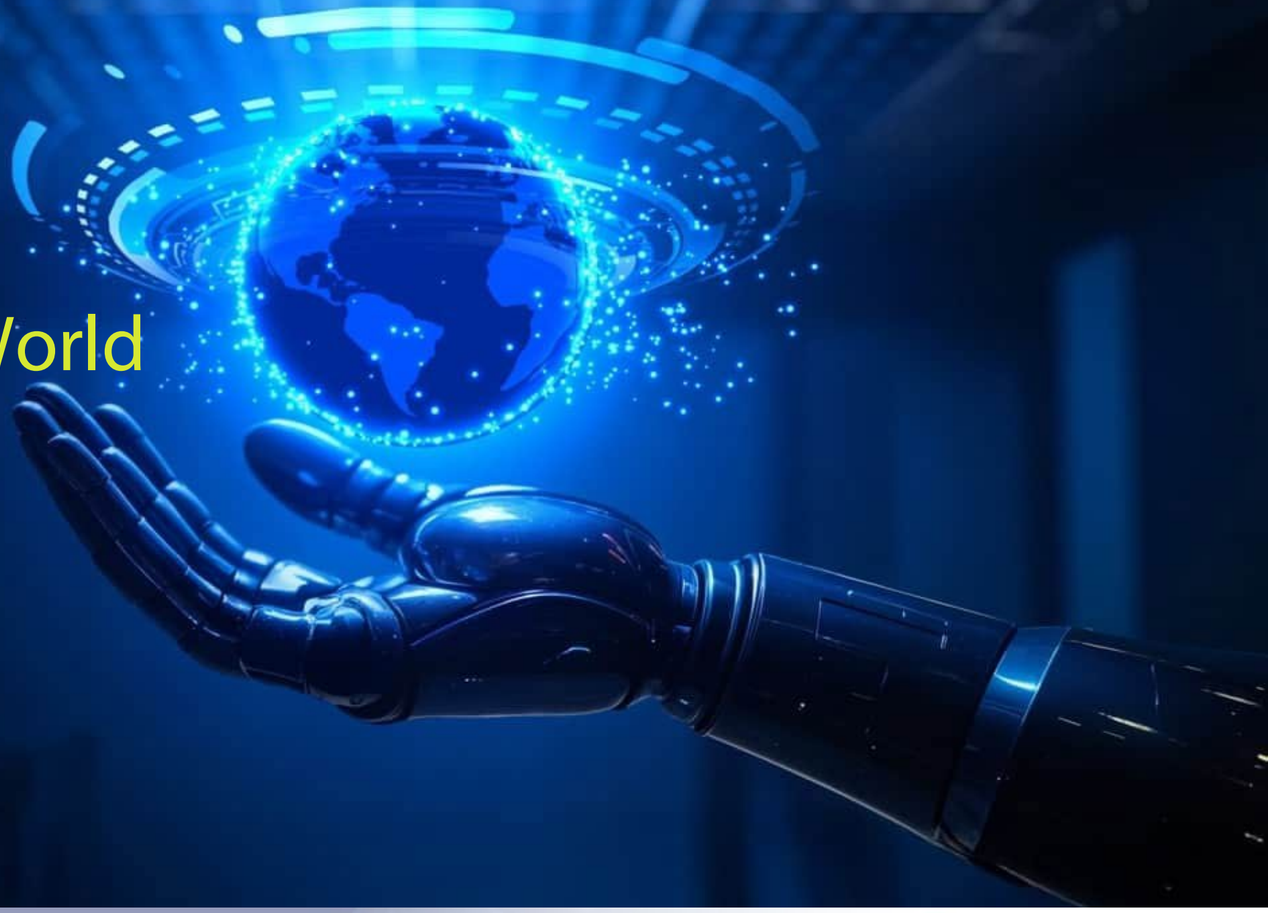
Will AI Eat Geo?

OGC's Strategy and Vision in an AI World



AfricaGIS 2025, Technical Plenary

Nigel Edmead, Sr. Director of Learning

19.11.2025

AfricaGIS 2025

UN-GGIM: AFRICA
UNITED NATIONS
GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT

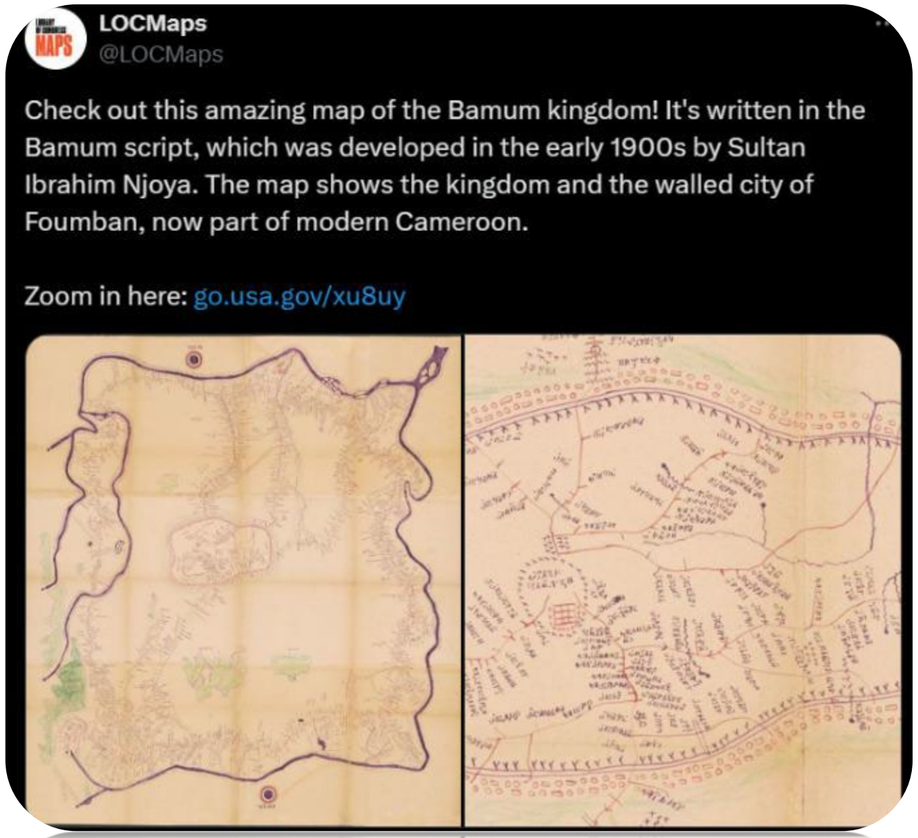
Will AI Eat Geo?

