



CENTER FOR GEOGRAPHIC ANALYSIS NEWSLETTER

A Bi-Monthly Publication of the CGA at Harvard University | **May - June 2024**

HIGHLIGHTS

- ABCD-GIS / Geography Colloquium **May 22**
- Annual Fisher Prize for GIS Excellence Prize Winners
- Annual Esri Innovation Program (EIP) Prize Winners
- CGA Researchers Win Best Paper
- Out of Eden Walk “Walking Map: Mazes of Beijing”
- Spatial Data Lab (SDL) Announces Internship and Fellowship Programs
- Summer Training Workshop on Spatiotemporal Innovation
- Symposium on Spatiotemporal Data Science
- GeoAI Models and their Application in Social Science
- Spatial Analysis of Damage to Critical Civilian Infrastructure in the Gaza Strip
- Call for action related to 2030 Sustainable Development Goals for India
- Forget ‘Doomers.’ Warming Can be Stopped, Top Climate Scientist Says
- How Humans Outshine AI in Adapting to Change
- Epic Science Inside a Cubic Millimeter of Brain
- Israel Used AI to Identify 37,000 Hamas Targets
- Artificial Intelligence Act: MEPs Adopt Landmark Law
- Does AI Need a “body” to Become Truly Intelligent? Meta Researchers Think So
- University of Minnesota Proves Sustainable Development Goals Are Local
- Earth-2 Platform for Climate Change Modeling
- Managing Weather-Related Business Volatility

CGA NEWS

ABCD-GIS / Geography Colloquium - **May 22: Integrating Cloud Computing with the KNIME Platform for Monitoring Deforestation**

This seminar will explore the utilization of Google Earth Engine for data processing and analysis, emphasizing the synergy with KNIME workflows to enhance the node coding experience as well as local machine-based analysis. The session will focus on a case study of

deforestation monitoring, showcasing how these integrated technologies can be leveraged to address complex environmental challenges. [Details for remote and local attendance](#).

Annual Fisher Prize for GIS Excellence Prize Winners

Congratulations to Harvard students Shane Rice, Dev Patel, and Issam Azzam for winning the 2024 Fisher Prize for Excellence in GIS! [Details](#).

Annual Esri Innovation Program (EIP) Prize Winners Congratulations to Femi Olamijulo, Mengyao Li, Monserrat Ocaña, Nicole Cacoza, and Zoe Iacovino for winning the EIP Award for their entry “Everett Express: Transitioning a 95-acre industrial city parcel to mixed-use development in Everett, Massachusetts.” [Details](#).

CGA Researchers Win Best Paper

Congratulations to CGA visiting scholar Jan Kinne and CGA visiting fellow Bernd Resch, who with their co-authors have received the Regional Studies Association's (RSA's) 2024 Spatial Economic Analysis Best Paper Award for their paper, "The digital layer: alternative data for regional and innovation studies. [Details](#).

Article for Out of Eden Walk “Walking Map: Mazes of Beijing” [Article](#) by Paul Salopek, [StoryMap](#) by Jeff Blossom

Spatial Data Lab (SDL) Announces Internship and Fellowship Programs

1) Internship Program designed to provide academic learning experiences for high school, undergraduate and graduate students. It offers tailored professional training based on a student’s academic or career interests, especially in the field of spatial data science. [Details](#).

2) Fellowship Program designed to provide online collaborative learning experience for scholars and graduate students. It offers tailored professional training in spatial data science, including open-source tools, workflow technology, geospatial data, spatial modeling, and their applications across different fields. [Details](#).

Summer Training Workshop on Spatiotemporal Innovation

Sponsored by the [Spatial Data Lab](#), this hands-on workshop is to promote replicable and expandable spatiotemporal science with advanced methodology and technology. [Details](#).

