

Ethics in Cartography Resources

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Geoethics Initiatives



International Association for Promoting Geoethics - Geoethics.org

- <https://www.geoethics.org/>
- Founded December 4, 1997

“The International Association for Promoting Geoethics (IAPG) is a multidisciplinary, scientific platform for widening the discussion and creating awareness about problems of Geoethics and Ethics applied to the Geosciences.”

Geoethics consists of the research and reflection on those values upon which to base appropriate behaviours and practices where human activities intersect the Geosphere. Geoethics deals with the ethical, social and cultural implications of Earth Sciences research and practice, providing a point of intersection for Geosciences, Sociology and Philosophy. Geoethics represents an opportunity for Geoscientists to become more conscious of their social role and responsibilities in conducting their activities. Geoethics is a tool to influence the awareness of society regarding problems related to geo-resources and geo-environment. (source:

https://www.geoethics.org/files/ugd/5195a5_95c5a38c8f2147cf8427e093d7110c2b.pdf)

UN-GGIM

- <https://ggim.un.org/>
- July 27, 2011

On 27 July 2011, recognizing the need to promote international cooperation in the field of global geospatial information, the United Nations Economic and Social Council (ECOSOC) established the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) with ECOSOC resolution 2011/24 entitled "Committee of Experts on Global Geospatial Information Management". ECOSOC established the Committee of Experts as the apex intergovernmental mechanism for making joint decisions and setting directions with regard to the production, availability, and application of geospatial information within national, regional, and global policy frameworks.

Led by Member States, the Committee aims to address global challenges regarding the use of geospatial information, including in the development agendas, and to serve as a body for global policymaking in the field of geospatial information management.

EthicalGEO Project

- <https://ethicalgeo.org/>
- AGS initiative launched August 1, 2019

The American Geographical Society's EthicalGEO Initiative seeks to activate thinkers, innovators, entrepreneurs, policymakers, practitioners, students, and everyday citizens and bring them into a global dialogue that shines a light on their best ideas about the ethical challenges and opportunities posed by the many geospatial technologies and data sources that are reshaping our society. (source: https://ethicalgeo.org/wp-content/uploads/2020/04/Digital_EG_Brochure-2-1.pdf)

Benchmark Initiative

- <https://benchmarkinitiative.com/>
- London-based initiative launched October 2019

Understanding "where" is one of the most powerful insights we have to help us manage the world around us. Increasingly detailed data about places, and people and things in places, continually offers new insights and capabilities, and new kinds of power. This new power should be exercised responsibly and fairly.

The Benchmark Initiative was created by Omidyar Network and Ordnance Survey to increase awareness of the many potential risks of using location data, to identify ethical principles, and to promote good practice. Benchmark is now also supporting international collaboration to agree and promote a shared view of what good practice with location data looks like, as the Locus Charter.

UN-IGIF

- <https://ggim.un.org/igif>
- United Nations Integrated Geospatial Information Framework (UN-IGIF)
- UN-GGIM adopted the UN-IGIF at its 10th session 26-27 August and 4 September, 2020

The United Nations Integrated Geospatial Information Framework (UN-IGIF) provides a basis and guide for developing, integrating, strengthening and maximizing geospatial information management and related resources in all countries. It will assist countries in bridging the geospatial digital divide, secure socio-economic prosperity, and to leave no one behind.

The IGIF comprises three parts as separate, but connected, documents: [Part 1](#) is an Overarching Strategy; [Part 2](#) is an Implementation Guide; and [Part 3](#) is a Country-level Action Plan. The three parts comprise a comprehensive Integrated Geospatial Information Framework that serve a country's needs in addressing economic, social and environmental factors; which depend on location information in a

continually changing world. The Implementation Guide communicates to the user what is needed to establish, implement, strengthen, improve, and/or maintain a national geospatial information management system and capability.

The IGIF focuses on location information that is integrated with any other meaningful data to solve societal and environmental problems, acts as a catalyst for economic growth and opportunity, and to understand and take benefit from a nation's development priorities and the Sustainable Development Goals. (source: <https://ggim.un.org/IGIF/overview/>)

Locus Charter

- <https://ethicalgeo.org/locus-charter/>
- Announced in February 2021

“The [Locus Charter](#) proposes that wider, shared understanding of risks and solutions relating to uses of location data can improve standards of practice, and help protect individuals and the public interest. We hope the Charter can improve understanding of risk, so those can be managed, and the many benefits of geospatial technologies can be realized for individuals and societies.”

Since 2019, the Benchmark and EthicalGEO initiatives have supported international dialogues with geospatial professionals and organizations, to explore what it means to use location data responsibly in different contexts. These dialogues have strongly suggested that common international principles could help users of geospatial data make more informed decisions, and provide the basis for communication with people affected by those decisions.

