Ética en el uso de los datos geográficos

Dra. Ing.Agrim. Rosario Casanova
Red Académica UN-GGIM: Américas
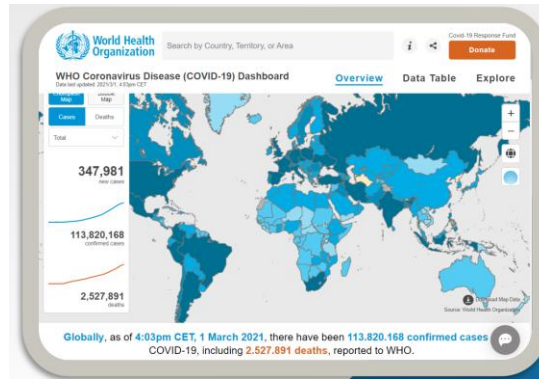
Contenido

- Contexto

- Privacidad

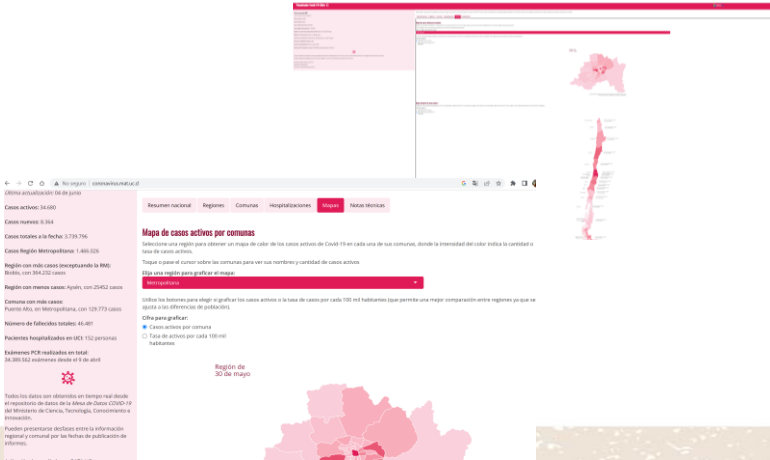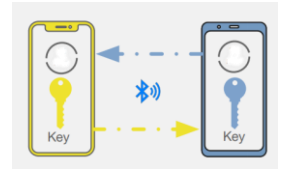- Ética

- Enseñanza

- Reflexiones

CONTEXTO

Pandemia

Datos geográficos

Visibilidad - Exposición
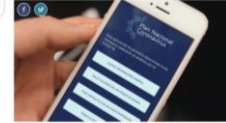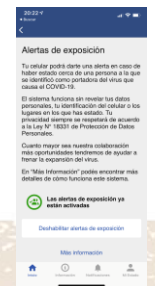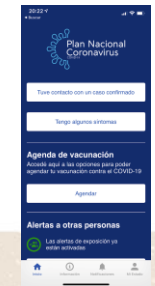
VISIBILIDAD – EXPOSICIÓN

RIESGOS DE LA "NUEVA" EXPOSICIÓN DE LA INFORMACIÓN GEOESPACIAL

- Abuso por parte de los propietarios de los datos geoespaciales.

- Desaprovechamiento de la oportunidad para cobrar relevancia más allá de una vía de comunicación. (Buzai, 2020).

- Sobrevaloración de la geomática como LA herramienta de combate al COVID-19.

- Problemas en la Calidad de los Datos.

- Problema de utilización de datos privados/personales (Betarte et al. 2020).