CGA Hosted Events

Two events held May 15-17 at Harvard, brought together experts from many organizations, for fruitful discussions around GIS, AI, and digital twins: 1) Meeting for the NSF [Center for Digital Twin Research, Innovation, and Collaboration Hub](#) (DT-RICH) proposal, and 2) [CGA’s annual conference](#) which this year focused on geospatial artificial intelligence. Recordings and slides for the conference will be posted online.

ABCD-GIS / Geography Colloquium “Mapping the Path off of Natural Gas”

Slides and video available for Audrey Shulman’s presentation on the coming transition from gas-to-geothermal networks. [Details](#).

Symposium on Spatiotemporal Data Science: GeoAI for Social Sciences – July 23-24, Arlington, VA

The symposium aims to promote replicable and expandable spatiotemporal data science with new methodologies. The symposium will discuss open data sources, advanced methodologies, and cutting-edge technology, with a focus on GeoAI for the social sciences. [Registration and details.](#)

RECENT PUBLICATIONS by CGA STAFF and AFFILIATES

[Call for action: presenting constituency-level data on population, health and socioeconomic wellbeing related to 2030 Sustainable Development Goals for India.](#) Subramanian SV, Patnaik A, Kim R.

[The digital layer: alternative data for regional and innovation studies](#) Kinne J, Resch B, et al.

[Location factors and ecosystem embedding of sustainability-engaged blockchain companies in the US. A web-based analysis](#) Kinne J, et al.

[Clustering-Based Joint Topic-Sentiment Modeling of Social Media Data: A Neural Networks Approach](#) Hanny D, Resch B.

RECENT PRESENTATIONS

Workflow-based GeoAI Analysis with No/Low-Code Visual Programming

Lingbo Liu lead this training session at the 2024 Open Data Science conference in Boston on April 23rd, to explore the utilization of low-code/no-code visual programming platforms to effectively integrate geospatial analysis with a variety of AI algorithms, including machine learning, deep learning, and Explainable AI, using the KNIME Analytics Platform. [Details.](#)

Building a Robust Infrastructure for Geospatial Big Data Analytics

Wendy Guan presented at the 2024 American Association of Geographers conference on CGA's recent infrastructure development work. [Details.](#)

CALL FOR PAPERS

Replicability and Reproducibility of Geospatial Artificial Intelligence (GeoAI) Models and Their Application in Social Science

This special issue aims to delve into the burgeoning field of GeoAI, focusing on its applications in social sciences. We are particularly interested in contributions that examine the replicability and reproducibility of GeoAI models, shedding light on their effectiveness and dependability in social science research. Our goal is to foster interdisciplinary dialogue,

bridging theoretical and empirical approaches in the realm of GeoAI. **Deadline** December 30, 2024. [Details](#).

HARVARD GEOSPATIAL, AI NEWS



Harvard FXB Center and HHI Issue Spatial Gaza Study: [‘Nowhere and no one is safe’: spatial analysis of damage to critical civilian infrastructure in the Gaza Strip during the first phase of the Israeli military campaign](#) | [Press Release](#)

Adam Gaffney, Harvard Medical School [The War on Health in Gaza](#)

Belfer Center [Forget ‘doomers.’ Warming can be stopped, top climate scientist says](#) [Details](#).

Salata Institute Experts Outline Tensions Between Global and Local Climate Priorities
[Climate Alignment is No Easy Task](#)

Harvard Business School article [How Humans Outshine AI in Adapting to Change](#) which references a study by Julian De Freitas [Self-Orienting in Human and Machine Learning](#).

Harvard Atmospheric Chemistry Modeling Group - [Latest Climate Research](#) from [Harvard SEAS](#), [Earth and Planetary Sciences](#), [Center for the Environment](#), [JLAQC](#)

Jeff Lichtman, Lichtman Lab at Harvard [Epic science inside a cubic millimeter of brain](#) Harvard Gazette. [Publication](#). [A Browsable Petascale Reconstruction of the Human Cortex](#) [Code](#).

