

Advancing Ethics in Cartography

Aileen R. Buckley^{a,*}

^a Esri, 380 New York Street, Redlands, CA, 92373, USA - abuckley@esri.com

* Corresponding author

Keywords: ethics, cartography, mapmaking

Abstract:

Ethics, empathy, and equity have recently become central topics not only in cartography and GIScience, but also in many areas of scientific thought and practice (Nelson et al. 2022). The International Cartographic Association (ICA) has taken a leadership role in advancing the development of ethical guidelines for cartography through participation in a number of discussions focused on cartographic ethics, as well as the creation of a working group (WG) on ethics in cartography. This paper reviews the need for, progress to date in, and challenges of developing a set of guidelines for ethical practice in cartography.

Need

To set the stage, in his acceptance speech in December 2021 for the highest honor awarded by the ICA—the Carl Mannerfelt Gold Medal (<https://icaci.org/awards/alan-maceachren-is-awarded-the-carl-mannerfelt-gold-medal/>)—Dr. Alan MacEachren noted that a number of things have placed cartography in a powerful position today. Maps have become invaluable tools for geospatial decision-making; technology has made them ubiquitous, and mapping tools are widely and even freely available.

Additionally, maps are among the few information sources that are still seen as authoritative. Misinformation and disinformation, primarily through social media, have eroded that authority for many purveyors of information. Threats to the perceived authority of maps include fake news/faked maps; gerrymandering; redlining; cartographic conspiracies; deep fakes in satellite imagery; and even incidents such as "Sharpiegate" (<https://www.reuters.com/article/us-storm-dorian-trump/sharpie-gate-trump-shows-apparently-altered-hurricane-map-idUSKCN1VQ00H>), in which then president Donald Trump used a Sharpie permanent marker to alter a map depicting the path of a hurricane to suggest that the geographic area in imminent danger was larger than it actually was.

Ethical standards for mapping would bolster the authority of maps for decision-making. Surprisingly, many national and international mapping and cartography societies and associations have not developed a code of ethics. While the British Cartographic Society (BCS) has developed such a code (<https://www.cartography.org.uk/code-of-ethics>), the statements do not relate directly to mapping practices but rather to moral principles, which is not uncommon for many codes of ethics.

A set of guidelines for cartographic ethics should be able to coordinate with a code of ethics in the larger field of GIScience, in which a code has been developed and subsequently adopted by two US-based GIScience associations, the GIS Certification Institute (GISCI, <https://www.gisci.org/Ethics/CodeofEthics.aspx>) and the Urban and Regional Information Systems Association (URISA, <https://www.urisa.org/about-us/gis-code-of-ethics/>). These two organizations use the same code, which addresses obligations to society, to employers and funders, to colleagues and the profession, and to individuals in society. As with the BCS code, the statements could be applied to multiple professions, and the word *map* does not appear once.

Although cartography does not currently have a code of ethics, if it did, it might look something like Dr. Steven Holloway's "Right MAP Making" manifesto (<https://www.tomake.com/manifesto.html>)—it speaks to such important principles as not mapping that which should not be mapped, and connecting to the place that is being mapped. Or it might read like the four guiding principles in the blog post "The Mapmaker's Mantra" (<https://www.esri.com/arcgis-blog/products/arcgis-online/mapping/mapmakers-mantra/>), which includes a set of guiding value principles related to mapmaking.

These two works have some things in common: neither is a code of ethics, per se, but rather a call for ethical practice in mapmaking; they focus on mapmaking, not other aspects of cartography; they include only four or five principles; and they are succinct and therefore easier to remember.

Progress to Date

To address the issue of a lack of ethical guidelines specific to cartography, a number of activities took place in 2022, including open discussions at meetings in the US and Europe with various organizations and a variety of participants. As a capstone, the theme of the 2022 AutoCarto conference was Ethics in Cartography: Integrity, Inclusion, and Empathy (<https://cartogis.org/autocarto/autocarto-2022/>).

Date	Event	Participants
March 2022	American Association of Geographers	ICA, BCS, CaGIS, Esri, IMIA, NACIS
June 2022	IMIA Mapping Leaders Forum	IMIA-led discussion among members
July 2022	Esri User Conference	ICA, Esri, CaGIS, IMIA, UN-GGIM, US Census Bureau
September 2022	EuroCarto	ICA, BCS, CaGIS, Esri
October 2022	NACIS	Aileen Buckley, Steven Holloway
November 2022	AutoCarto	ICA, BCS, BGK, Esri, IMIA

Table 1. Events in 2022 at which discussions took place that focused on ethics in cartography.

Additionally, a number of articles were published in 2022. Former ICA president Menno-Jan Kraak wrote an article on actionable map ethics in *GIM International* (<https://www.gim-international.com/magazines/gim-issue-4-2022>). Current president Tim Trainor wrote about map ethics in *ArcNews* (<https://www.esri.com/about/newsroom/arcnews/cartographic-engagements-in-a-postvirtual-world/>). Also, Aileen Buckley wrote about mapping ethics in *ArcNews* (<https://www.esri.com/about/newsroom/arcnews/advancing-ethics-in-mapmaking/>).

In October 2022, the ICA Executive Committee approved a proposal for the establishment of a WG to focus on ethics in cartography. The goals of the WG are to review work to date on guidelines for ethical conduct and practices in cartography and closely related fields; articulate a set of basic guiding principles that reinforce ethical behavior and practice in cartography; develop guidelines that arise from, and are justified by, those basic guiding principles; and identify resources created or endorsed by cartographic practitioners or professional organizations that relate to the guidelines.

Challenges

Rather than develop a code of ethics, which has the potential trappings of a more formal and therefore controversial construct, the ICA WG is focused on developing a set of shared value principles, an approach adopted by the United Nations (UN) to garner faster and easier acceptance of proposals. To ensure progress, the initial focus is on mapmaking and can be expanded later to other aspects of cartography.

There is a commitment to solicit and support contributions and comments from individuals and organizations worldwide, including most national and international cartographic societies. The intent is to provide an open forum for these discussions and contributions. There is also a goal to develop a repository for the stated principles and related resources, such as articles, blog posts, and technical papers, to be used as teaching and self-learning resources. Following an example set by Pennsylvania State University (<https://geospatial.psu.edu/ethics>) and described by DiBiase on the University Consortium for Geographic Information Science (UCGIS) Geographic Information Science and Technology Body of Knowledge website ([10.22224/gistbok/2017.2.2](https://www.gistbok.org/2017.2.2)), there is a focus on identifying and sharing case studies in ethical practices to analyze and develop responses to real-world ethical challenges.

The hope is that these activities will lead practitioners to "clarify ethical issues of interest and work toward developing guidance on them for the cartographic and GIScience communities," as Trainor stated in his *ArcNews* article.

References

Nelson, T. A., M. F. Goodchild, and D. J. Wright. 2022. "Accelerating ethics, empathy, and equity in geographic information science," *Proceedings of the National Academy of Sciences of the United States of America* 119 (19). Published online May 4, 2022. <https://doi.org/10.1073/pnas.2119967119>.