- Where we are going (and how did we get here)
- Interoperability in an era of AI
- Join the mission!

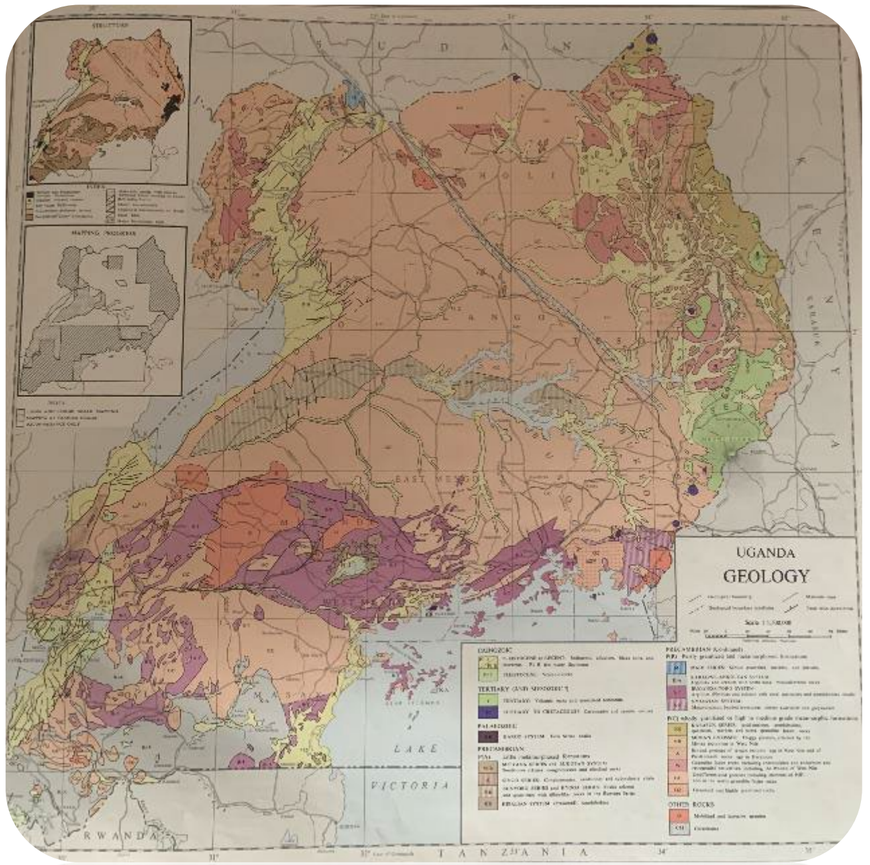
We created maps to simplify our understanding of the world

Geo 0

Nippur map tablet, Iraq (c.1500 BC)



City of Foumban, Bamum Kingdom (c.1912 – 1919)



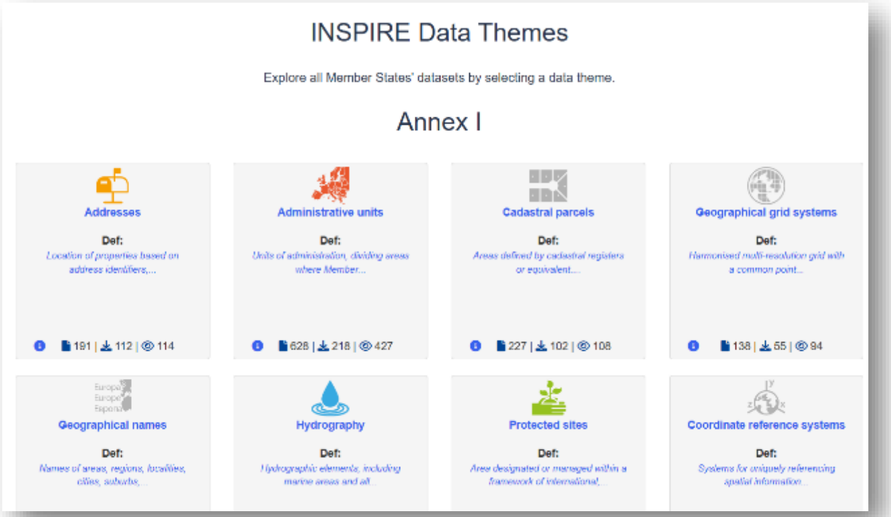
Geology of Uganda, Department of Lands and Surveys (1967)