CONFERENCES, EVENTS, CALLS, JOBS

2024 CONFERENCES/EVENTS

- [CaGIS+UCGIS Symposium 2024](#) June 3-6 in Columbus, Ohio
- [State of the Map US 2024](#) – Open Street Map Conference – June 6-8, Salt Lake City, Utah.
- [IEEE/CVF Conference on Computer Vision and Pattern Recognition 2024](#) - June 17-21, Seattle, Washington.
- [IGARSS 2024](#) - International Geoscience and Remote Sensing Symposium – July 7-12, Athens, Greece.
- [Esri User Conference](#) - July 15-19, San Diego, California.

- [Geoinformatics 2024](#) - 31st International Conference on Geoinformatics (the official conference of the International Association of Chinese Professionals in Geographic Information Sciences) – Aug 14-16, Toronto, Canada.
- [State of the Map 2024](#) - Open Street Map Conference – September 6-8, Nairobi, Kenya.
- [International Conference on Geospatial and Remote Sensing \(ICRS\) 2024](#) – August 21-23, Singapore.
- [URISA 2024](#) - Urban and Regional Information Systems Association – October 7-10, Portland, Maine.
- [FOSS4G 2024 International](#) – Free and Open Source for GIS Conference – December 1-8, Belem, Brazil.

CALLS FOR JOBS/INTERNSHIPS/HACKATHONS

NOAA Satellite + AI/Machine Learning Hackathon – NOAA CoastWatch is seeking interested students to join their team for an upcoming hackathon organized by NVIDIA, OpenACC, and Princeton University. June 4-14. For details contact Drs. Rebecca Trinh (rebecca.trinh <at> noaa.gov), Guangming Zheng (guangming.zheng <at> noaa.gov), or (Megan Coffey; megan.coffey <at> noaa.gov). Participation can be virtual.

CALLS FOR PAPERS

[Exploring Recent trends and research trajectories in Digital Twins technology for monitoring of Sustainable Development Goals - Author Instructions](#) – Deadline September 30th.

NEWS ON GIS RESEARCH & SERVICES



[‘The machine did it coldly’: Israel used AI to identify 37,000 Hamas targets](#) (The Guardian)

[Artificial Intelligence Act: MEPs adopt landmark law](#) (European Parliament News)

[IBM and NASA build language models to make scientific knowledge more accessible](#) (IBM Research)

[Geospatial Technology Radar 2023](#) (Element 84)

[Overture: The world needs more \(and better\) open map data](#) (InfoWorld)

[New Washington, D.C., Tool Uses Generative AI to Make Data Accessible](#) (GovTech)

[How Generative AI is Empowering Climate Tech with NVIDIA Earth-2](#) (NVIDIA Blog)

[Anthropomorphising machines and computerising minds: the crosswiring of languages](#)

[between Artificial Intelligence and Brain & Cognitive Sciences](#) (Centre for Digital Ethics)
[Does AI need a “body” to become truly intelligent? Meta researchers think so](#) (Freethink)
[AI for Understanding Earthquakes](#) (BU Hariri Institute)
[Extract Geospatial Data with AI](#) (Medium)
[NVIDIA Announces Earth Climate Digital Twin](#) (NVIDIA)
[Digital Twins Go Geospatial With OpenUSD, 3D Tiles, and Cesium](#) (Omniverse)
[University of Minnesota Proves Sustainable Development Goals Are Local](#) (Arc News)
[Open Mapping towards Sustainable Development Goals](#) (Springer)
[All this climate data is wild](#) (Yale Climate Connections)
[Forecasters predict an extremely active 2024 Atlantic hurricane season](#) (Yale Climate Connections)
[Bringing Climate Risk Assessments In-House with GIS](#) (Esri Magazine)
[Managing weather-related business volatility](#) (Instech)
[3D geospatial visualization](#) (GIM International)
[What is OGC GeoPose?](#) (GeoPose.org)
[What are Neural Radiance Fields \(NeRFs\)?](#) (Radiance Fields)
[A Concise History of Neural Networks](#) (Medium - 2016)

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