PRIVACIDAD

MARCO INTERNACIONAL SOBRE DATOS PERSONALES Y SENSIBLES

➢ La protección de datos personales ha sido objeto de regulación de varios tratados internacionales (*PRE fenómeno de "Internet"*)

➢ **No existe un organismo internacional que "gestione" la privacidad de datos a escala global.**

➢ A efectos de analizar el derecho internacional en materia de protección de datos personales debemos acudir al **derecho comparado de escala regional** (ej. UE) **y nacional** (ej. Estados Unidos/ China)

PRIVACIDAD

✓ **Unión Europea:** se posiciona en el derecho humano a la protección de datos. Carta de Derechos Fundamentales: que toda persona tiene derecho a la protección de los datos de carácter personal que la concierne, el tratamiento leal, para fines concretos y sobre la base del consentimiento de la persona afectada y consagra el derecho de toda persona a acceder a los datos recogidos que la concierne y a su rectificación.

✓ **Estados Unidos**: tiene una base sectorial al poner foco en la protección de los consumidores.

✓ **China**: también es sectorial pero desde la regulacion de Ciberseguridad, que tiene como objetivo la seguridad de la red y el fortalecimiento de la protección de datos. **Ley de Protección de Datos Personales (PIPL) de los usuarios digitales, 2021.** (proteger y regular el ciberespacio junto con la Ley de Seguridad de los Datos (DSL))

"La privacidad de los datos está en la *agenda pública*. No obstante varios países a nivel nacional así como el mundo en su concepto global *no disponen de normativa específica* que vele por todos los aspectos de privacidad y seguridad de los datos en estos tiempos de pandemia." (Cascón, 2020)

La propagación de enfermedades infecciosas es inherentemente un proceso espacial; por lo tanto, los datos geoespaciales, las tecnologías y los métodos analíticos desempeñan un papel fundamental en la comprensión y respuesta a la pandemia de la enfermedad por COVID-19.

Aspectos normativos

Localización de una persona portadora:

Dato de localización:

Categoría de datos personales, cuya protección reviste el rango de derecho humano fundamental

Categoría de dato personal especialmente protegido conforme a la definición de la ley nacional de protección de datos personales,

exigiéndose así un doble requisito para su difusión:

el consentimiento sea expreso y escrito.

Por lo cual, Uruguay cuenta con normas nacionales que amparan y velan fuertemente por la protección del dato individual y sanitario.

ÉTICA DE LOS DATOS

'Una rama de la ética que evalúa las prácticas de datos con el potencial de tener un impacto adverso en las personas y la sociedad, en la recopilación, el intercambio y el uso de datos'

https://theodi.org/article/the-data-ethics-canvas-2021/

What is data ethics?

The Open Data Institute defines data ethics as:

"

'A branch of ethics that evaluates data practices with the potential to adversely impact on people and society – in data collection, sharing and use'

"

Data ethics relates to good practice around how data is collected, used and shared. It is especially relevant when data activities have the potential to impact people and society, directly or indirectly.

For example, an automated data model might make decisions about whether someone is eligible for a mortgage, or what insurance they can be offered. And decisions about what data to collect – and what to exclude – might affect groups in a society.

Data ethics should be addressed at all stages:

- **Stewarding data** – collecting it, maintaining it and sharing it
- **Creating information from that data** – in the form of products and services, analysis and insights, or stories and visualisations
- **Deciding what to do** – informed by information from multiple sources along with experience and understanding

Ethics is about how we ought to live together. The creation of and access to [geographical data] means we live together differently today than we did before. That's potentially a very good thing, but for it to be good, we must do the hard work of deciding who we are in relation to our data.

Michael Rozier, S.J., Ph.D.
2018-2020 EthicalGEO Fellow

'Ética refiere a como debemos vivir juntos. La creación y el acceso a los datos geográficos significa que vivimos diferente a lo que vivíamos antes. Potencialmente, esto es algo bueno pero para que lo sea debemos hacer el duro trabajo de decidir quienes somos en relación con nuestros datos.´

Michael Rozier S.J., Ph.D.

La Carta Locus propone que una comprensión más amplia y compartida de los riesgos y las soluciones relacionadas con los usos de los datos de ubicación puede mejorar los estándares de la práctica y ayudar a proteger a las personas y el interés público.

