

KAREN KEMP

Professor Emerita
Spatial Sciences Institute
USC Dornsife College

President, University Consortium for Geographic Information Science

Email: kakemp@usc.edu



Karen Kemp is Professor Emerita of the Practice of Spatial Sciences in the Dana and David Dornsife College of Letters, Arts and Sciences at the University of Southern California (USC). Before her retirement in August 2019, she taught in the online USC Geographic Information Science and Technology Programs.

During 2019–2020 she is President of the University Consortium for Geographic Information Science, a role that allows her to reach out to the entire GIScience community.

Since the late 1980s, Kemp has been a major figure in the evolution of GIS education in the US and abroad. Her scientific research has focused on developing methods to improve the integration of environmental models with GIS from both the pedagogic and the scientific perspectives and on formalizing the conceptual models of space acquired by scientists and humanities scholars, across a wide range of disciplines.

Before moving to the US from Canada in 1988, she taught Geography, Geology and Microcomputer Applications at Malaspina College, in Nanaimo, British Columbia (now Vancouver Island University). In 1988, she joined the National Center for Geographic Information and Analysis (NCGIA) in Santa Barbara working as Coordinator of Education Programs. During this time, she co-edited the original *NCGIA Core Curriculum in GIS* and was on the editorial team for the 2006 *UCGIS Geographic Information Science and Technology Body of Knowledge*.

After completing her Ph.D. in 1992, she worked at the Technical University of Vienna, Austria and with Longman GeoInformation in Cambridge, England on international GIS education projects. She returned to NCGIA in 1994 as Assistant Director and later Associate Director. In January 1999 she moved to University of California Berkeley to become Executive Director of the Geographic Information Science Center where she helped build the foundation for a campus-wide GIScience initiative. In September 2000, she was invited to join the faculty at the University of Redlands to create and direct their new MS GIS program.

In 2006, after building a successful, widely-respected program at the University of Redlands, Kemp stepped down as Director, retreating to the Island of Hawai'i to become an independent scholar. During this time, she completed the *Sage Encyclopedia of Geographic Information Science* (2008) and worked as Senior Scientist with The Kohala Center on several projects focused on achieving a vision of an Island-based GIS infrastructure integrating Hawaiian and Western sciences, connecting through

place on the landscape. In September 2010, she was lured back to a full-time academic appointment with USC, continuing to live full-time in Hawai'i while teaching in the on-line Graduate Certificate and M.S. GIST Programs.

Spatial Data Science and Geographic Information Science: Is there a difference?

In May of 2018, the University Consortium for Geographic Information Science, held its 22nd annual Symposium on the theme of “Frontiers of Geospatial Data Science.” An outcome of that meeting was the white paper “[UCGIS Call to Action: Bringing the Geospatial Perspective to Data Science Degrees and Curricula](#).” In that paper, the UCGIS community articulated a number of action items we could take to ensure that faculty and students in the emerging field of Data Science are appropriately informed of the geospatial nature of much of the data they use. Many also observed that Data Science faculty and programs on many campuses had not reached out to their geospatial colleagues for assistance in designing curricula.

As the current President of UCGIS, I am particularly concerned that UCGIS members continue to play leading roles in the geospatial community on their campuses. It is therefore essential to understand how the GIScience community should expand our purview to encompass perspectives that some are now seeing distinctly as Spatial Data Science. What is unique about a Spatial Data Science research agenda, and how is it new or different from agendas our community have articulated in the past? And importantly, do we need to retool our faculty, our curricula and our students for a new future?

Our 2018 white paper concluded with three recommendations for the GIScience academic community:

1. Revise and update your curricula. Push to integrate geospatial data into existing data science programs and data science foundations and methods into GIScience programs.
2. Establish a line of communication with alumni and potential employers in order to get feedback about whether the current curriculum is addressing their needs in the evolving workplace, particularly with respect to the emergence of data science careers.
3. Engage in *geospatial* data science conversations with a mix of faculty and administrators across your campus.

The convening of this meeting to draft a research agenda for Spatial Data Science smoothly sidesteps the awkward question of whether this is something different or just a new name for the same thing. That is a good thing as it simply means the whole community can move forward under this new umbrella and expand our mutual horizons. I look forward to the conversations about what are the research frontiers AND how do we need to prepare our students to address those. These are important themes that I will carry forward during my Presidential year as the UCGIS reformulates its mission, membership and strategic plans for the next several years.