

## Guest Editorial

# The University Consortium for Geographic Information Science: Shaping the Future at Ten Years

### 1 Introduction

The University Consortium for Geographic Information Science (UCGIS) is ten years old. Formed in 1995 at a conference in Boulder, Colorado, the concept was realized after initiatives from the board of NCGIA and a series of meetings at conferences drummed up momentum and support. As with many new ventures, shared ideals, esprit d' corps, and enthusiasm combined in an initial fuel of commitment that led to the creation of a common vision for UCGIS to serve as "an effective, unified voice for the geographic information science research community; to foster multidisciplinary research and education; and to promote the informed and responsible use of geographic information science and geographic analysis for the benefit of society" (see [http://www.ucgis.org/aboutucgis/mission\\_goals.htm](http://www.ucgis.org/aboutucgis/mission_goals.htm) for additional details). From its beginnings as a charter group of thirty universities and professional associations, UCGIS has grown to 67 university members, four professional organizations and nine corporate, government and international affiliates. Ten years on UCGIS is a mature and well recognized institution in the GIScience community having developed a distinctive pattern of summer and winter assemblies in pursuit of its mission. As with all ventures, however, it is well to remember the product life cycle. In the life of a commercial product, development, introduction, growth, and maturity are followed by decline. Whether this model is inevitable is an essential question for an organization like UCGIS as it matures. Fortunately one can point to many organizations for which maturity has not presaged decline, and in the vibrant and expanding field of GI Science it would be a dour pessimist who would predict decline as the inevitable successor to maturity. Nonetheless, keeping UCGIS vital, vibrant even, will require continued hard work and commitment.

### 2 Targets for Growth

What keeps an institution vibrant? New blood, certainly: regularly introduced at the membership level and as those who serve as officers and in committees. For UCGIS, an institutional membership organization, stimulating involvement and activities within and

between members is key. Individuals in member institutions should be aware of and be participating in UCGIS-sponsored activities. There has been some success in coordinated projects such as the U.S. Department of Housing and Urban Development-funded GIS and Urban Indicator Analysis, U.S. Geological Survey supported GI Science and vector-borne diseases colloquia, and Federal Geographic Data Committee funded metadata and Framework survey initiatives. Strong support of student participation in UCGIS assemblies assists in deeper involvement of member universities. But we all recognize that the grass-roots activities have room for growth and there is current discussion within the consortium about how this is best achieved. Suggestions for increased participation of all types are always welcome at [execdir@ucgis.org](mailto:execdir@ucgis.org).

Relevant goals are another key contributor to vitality. Recent winter meetings in Washington, D.C., to showcase current GI Science research to congress and federal agencies, have been particularly pertinent featuring the roles of GI Science in Homeland Security and disaster management and, most recently, in Public Health. Success in communicating those research goals requires more sophisticated means of communication than PowerPoint slides on the walls of senate office buildings and delegates regularly walk the halls of power in search of sympathetic ears. The voice of UCGIS should learn to speak more persuasively outside academia and we took some first steps to do so in the February meeting. Certainly we are good at speaking to ourselves. The recent publication of *A Research Agenda for Geographic Information Science* (McMaster and Usery 2004) summarizes the continuing efforts of the Research Committee to fulfill a mission of identifying, if not prioritizing, the major research challenges facing our science – strongly recommended reading for all students intending to pursue a GI Science track. On the other hand, the Education Committee has championed the GI Science Model Curricula project (UCGIS 2003). While still in progress, the recent emergence of a new GI organization appears to have injected new urgency and necessity for this project.

### **3 The United States Geospatial Intelligence Foundation: An 800 lb (1,760 kg) Gorilla?**

In 2004 a new GI Science entity named the U.S. Geospatial Intelligence Foundation (USGIF) was launched. According to its website, “The purpose of the Foundation is to promote the geospatial-intelligence tradecraft, and to develop a stronger community of interest between Government, Industry, Academic, and Professional organizations and Individuals who share a mission focus around the development and application of geospatial intelligence data and geo-processing resources to address National Security objectives” (see <http://www.usgif.org/> for additional details). ‘Tradecraft’ is a revealing choice of word. And who comprises the Foundation? The chairman of the board is K. Stuart Shea of Northrop Grumman Corporation, and other board members are high level executives representing Boeing, Raytheon, Lockheed Martin, SAIC, and other corporations. Professor Michael Goodchild sits among the Presidents and CEOs. Welcome to the military-industrial complex, Mike.

