Stace Maples

Data Scientist, Educator, Geospatial Swiss Army Knife,
Technologist, Habitual Tinkerer & Lifetime Learner

References upon request

Objective

To lead a team of data science and collections experts focused upon building services and removing barriers to the data and technologies that help identify, investigate, quantify, and solve Humanity's problems.

Expertise

20 years of experience creating and supporting spatial data science, services and methods for research and teaching.

20 years inter-organizational collaboration with commercial entities (Esri, Google, Planet Labs, Carto.com and more) in the creation of data services and products for research universities.

Managing a diverse team of technical and methodological experts in creating and supporting data services for application, research, and teaching.

Discovery & access services for research data collections.

Discovery & access services for digital collections.

Planning, implementation, and management of long-term data management projects.

Design and implementation of data literacy training programs.

Design and implementation of integrated, multi-user field data collection systems.

Design and implementation of geospatial data & methods in Public Health and Humanitarian application areas.

Experience

Assistant Director of Geospatial Collections & Services

Stanford University Libraries

March 2021 – present

- Oversee modern maps & geospatial data operations, collections, services, and support programs for Stanford researchers using spatial and Earth observation data in their research and teaching.
- Design, development, implementation & maintenance of spatial data infrastructure services.

- Licensing & acquisition of enterprise-level research data resources and computing infrastructure.
- Design and implementation of the Stanford Geospatial Center spatial data literacy programs and curriculum.
- Leadership and management of a diverse team of 6 cartographic data and metadata experts and 7 supporting hourly staff.
- Leadership & Management Team in Stanford Library's Research Data Services division, with a staff of 15+ data science and digital scholarship experts.

Lecturer

Stanford Doerr School of Sustainability
Earthsys144/ESS164 – Fundamentals of Geographic Information Science

Autumn 2020 – present

- Design and deliver foundational curriculum in geospatial data science methods to 50 students per Quarter
- Managed teaching team with 2 Tas

Geospatial Manager

Stanford Geospatial Center, Branner Earth Sciences Library, Stanford University

January 2015 – March 2021

- Oversee daily operations of the Stanford Geospatial Center
- Manage SGC support staff
- Licensing, acquisition, and management of enterprise-level resources, including: Esri Site License, 2000+ user ArcGIS.com org, 300+ user Planet.com org, 300+ user Google Earth Engine org
- geospatial data operations, collections, services, and support.
- Design and implementation of the Stanford Geospatial Center spatial data literacy programs and curriculum
- Coordinate & collaborate on development, implementation & maintenance of spatial data infrastructure services.

Geographic Information Systems Specialist & Instruction Coordinator

Yale University Libraries

September 2010 - January 2015

- Creation and management of the Yale Map Collection GIS Services, including spatial data literacy instruction program, services, and direct support
- Direct consultation with faculty and center-based research projects
- Esri Higher Education Site license management, including management of 500+ user ArcGIS Online org
- Google Earth Engine organizational access manager
- Credit course collaboration (see teaching experience)

Geographic Information Systems Assistant

Yale University Libraries

August 2005 - September 2010

GIS Lab Manager / Teaching Assistant

University of Texas at Dallas, Dept. of Geography

August 2001 - July 2005

Education

University of Texas at Dallas, 2005

M.Sc. Geographic Information Science, Remote Sensing

U.S. National Park Service, 2004

Certification, Geophysical Methods for Archaeological Prospection

Southern Methodist University, 1997

B.Sc. Anthropology, Archaeology, Latin American Studies

Publications

https://orcid.org/0000-0002-4917-3143

Select Publications

"**A cluster-based, spatial-sampling method for assessing household healthcare utilization patterns in resource-limited settings**." Clinical Infectious Diseases 2020 | journal-article DOI: https://doi.org/10.1093/cid/ciaa1310

"**Electronic decision support and diarrhoeal disease guideline adherence (mHDM): a cluster randomised controlled trial**."" The

Lancet Digital Health 2020 | journal-article DOI: https://doi.org/10.1016/s2589-7500(20)30062-5

"**Africa's Nomadic Pastoralists and Their Animals Are an Invisible Frontier in Pandemic Surveillance**." The American journal of tropical medicine and hygiene 2020 | journal-article DOI: https://doi.org/10.4269/ajtmh.20-1004

"**Making pastoralists count: geospatial methods for the health surveillance of nomadic populations**" The American journal of tropical medicine and hygiene. 2019 | journal-article DOI: https://doi.org/10.4269/ajtmh.18-1009