Sources: Archaeology Magazine, Library of Congress Maps, Atlas of Uganda

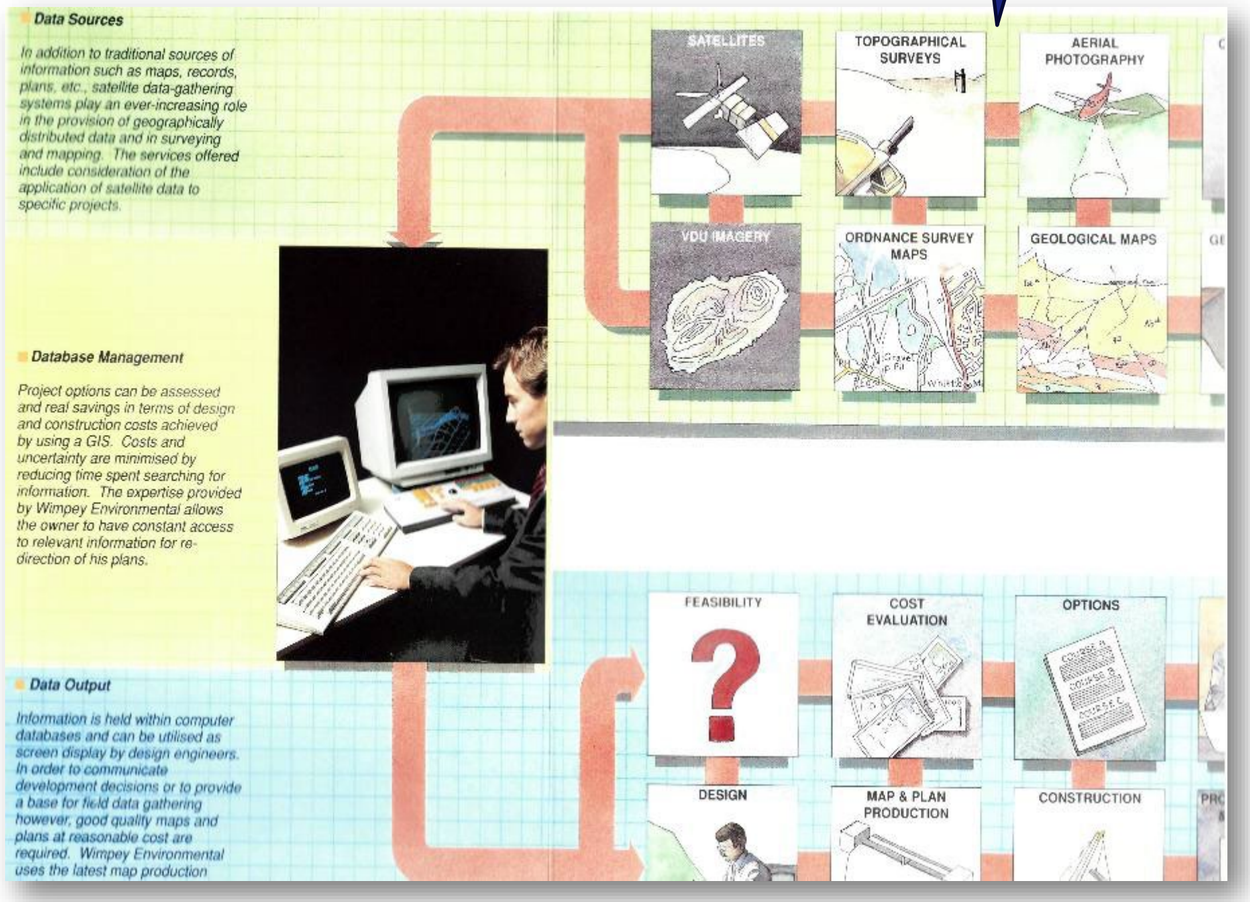
Then we digitized them for efficiency (or so we thought)

Geo 1.0

Jakarta, JABOTABEK Land Use Mapping (1992)

