



CENTER FOR GEOGRAPHIC ANALYSIS NEWSLETTER

A Bi-Monthly Publication of the CGA at Harvard University | **January - February 2024**

HIGHLIGHTS

- CGA Annual Conference: Evaluating the Science of Geospatial AI
- Climate Resilience Resources for Cultural Heritage Toolkit Released
- Annual GIS Student Awards
- Summer GIS Institute
- Upcoming GIS Colloquium
- Upcoming CGA Workshops
- Recent Publications by CGA Staff and Affiliates
- Harvard GSD - African American Design Nexus
- Federal Plan to Eliminate Lead Pipes a Big Win for Harvard Chan School Scientists
- CAFÉ Climate and Health Conference
- Harvard Map Library - GIS Workshops and GIS Office Hours
- OGC Seeking Sponsors for Federated Marine Spatial Data Infrastructure Pilot
- Coastal Zone Hazards Program in Japan
- 2024 Geospatial Conferences
- New Tool Allows Researchers to Track Damage in Gaza
- NASA Earth Science Data Roundup
- IBM and Meta Launch the AI Alliance with MOC Alliance as Founding Member
- New Report Urges Multiagency Action to Support Digital Twins Research
- Geospatial Analysis of Patterns in Health Status in China's Belt and Road Initiative
- Near Real Time Global High-Resolution Mapping of the Terrestrial Human Footprint
- Synthetic Geosocial Network Generation
- Timemap - Software for Visualizing Time/Space Events from a Spreadsheet
- Martian Cave Detection via Machine Learning Coupled with Visible Light Imagery

CGA NEWS

CGA Annual Conference: Evaluating the Science of Geospatial AI

AI amplifies the role of predictability in science just as it alters longstanding notions of explanation, replicability, reproducibility, falsification, understanding, analysis, and

interpretation. How do we account for these shifts in the wake of AI? Join us in answering these and other questions, May 16-17 in Cambridge. Conference details: <https://gis.harvard.edu/event/evaluating-science-geospatial-ai>. Registered participants are welcome to submit a poster or story map to be included in the poster exhibit. Please send submissions to jblossom@cga.harvard.edu for review and posting before May 1st, 2024.

Climate Resilience Resources for Cultural Heritage Toolkit Released

This [NEH](#)-funded climate-hazard assessment and planning tool is designed to provide organizations tasked with managing cultural heritage across the U.S., with a way to begin to identify important climate hazards for a given place to support resiliency planning. Through a [collaboration with NEH](#) called [Held in Trust](#), (which includes experts from many organizations), the CGA provided consulting in system architecture and UI design to the [Foundation for Advancement in Conservation](#). The tool may be accessed [here](#). The team is working to further refine the system. Please send any comments or suggestions to resilience@culturalheritage.org.

CGA Included in Tour of Exemplary University GIS Support Programs

The tour comprises a chapter in a digital book, to be published later in 2024, exploring how university libraries and other centralized entities have implemented programs offering an array of GIS services to their communities. [StoryMap](#). [Included Video](#).

ANNUAL GIS STUDENT AWARDS

-Esri Innovation Program (EIP) Student of the Year

This award is open to all Harvard students, sponsored by Esri and administered by the CGA. Its purpose is to recognize outstanding achievements in developing novel tools or techniques for geographic analysis using Esri technology. One winner each year will be recognized with a certificate of recognition, a \$500 cash prize, and an Esri Press book. All EIP Student of the Year nominations will be recognized and published. The deadline for submissions is Sunday March 10, 2024. [Read more and register for the award competition](#).

-Fisher Prize for GIS Excellence

This award is given to one Harvard graduate and one Harvard undergraduate student who must be enrolled in the academic year and in good standing to be considered for the award. Group projects are allowed - just submit as one entry. The Prize is a cash award of \$500 each given to the top undergraduate and graduate entries. The deadline for submissions is Sunday May 12, 2024. [Read more and register for the award competition](#). [View previous award winners](#).

Summer GIS Institute

In June the CGA will offer its twice a year, two-week training course in GIS and applications to research. The program is designed for Harvard graduate students, post-doctoral fellows, faculty, staff, and external researchers, interested in integrating spatial thinking and methods

into their research. The application deadline is March 15, 2024. More information is [here](#).

UPCOMING GIS COLLOQUIUM

Desert Atlas: A Self-Hosted, Collaborative Online Map that is Easy and Private, by Dan Krol, February 15

In the modern era of data collection by governments and corporations, concerns have grown over user privacy and autonomy, in personal and cloud computing. There have been a few attempts to make private self-hosting of an OpenStreetMap application simpler. This presentation will go over one such attempt: Desert Atlas, which is built on the Sandstorm platform. [Details](#).