Actividades	Tipo de Documento
• Carta de Locus (Benchmark Initiative & EthicalGEO)	Principios estratégicos globales
○ Lienzo de ética de datos de ODI ○ GEO - Mejores prácticas de ética del grupo de trabajo de datos Geonovum - Marco ético ○ OGC - GeoEthics adhoc	Marcos / Mejores prácticas
• W3C SDWWG - Guía de uso responsable • Godan - Kit de herramientas del código ético • SDSN TReNDS - Contratos para la colaboración de datos • Red Omidyar - Explorador de ética • DevGRG - Pautas éticas de investigación para el desarrollo	Guías / Directrices / Plantillas
○ URISA / GISCI (EE. UU.) ○ SEIC (Australia y Nueva Zelanda) ○ RICS (Reino Unido) ○ ASPRS (EE. UU.)	Códigos de ética **Denise McKenzie. 2021.**

CÓDIGO DE ÉTICA

https://www.urisa.org/clientuploads/directory/Documents/CodeofEthics.p

A GIS Code of Ethics

Approved by the URISA Board of Directors

April 9, 2003

This Code of Ethics is intended to provide guidelines for GIS (geographic information system) professionals. It should help professionals make appropriate and ethical choices. It should provide a basis for evaluating their work from an ethical point of view. By heeding this code, GIS professionals will help to preserve and enhance public trust in the discipline.

This code is based on the ethical principle of always treating others with respect and never merely as means to an end: i.e., *deontology*. It requires us to consider the impact of our actions on other persons and to modify our actions to reflect the respect and concern we have for them. It emphasizes our obligations to other persons, to our colleagues and the profession, to our employers, and to society as a whole. Those obligations provide the organizing structure for these guidelines.

The text of this code draws on the work of many codes of professional societies. This professional guidelines professional findings to retention database profession.

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- View persons who exemplify morality as your own guide (Virtue Ethics)
- Attempt to maximize the happiness of everyone affected (Utilitarianism)
- Only follow maxims of conduct that everyone else could adopt (Kantianism)
- Always treat other persons as ends, never merely as means (Deontology)

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 genera and inclusive of social, economic, environmental, or technical fields of endeavor. Obligat society shall be paramount when there is conflict with other obligations. Therefore, the professional will:

1. Do the Best Work Possible

- Be objective, use due care, and make full use of education and skills.
- Practice integrity and not be unduly swayed by the demands of others.
- Provide full, clear, and accurate information.
- Be aware of consequences, good and bad.
- Strive to do what is right, not just what is legal.

2. Contribute to the Community to the Extent Possible, Feasible, and Advisable

- Make data and findings widely available.
- Strive for broad citizen involvement in problem definition, data identificat analysis, and decision-making.
- Donate services to the community.

3. Speak Out About Issues

- Call attention to emerging public issues and identify appropriate respons based on personal expertise.
- Call attention to the unprofessional work of others. First take concerns to persons; if satisfaction is not gained and the problems warrant, then addi people and organizations should be notified.
- Admit when a mistake has been made and make corrections where possi

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. Therefore the GIS professional will:

1. Deliver Quality Work

- Be qualified for the tasks accepted.
- Keep current in the field through readings and professional development.
- Identify risks and the potential means to reduce them.
- Define alternative strategies to reach employer/funder goals, if possible, and the implications of each.
- Document work so that others can use it. This includes metadata and program documentation.

2. Have a Professional Relationship

- Hold information confidential unless authorized to release it.
- Avoid all conflicts of interest with clients and employers if possible, but when they are unavoidable, disclose that conflict.
- Avoid soliciting, accepting, or offering any gratuity or inappropriate benefit connected to a potential or existing business or working relationship.
- Accept work reviews as a means to improve performance.
- Honor contracts and assigned responsibilities.
- Accept decisions of employers and clients, unless they are illegal or unethical.
- Help develop security, backup, retention, recovery, and disposal rules.
- Acknowledge and accept rules about the personal use of employer resources. This includes computers, data, telecommunication equipment, and other resources.
- Strive to resolve differences.