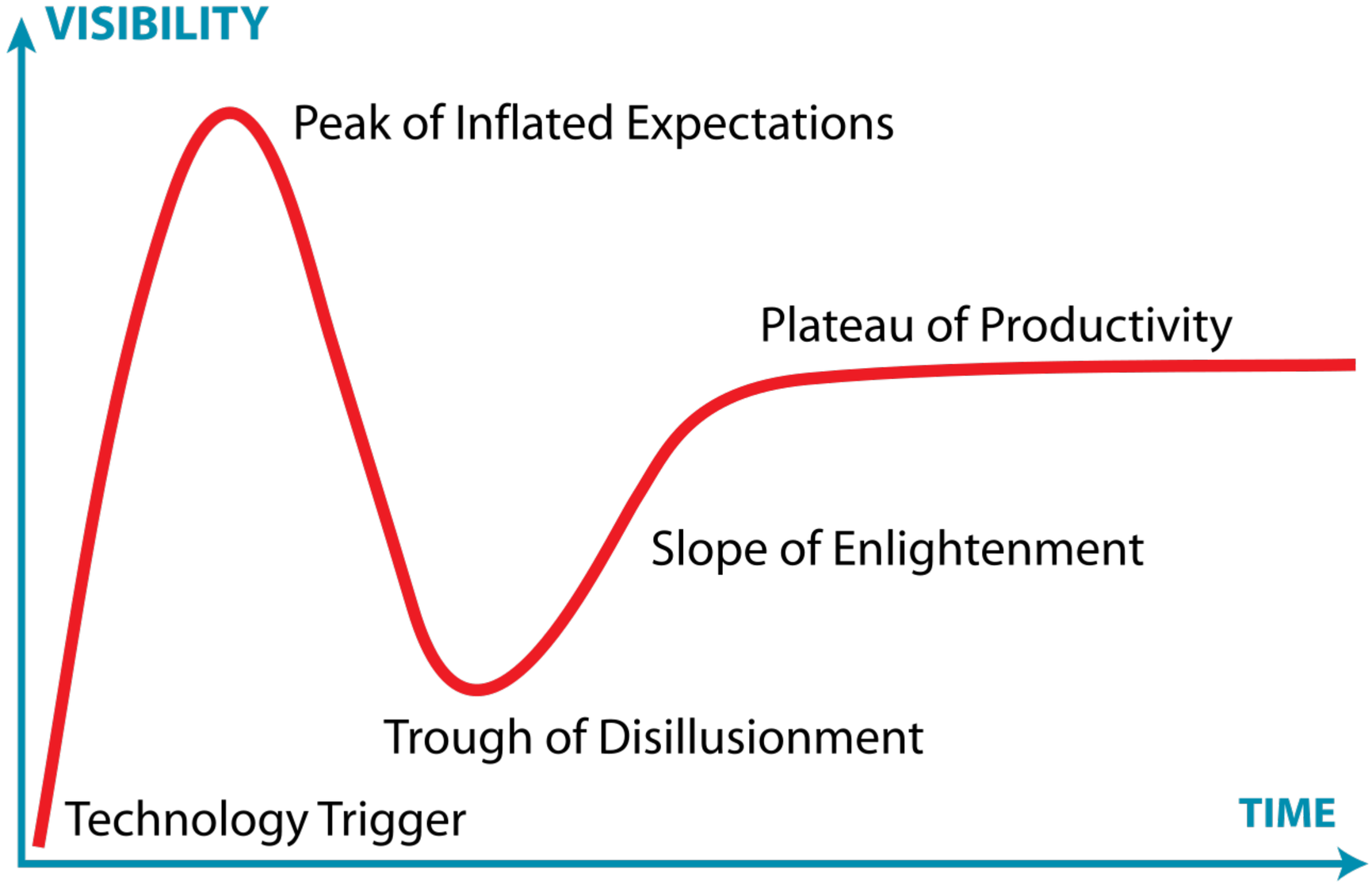


INSPIRE data catalog



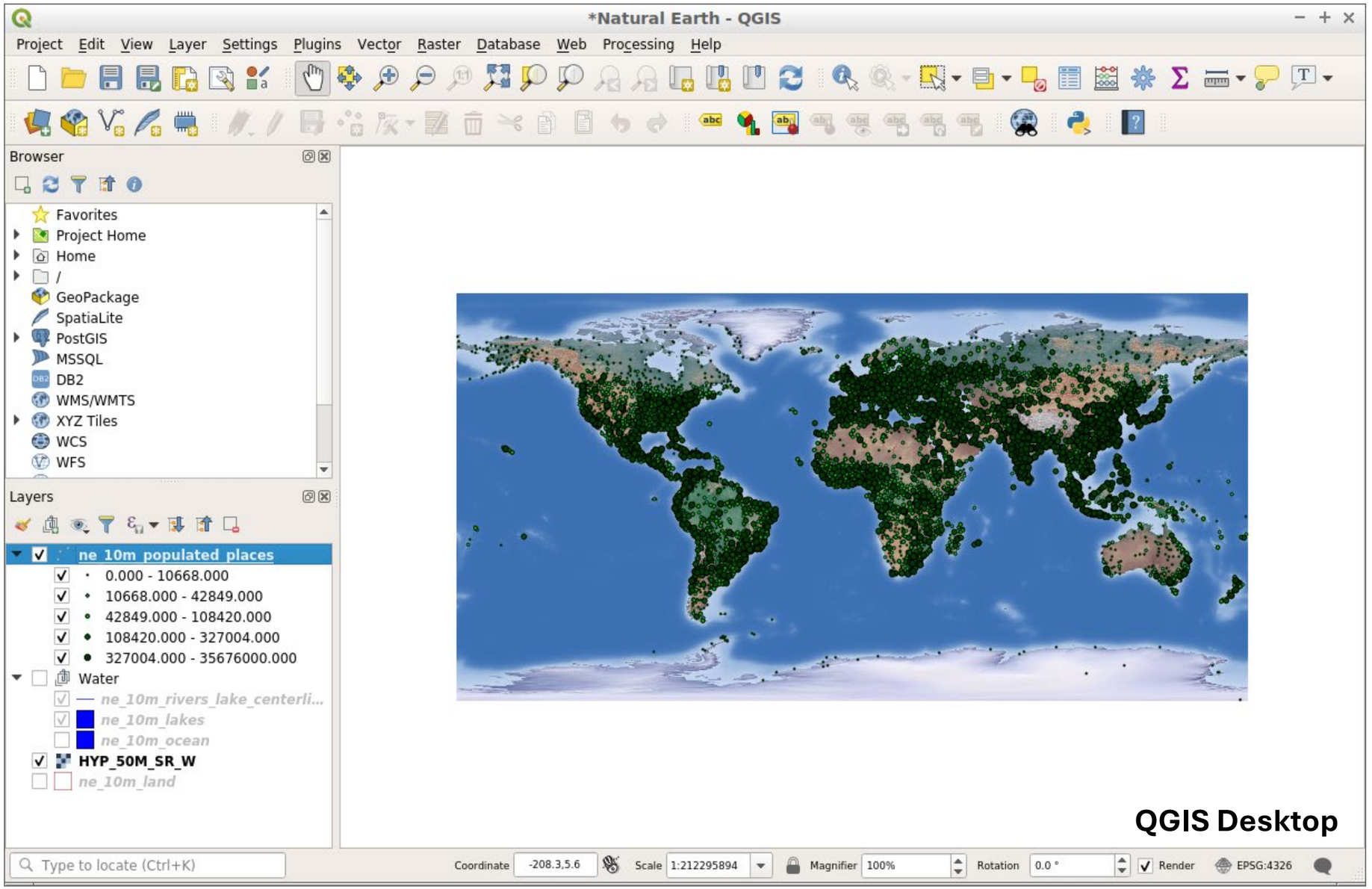
GIST brochure, Wimpey Environmental (1989)

