

Center for Applied Space Technology

ISDE Update

June 2007

The *Center for Applied Space Technology* took advantage of a tremendous opportunity by participating in the recently completed 5th *International Symposium on Digital Earth*, held 5-9 June 2007, on the campus of the University of California Berkeley. The Symposium is held biannually and this was the first time the event was hosted in the United States (previous meetings have been held in China, Canada, the Czech Republic, and Japan; the event returns to China in 2009). The Director-General, Dr. Tim Foresman, his staff led by Joyce Foresman, and a host of volunteers created an outstanding experience for the attendees. With a focus on a wide variety of remote sensing applications and the geospatial information technologies that make the data pertinent to a diverse ‘user community’, the Symposium was fast moving and highly relevant. An important side effect of the gathering was the creation and expansion of personal and professional networks. *CAST* hopes to establish key and enduring relationships within our portion of the remote sensing community as a result of our participation.

Director of Operations Larry Harvey, at the invitation of the ISDE Director General, chaired the Symposium session on “**Environmental and Sustainable Development Applications**”, held on the third day of the event. Larry also presented “**Waterspace Management through the Application of Space Technologies**” as part of the session. Larry’s presentation introduced *CAST* to the digital earth community and highlighted our upcoming proof-of-concept operation in the Florida Keys National Marine Sanctuary. Larry’s comments on the Symposium follow:

“After an early start to summer in Florida, it was great to spend a week in the Northern California climate. The weather was just one element of the very successful week. As you might expect for an event with “International” in its title, Symposium attendees hailed from around the world. As it usually does, such a mix of participants provided many opportunities for learning and exchanging perspectives. The Symposium agenda provided ample material for such discussions. For me, a highlight of the week was the opportunity to share time and conversation with Capt./Dr. Edgar Mitchell who walked on the moon with one of my personal heroes, Alan Shepard as part of the crew of Apollo 14. I had opportunity in March to visit with Dr. Mitchell at his home and was grateful for the opportunity to share more Naval Aviation and space exploration stories. Dr. Mitchell ‘wowed’ the crowd with his presentation, “**Explorers from Planet Earth; A Retrospection**” to the point that he was cited or quoted by almost every one of the presenters who followed him. For example, better than half of the current world population was not even alive when he walked on the moon. Of course, he has a perspective of earth that only a handful of humans have ever enjoyed. As for me, I had occasion to learn even more, and to ask some of those 35-year-old nagging questions about what I consider to be one of the most significant eras of contemporary history.

Though the concept of digital earth encompasses a wide variety of observation-applications, many of the speakers were focused on the use of visualization technologies to define and quantify the episode of global climate change currently making life a bit more interesting. A particularly fascinating sequence of speakers featured author James H. Kunstler speak from his book *Challenges for the Long Emergency* which, quite frankly, left me feeling good that I won’t live long enough to see if his vision of a warmer world is accurate. Dr. Elisabet Sahtouris, an evolution biologist, followed him with an

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incredibly upbeat presentation, “**Sustainable Solutions for a Hotter Planet**”. For anyone losing sleep at night wondering how mankind will survive even the worst estimates of impending climate change, I would heartily recommend her books, lectures, or website! Dr. Sahtouris is genuinely excited about the prospects of change and our ability to adapt and adjust. I still hope I’m not here to see it all go down but if my longevity genes do prevail, I’d rather live in SahtourisWorld than KunstlerWorld. I am one of those ‘Pollyanna Optimists’ that believe that we can rise above any situation by applying those very qualities that set us apart from all other organisms in the known universe. I was able to survive all kinds of perils as a Naval Aviator by often repeating my credo: “Until proven otherwise, I am immortal”. I would suggest taking a similar approach to climate change!

[Of course, such an approach is akin to sticking your head in the sand! The evidence of climate change is fairly overwhelming though the causes and effects are probably more convoluted than what is often portrayed in the headlines. Given such change is underway, I would prefer that we focus on the things we might do to minimize, if possible, or accommodate, if not, such change. We should be taking action instead of being entirely focused on finding and announcing more evidence of the change...*LMHf*]

Another area of extreme interest to *CAST* is the amazing array of geospatial technologies that are available to tackle not only the massive challenges of climate change but also the ‘mom and pop’ issues in your local neighborhood. I was most impressed by the applications of ESRI, Google Earth, Microsoft, and other visualization technologies to address and remedy much of that which ails us. I learned a great deal and again, a lot of it involved practices and events of which I was relatively-and blissfully- ignorant. What is even more impressive about these technologies is that they are readily available to even the most casual or capable computer user. Our challenge at *CAST* is to find the right visualization technology or technologies to optimally display data fields in a way that best support real-time resource management. It is quite possible that the best program would be one that combined the best qualities of both visualization and informational geospatial systems. The impending *CAST* waterspace management project in the Florida Keys National Marine Sanctuary might provide the perfect opportunity to develop and evaluate such a capability.

Probably the most significant implication for *CAST* arising from our participation in the ISDE5 is the realization that no other organization is operating with our particular vision or capability. There is a vast array of businesses and activities with missions and capabilities complimentary to *CAST*. Likewise, *CAST* is in position to extend the potential for many of these organizations. There is also great opportunity to exercise the *CAST* mission statement by pursuing the “*innovative application*” of many of these cutting-edge geoinformational technologies. One of the keystone messages of ISDE5 was the need to establish cooperation networks and information exchange to deal with both the global and local issues facing our society. In this spirit and in keeping with our organizational objectives, *CAST* is already in the process of creating and supporting such relationships, partnerships, collaborations, and information exchange with many of the Symposium attendees.”