3. Be Honest in Representations

- State professional qualifications truthfully.
- Make honest proposals that allow the work to be completed for the resources requested.
- Deliver an hour's work for an hour's pay.
- Describe products and services fully.
- Be forthcoming about any limitations of data, software, assumptions, models, methods, and analysis.

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. Therefore, the GIS professional will:

1. Respect the Work of Others.

- Cite the work of others whenever possible and appropriate.

- Honor the intellectual property rights of others. This includes their rights in software and data.
- Accept and provide fair critical comments on professional work.
- Recognize the limitations of one's own knowledge and skills and recognize and use the skills of other professionals as needed. This includes both those in other disciplines and GIS professionals with deeper skills in critical sub-areas of the field.
- Work respectfully and capably with others in GIS and other disciplines.
- Respect existing working relationships between others, including employer/employee and contractor/client relationships.
- Deal honestly and fairly with prospective employees, contractors, and vendors.

2. Contribute to the Discipline to the Extent Possible

- Publish results so others can learn about them.
- Volu nati
- Sup atte back

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. Therefore, the GIS professional will:

1. Respect Privacy

- Protect individual privacy, especially about sensitive information.
- Be especially careful with new information discovered about an individual through GIS-based manipulations (such as geocoding) or the combination of two or more databases.

2. Respect Individuals

- Encourage individual autonomy. For example, allow individuals to withhold consent from being added to a database, correct information about themselves in a database, and remove themselves from a database.
- Avoid undue intrusions into the lives of individuals.
- Be truthful when disclosing information about an individual.
- Treat all individuals equally, without regard to race, gender, or other personal characteristic not related to the task at hand.

Elaborado por Will Craig, de la Universidad de Minnesota

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DESDE LA RED ACADÉMICA DE UN-GGIM:AMERICAS

https://www.unggim-ana.org/

Encuestas sobre ética

**EXISTENCIA DE NORMAS A NIVEL NACIONAL**

EXISTENCIA DE ENSEÑANZA

Sobre la existencia de normas

- **69 %** de los países que respondieron afirman **que no existen normas de regulación** del uso ético de los datos, si bien pueden disponer de algún tipo de guia.

- **54 %** no existen normas federales ni estatales **que penalicen** el uso inadecuado de los datos de localización.

- **77 %** las instituciones gubernamentales **no tienen estándares** sobre el uso ético de los datos geográficos.
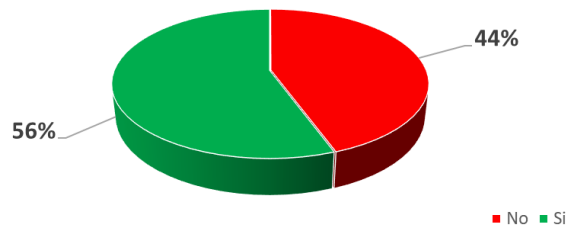

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Sobre la existencia de formación en ética de IG

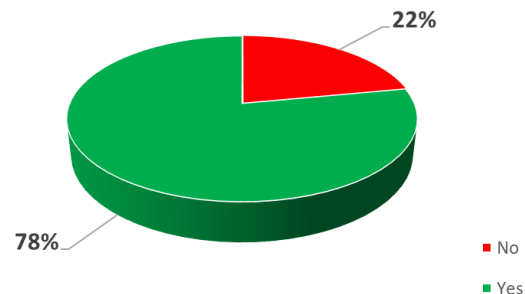Have a education/ training course of the ethical use of geographic information? - English survey