AI offers a return to simplicity but not without its challenges



Gartner Hype Cycle, source: Wikipedia

The end of the UI

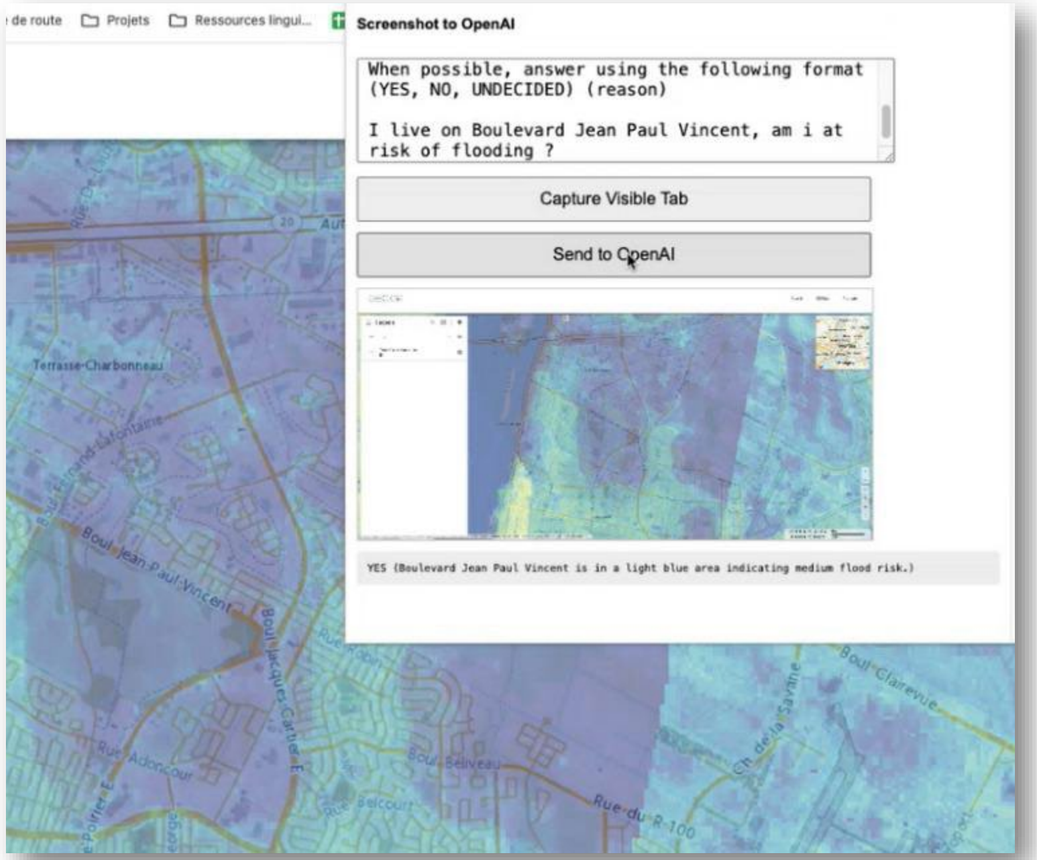


QGIS Desktop

And the rise of the agent

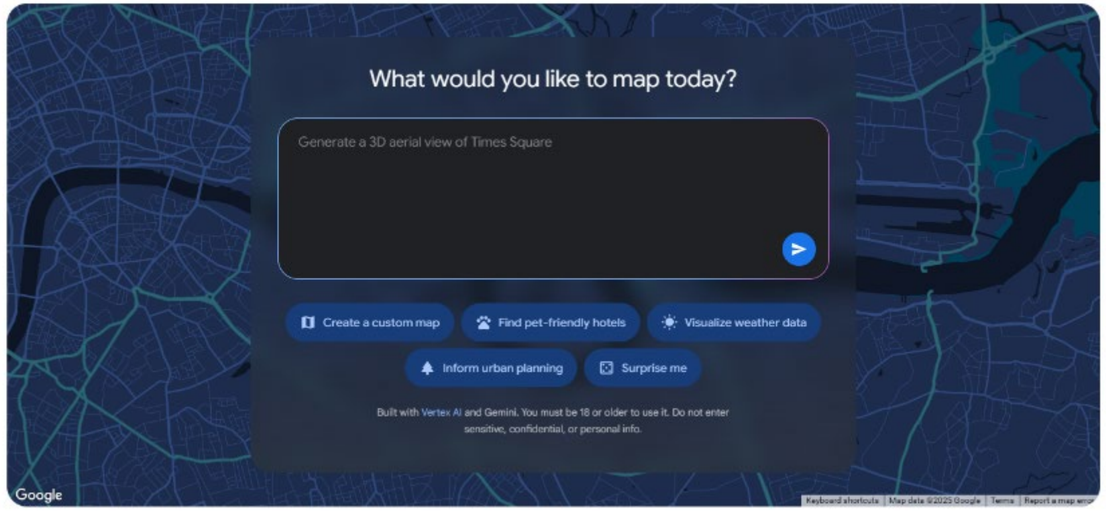
Geo 2.0

CRIM's Flood Risk Agent



Carto's AI Agents

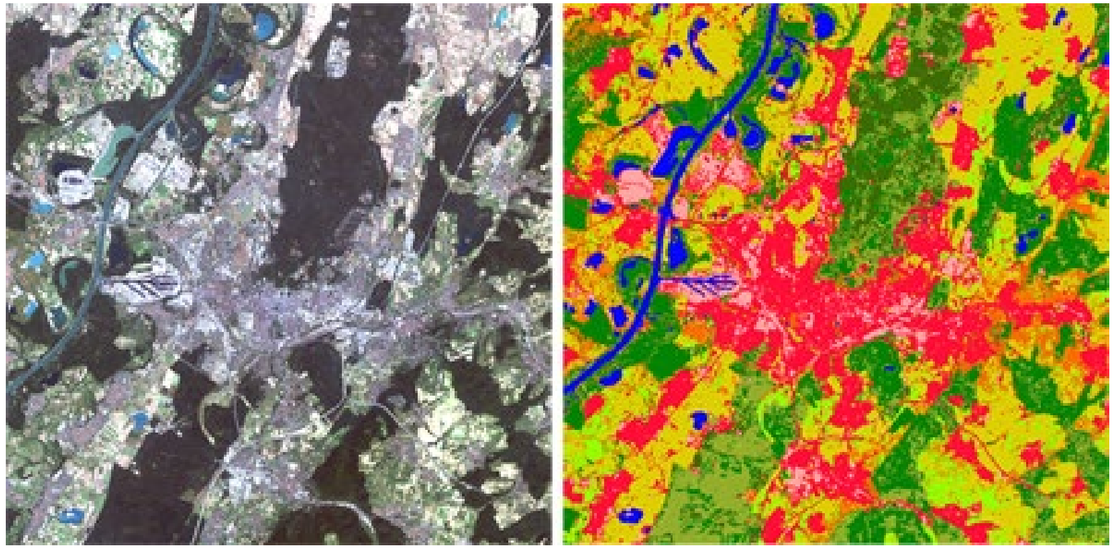
Google's Maps Platform



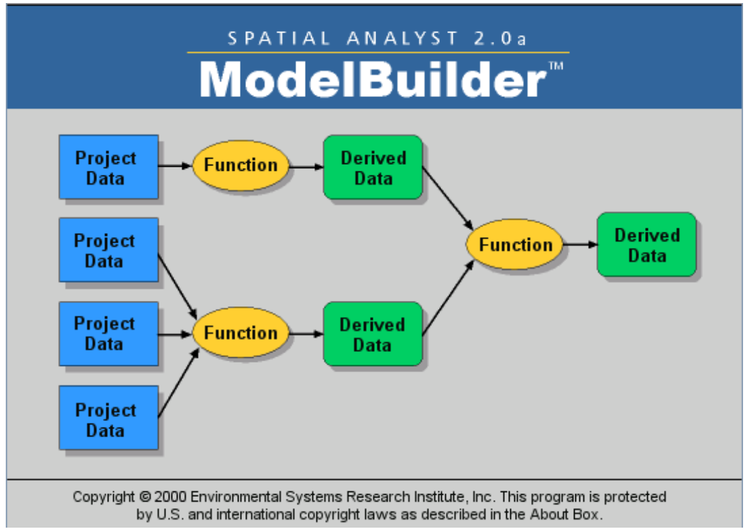
Iron Bridge, Shropshire (1779): World's first major cast iron bridge