Developing common global principles must be a collaborative activity, respecting international contexts and perspectives. The Locus Charter as presented here was developed through our initial international workshops, and forms the basis for further collaboration. Click on the button below to read the full Charter. (source: <https://ethicalgeo.org/locus-charter/>)

Geoethics

- Webinars and Website: <https://aag-geoethics-series.secure-platform.com/a>
- White paper: [https://www.aag.org/wp-content/uploads/1900/09/2022-White-Paper-on-
Locational-Information-and-the-Public-Interest.pdf](https://www.aag.org/wp-content/uploads/1900/09/2022-White-Paper-on-Locational-Information-and-the-Public-Interest.pdf)
 - Webinars February 2021 to February 2022
 - In-person summit June 27-29, 2022
 - White paper September 2022

“In 2021, AAG joined with the Center for Spatial Analysis at University of California Santa Barbara and Esri to convene a series of multi-disciplinary, multi-dimensional discussions that have called upon a wide range of practitioners—in academia and government, the private sector and the grassroots—to address the implications of ever-more precise technology for geolocation and the ever-more pervasive panopticon of public life. The goal of the series – which will lead up to an in-person Summit in June 2022 -- is to collectively think through and address the potentialities--both promising and concerning--of

putting mapping, visualization, surveillance, facial recognition, and data collection at the fingertips of an ever-widening range of practitioners.”

Webinars

- <https://aag-geoethics-series.secure-platform.com/a/solicitations/10/sessiongallery/4853>
- February 2021 to February 2022

Recordings:

- [Ethical Spatial Analytics](#) – February 9, 2021
- [Responsible Use of Spatial Data](#) – May 26, 2021
- [No Direction Home: Labor Rights and Geospatial Data](#) – June 1, 2021
- [Living Under Surveillance](#) – July 21, 2021
- [Emerging Location-based Services and Technologies, GeoSurveillance and Social Justice Issues](#) – August 11, 2021
- [Ethical Issues of Using Geospatial Data in Health Research or Policies During the COVID-19 Pandemic and Beyond](#) – December 2, 2021
- [Does GeoAI Promise an Ethical Future for Spatial Analytics?](#) - February 8, 2022

Summit on Locational Information and the Public Interest

- <https://www.aag.org/events/summit-on-locational-information-and-the-public-interest/>
- June 27-29, 2022

This in-person summit, hosted by the Organizing Committee on Locational Information and the Public Interest and sponsored by Esri, convened a breadth of disciplines, including social science, computer science, humanities, and legal scholars and professionals to further discuss locational information and the public interest.

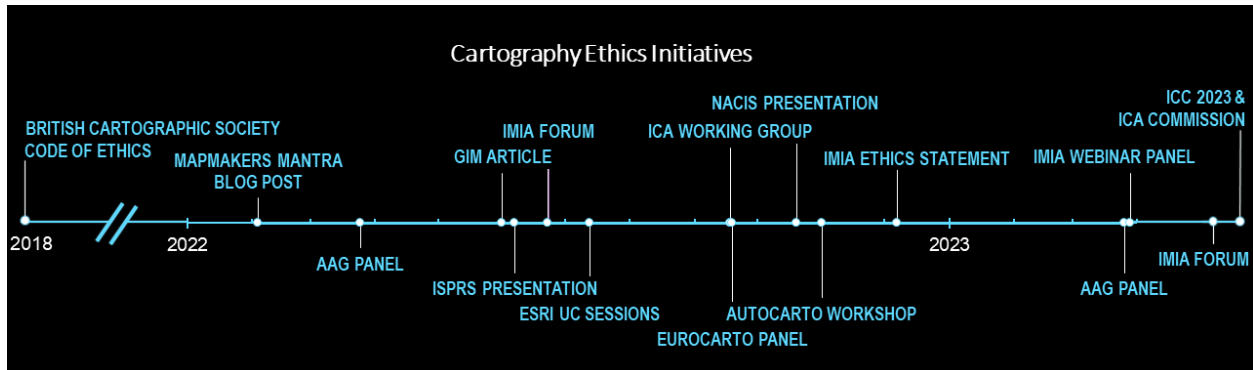
A White Paper on Locational Information and the Public Interest

- <https://www.aag.org/wp-content/uploads/1900/09/2022-White-Paper-on-Locational-Information-and-the-Public-Interest.pdf>
- September 2022

Between June 27–29, 2022, the Organizing Committee hosted an in-person Summit (sponsored by Esri), bringing together a breadth of disciplines, including social scientists, computer scientists, humanists, and legal scholars and professionals, to further discuss locational information and the public interest. The participants were brought together by a common concern for the uneven ethical, legal, and social implications of location information. They represent a range of junior to senior positions with different specializations, abilities, and situations, all driven by the goal of more ethical use of locational information.

The eighteen experts at the Summit worked to collaborate on a high-level report that would build a framework for continued and collaborative work in the coming years, and would target different audiences including academic scholars, educators, public policy makers, certifying bodies, geographic information systems (GIS) professionals, geospatial data scientists, and students across the increased range of disciplines that use locational information. This report addresses four goals, each of which is discussed in an appropriately structured section...

Cartography Ethics Initiatives



British Cartographic Society (BCS) Code of Ethics

- <https://www.cartography.org.uk/code-of-ethics>
- The British Cartographic Society's Code of Ethics comprises the following five principles and associated guidelines: Honesty, Integrity, Competence, Respect, Responsibility. Later Diversity and Equality was added.
- Proposed in 2018. Approved by BCS Council on 20 July 2020.

Mapmakers Mantra blog post

- <https://www.esri.com/arcgis-blog/products/arcgis-online/mapping/mapmakers-mantra/>
- Blog post
- February 4, 2022

Maps are widely regarded as objective and authoritative sources of information. Over the past decade, news and other information sources have often been distorted on social media, eroding their authority. It's our hope that we can help avoid a similar erosion of cartographic credibility by drafting this "Mapmaker's Mantra."

