

The background of the slide features a blurred image of a globe on a stand, a stack of books, and a dark pen resting on the books. The text is overlaid on the left side of this image.

An Overview of the Ethics Landscape in the Geographical Sciences

A Webinar Series of the Geographical Sciences Committee

May 14, 2020

*The National
Academies of* | SCIENCES
ENGINEERING
MEDICINE

A NASEM Webinar Presentation by:

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An Overview of the Ethics Landscape in the Geographical Sciences

First, I will provide a broad overview of ethical issues and topics in geography and the geographical sciences.

The AAG has been evolving a Statement of Professional Ethics since 1998, with significant revisions and updates in 2005 and 2009. We will survey and briefly discuss some of the most important ethical topics and issues in this document, particularly as they pertain to geographical research.

Second, we will highlight a few pressing geographical and geospatial research ethical issues:

1. Dual Use Geographic Research
2. Privacy and Geospatial Data Confidentiality
3. Intergenerational Ethics and Human Rights
4. COVID-19 and Geographic Health Research

Preface

- **Ethics** refers to rules provided by an external source, such as codes of conduct in workplaces or principles in religions. **Morals** refers to an individual's own principles regarding right and wrong.
- There is a wide range of philosophical theory and interpretation of the nature and basis of **ethics**.

AAG Statement of Professional Ethics

October 18, 1998

Updated April 5, 2005

Revised November 1, 2009

Preamble

Members of the American Association of Geographers recognize that the conduct of geographic research and analysis, as well as the transmission of geographic theories, concepts, and information, involves a wide variety of ethical considerations.

No one statement can possibly cover the range of ethical matters confronted by geographers.

This statement is drafted with the specific intent that it encourage active, thoughtful engagement with ethical issues both within the scope of the statement, and in relation to the various professional circumstances confronted by geographers.

Ethical Behavior during Field Research

The most basic principle governing field research should be that places, people, and things should be treated just as researchers would like others to treat their own places, possessions, and selves.

In the case of environmental studies or those focused on non-human topics, field research should be conducted in ways that minimize long-term impacts. The synthetic nature of geography requires unusual sensitivity to the peripheral effects of field work. Cultural and environmental studies may generate data that are co-opted by others—with damaging results.

Research Involving Indigenous Peoples, Ethnic Minorities and Other Potentially Vulnerable Groups

Research with indigenous peoples, ethnic minorities, and politically vulnerable or marginalized groups raises special challenges and requires special care, regardless of whether the research is conducted by members of those groups.

For indigenous communities, researchers need to engage in a process of respect, reciprocity, and mutual benefit in the research. [Comment] These principles are explicitly outlined in “Nine Guidelines for Research with Indigenous Peoples” (Smithsonian National Museum of the American Indian)

Professional Relations with One Another

Collegiality should be an expression of our ethical commitment to our discipline and to each other. Collegiality requires respect for the opinions and rights of others, a refusal to spread unfounded accusations and rumors about colleagues, and a commitment to discussing differences openly and honestly.

Avoiding Discrimination and Harassment

[AAG Professional Conduct Policy and Procedures, developed 2017-2020]

Sustaining Community

Geographers should strive to create and maintain a **diverse** pluralistic, and inclusive professional community.

Relations with the Larger Scholarly Community

[Comment – Geography is an interdisciplinary discipline. A core need is for impactful geographic research and scholarship]

Relations with People, Places, and Things

Geographical research necessarily involves interactions with peoples, places, and things. Researchers involved with human subjects should seek review and approval from their Institutional Review Board (IRB).

Research in the geographical sciences should be conducted only after careful consideration of these fundamental principles:

Respect for Persons and Communities: The right of individuals and groups to be informed that they are research subjects, to be given adequate information so that they can make informed consent decisions, and to have confidentiality arrangements protected to the extent possible.

Equity: The sharing of research results, to the extent practical and legal, with individuals and communities affected by the research.

Beneficence: The maximization of benefits and the minimization of harm from research.

Respect for ecosystems, biodiversity, natural resources, climate, landforms, and sustainable environmental stewardship. [Comment: Intergenerational Human Right to Livable Planet?]

Ethics and Dual Use Research in Geography

The mission of Harvard's **Tech and Human Values Initiative** is to leverage the University's intellectual resources to build capacity and collaborations that *empower humankind to shape technology rather than be shaped by it.*