USGIF has broad educational objectives. Abstracted from the foundation’s vision and mission statement, one reads, “. . . sponsor, conduct and support public discussion . . . publish and distribute educational publications, . . . conduct sponsor or promote educational programs including programs for teachers, administrators and students primarily in grades K through 12, . . . award scholarships to students at accredited

institutions of higher education to pursue geospatial intelligence disciplines, to include such areas as: geographic information systems, remote sensing, intelligence analyses, and other related topical areas.” The USGIF Geospatial Intelligence Academy proposes to develop curriculum guidelines and a *voluntary* accreditation process by which educational institutions can demonstrate their effectiveness in meeting recommended learning objectives (author’s emphasis). UCGIS, along with other representatives of academia, now has the opportunity to grasp an essential role in ensuring that these educational objectives and any associated accreditation build on the knowledge that has been developed and established in our institutions of higher education. The Model Curricula project appears to be nearing completion at an auspicious time for it to have significant effect on USGIF curriculum guidelines and the recommended learning objectives.

#### 4 Opportunities in U.S. Education

The opportunity for GI Science education is writ large, but UCGIS has not dealt regularly with institutional players of the magnitude and apparent power of USGIF. Critical scholars of GI Science, Neil Smith and John Pickles come to mind, have raised problematic issues associated with the intimate and necessary connection of geospatial information with the military-industrial complex. Now that the connection is even more evident, how we respond within the scholarly community is a matter for serious thought. Will geospatial intelligence become the dominant discourse? Will the third strand of UCGIS’s mission, ‘the informed and responsible use’ clause, be called into play more overtly?

So, new visions and goals are thrust upon us. Accreditation, like membership in UCGIS itself, raises questions of inclusivity and exclusivity. I have been speaking of growing an organization, and by so doing helping to grow a science. Up until this point, I have always naively held the thought that, as academicians, we had considerable sway over the process of educating the wider public about the values and advantages of geospatial information. I for one have hoped that GI Science would fire the public imagination in the mode of a “Big Science” analogous to the human genome project. Indeed a decade ago it appeared that the Digital Earth concept might indeed provide the stimulus to such recognition and engagement. After all, most of our successes and problems as human beings occur right here on the surface of the earth. Everything has its place. Does it take the emergence of a big entity such as USGIF and the possibilities of its accreditation of higher education and geospatial programs for K through 12 to provide the *geographical* take on information so that it will receive some much needed attention in U.S. education? The short answer is no. Yet, in spite of the persistent, extensive and committed efforts of UCGIS members and corporate affiliates particularly ESRI, GE Smallworld and Intergraph Corporation, and despite multifaceted evidence of the need for greater geospatial intelligence in the form of a globalizing economy, global climate change, extensive disasters such as the Indian Ocean tsunami, and the issues of national security, GI Science remains comparatively small, relatively unrecognized, and decidedly under-funded.

#### 5 Conclusions

The UCGIS has much reason to be satisfied by way of accomplishments as it sets out on the second decade, but perhaps now is the time for a re-invigorated vision, more

diverse membership, and deeper roots. The foundations laid in research and education bode well, but engaging them with emerging opportunities will be key to continued vitality. How the GI Science community as a whole deals with the rising presence of the military-industrial complex in times of heightened concern about national security is important. Whether UCGIS is able to forge new research initiatives based on its agenda and create a stronger GI education (for one example through the judicious use of the model curricula in the USGIF context) will be a measure of the organization's ability to continually transform and revitalize itself during the next ten years. UCGIS is one means of ensuring that science continues to lead, evaluate and guide the development of the field.

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**Author's note:** Although I am a board member of UCGIS, the comments here are my own and do not represent policy or statements of UCGIS, its board or members.

## References

- McMaster R B and Usery E L (eds) 2004 *A Research Agenda for Geographic Information Science*. Boca Raton, FL, CRC Press
- UCGIS 2003 Development of Model Undergraduate Curricula for Geographic Information Science and Technology: The Strawman Report. WWW document, [http:// www.ucgis.org/priorities/education/priorities/final%20strawman%20text.pdf](http://www.ucgis.org/priorities/education/priorities/final%20strawman%20text.pdf)