20vision%20document.pdf>
- CUR NSF-ATE grant & workshops:
<http://www.cur.org/communitycolleges.html>

Elevating visibility

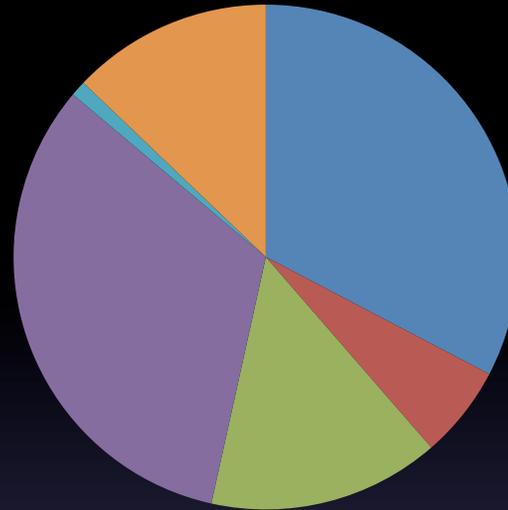
- EOS article (Krumm & Granshaw, 2011). “New Geoscience Teachers Division for 2-Year Colleges”
- GSA Today article: Peterson, et al (2011). “Enhancing participation of two-year college faculty in the Geological Society of America”

Institution:

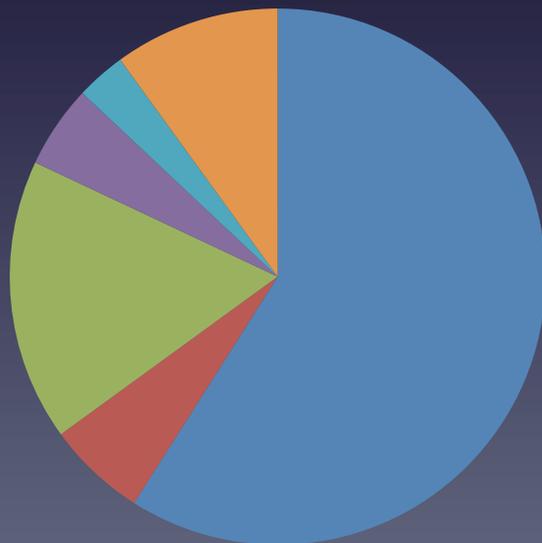


- White
- Black
- Latino
- Asian/PI
- Native Am.
- Other

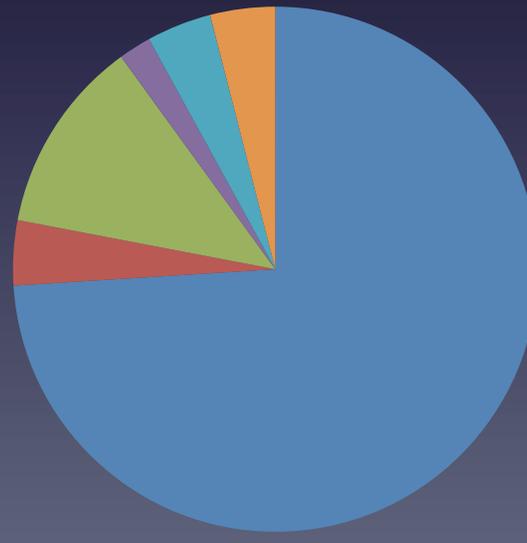
Geosciences:



- White
- Black
- Latino
- Asian/PI
- Native Am.
- Other



- White
- Black
- Latino
- Asian/PI
- Native Am.
- Other



- White
- Black
- Latino
- Asian/PI
- Native Am.
- Other

Broadening Participation

- Gathering data—AGI faculty and departments
- Determine who are in our classrooms (model after Physics, “SPIN-UP”?)
- How can we best support our students?