Dual Use of Research and Evolving Geospatial Technologies

Real-time Space-time GPS/GIS Integration

Real-time data generation + sensor inputs

The Spatiotemporal Data Explosion

CyberGIS Infrastructure

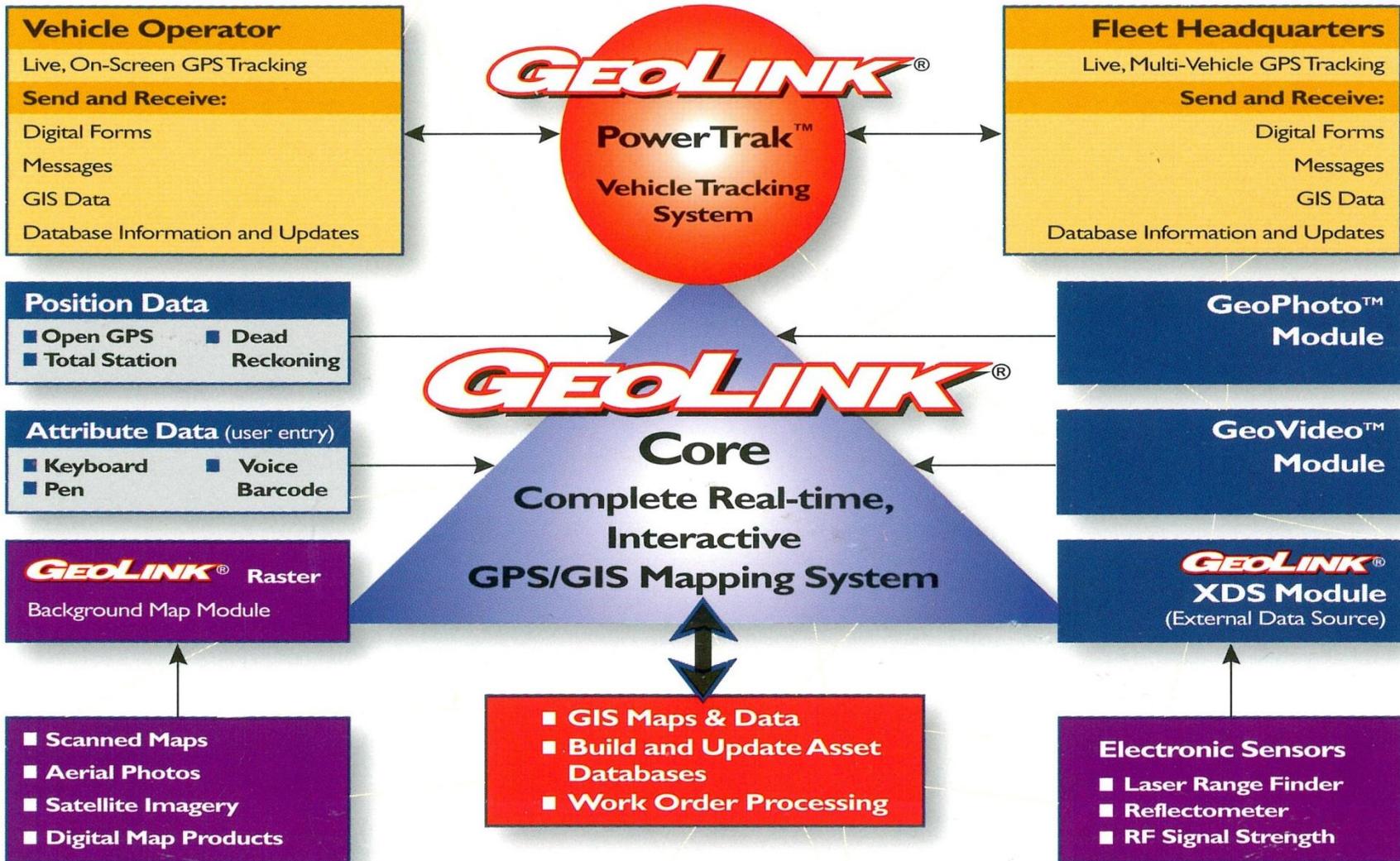
Spatial Data Analytics,
Artificial Intelligence and Decision Making

Theory and Methods (e.g., in Uncertainty and Context)

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GeoLink's Advanced Features

Proven Technology - Expandable - Modular - Open GPS



Ethics, Privacy, and Geospatial Data Confidentiality in Geographic Research

**Qualitative Research methods in Geography
also require close attention to
research subject privacy.**

Geospatial Data Confidentiality

Replication of Geospatial Research

**Addressing Challenges For Geospatial
Data-Intensive Research Communities**

**Unique Confidentiality Risks
and Geospatial Data Sharing
within a Geospatial Virtual Data Enclave**

(National Science Foundation – Two major grants)

PI: Douglas Richardson

Mei-Po Kwan (co-PI), Maggie Levenstein (co-PI)

Implementation:

Harvard-ICPSR-UIUC joint project

- Research on the following areas is being conducted through a Harvard-ICPSR-UIUC joint project:
- (1) research on the unique confidential characteristics of large georeferenced data sets (including issues associated with geospatial cyberinfrastructure and “big” data), and on viable ways to manipulate these data and their geovisualizations to protect confidentiality and privacy of research subjects;
- (2) research on methods and procedures to assess and reduce disclosure risks in maps, statistical analyses and other research projects derived from locationally identifiable data.

Protecting Data Confidentiality

- Geographic masks add stochastic or deterministic noise to the original data matrix through modifying the geographic coordinates of the data points.
- Masking techniques hide the original location associated with particular attributes or data (e.g., data of the household or individuals at that point).
- By geographically masking locations in a data set, researchers can still use illustrations that include the locations of subjects' homes or workplaces in their maps or geovisualizations when publishing their results, while protecting the privacy of the individuals represented by those points.

Initiative: An International Geospatial Health Research Network (IGHRN)

- To foster international comparative geospatial health research
- To identify and share health-related geospatial data sets, and to foster collaborative analytical methods, data standards, and best practices
- To develop shared international strategies for healthy cities, for research on physical and social environments, and the use of new geospatial technologies and methods to improve prediction and prevention of diseases.

Spatializing Health Research

The International Geospatial Health Research Network

COVID-19 and Geographic Research

Ethics Resources

Embedded Ethics is a new program that integrates custom-designed ethics modules into a range of courses across the university. This program is an expansion of Embedded EthiCS, a *successful collaboration between the faculties of Philosophy and Computer Science* at Harvard University that introduces ethics curriculum into existing courses.

The mission of Harvard's **Tech and Human Values Initiative** is to leverage the University's intellectual resources to build capacity and collaborations that *empower humankind to shape technology rather than be shaped by it.*

The Edmond J. **Safra Center for Ethics** at Harvard seeks to strengthen teaching and research about pressing ethical issues; to foster sound norms of ethical reasoning and civic discussion; and to **share** the work of our community in the public interest.

<https://ethics.harvard.edu/>

Questions and Discussion

Thank You!

Xie Xie!