The Mantra is not a code of ethics for cartography. It focuses solely on mapmaking, not the many other facets of cartography. It aims at the making of maps that convey authoritative information, not maps for advertisements, propaganda, and the like. Its goal is to preserve the authority of maps by reminding the mapmaking community of their ethical and moral responsibility to tell the truth with maps.

Authors: Aileen Buckley, Allen Carroll, Clint Brown

American Association of Geographers (AAG) Annual Meeting panel session

- <https://aag-annualmeeting.secure-platform.com/a/organizations/main/home>
- Virtual event
- February 25–March 1, 2022

A Code of Ethics for Cartography

- <https://aag-annualmeeting.secure-platform.com/a/solicitations/19/sessiongallery/schedule/items/3569>
- February 25, 2022, 5:20–6:40 PM EST

Participants:

- Organizer: Aileen Buckley, Esri
- Chair: Aileen Buckley, Esri
- Panelists:
 - Tim Trainor, ICA
 - Mark Cygan, IMIA (for Dave Mcilhagga)
 - Patrick Kennelly, NACIS (for Travis White)
 - Thomas Pingel, CaGIS
 - Alexander Kent, BCS (for Seppe Cassettari)
 - Ted MacKinnon, CCA (unable to attend)
 - Roger Smith, NZCS (unable to attend)

GIM International article

- <https://www.gim-international.com/magazines/gim-issue-4-2022>
- Article – Issue 4, page 42
- June 2022

Written by Menno-Jan Kraak, past president of the ICA, this article suggests several experimental ideas for how to make the Mapmakers Mantra more actionable.

Author: Menno-Jan Kraak

ISPRS presentation

- <https://www.isprs2022-nice.com/>
- In-person event – Nice, France
- June 7, 2022

“Geospatial Information-enabled SDGs Monitoring”

Authors: L. DURIEUX (Genève), Y. BAN (Stockholm), F. BRETAR, M-J. KRAAK (Enschede), J. MILLS (Newcastle University), D. OXOLI (Politecnico di Milano), P. PATIAS (Thessaloniki), S. PENG (Beijing)

IMIA Mapping Leaders Forum & Breakout Sessions

- <https://imiamaps.org/event2/denver-mapping-leaders-forum-2022/>
- In-person event – Denver, CO
- June 23, 2022

Participants:

- Organizer: Mark Cygan, Esri & IMIA
- Participants:
 - Aileen Buckley, Esri & CaGIS
 - Alexander Kent, BCS (for Seppe Cassettari)
 - Bridger DeVille, IMIA
 - Breakout groups facilitated by Bridger DeVille, Thierry Jaccoud, Mani Singh, and Mark Cygan

Esri User Conference Technical Workshops

- <https://www.esri.com/en-us/about/events/uc/overview>
- In-person event – San Diego, CA
- July 11–15, 2022

Elements of Ethical Cartography: Refining a “Mapmakers’ Mantra”

- [https://uc2022.esri.com/flow/esri/22uc/uc-2022-
ps/page/proceedings/session/16517656682210013MpT](https://uc2022.esri.com/flow/esri/22uc/uc-2022-
ps/page/proceedings/session/16517656682210013MpT)
- Technical Workshop
- July 13, 2022

Many articles and papers have been written describing the ethical issues that cartographers should consider as they make maps. Since at least some of these documents are lengthy or targeted to specific communities, the panelists see the merit in a simple, accessible document that summarizes guiding principles of ethical cartography, reflects the best practices of the cartographic community, and links to key resources. The panelists will briefly summarize the draft Mantra and the motivations for creating it. Most of the session will be an open discussion of the Mantra and its elements, with the goal of moving toward a consensus of cartographers on the essential elements of ethical map making.

Participants:

- Moderator: Allen Carroll, Esri
- Panelists:
 - Mark Cygan, Esri
 - Aileen Buckley, Esri
 - Tim Trainor, Consultant
 - Deirdre Dalpiaz Bishop, Census Bureau
 - Greg Scott, UN-GGIM

The Ethics of Making Maps

- [https://uc2022.esri.com/flow/esri/22uc/uc-2022-
ps/page/proceedings/session/1651765651566001328i](https://uc2022.esri.com/flow/esri/22uc/uc-2022-
ps/page/proceedings/session/1651765651566001328i)
- July 7, 2022

Maps are a mirror of the world, yet maps are not all made equally. They may be authoritative or misleading, honest or disingenuous, and harmless or harmful. In this session we explore the role and purpose of ethics in mapping to identify approaches for honest, trustworthy, and accountable cartographic practice. We’ll identify some ideas and tenets that we can all apply to our work to make

better maps. We'll encourage the value of thinking about the ways in which we imbue maps with different messages and share resources for better understanding and applying ethics in mapping.

Participants:

- Lisa Berry, Esri
- Joseph Kerski, Esri
- Kenneth Field, Esri
- Charlie Fitzpatrick, Esri

EuroCarto 2022 Map Ethics Panel

- <https://eurocarto2022.org/program/#panel>
- In-person event – Vienna, Austria
- September 19, 2022

Participants:

- Tim Trainor, ICA
- Mark Cygan, IMIA
- Alexander Kent, BCS
- Aileen Buckley, ICA WG

NACIS Presentation

- <https://nacis.org/annual-meeting/current-meeting/>
- In-person event – Minneapolis, MN
- October 20, 2022

Cartography doesn't have a code of ethics. If it did, it might look something like Steven Holloway's "Right Mapmaking" manifesto (<https://www.tomake.com/manifesto.html>) or Aileen Buckley et al.'s "The Mapmaker's Mantra" (links.esri.com/mapmakers-mantra). These basic guiding principles give rise to and provide the justification for rules that help guide and assess a mapmaker's decisions. Those have not yet been developed. Nor do links to resources that would provide a better understanding of and/or practical experience with the skills needed for ethical mapmaking. This presentation provides an update of national and international activities relating to the development of a cartography code of ethics, and it enfolds NACIS in the discussion.