27%

74%
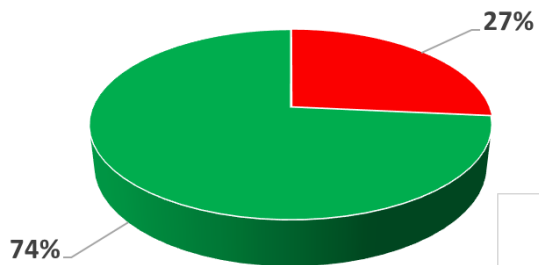
America

¿Brinda algún curso de entrenamiento/capacitación sobre el uso ético de los datos geográficos? - Encuesta en español

44%

56%

■ No ■ Si

Have a education/ training course of the ethical use of geographic information? - Europe

22%

78%

■ No
■ Yes

Europe

ALGUNAS PRÁCTICAS INTERESANTES

Casos de estudio para reflexionar

GISEthics.org | Case Studies

Students develop ethical awareness and moral reasoning skills through methodical analysis and discussion of case studies. The main contribution of the GIS Professional Ethics Project is the following collection of case studies that pose a range of ethical challenges faced by geospatial professionals. Related educator resources are available on request for most cases.

The Pennsylvania State University.

Step 1. State problem. For example, "there's something about this decision that makes me uncomfortable" or "do I have a conflict of interest?"

Step 2. Check facts. Many problems disappear upon closer examination of situation, while others change radically.

Step 3: Identify relevant factors. For example, persons involved, laws, professional code, other practical constraints.

Step 4: Develop list of options. Be imaginative, try to avoid "dilemma"; not "yes" or "no" but whom to go to, what to say.

Step 5: Test options. Use such tests as the following: *Harm test:* does this option do less harm than alternatives? *Publicity test:* would I want my choice of this option published in the newspaper? *Defensibility test:* could I defend choice of option before Congressional committee or committee of peers? *Reversibility test:* would I still think choice of this option good if I were adversely affected by it? *Colleague test:* what do my colleagues say when I describe my problem and suggest this option as my solution? *Professional test:* what might my profession's governing body or ethics committee say about this option? *Organization test:* what does the company's ethics officer or legal counsel say about this?

Step 6: Make a choice based on steps 1-5.

Step 7: Review steps 1-6. What could you do to make it less likely that you would have to make such a decision again? Are there any precautions can you take as individual (announce your policy on question, change job, etc.)? Is there any way to have more support next time? Is there any way to change the organization (for example, suggest policy change at next departmental meeting)?

Michael Davis, 1999.

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File	Description
mapping_muslim_neighbors_case.pdf	A police department's plan to map potential terrorist enclaves brings charges of racial profiling.
caribou_routes_case.pdf	A GIS analyst is asked to exclude pertinent data from maps prepared for a public hearing.
mobile_phone_tracking_case.pdf	Researchers track mobile phone users' movements to derive predictive models of human mobility. *Updated 4 December 2019*
software_emergency_case.pdf	Too few software licenses are available in the aftermath of a tsunami.
e911_conflict_case.pdf	A municipal GIS manager troubled by what appears to be a conflict of interest considers filing a formal ethics complaint.
collateral_damage_case.pdf	A geospatial intelligence analyst predicts the civilian casualties in likely to be caused by a pre-emptive missile attack.
satellite_contract_case.pdf	A sales representative is expected to withhold information that could affect availability of a data product.
fire_mapping_case.pdf	A member of the press asks a government employee to leak the results of a GIS analysis about a controversial wild land fire.
llrw_siting_map_case.pdf	Map masks potentially suitable sites for low-level radioactive waste storage facility.
submarine_crash_case.pdf	A nuclear submarine's crash into an uncharted seamount raises ethical issues for Navy training personnel.
data_access_case.pdf	A governmental agency's need to recoup user fees conflicts with a public records law.
alpha_software_case.pdf	Entrepreneurial GIS programmer is tempted to use a friend's code to win a lucrative contract.
bear_baiting_case.pdf	Should locations of controversial hunting stations be mapped?
environmental_justice_case.pdf	GIS programmer ponders a contract for a web map overlays toxic industrial sites and at-risk communities.
tidal_wetland_mapping_case.pdf	A scope of work statement and established mapping procedures prevent a GIS analyst from adding wetlands to a conservation database.
privacy_and_planning_case.pdf	A GIS professional considers filing an ethics complaint about lax protection of the confidentiality of a sensitive database.
ethical_minefield_case.pdf	Should a surveying and mapping crew chief pay a bribe to acquire data needed to conduct field reconnaissannce safely?

