The great demographic shift underway in many developed nations is impacting the geoscience workforce profoundly. This is especially the case in the United States as an example of how these trends are occurring. In the United States currently about half of all geoscientists globally are facing the retirement, and in the case of the federal geoscience workforce, the imminent loss of the Baby Boom generation geoscientists. This demographic shift is impacting a variety of aspects of the geoscience and how coupled by internal shifts in the geosciences on subdisciplinary thrusts, the match between the skill portfolio of new graduates is not necessarily well aligned with the existing skill returns. In particular, the US geoscientists face the challenge of based on current demand, attrition, and graduation rates of being short nearly 50,000 geoscientists by 2021. In the meantime, the educational community is seeing the retirement of faculty that are teaching very constrained ability to educate students in a number of topics, especially those in the resource industries. Given current funding trends and priorities, this phenomenon is likely to be a broad-based impact and will complicate the broad skill portfolio of the future geoscientists. We also examine the issues of global migration and how does not appear to be nearly as important to addressing the challenges as assumed by many. In addition, the prospective future geoscience majors appear to be of lesser quality than even 5 years ago based on test score, yet we will also present several broad strategies and cautionary tales that can help the US, and likely the global, geosciences community to ensure a stable and effective future and how this is actually opening new opportunities for the next generation of geoscientists.

Quality

New graduates aren’t ready for the workforce

But the employable degree is rare too.

Our talent input into College isn’t very good...

We Educate, Not Train

The future of the global geoscience workforce is very similar to that of the United States. There are several critical issues that need to be recognized, and of appropriately embraced, will lead to a vibrant and sustainable geoscience profession for generations to come: continued full coverage of all geoscience areas in University Education, recognition that Geoscience professionals can be substituted, but also recognize that we can convert those professionals into geoscientists. Recognition that we can convert those professionals into geoscientists, but also recognize that we can convert those professionals into geoscientists. The future of the global geoscience workforce is very similar to that of the United States. There are several critical issues that need to be recognized, and of appropriately embraced, will lead to a vibrant and sustainable geoscience profession for generations to come: continued full coverage of all geoscience areas in University Education, recognition that Geoscience professionals can be substituted, but also recognize that we can convert those professionals into geoscientists. Recognition that Geoscience professionals can be substituted, but also recognize that we can convert those professionals into geoscientists.

Meeting Future Demand

The only metric of our success in building a sustainable geoscience profession is whether we are able to meet future demands for geoscience talent. Demand is a complex concept that the common metric - FTE's (full-time equivalents) varies over time with efficiencies, even if the sum of required work remains constant. In the US, there is evidence of constrained capacity to educate more geoscientists at a one time. The lack of a proper education, not training to properly educate the diverse needs of the next generation of geoscientists? Do we have the right people, knowledge, and skills getting their Ph.D.’s to properly educate the diverse needs of the next generation of geoscientists?

Carrying Capacity

In the U.S., there is evidence of constrained capacity to educate more geoscientists at a one time. The lack of a proper education, not training to properly educate the diverse needs of the next generation of geoscientists? Do we have the right people, knowledge, and skills getting their Ph.D.’s to properly educate the diverse needs of the next generation of geoscientists?

Thoughts on the Future

The great demographic shift underway in many developed nations is impacting the geoscience workforce profoundly. This is especially the case in the United States as an example of how these trends are occurring. In the United States currently about half of all geoscientists globally are facing the retirement, and in the case of the federal geoscience workforce, the imminent loss of the Baby Boom generation geoscientists. This demographic shift is impacting a variety of aspects of the geoscience and how coupled by internal shifts in the geosciences on subdisciplinary thrusts, the match between the skill portfolio of new graduates is not necessarily well aligned with the existing skill returns. In particular, the US geoscientists face the challenge of based on current demand, attrition, and graduation rates of being short nearly 50,000 geoscientists by 2021. In the meantime, the educational community is seeing the retirement of faculty that are teaching very constrained ability to educate students in a number of topics, especially those in the resource industries. Given current funding trends and priorities, this phenomenon is likely to be a broad-based impact and will complicate the broad skill portfolio of the future geoscientists. We also examine the issues of global migration and how does not appear to be nearly as important to addressing the challenges as assumed by many. In addition, the prospective future geoscience majors appear to be of lesser quality than even 5 years ago based on test score, yet we will also present several broad strategies and cautionary tales that can help the US, and likely the global, geosciences community to ensure a stable and effective future and how this is actually opening new opportunities for the next generation of geoscientists.

Capacity Building

Do we have the right people, knowledge, and skills getting their Ph.D.’s to properly educate the diverse needs of the next generation of geoscientists?

What we are producing...