Presenter: Aileen Buckley

AutoCarto 2022 Conference

- <https://cartogis.org/autocarto/autocarto-2022/>
- Hybrid event – Redlands, CA
- Workshops, November 1; conference November 2-4, 2022

Conference

Theme: Ethics in Mapping: Integrity, Inclusion, and Empathy

The conference brought attention to the ethical responsibilities we face in all aspects of our practice, provided a forum for discussion on the power of maps and spatial analyses, and highlighted opportunities for discussions of integrity, inclusion, and empathy in cartography and GIScience.

Advancing Ethics in Cartography Workshop

- <https://cartogis.org/autocarto/autocarto-2022/program/workshops/#ethics>
- November 1, 2022

The purpose of this workshop is to review progress to date on developing a set of guiding value principles for ethics in cartography. Current content review and gap analysis performed prior to the workshop will be presented. The desired outcome is to finalize the guiding principles and begin to identify resources related to the principles.

This is the last in a series of events held in 2022 that focused on ethics in mapmaking: a panel session at the American Association of Geographers Meeting, roundtable discussions at an IMIA Mapping Leaders Forum, a technical workshop at the Esri User Conference, and a workshop and technical session at EuroCarto.

In this final workshop, conversation will revolve around the responsibilities cartographers and mapmakers have for ensuring that a map's content and design do no harm and the fundamental baselines for ethical mapmaking to ensure that the authority of maps endures. The goal is to clarify ethical issues of interest and work toward developing guidance on them for the cartographic and GIScience communities.

Participants:

- Moderator: Tim Trainor, ICA
- Panelists:
 - Aileen Buckley, CaGIS
 - Anja Hopfstock, Federal Agency for Cartography and Geodesy (BKG)
 - Alexander Kent, BCS
 - Mark Cygan, IMIA

ICA Working Group (WG)

- <https://icaci.org/working-groups/>
- Proposed September 18, 2022, approved December 3, 2022

This Working Group was first presented to the ICA Executive Committee by ICA President Tim Trainor at EuroCarto 2022 in Vienna, Austria, in September. As the EC had only a short, informal meeting there, the decision to install and approve the WG was made by the EC on 3 December 2022 during their virtual meeting.

IMIA Statement on Ethics for the Map Industry

- <https://imiamaps.org/imia-statement-on-ethics-for-the-map-industry/>
- December 7, 2022

The International Map Industry Association (IMIA) recognizes the following essential priorities and practices for ethical conduct by global mapping and geospatial businesses:

- Demonstrating integrity in all aspects of business operations, particularly correct map information and proper treatment of intellectual property.
- Maintaining business relationships through truthful communication and inclusive practices.
- Utilizing best practices for sourcing appropriate data and producing map content at resolutions/scales aligned with expected usage.
- Producing quality map and data products and services by focusing on their relevant usability, fidelity to a consistent ethical cartographic process, and accountability through honest and transparent procedures.

AAG Panel Session

- <https://aag.secure-platform.com/aag2023/solicitations/39/sessiongallery/schedule/items/6590>
- In-person event – Denver, CO
- March 26, 2023 (recorded)

The past year has seen advances in the discussion and development of guidelines for cartographic professionals engaged in the art and science of mapmaking. These basic guiding principles are akin to and the foundation for a code of ethics for mapmaking, and they give rise to and provide the justification for actionable strategies that help direct and assess a mapmaker's decisions. Resources related to the strategies provide a better understanding of and/or practical experience with the skills for ethical mapmaking. Existing strategies and resources created or endorsed by professional cartography and GIScience organizations will be seen as more reliable and authoritative. This panel focuses on the development of the guidelines, collection of the resources, articulation of the strategies, and dissemination and acceptance tactics. The goal is sketch out a roadmap for mapmakers to develop the skills and knowledge to instill actionable ethics into our practice of professional mapmaking.

Participants:

- Discussant: Babs Battenfield, U Colorado
- Panelists:
 - Timothy Trainor, ICA
 - Anthony Robinson, Penn State University
 - Aileen Buckley, ICA WG

IMIA Where Cartography Meets Industry Virtual Webinar

- <https://imiamaps.org/wcmi-geo-ethics-in-mapping/>
- Virtual event

- March 29, 2023

Geo-Ethics in Mapping has quickly accelerated in the past year, with significant sessions in no less than six cartography and geography-related events and articles in at least five associated publications. Geo-Ethics in Mapping has many facets, but through collaboration, we have rapidly developed very succinct statements from these organizations.

