

Establishing a Cartographic Body of Knowledge

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Abstract:

During the past 10 years, the creation of a Cartographic Body of Knowledge (CartoBoK) has been a recurring issue in ICA. In 2006 the University Consortium for Geographic information Science introduced their GIS&T Body of Knowledge. The collection has later been prepared for the Web environment, and the version of today is from 2016 (GIS&T BoK, 2016). This BoK also includes a section on Cartography and Visualization. The section has however been considered as “not complete” when it comes to Cartography. As Chair of the ICA Commission for Education and Learning, David Fairbairn engaged in the BoK for Cartography work (Fairbairn, 2018). In parallel, the Executive Committee at ICA established a BoK Working Group in the period 2015-2019. This WG was chaired by Lynn Utery and co-chaired by Georg Gartner. Based on an evaluation of existing BoKs in neighbouring domains a comprehensive concept was developed, consisting of a starting list of terms, a strategy to involve the community through ICA Commissions, ICA conference participants and ultimately the crowd, and a concept to maintain the BoK by including consequently standardized meta data and allow for linked data relations to update entries. However, their work did not end up in a common agreement on a Cartographic BoK at the ICC in Tokyo 2019. In 2019, Harold Moellering (Moellering, 2019) did also look into the background for developing CartoBoK, in particular from the Analytical Cartography viewpoint.

Since the status for CartoBoK was “mission not completed” in 2019, the current President of ICA wanted a new focus on the establishment of the Body of Knowledge. Accordingly, he formed a new Working Group based on three members of the current Executive Committee. Later this group has been extended, and the current members are the authors of this paper.

Since the autumn 2020 this group has, through regularly online meetings, engaged in the CartoBoK work. At the ICA Generally Assembly in Tokyo, 2019, a review and renewal of existing, central definitions within Cartography was requested. In particular the definition of “a map”. This task was assigned to the CartoBoK WG. A separate paper dealing with the suggested definitions is proposed for ICC in Florence (Lapaine et al., In review).

Another important issue is to establish how to structure the BoK. The WG concluded that “the map” is the most central element, and that other elements within Cartography are somehow connected to the map. We have basic Cartographic elements that are common for most Cartographic work (for example map projections), while other elements are unique for special fields of Cartography.

With a view to establish the CartoBok, the WG have studied BoKs for several other sciences. This includes Business Analysis (BABOK, 2015), Surveying (Bethel, 2011; Greenfeld, 2011a; Greenfeld, 2011b; Greenfeld, 2011c; Lathorp, 2011a; Lathorp, 2011b; Paiva, 2011) and Art (Wang, 2000; Stanley,2006 ; Wu, 2020) . GIS&T BoK (2016) is of course in particular interesting, since it includes Cartography and Visualization as a subset. GIS&T BoK (2016) is also included as a part of the EO4GEO group (Earth Observation for Geoinformation) (EO4GEO BoK, 2018). The EO4GEO group uses “Living Textbook” (Living Textbook, 2021) and a “BoK Visualization and Search tool (BoK Visualization and Search, 2021) “for acquisition and presentation of the BoK. These tools are very intriguing, and

similar approaches are considered for the CartoBoK. During the study of other BoKs, the WG concluded that the CartoBoK need to be a dynamic and maintained on a digital platform. It should not be a static document which can be cumbersome to update. It will be natural to use a kind of Web-based platform.

The different ICA commissions will play an important role when it comes to the content of CartoBoK. Many Cartographic elements are of common interest for several Commissions, while each of them also can have more specialized contributions for the BoK.

As mentioned earlier, CartoBoK needs to be dynamic. Even if much of the content will exist for a long time, new technology and new methods will demand a system for continuous updating and renewal of the BoK. This should be handled by ICA. Maybe we need a permanent Working Group allocated to this task?

It is our intention to present the ongoing work in the CartoBoK Working Group at ICC in Florence, to get inputs and acceptance from the Cartographic community for our further work.

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