

Shaping new infrastructure and practices for cartographic innovation, education, and outreach in universities

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Abstract:

University cartography laboratories have been a driving force for accelerating the impact of cartographic science and technology for many decades. When making maps was primarily an effort led by experts with specialized equipment and skills, university cartography labs provided a crucial form of institutional infrastructure to connect community clients with cartographic solutions. By 1990, there were over 90 such labs in North America (Doyon and Gibson 1990). In many instances, the digital turn in cartography led to the transformation (and some cases elimination) of university cartography labs, as broader audiences became capable of making and disseminating maps on their own without expert assistance or specialized production techniques and equipment. This transformation was already noted in the literature by the mid-90s, with reports of significant changes to the types of projects, products, and expertise required to make maps in university labs, as well as major changes to institutional funding for this work (James 1994). There has been no recent comparable survey of university cartography labs in North America, but recent scholarship about the role of cartography in geography curricula in the United States suggests that its prevalence in coursework has decreased substantially over time (Wikle and Sinton 2021) and there is no doubt that many labs highlighted in 1990 no longer exist today.

We represent a group of university cartographic research, education, and outreach laboratories who are working to develop new models of cartography engagement in higher education in a contemporary cartographic ecosystem; the University of Wisconsin Cartography Lab (est. 1953), the University of Oregon InfoGraphics Lab (est. 1988), and the Penn State GeoGraphics Lab (re-established in 2022 after a 20 year hiatus). Each university happens to be part of an academic and sports alliance called the Big Ten (branded as B1G). We adopted the title of *B1G Cart* in our workshop based on this mutual association. In this paper we highlight the results of a recent workshop held with members from each group to characterize strengths, weaknesses, opportunities, threats, and assets associated with our labs (Fig. 1).

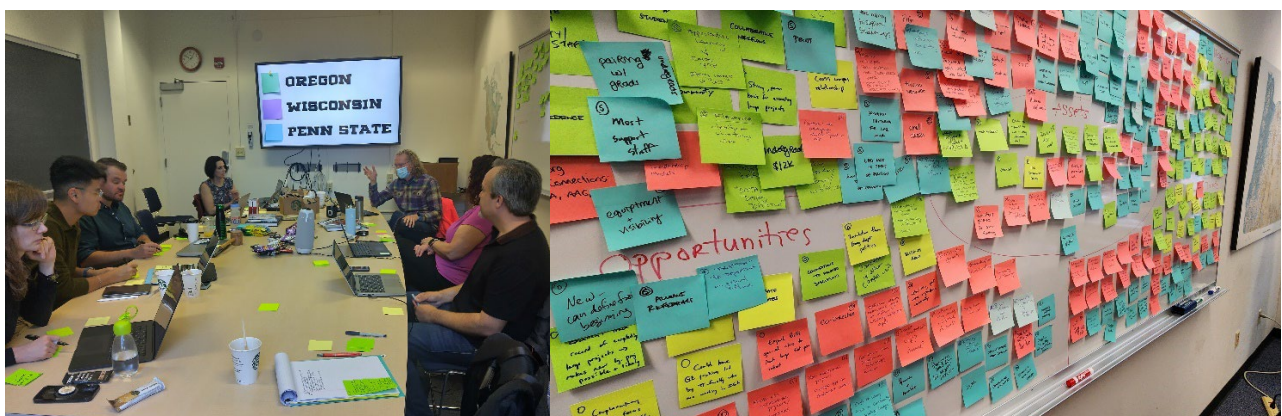


Figure 1. B1G Cart workshop participants produced SWOTA analyses for each of the three represented organizations.

The results of collaborative group work to produce SWOTA analyses for each university cartography group revealed five shared strengths; 1) we foster excellent student experiences that make community impacts, 2) cartographic design & research plays a central role in each university's curriculum, 3) each group is supported by vital infrastructure including

space, staff, and funding, 4) cartographic projects are abundant, diverse, and have a broad range of positive outcomes within and outside of our universities, and 5) there is outstanding potential to develop external donor support for university cartography groups.

SWOTA analyses also revealed major challenges that are shared across all three university cartography labs; 1) project management and process improvement is difficult, 2) infrastructure and funding is always under threat inside our universities, 3) accepting funding from internal and external sources to pay for project work is unnecessarily complex, and 4) appointing and paying staff and part-time student workers is increasingly difficult.

Following the conclusion of our SWOTA exercise, we began to develop cross-cutting goals to encourage further interaction between each group and to provide a critical mass from which we can advocate for the value of university cartography labs within our respective institutions. Five goals emerged from our discussion; 1) pursue joint funding proposals to support student work, 2) share cartography curricula to give students access to strengths from each institution, 3) initiate a short term joint project across all three groups to demonstrate collaboration potential, 4) elevate models for university cartographic design and research groups to expand this community in academia, and 5) jointly sponsor events that highlight cartographic research and education at universities.

Our collaborative work paves the way now for more individualized analyses of SWOTA results that will focus on each group and its respective challenges and opportunities. We hope that sharing what is working well alongside what we see as key challenges will also help encourage the development of new cartographic education, outreach, and research groups at universities.

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