Participants joined this lively webinar panel discussion to discover:

- What has been accomplished to date
- Discussion of the key issues and opportunities
- A map for the path forward

Participants:

- Alexander Kent, BCS
- Daniel Cole, CaGIS President
- Kari Craun, CaGIS Executive Director
- Aileen Buckley, ICA WG
- Mark Cygan, IMIA

IMIA Mapping Leaders Forum 2023

- <https://imiamaps.org/wcmi-geo-ethics-in-mapping/>
- In-person event
- June 8, 2023

A keynote presentation, Global Perspectives on GeoEthics, by Aileen Buckley and Alex Kent to review a prevalent industry topic and engage the audience with a Q&A session.

Participants:

- Alexander Kent, BCS
- Aileen Buckley, ICA WG
- Mark Cygan, IMIA
- Bennett Moe, IMIA

ICC 2023

Advancing Ethics in Cartography presentation

- <https://icc2023.org/wp-content/uploads/2023/07/ICC-Conference-August-2023-Programme.pdf>
- Tuesday, 15 August 2023
- Session 18E: Ethics in cartography and GIScience (chair: Georg Gartner) Room 1.61

Ethics, empathy, and equity have recently become central topics not only in cartography and GIScience, but 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. In this paper, I review the need for, progress to date in, and challenges for developing a set of guidelines for ethical practice in cartography.

ICA Commission on Ethics in Cartography

- <https://icaci.org/commissions/>
- Approved August 18, 2023

This commission was approved at the 19th General Assembly of the ICA which took place in connection with the 31st International Cartographic Conference (ICC2023) in Cape Town, South Africa.

Terms of Reference:

Review work to date on guidelines for ethical conduct and practices in cartography and closely related fields. This may include codes of ethics, codes of conduct, and principles for ethical practices, among others.

Use the reviewed materials, and other resources as necessary, to *articulate a set of basic guiding principles* that reinforce ethical behavior and practice in cartography, focusing first on mapmaking, and in particular, the making of maps that are meant to support decision making (as opposed to maps for advertisement, propaganda, and such.)

Develop guidelines that arise from and are justified by the basic guiding principles that help direct and assess a mapmaker's decisions. These guidelines should reinforce the making of maps that convey their message accurately, justifiably, and thoroughly and, as such, can be taken to be reliable information sources.

Identify resources created or endorsed by cartographic practitioners or professional organizations that relate to the guidelines and provide a better understanding of and/or practical experience with the skills needed for ethical mapmaking.

Distribute all of the above in an open access format (distributed online and free of access charges or other barriers).

Promote community involvement in the development of guidelines and collection of resources, paying special attention to opportunities to expand or update existing materials due to technological advancements or societal changes.

Assess additional areas within cartography for which principles and guidelines for ethical conduct and practices are also justified (the business of maps and map preservation and curation, for example).

Ethics in Cartography Case Studies

From AutoCarto 2022

<https://cartogis.org/autocarto/autocarto-2022/>

1. [Democratizing Geospatial Technology](#) David Padgett's presentation on EthicalGEO, related to Environmental Justice.
2. [Deep Fake Geography](#) Bo Zhao's Presentation on using artificial intelligence and machine learning to create fake images of geographic locations, and thoughts about how to identify deep fakes in satellite imagery.
3. [Ethics in GIS: Empathy](#) Trisalyn Nelson's presentation which discusses a case study about bicycle transportation and bias caused by lack of data.
4. [Mapping the Unequal Risk of Police Violence: A Critical Response to Predictive Policing](#) Elisabeth Sedano and Christopher Hayner presentation offers an alternative to predictive crime mapping that uses past crimes versus mapping based on police behavior, such as stop and frisk.
5. [Developing synthetic individual-level population datasets: The case of contextualizing maps of privacy-preserving census data](#) Yue Lin and Ningchuan Xiao's presentation looks at developing synthetic data to overcome errors in privacy-preserving U.S. Census data.

From GeoEthics.org

<https://sites.psu.edu/gisethics/>

1. [An Ethical Minefield](#) Should a surveying and mapping crew chief pay a bribe to acquire data needed to conduct field reconnaissance safely?
2. [Bear Baiting](#) Should locations of controversial hunting stations be mapped?
3. [Caribou Migration Routes](#) A GIS analyst is asked to exclude pertinent data from maps prepared for a public hearing.
4. [Collateral Damage Mapping](#) A geospatial intelligence analyst predicts the civilian casualties likely to be caused by a pre-emptive missile attack.
5. [Cutting Corners on Redistricting](#) Election mapping consultants propose to omit data from GIS analyses to cut costs and win a contract with a newly-formed Independent Election Commission.
6. [Environmental Justice Web Map](#) A GIS programmer ponders a contract for a web map that overlays toxic industrial sites and at-risk communities.
7. [E-911 Contract Conflict of Interest](#) A municipal GIS manager troubled by what appears to be a conflict of interest considers filing a formal ethics complaint.
8. [Flood Insurance Mapping](#) Confronted with increasing flood risk in her region, how can a floodplain manager reconcile conflicting obligations to her employer and her constituents? *New August 2022*
9. [Government Employee and the Press](#) A member of the press asks a government employee to leak the results of a GIS analysis about a controversial wild land fire.
10. [Low-level Radioactive Waste Siting Map](#) A map masks potentially suitable sites for low-level radioactive waste storage facility.