GISProfessional Ethics Project

gisprofessionalethics.org

Case study: Environmental Justice Web Map

Jackson owns and operates a small software development firm that specializes in web mapping. He is a certified GIS Professional. A non-profit organization called "environmentaljustice.org" has approached Jackson's firm with a request for bid for a custom web mapping application to be hosted at its web site. The web map is to show the spatial association of (a) industrial sites known to have discharged of toxic substances into the environment with (b) the locations of what the organization calls "communities at risk." Environmentaljustice.org defines the latter as areas characterized by high rates of families below poverty, low-income families, non-high school graduates, people of color, working class people, renters, and children in poverty.

The web map will be freely available to anyone who has access to the Internet through a properly configured web browser. All of the data layers the map will combine are public records that have not been combined before at a national scale and in such an interactive format. For example, data compiled by the Environmental Protection Agency pinpoint Superfund sites and other industrial sites known to have discharged toxic substances. Population data needed to delineate communities at risk are available from the U.S. Census Bureau. The organization's goal is to promote public awareness and concern about what it considers to be the unjust exposure of underprivileged people to the risks associated with industrial pollution. Because of a benefactor's very large donation, the organization is able to offer Jackson a very lucrative contract.

Meanwhile, a large fi[...]
project, and is alread[...]
is likely to be misinte[...]
exploiting communiti[...]
reveal spatial relation[...]
feel that it is libelous[...]
have the least politic[...]
completeness of the [...]

GISProfessional Ethics Project

gisprofessionalethics.org

Case study: E-911 Contract Conflict of Interest

A state agency has announced a new project that will provide funds to extend E-911 services to rural counties throughout your state. One goal of the project is to improve accuracy and completeness of street centerline and emergency service zone data maintained by rural counties for use in dispatching emergency services.

You are the GIS Manager for the utilities division of a small municipality within one of the rural counties included in the project. Your municipality is both the county seat and its largest city. Moreover, you are the only certified GIS Professional (GISP) employed by the city or county. Recognizing your expertise, the state E-911 Coordinator invites you to help evaluate the proposals of contractors who bid on the part of the project that will take place in your county. The E-911 Coordinator is also a GISP.

Some weeks after submitting your evaluations you're surprised to learn that the contractor selected for the project is one that neither submitted the lowest bid nor earned the highest average evaluation. Puzzled, you ask around and find out that the state E-911 Coordinator who had final say in the selection process is a former employee of the winning bidder.

Soon thereafter you host a project kick-off meeting attended by the E-911 Coordinator, a representative of the selected contractor, and other local officials including the County Engineer, IT Director, and Sheriff's E-911 dispatcher. Following discussion about a process for assessing the fitness for us of existing GIS datasets, you provide copies of the municipal data you oversee, including street centerlines acquired with survey-grade GPS receivers, address point data, and one-meter orthorectified aerial imagery that had been acquired nine years earlier. You also provide contacts for employees of neighboring municipalities who can provide similar local data.

Two months later you are again surprised to find that the contractor's project requirements analysis states that no suitable data exists, and that street centerline and related address data [...]

REFLEXIONES

- Poca conciencia de la relevancia del uso de información geográfica como apoyo a los tomadores de decisiones.

- Débil inclusión de consideraciones éticas al recolectar, usar y visibilizar datos geográficos.

- No hay suficiente conciencia sobre su importancia ni sobre las consecuencias del uso no ético

- Imperiosa necesidad de incluir estos temas en la agenda política y académica

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Gracias

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