

Science Diplomacy in the Geosciences

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Science Diplomacy

Science diplomacy - the use of scientific collaborations among nations to address common problems and to build constructive international partnerships.

Many experts and groups use a variety of definitions for science diplomacy.

However, science diplomacy has become an umbrella term to describe a number of formal or informal technical, research-based, academic or engineering exchanges. ↓

Science Diplomacy

Science diplomacy refers to three types of activities:

- **Science in diplomacy:** Science can provide advice to inform and support foreign policy objectives
- **Diplomacy for science:** Diplomacy can facilitate international scientific cooperation
- **Science for diplomacy:** Scientific cooperation can improve international relations

source: Royal Society and AAAS (2010); U.S. and International Perspectives on Global Science Policy and Science Diplomacy (NRC, 2012)

Functions of Science Policy and Diplomacy

International scientific cooperation is necessary for the advancement of science in the U.S. and abroad to:

- build relationships with other countries
- raise the status of science across borders
- produce concrete scientific/societal results

Who is a Science Diplomat?

Scientists working outside the U.S. and/or based in the U.S. but interacting with foreign colleagues

- On **government initiatives** at the political level through bilateral/multilateral S&T agreements
- In **governmental entities** such as USAID, USDA, USGS, NSF, NASA, NPS, Department of State
- At **universities** and other institutions, establishing one-on-one collaborations, or small/large research group collaborations
- In activities organized under the auspices of **larger programs** (e.g., scientific unions or international organizations/initiatives)
- At **non-profits** ranging from grassroots (such as Geoscientists without Borders), through AAAS and CRDF, to NAS

Funding Science Diplomacy

- Government initiatives: agencies such as USAID, USDA, USGS, NSF, NASA, Department of State
- Universities
- International scholar exchanges (e.g., Jefferson and Fulbright fellowships)
- Grantmaking organizations (Foundations such as Gates, Ford, Rockefeller)
- Personal Funds

Successful Science Diplomacy in the Geosciences

- Volcano Disaster Assistance Program
- Science Envoy Program – a Presidential Initiative
- Water and Science Diplomacy
- One Geology
- U.S. participation in International scientific unions
- Intergovernmental Panel on Climate Change (IPCC), ICSU's Future Earth, Integrated Research on Disaster Risk
- GEO – Global Earth Observing effort
- UNESCO's Earth Science program: Global Geoparks, IGCP

Volcano Disaster Assistance Program

- Established and funded by the U. S. Geological Survey – U. S. Agency for International Development’s Office of Foreign Disaster Assistance
- Started after the 1985 disaster at Nevado del Ruiz, Colombia
- Change in mission from exclusively providing assistance immediately after a disaster to, in addition of providing aid, doing effective capacity building before a disaster strikes

Science Envoy Program

- Established by President Obama in 2009. “The Science Envoy program demonstrates the U.S.’ continued commitment to science, technology, and innovation as tools of diplomacy.”
- 9 U.S. top scientists named as Science Envoys
- Travel as private citizens and advise the White House, the U.S. Department of State, and the U.S. scientific community about the insights they gain from their travels and interactions
- Visits to 19 countries, including Egypt, Morocco, Tunisia, South Africa, Ethiopia, Tanzania, Indonesia, Bangladesh, Malaysia, Turkey, Kazakhstan, Uzbekistan, Azerbaijan, Pakistan, and Colombia
- Originally focused on the Muslim world, now with broader reach

Science Diaspora

- Forum for engagement with countries of origin or ancestry
- Diasporas form important financial, diplomatic ties
- Science has a role in economic growth, research, innovation, and education
 - ~ Global Diaspora Forum
 - ~ Network of Diasporas in Engineering and Science (NODES)
 - ~ Partnerships for Enhanced Engagement in Research (PEER-Science)

International Geoscience Scientific Unions

- IUGG Intl. Union of Geodesy and Geophysics
- IUGS Intl. Union of Geological Sciences
- IUSS Intl. Union of Soil Sciences
- INQUA Intl. Union for Quaternary Research
- IAU Intl. Astronomical Union
- IGU Intl. Geographical Union
- ISPRS Intl. Society for Photogrammetry and Remote Sensing
- URSI Intl. Union of Radio Science

International Geoscience Scientific Unions

- Set scientific standards and nomenclature
- Maintain important worldwide databases
- Promote international capacity building
- Provide professional development opportunities and encourage early career scientists
- Publish journals
- Provide a neutral meeting forum

U.S. National Committees for Geosciences

- Fulfill membership responsibilities: representation and involvement in governance meetings, promotion of Union's programs in the U.S.
- Organize activities for the benefit of the U.S. community:
 - Engage U.S. scientific community and work with professional societies
 - Organize and promote education and outreach activities
 - Co-organize activities with professional societies, universities, and other stakeholders

Best Practices

- Culture
- Language
- Mutual trust
- Implied/explicit agreements: define the who, what, when, why, and how
- Not being a parachutist
- Capacity building when appropriate
- Bidirectional learning opportunities
- Research protocols and intellectual property
- Credit on publications (local language & English)

IN CONCLUSION

- Anyone that works abroad is a science diplomat
- S/he will have an impact in their host institution, colleagues, and communities
- It is a very rewarding experience for everyone involved
- Foster shared global scientific and societal advancement
- Improves relationships among nations



**Thank You for Your
Attention!**

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