11. [Mapping Muslim Neighborhoods](#) A police department's plan to map potential terrorist enclaves brings charges of racial profiling.
12. [Misleading Satellite Data Contract](#) A sales representative is expected to withhold information that could affect availability of a data product.
13. [Privacy and Planning](#) A GIS professional considers filing an ethics complaint about lax protection of the confidentiality of a sensitive database.
14. [Proprietary Software in an Emergency](#) Too few software licenses are available in the aftermath of a tsunami. *Updated October 2022*
15. [Public Access to Government Data](#) A governmental agency's need to recoup user fees conflicts with a public records law.
16. [Sharing Alpha Software](#) An entrepreneurial GIS programmer is tempted to use a friend's code to win a lucrative contract.
17. [Submarine Crashes into Uncharted Seamount](#) A nuclear submarine's crash into an uncharted seamount raises ethical issues for Navy training personnel.
18. [Tidal Wetland Mapping](#) A scope of work statement and established mapping procedures prevent a GIS analyst from adding wetlands to a conservation database.
19. [Tracking Mobile Phones in Mobility Research](#) Researchers track mobile phone users' movements to derive predictive models of human mobility.

From Geoethics: Ethical Challenges and Case Studies in Earth Sciences

<https://www.sciencedirect.com/book/9780127999357/geoethics>

- Section I: Philosophical Reflections
- Section II: Geoscience Community
- Section III: The Ethics Of Practice
- Section IV: Communication with The Public, Officials and The Media
- Section V: Natural and Anthropogenic Hazards
- Section VI: Low Income and Indigenous Communities

[Chapter 21 - Reflections on Ethics in Mapping as an Instrument and Result of Disaster Research](#)

- By Jessica Heesen, Daniel F. Lorenz, Martin Voss, Bettina Wenzel

Mapping has become an important tool in disaster research. How physical and social conditions are described by geographical methods decides the way risks, vulnerability, and resilience are evaluated and influences the efforts that are made for disaster control—as well as their fair distribution. However, the predominant methods of mapping have certain constraints concerning cultural and social factors and particularities. Addressing a comprehensive ethical consideration, these limitations and blind spots have to be taken into account. Certain aspects cannot be mapped to the full extent, such as specific forms of knowledge, risk perception, and preparedness measures. If the unmapped preconditions of mapping remain unconsidered, this can lead to problematic effects with respect to an appropriate understanding of maps on the one hand and a fair and context-related distribution of official measures to control risk

and to care for resilience processes on the other hand. Map makers and map users should be aware of the problems connected to maps in order to avoid pitfalls and misinterpretations.

From the EthicalGEO blog

<https://ethicalgeo.org/blog/>

[Abortion Clinics and Misleading Google Maps](#)

- By Jordan Brennan
- January 11, 2023

“...a new analysis by Bloomberg has found the [Google Maps] platform routinely misleads people searching for abortion providers and clinics. When users search the words “abortion clinic” in Google Maps, nearly a quarter of the top 10 search results, on average and across all 50 states including Washington D.C., belong to crisis pregnancy centers. Crisis pregnancy centers, or CPCs, are a type of non-medical organizations with a mission to encourage women to go through with their unwanted pregnancies. In 13 states, including Arkansas, Idaho, and South Carolina where the procedure is recently limited, five or more of the top 10 results were for CPCs rather than abortion clinics.”

[OpenStreetMap: Disputed Territories](#)

- by Sooin Choi
- September 27, 2022

Sometimes, when users are simultaneously editing the same location, the map may be conflicting. In such cases, OpenStreetMap enables users to compare and resolve mapping disputes. With constant updating by public volunteers, OpenStreetMap is the widest open source of geospatial information readily accessible to everyone, everywhere.

It is hard to deny that OpenStreetMap has democratized the mapmaking practice. Yet, when everyone is given the agency to create and change maps, another important question arises: How do we map out disputed territories?

[How Amazon May Be Using Your Vacuum to Map Your Home](#)

- By Jordan Brennan
- October 12, 2022

Last month, Amazon Inc. announced a \$1.7 billion deal to acquire iRobot Corp., which produces and sells the Roomba vacuum cleaner.

Some of iRobot’s most recent products utilize a technology called Smart Maps, which helps your vacuum remember the layout of your home so as to better clean it. Customers do, however, have the choice to

opt out of sharing this data, and Amazon has said in a statement that protecting customer data is “incredibly important.”

The deal between Amazon and iRobot has given Amazon unique access to not only the behaviors within your home, but also its location and precise layout. Even worse, the mapping technology of Roomba and the data that comes from it represents a treasure trove of data for marketers to use. For instance, the size of your home could provide a pretty decent estimate of your wealth, and a floor covered in toys could let them know you likely have kids, etc. All of this information is extremely useful to companies like Amazon who are always looking to sell more products to their consumers.

[The Practical Application of the GIS Code of Ethics – A Case Study](#)

- By Greg Babinski
- March 12, 2020

Within a month of his hiring, the City Manager met with the GIS Coordinator and asked if the City had the data and the capability to map the location where city residents of certain designated religions lived. In particular, he wanted to know to the neighborhood and household level where Sunni and Shiite Muslims in SeaTac lived.

He described his desire to have ‘tactical maps’ of city neighborhoods, so that he could ‘make the peace’ if needed. The City Manager described his goal for this GIS mapping request to others in the City as related to the Somali and Eritrean communities within SeaTac and his fears of ‘radicalized’ Muslims. Later the request was expanded to include mapping individual Christians (Protestant and Catholic) as well as individuals by gender and age group. One of the goals for the project was also to identify the location of ‘Americans who had not adopted American ways.’