UPCOMING WEBINAR

Using ArcGIS for Microsoft Planetary Computer – Feb 22

ArcGIS for Microsoft Planetary Computer is a new offering from Esri and Microsoft that combines hundreds of ready-to-use analysis tools from ArcGIS Pro with petabytes of analysis-ready Earth observation data available on the Microsoft Planetary Computer. [Details](#).

UPCOMING GIS WORKSHOPS

-Introduction to GIS Workshop - January 26th

This two-hour hands-on workshop introduces students to GIS, and provides hands on training with a variety of GIS software. [Details](#).

-Cartography Workshop - April 19th

This full-day workshop focuses on the visual representation of geographic information. [Details](#).

RECENT PUBLICATIONS by CGA STAFF and AFFILIATES

[Geospatial Analytics Extension for KNIME](#) by Lingbo Liu, Xiaokang Fu, et. al.

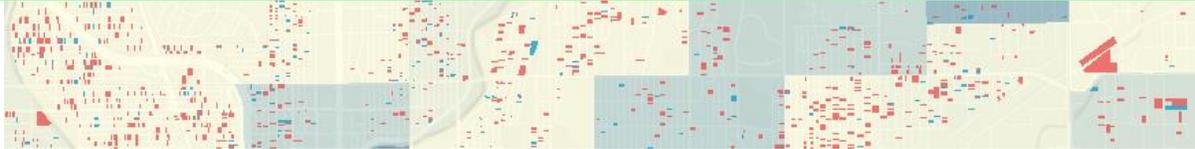
[Leveraging the digital layer: the strength of weak and strong ties in bridging geographic and cognitive distances](#) by Jan Kinne, et. al

[Epidemic effects in the diffusion of emerging digital technologies: evidence from artificial intelligence adoption](#) by Jan Kinne, et. al

[Food deprivation among adults in India: an analysis of specific food categories, 2016–2021](#) by S.V. Subramanian, et. al.

[Prevalence of girl and boy child marriage across states and Union Territories in India, 1993–2021: a repeated cross-sectional study](#) by S.V. Subramanian, et. al.

HARVARD GIS NEWS



Harvard GSD - African American Design Nexus - New StoryMaps and Podcasts

The [Design Nexus](#) is a platform that promotes Black designers who have made, and are making, indelible contributions to our society, and to how we see the world. The scholars in Design Nexus use a range of tools, such as StoryMaps and podcasts, in addition to traditional publishing mediums, to present their research. The [Community News](#) section provides an overview of the Nexus's constantly growing body of work. For recent overview of Nexus Season Two, see [The Nexus: Season Two StoryMap](#).

Federal Plan to Eliminate Lead Pipes a 'Big Win' for Harvard Chan School Scientists

For 40 years, Ronnie Levin has been trying to convince the U.S. Environmental Protection Agency (EPA) to reduce lead limits in drinking water. On November 30, she got the welcome news that the agency was proposing strict new rules requiring that *100% of the nation's lead pipes be replaced within 10 years*. [Read more](#).

IQSS Dataverse Joins NIH-funded Collaboration on Climate Change and Health

The Dataverse Project at the Institute for Quantitative Social Science will be joining an effort by the Harvard T.H. Chan School of Public Health and the Boston University School of Public Health to create a new research center, thanks to a \$6.7 million award from the National Institutes of Health (NIH). [See upcoming conference](#). [Details](#). [See Dataverse](#).

Rising Tides: Broadening Public Participation in Climate Action through Mixed Reality Visualization

Radcliffe Fellow Narges Mahyar is an assistant professor at the Manning College of Information and Computer Sciences, University of Massachusetts Amherst, whose research is situated at the intersection of human-computer interaction, information visualization, social computing, applied machine learning, human-centered artificial intelligence, and design. [Video](#).

Geospatial Classes Across Harvard

Course offerings which center geospatial thinking or technology, are available across the University: Harvard College, the Gov Department, the Anthropology Department, the Chan School, The Kennedy School, and the Extension School. [Details](#).

Harvard Map Library - GIS Workshops and GIS Office Hours

- Introduction to GIS - Friday, February 23, 2024.
- Advanced Data Cleaning for GIS – Friday, March 1, 2024.
- Weekly GIS Office Hours - Tuesdays from 9:30am-12pm.

Details and Registration [here](#).

Harvard Humanitarian Initiative - Humanitarian Geospatial Technologies Workshop

This workshop will introduce participants to spatial technologies and spatial analytical methods, currently and potentially used, in the humanitarian and disaster-response sectors.

[The course was not held in 2023 but may be held in 2024 subject to interest.](#)

CONFERENCES, CALLS, JOBS

The Open Geospatial Consortium (OGC) is Seeking Sponsors for Federated Marine Spatial Data Infrastructure Pilot

The OGC FMSDI Pilot 2024 seeks to improve the interoperability of land & sea data by developing freely available, open solutions to the real-world problems being faced by sponsoring organizations. The ongoing Initiative builds on the outcomes OGC [COSI Program](#) Initiatives, such as the [Marine Spatial Data Infrastructure Concept Development Study](#), the [Maritime Limits and Boundaries Pilot](#), and the [Arctic Spatial Data Pilot](#). [Details](#). Deadline for sponsorship applications: January 19.

