GSA PRESIDENT'S MEDAL

Presented to Keyhole, Inc. Developers of Earth Viewer (now Google Earth)



Founders: John Hanke, Chikai Ohazama, Mark Aubin, Phil Keslin, and Avi Bar-Zeev

Advisory founders: Brian McClendon, Michael Jones, Chris Tanner, and Remi Arnaud

Citation by Jean M. Bahr

The President's Medal was established to recognize individuals, groups, or entities whose impact has profoundly enhanced the geoscience profession both through advancing our science and through promoting geoscience in the service of humankind. The founders of Keyhole, Inc., are most worthy recipients of this honor. In 1999, they began developing software for Earth Viewer. Now known as Google Earth, their 3D virtual globe has emerged over the past decade as a transformative technology for geoscience research, teaching, and outreach to the public. Geoscientists use Google Earth as they are planning field expeditions, to post photos and other field observations, and to create virtual field trips for classes, colleagues, and the public. Geologic and topographic maps downloaded to Google Earth are accessible on desktops, laptops, and iPhones. Coupled with GPS, these Google Earth layers allow us to keep track not only of where we are, but also of what fascinating rocks lie beneath our feet. Displays of recent earthquakes, locations of volcanoes, hydrologic features, and historical imagery facilitate scientific monitoring and public appreciation of our

dynamic planet. New applications for sharing, accessing, and displaying remote sensing data are expanding exponentially, and availability of these data has facilitated emergency responses to natural disasters. Diverse applications of Google Earth were highlighted in a Pardee Keynote Symposium at the 2009 GSA Annual Meeting in Portland. Continued collaborative developments to address needs of the geoscience community will be the topic of a Penrose Conference to be held at Google headquarters this coming January.

Response by Mark Aubin

I am honored to represent my fellow Keyhole founders in accepting the President's Medal of the Geological Society of America for our role as inventors of Google Earth.

Our original intentions were to provide education and entertainment to a newly connected generation of internet users, but this award highlights the reality that Google Earth has become an indispensable tool for scientists, providing the ideal platform for their own research and publishing efforts.

What started out as two guys working on a demo in their garage has become something way beyond what any of us could have dared to imagine. When Chris and Rémi coded up their first spinning globe demo with texture paging techniques inspired by the super computers they helped invent at Silicon Graphics, their goal was to impress investors enough to fund their gaming company startup. The demo succeeded, which resulted in the company shifting focus to building their gaming engine. But it was not to be put on a shelf and forgotten. Eventually Keyhole was formed as a spin-off with the goal of making an earth viewer that would stream endless satellite and aerial imagery over the internet to people's homes. Then one day Google noticed us and thought that our technology would fit in well with their goal of organizing the world's information. Now we could finally make our product free as we had always hoped it would be. And having the resources to acquire vast amounts of imagery was pretty cool.

Today, with over 700 million unique activations, Google Earth is being used in some pretty amazing ways. Like the Amazon Surui tribe in Brazil to help in monitoring their territory for illegal logging. Or high school students in Barrow, Alaska, the northernmost city in the USA, to visualize whale shark movements. Or National Geographic explorer Sylvia Earle to advocate for the preservation of our oceans. Or science news reporter, Declan Butler, to show the spread of avian flu. The list goes on and on.

Being a part of the creation of Google Earth has, and continues to be, very fulfilling. But it is also humbling to realize that what we created has become the canvas for others much greater than us to build upon. People all over the world use Google Earth to explore, search, discover and tell their own unique stories. We all have one thing in common, which is that we call this planet our home. If Google Earth has played a part in making this a better planet then we have succeeded.

Again, thank you on behalf of my fellow Keyhole founders for selecting us all as this year's President's medal recipients. We are honored.