[The Ethical Mapping Guidelines: how not to map](#)

- By Erica Hagen
- February 14, 2020

Those who are currently on the margins of a society are in a particularly disadvantaged position with regard to decision making, and data and maps may either contribute to that imbalance or help to rectify it. Vulnerability essentially means that variations in the status quo – the fluctuations of economics, health, environment, natural disaster, war, etc. – will affect certain communities and individuals disproportionately. My motivation for developing ethical guidelines for mapping with vulnerable populations is simply that this is where I’ve seen the most critical ethical challenges arise. If we cannot create an ethics that protects and ideally empowers the most critically vulnerable populations, then we cannot claim to have an ethical approach to our mapping at all.

From [Looking before we leap: Case studies](#): Six case studies to support learning about common ethical issues in AI and data science research

- By the Ada Lovelace Institute
- [Mapping London's gangs through a deep-learning tattoo image classification model](#)

...one of the greatest needs police departments currently face is tracking who is involved in which gang, which may help investigators develop a map of collective criminal activity and associations

According to our police informants for this project, tattoos are one of the most reliable sources of information about an individual's gang relationships. Tattoos can reflect a gang's location, name and even specific information about the role the individual plays in the gang (e.g. as an enforcer, drug dealer etc.). HMPPS and the Met already maintain a large database of high-quality tattoo image data collected during arrests, surveillance operations and incoming inmate interviews. By training an image classification model on this data, we can help police and prison officers perform their job more effectively and at a higher quality [by tracking and mapping the location of gang members].

Example Codes of Ethics

Captain Hector Barbossa (Pirates of the Caribbean): First, your return to shore was not part of our negotiations nor our agreement so I must do nothing. And secondly, you must be a pirate for the pirate's code to apply and you're not. And thirdly, the code is more what you'd call "guidelines" than actual rules. Welcome aboard the Black Pearl, Miss Turner.

Cartography

Organizations with No Code of Ethics

- International Cartographic Association (ICA): <https://icaci.org/>
- International Map Industry Association (IMIA): <https://imiamaps.org/>
- Cartography and Geographic Information Society (CaGIS): <https://cartogis.org/>
- North American Cartographic Information Society (NACIS): <https://nacis.org/>
- Canadian Cartographic Society (CCA): <https://cca-acc.org/>
- New Zealand Cartographic Information Society (NZCS): <https://www.cartography.org.nz/>

GIS

GIS Certification Institute (GISci)

<https://www.gisci.org/Ethics/CodeofEthics.aspx>

Urban and Regional Information Systems Association (URISA)

<https://www.urisa.org/about-us/gis-code-of-ethics/>

Both organizations use the same code of ethics:

- I. Obligations to Society
The GIS professional recognizes the impact of his or her work on society as a whole, on subgroups of society including geographic or demographic minorities, on future generations, and inclusive of social, economic, environmental, or technical fields of endeavor. Obligations to society shall be paramount when there is conflict with other obligations.
- II. Obligations to Employers and Funders
The GIS professional recognizes that he or she has been hired to deliver needed products and services. The employer (or funder) expects quality work and professional conduct.
- III. Obligations to Colleagues and the Profession
The GIS professional recognizes the value of being part of a community of other professionals. Together, we support each other and add to the stature of the field.
- IV. Obligations to Individuals in Society
The GIS professional recognizes the impact of his or her work on individual people and will strive to avoid harm to them

Remote Sensing and Photogrammetry

American Society for Photogrammetry and Remote Sensing (ASPRS)

http://www.asprs.org/a/publications/pers/2014journals/PERS_December_2014/HTML/files/assets/common/downloads/page0056.pdf

From Lynn Usery:

The original code of ethics (in the form of professional practice requirements and responsibility for work and conduct, came in 1940-1945. The following from the [history of ASPRS \[asprs.org\]](#):

The movement for registration and licensing of engineers to practice which became active in most states in 1940-1945 resulted in a proposal to amend the Society's constitution to classify all members as Associate Members until they submitted proof that they had at least 12 years' experience and had been in responsible charge of photogrammetric work in order to qualify as Members.

Honesty, justice, and courtesy form a moral philosophy which, associated with mutual interest among people, should be the principles on which ethics are founded.

Each person who is engaged in the use, development, and improvement of the mapping sciences (Photogrammetry, Remote Sensing, Geographic Information Systems, and related disciplines) should accept those principles as a set of dynamic guides for conduct and a way of life rather than merely for passive observance. It is an inherent obligation to apply oneself to one's profession with all diligence and in so doing to be guided by this Code of Ethics.

Accordingly, each person in the mapping sciences profession shall have full regard for achieving excellence in the practice of the profession and the essentiality of maintaining the highest standards of ethical conduct in responsibilities and work for an employer, all clients, colleagues and associates, and society at large, and shall . . . (see code of ethics for more).

Geography

American Geographical Society (AGS)

Code of Conduct: <https://americangeo.org/about-us/ethical-guidelines/>

The American Geographical Society (AGS) is committed to providing an environment free from all forms of discrimination, harassment, and retaliation. Recognizing the need for an atmosphere that encourages the free expression and exchange of ideas, all activities of AGS are conducted and dedicated to the philosophy of equality of opportunity and treatment for all participants, regardless of gender, gender identity or expression, race, color, national or ethnic origin, religion or religious belief, age, marital status, sexual orientation, disabilities, veteran status, or any other reason not related to professional merit. Harassment, sexual or otherwise, is a form of misconduct that undermines the integrity of the mission and vision of AGS and is not tolerated.