Source: Wikipedia

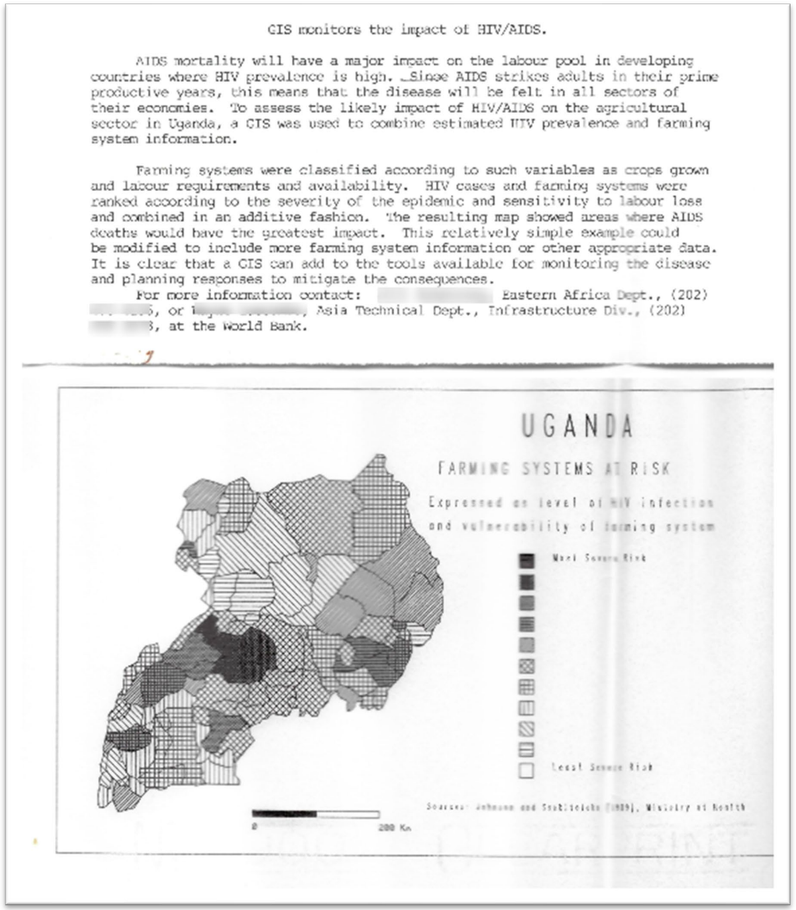
We were using agents in the 70’s & 80’s



Satellite Image from the Karlsruhe Region and Classification
Source: LANDSAT and © LUBW with modifications



Esri’s ModelBuilder (ArcView)



GIS monitors the impact of HIV/AIDS.

AIDS mortality will have a major impact on the labour pool in developing countries where HIV prevalence is high. Since AIDS strikes adults in their prime productive years, this means that the disease will be felt in all sectors of their economies. To assess the likely impact of HIV/AIDS on the agricultural sector in Uganda, a GIS was used to combine estimated HIV prevalence and farming system information.

Farming systems were classified according to such variables as crops grown and labour requirements and availability. HIV cases and farming systems were ranked according to the severity of the epidemic and sensitivity to labour loss and combined in an additive fashion. The resulting map showed areas where AIDS deaths would have the greatest impact. This relatively simple example could be modified to include more farming system information or other appropriate data. It is clear that a GIS can add to the tools available for monitoring the disease and planning responses to mitigate the consequences.

For more information contact: Eastern Africa Dept., (202) , or , Asia Technical Dept., Infrastructure Div., (202) , at the World Bank.

Modelling Impact of HIV / AIDS in Uganda (PC ARC/INFO)

Those agents are now smarter & faster

Cantabria, Spain

Courtesy Gabriel Ortiz, Government of Cantabria, Spain
(13) Gabriel Ortiz | LinkedIn

1:5.000 Series, 2007 stereo plotting, complex project involving over 1.2 million euros, 20+ people complete QC/QA program. 1 year edited and reviewed many times.

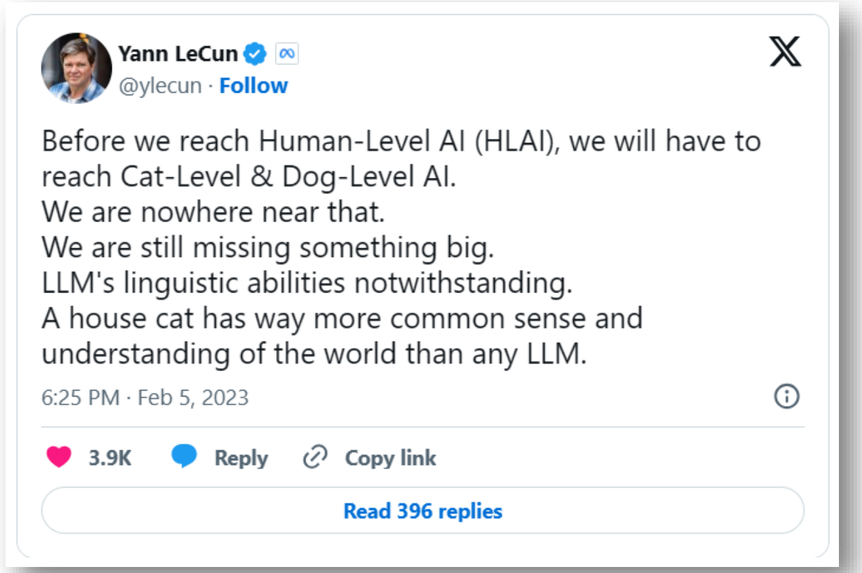
2024 True ortho. 1 Geographer with a single GPU with #AI capabilities, 2 days for training and 1 day for inference + regularization. No editing, just automatic regularization. Revision and QC/QA pending.