Call for Participation - OGC Climate and Disaster Resilience Pilot

The next phase of an ongoing OGC disaster and climate initiative, CDRP24 is focused on delivering impacts through interoperable geospatial technologies and standards, all to help combat climate and disasters. [Details](#). Deadline January 30. [Other OGC events](#).

Coastal Zone Hazards Program in Japan

The Advanced Studies Institutes (ASI) program for U.S. graduate students is supported by National Science Foundation (NSF) and provides students with the opportunity to engage with global experts in coastal zone hazard research. [Details](#). [Apply](#). Application deadline: February 5th.

2024 CONFERENCES

- [CAFÉ Climate and Health Conference](#) - The Joint BUSPH-HSPH Research Coordinating Center (CAFÉ RCC) of the NIH Climate Change and Health Initiative – Feb 5-7, virtual.
- [ASPRS 2024](#) – American Society for Photogrammetry and Remote Sensing. Feb 11-15. Denver Colorado.
- [2024 MOC Alliance Workshop](#) – Massachusetts Open Cloud Alliance – Feb 28-29, Boston, Massachusetts.
- [Esri Developer Summit](#) – March 12-15, Palm Springs, California.
- [Geospatial Water Technology Conference](#) - March 25-27, Orlando, Florida.

- [BARI Conference 2024](#) - Boston Area Research Initiative Insight-to-Impact Summit, April 12th, Cambridge, Massachusetts.
- [AAG 2024](#) – American Association of Geographers – April 16-20, Honolulu, Hawaii.
- ODSC 2024 – Open Data Science Conference – April 23-25, Boston, Massachusetts.
- [IGRSM 2024](#) - International Conference and Exhibition on Geospatial & Remote Sensing. April 29-30, Kuala Lumpur, Malaysia.
- [GISTAM 2024](#) - International Conference on Geographical Information Systems Theory, Applications and Management. May 2-4. Angers, France.
- [GEOINT 2024](#) - United States Geospatial Intelligence Foundation Conference – May 5-8, Kissimmee, Florida.
- [Geospatial World Forum 2024](#) - May 13–16, Rotterdam, Netherlands.
- [State of the Map US 2024](#) – Open Street Map Conference – June 6-8, Salt Lake City, Utah.
- [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.
- [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.

NEWS ON GIS RESEARCH & SERVICES



[New Tool Allows Researchers to Track Damage in Gaza](#) (Bellingcat)

[NASA and IBM Openly Release Geospatial AI Foundation Model for NASA Earth Observation Data](#) (NASA)

[IBM and Meta Launch the AI Alliance with MOC Alliance as Founding Member](#) (Massachusetts Open Cloud)

[NASA Earth Science Data Roundup: January 2024](#) (NASA)

[Forensic Architecture Research Agency Drives Investigative Journalism](#) (University of London)

[Novel use of Pixel-Wise T-Test for Building Damage Detection](#) (ICLR)

[Cesium Real-World 3D Geospatial Extension for NVIDIA Omniverse](#) (Cesium)

[New Report Urges Multiagency Action to Support Potentially Transformative Digital Twins Research](#) (National Academy of Science)

[New GeoAI Handbook Published](#) (GeoDSLlab)

[USC/UMN Team Wins DARPA/USGS AI Challenge](#) (USC Viterbi)

[Free GIS for Climate Action Course](#) - May to June (Esri)

[Discoveries and Revelations: Exploring the World Soils 250m Layers](#) (Esri Blog)

["A Strange Quest" - Documentary on Map Collector David Rumsey – Trailer](#) (YouTube)

[Geospatial Analysis of Spatial Distribution, Patterns, and Relationships of Health Status in China's Belt and Road Initiative](#) (Nature)

[An Operational Approach to Near Real Time Global High-resolution Mapping of the Terrestrial Human Footprint](#) (Frontiers in Remote Sensing)

[Synthetic Geosocial Network Generation](#) (SIGSPATIAL)

[Archive on History of Computer Cartography and Geographic Information Sciences](#) (Library of Congress)

[Amazon: Tribes in Brazil Fight Wildfires with Indigenous Knowledge](#) (Esri Blog)

[Martian Cave Detection via Machine Learning Coupled with Visible Light Imagery](#) (Icarus)

[MapJunction Source for Georeferenced Historic Maps of Boston](#) (Historic Boston Incorporated)

[Timemap - Software for Dynamically Visualizing Time/Space Events from a Spreadsheet](#) (Forensic Architecture)

The CGA Newsletter is published bi-monthly. Editor of this issue: Ben Lewis

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