Royal Geographical Society (RGS)

<https://www.rgs.org/professionals/chartered-geographer/application/application-forms/chartered-geographer-code-of-conduct.pdf/>

Chartered Geographers:

1. Demonstrate exemplary professional standards and practice
2. Act responsibly and ethically
3. Endorse equality, fairness and diversity
4. Review and improve practice through continuing professional development (CPD)

National Geographic Society

Code of Ethics: <https://www.nationalgeographic.org/ethics/>

Too long to be summarized.

Geosciences

American Geosciences Institute

Guidelines for Ethical Professional Conduct: <https://www.americangeosciences.org/workforce/ethics>

The American Geological Institute (AGI) expects the profession to adhere to the highest ethical standards in all professional activities. The following aspirational guidelines are presented as representative of the core values that form the foundation of the ethics for the geoscience profession. They are presented as the highest common denominator of values for the profession.

Geoscientists should strive to advance the integrity, honor, and dignity of their profession by undertaking the following:

- Use their knowledge and skill to enhance understanding of Earth for the well-being of society and the environment;
- Exhibit honesty in professional actions at all times;
- Work to enhance the prestige of the geoscience profession; and
- Support the profession and technical societies of the profession

More specifically, the position of AGI is that geoscientists must acknowledge responsibility to:

Geological Society of America

Code of Ethics and Professional Conduct: <https://www.geosociety.org/gsa/membership/code-of-ethics/gsa/membership/code-of-ethics.aspx>

The Geological Society of America Inc. (“GSA” or the “Society”) promotes the geosciences in many ways, ranging from organizing scientific meetings to publishing scientific journals and books and bestowing medals and awards. GSA’s vision is to be the premier geological society supporting the global community in scientific discovery, communication, and the application of geoscience knowledge. To

achieve this vision, it is imperative that we, as GSA Members, adhere to the highest ethical standards in all of our professional activities.

The purpose of the Code of Ethics & Professional Conduct (the “Code”) is to foster a culture of integrity and excellence through our work as a Society and in furtherance of GSA’s tax-exempt charitable, educational, and scientific purposes.

Civil Engineering

American Society of Civil Engineers (ASCE)

<https://www.asce.org/career-growth/ethics/code-of-ethics>

Members of The American Society of Civil Engineers conduct themselves with integrity and professionalism, and above all else protect and advance the health, safety, and welfare of the public through the practice of Civil Engineering.

Engineers govern their professional careers on the following fundamental principles:

- create safe, resilient, and sustainable infrastructure;
- treat all persons with respect, dignity, and fairness in a manner that fosters equitable participation without regard to personal identity;
- consider the current and anticipated needs of society; and
- utilize their knowledge and skills to enhance the quality of life for humanity.

All members of The American Society of Civil Engineers, regardless of their membership grade or job description, commit to all of the following ethical responsibilities. In the case of a conflict between ethical responsibilities, the five stakeholders are listed in the order of priority. There is no priority of responsibilities within a given stakeholder group with the exception that 1a. takes precedence over all other responsibilities.

Computer Science

Institute of Electrical and Electronics Engineers (IEEE)

<https://www.ieee.org/about/corporate/governance/p7-8.html>

We, the members of the IEEE, in recognition of the importance of our technologies in affecting the quality of life throughout the world, and in accepting a personal obligation to our profession, its members and the communities we serve, do hereby commit ourselves to the highest ethical and professional conduct and agree:

- I. To uphold the highest standards of integrity, responsible behavior, and ethical conduct in professional activities.
- II. To treat all persons fairly and with respect, to not engage in harassment or discrimination, and to avoid injuring others.
- III. To strive to ensure this code is upheld by colleagues and co-workers.

Association for Computer Machinery (ACM)

<https://www.acm.org/code-of-ethics>

Too long to be summarized.

Statistics

American Statistical Association (ASA)

<https://www.amstat.org/ASA/Your-Career/Ethical-Guidelines-for-Statistical-Practice.aspx>

The ethical statistician uses methodology and data that are relevant and appropriate; without favoritism or prejudice; and in a manner intended to produce valid, interpretable, and reproducible results. The ethical statistician does not knowingly accept work for which he/she is not sufficiently qualified, is honest with the client about any limitation of expertise, and consults other statisticians when necessary or in doubt. It is essential that statisticians treat others with respect.

Journalism

Society of Professional Journalists (SPJ)

<https://www.spj.org/ethicscode.asp>

Members of the Society of Professional Journalists believe that public enlightenment is the forerunner of justice and the foundation of democracy. Ethical journalism strives to ensure the free exchange of information that is accurate, fair and thorough. An ethical journalist acts with integrity.

The Society declares these four principles as the foundation of ethical journalism and encourages their use in its practice by all people in all media.

- Seek Truth and Report It: Ethical journalism should be accurate and fair. Journalists should be honest and courageous in gathering, reporting and interpreting information.
- Minimize Harm: Ethical journalism treats sources, subjects, colleagues and members of the public as human beings deserving of respect.
- Act Independently: The highest and primary obligation of ethical journalism is to serve the public.
- Be Accountable and Transparent: Ethical journalism means taking responsibility for one's work and explaining one's decisions to the public.