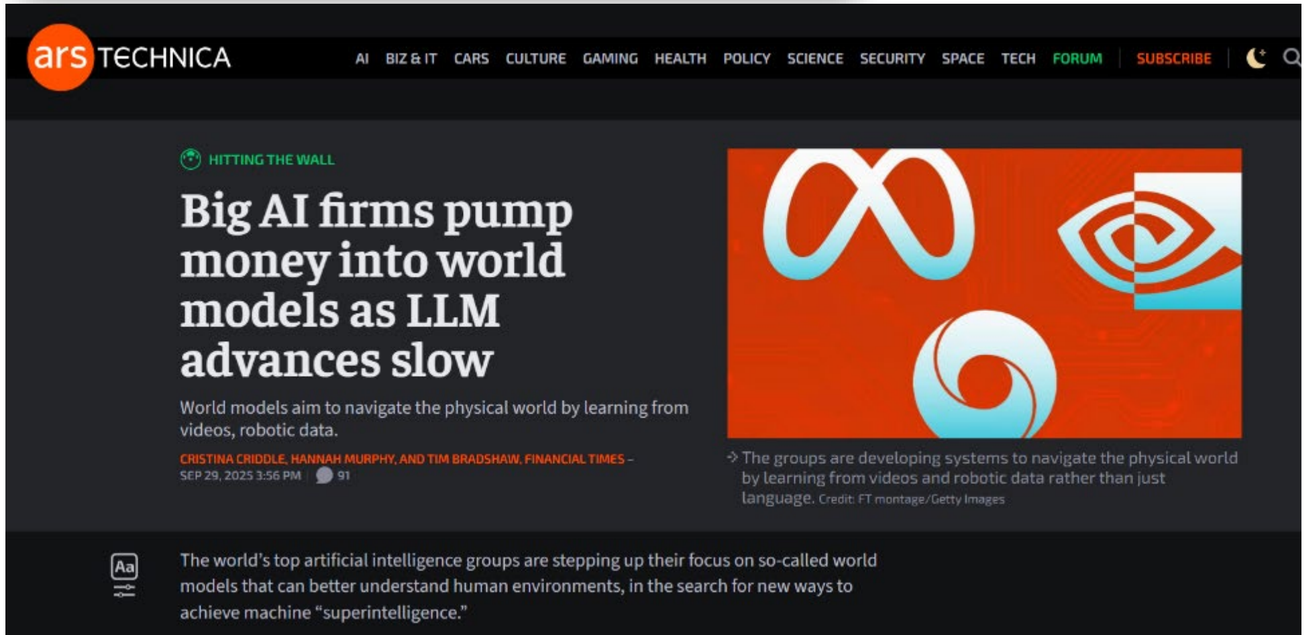
World Models are driving the next wave of AI

‘A house cat has way more common sense of the world than any LLM.’
Yann LeCun, Meta’s chief AI scientist

Progress depends on systems that can model the world, remember, reason, and plan[1].

As LLMs reach their limits, reasoning models, world models, and robotics will drive the next AI wave[2].

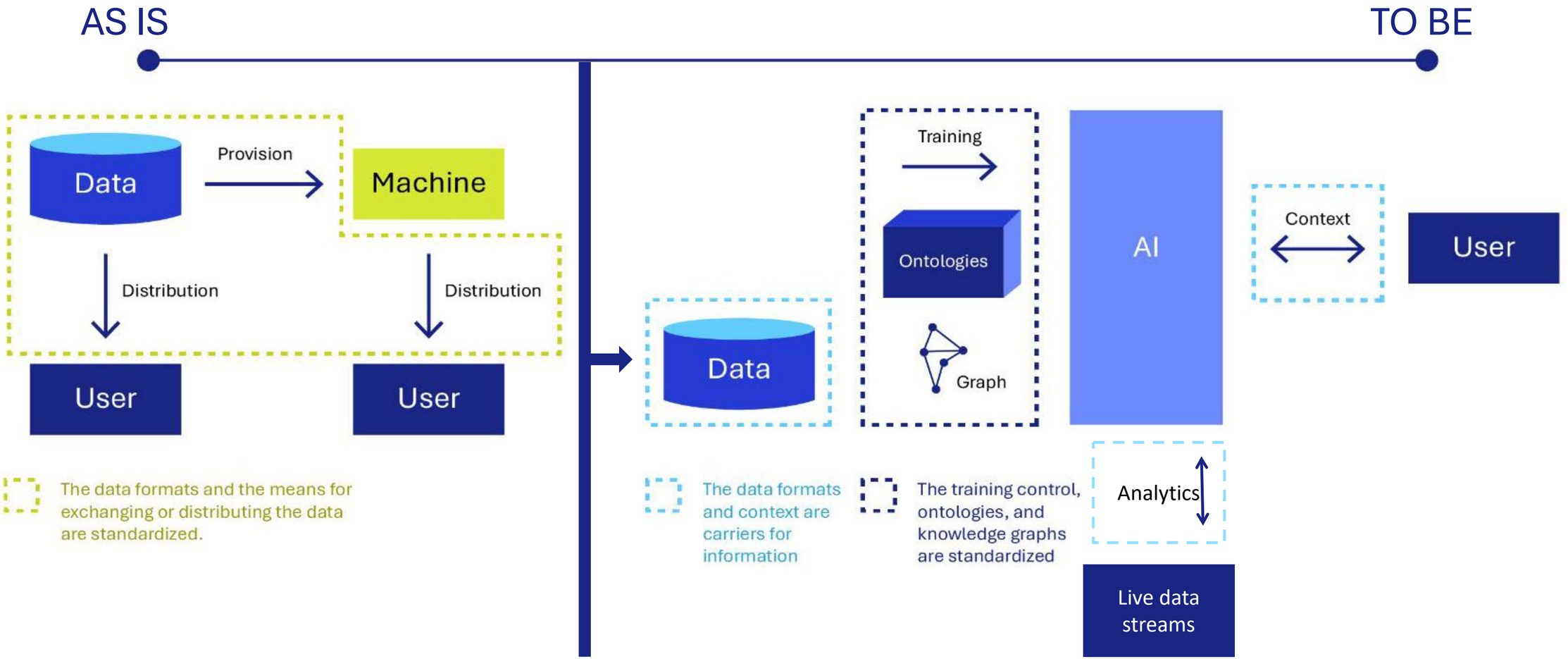




[1] https://www.builderlab.ai/p/why-lecun-is-betting-on-world-models
[2] https://www.1950.ai/post/why-yann-lecun-believes-ai-needs-world-models-not-just-language-models-2

The question isn't *"can I get the data?"* but *"can I trust it?"*

From codifying data to codifying knowledge – reusable technical blocks that can be assembled in countless ways to meet the needs of different users, sectors, and geographies



Blocks – a new enabling ecosystem for standards

Public Perceptions Today

- Massive LLMs
- Black Box
- Powerful, but trustworthy?

Transition

Sovereignty

AI functions

Agentic AI

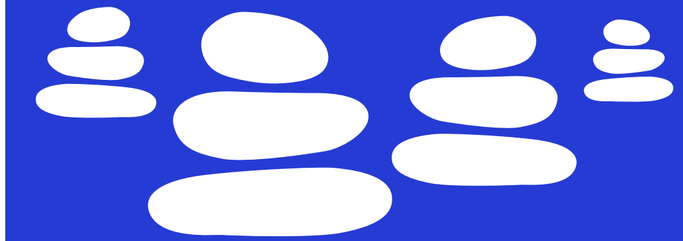
Safeguarded AI

Proof vs black box

World Models

Specialized AI & ML

- Smaller, efficient, domain-specific models
- Sovereignty-driven, cost-effective
- Outperform big models in specialized fields
- Allows building workflows and complex models with reasonable resources requirements



Real-World Systems:

- Autonomous cars, power grids, underground infrastructure
- AI must be *trusted* and *safe*
- Formalize expert knowledge → ML inference → safety regions → real world data integration at runtime

OGC's Role:

- Integral, not niche: Geospatial everywhere
- Safeguarded AI for spatio-temporal systems
- Support fast innovation & slow public admin
- Vision: Ask a chatbot, get a trustworthy system

Shaping a World that Works Better Together through Innovation and Collaboration

OGC is the world's leading non-profit membership community dedicated to advancing geospatial interoperability.

For over 30 years, OGC has united governments, businesses, and academia to solve critical challenges through collaboration and open standards. By fostering innovation and cooperation, OGC helps address security and societal issues while unlocking economic value.

OGC @30

OGC Members

Government

Commercial

University

Non-Profit

OGC Membership Levels & Benefits

We offer four membership tiers designed for different levels of engagement and organizational impact.

Explorer Member

Entry-level participation with community engagement, working group access, and 5 portal licenses.

PLATEAU by MLIT · EPIC GAMES · sparkgeo · T-KARTOR

Catalyst Member

Active influence with Technical Committee voting rights, 20 portal licenses, and ability to propose new working groups.

CAE · CLARK UNIVERSITY · NATO OTAN · HITACHI · [dstl]

Principal Member

Leadership role with unlimited licenses, Board of Directors election participation, and C-Suite forums.

Bentley · esri · HEXAGON · Google · Trimble.

Strategic Member

Ultimate influence with Strategic Member Advisory Committee representation and ability to direct membership dues to specific initiatives.

esa · Natural Resources Canada · NASA · NOAA · Ordnance Survey

NEW Individual & Developer Member

Be part of a community where practitioners, researchers, students, and experts connect, share knowledge, and shape the future of geospatial.

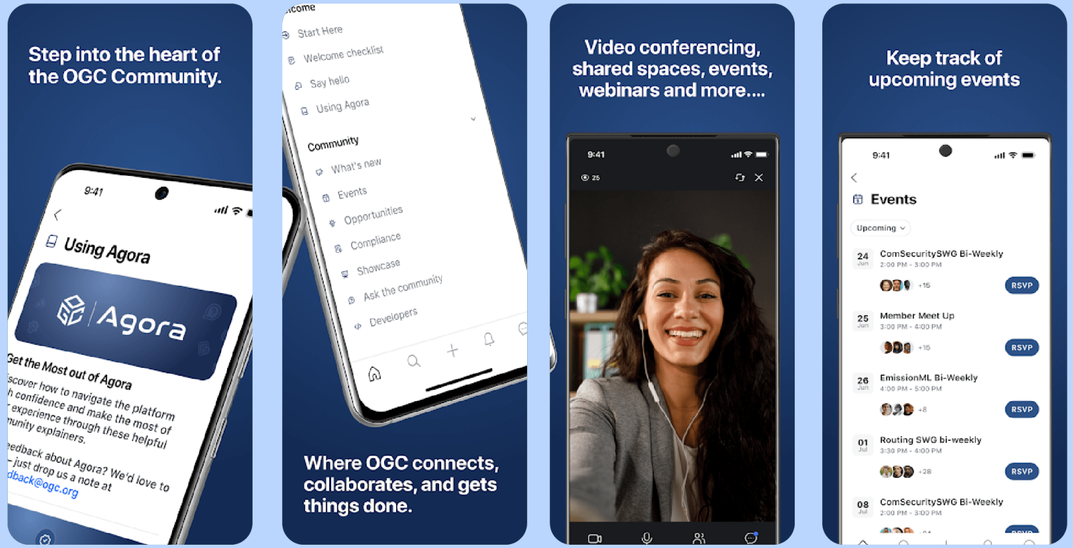
"OGC shares our perspective of planning, thoughtful collaboration, and true partnership. To make impactful changes we need a long-term perspective on how we use our knowledge, information, and data."

— David Green, NASA Strategic Member

Agora: OGC's Community Hub

- A marketplace of ideas where members connect, share knowledge, and build collaborations
- A modern, app-based community engagement platform aligned to an increasingly mobile-first audience based on Circle
- Improved visibility about what's happening at OGC: > 250 spaces for members stay engaged with the latest conversations in geospatial innovation
- AI Agent for self service + branded mobile app (iOS and Android)

Agora



Join the Mission

Interoperability. Trust. Collaboration. Sovereignty.

Participate in OGC working groups

Engage in research and testbeds

Be part of a global community advancing open standards

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