"**Evaluation of a smartphone decision-support tool for diarrheal disease management in a resource-limited setting**" PLoS neglected tropical diseases. 2017 | journal-article DOI: https://doi.org/10.1371/journal.pntd.0005290

"**Uncovering Latent Metadata in the FSA-OWI Photographic Archive**." DHQ: Digital Humanities Quarterly . 2017, Vol. 11 Issue 2, p286-293. 8p. http://www.digitalhumanities.org/dhq/vol/11/2/000299/000299.html

"**Is a cholera outbreak preventable in post-earthquake Nepal?**" PLoS Neglected Tropical Diseases 2015 | journal-article DOI: https://doi.org/10.1371/journal.pntd.0003961

Select Projects

Making Pastoralists Count

Leading a team to automate the use of high-cadence satellite imagery (Planetscope) and machine learning models in identifying active nomadic pastoralist settlements for public health interventions.

Currently applying for Phase 2 Implementation Funding.

Funded by the Bill & Melinda Gates Foundation:

https://gcgh.grandchallenges.org/grant/geospatial-methodology-reach-mobile-populations

MotoMeds

Improving Nighttime Access to Care and Treatment (Part 2) (INACT2)

Consulting spatial data scientist and field data specialist.

Designed and implemented survey frameworks for highly dispersed, unaddressed households in Leogane, Gressier & Les Cayes communes, Haiti. Facilitating delivery logistics with

satellite imagery, Humanitarian OpenStreetMap data and +Codes

https://nelson.research.pediatrics.med.ufl.edu/motomeds/

locator.stanford.edu

Designed and implemented the first internal, global street address-level geocoding service deployed at an R1 University.

Geocoding, Reverse Geocoding, Auto-Suggest and POI Query services, built from ~.5TB of street network, point-of-interest and administrative boundary data, deployed using Esri ArcGIS Server Enterprise on a 7 Ubuntu Server system, capable of serving 60 simultaneous users and achieving processing rates of more than 2 million records per hour.

https://locator.stanford.edu/

earthworks.stanford.edu

Product Management and team leadership for Stanford Library's branded implementation of the geoblacklight data discovery software platform, which provides discovery, access, and API-based web services on nearly 100,000 spatial datasets and scanned cartographic objects.

http://earthworks.stanford.edu/

Leadership

Geo4LibCamp

Role: Co-founder/Host

Geo4LibCamp is an annual unconference hosted at Stanford University, meant to foster collaboration, learning and progress on spatial data services and support in libraries. The meeting is accompanied by an annual working meeting of the Geoblacklight.org developer community.

https://geo4libcamp.org/

IIIF + Maps Community

Role: Co-founder/Co-Chair

This group works on defining best practice in associating geographic data with IIIF-based digital collection materials. This includes IIIF recipes but also more in-depth work to align efforts to link IIIF maps to geospatial systems. Our two main initiatives

have been the creation of the *navPlace Extension* and current work on IIIF-native georeferencing infrastructure, which can currently be viewed at allmaps.org.

https://iiif.io/community/groups/maps/

Foothills College GIST Program Advisory Board

Role: Member 2016 – present

Advise on current trends in spatial data science for objective design and curriculum development.

Esri Higher Education Advisory Board

Role: Member 2015 - present

Esri's Education Outreach Team established the Board in 2012 to solicit expert guidance about Esri's efforts to support the education community.

Planet Labs Technical Customer Advisory Board

Role: Invited Member

Advise on technical strategy and roadmap for Planet services and support, from the perspective of Research Universities.

Ed Ruscha, Streets of Los Angeles

Technical advisor with Brainfood.com and designer of workflows and infrastructure for the generation of "geocoding" metadata of ~60k individual image of Sunset Strip and other iconic Los Angeles locations, created by Ed Ruscha between 1964 and the present.

Visualization of the resulting image metadata can be viewed at:

https://12sunsets.getty.edu/

Teaching

- ***EARTHSYS144: Fundamentals of Geographic Information Science (GIS)*** – Stanford University
  2020-present

Guest Lecture & Co-Teaching

- **Error! Hyperlink reference not valid.** – Stanford University
  2019-present

- **Error! Hyperlink reference not valid.** – Stanford University
  2018-present
- **Error! Hyperlink reference not valid.** – Stanford University
  2018-present
- ***Wrigley Field Program in Hawaii -*** Stanford School of Earth, Energy & Environmental Sciences
  2016 - present
- ***Stanford CESTA Summer Research College (SRC)*** – Stanford University
  2015-present
- ***The Stanford Geospatial Center GIS Workshop Series*** – Stanford University
  2015-present
- ***SMU Summer Geospatial Bootcamp*** – Southern Methodist University
  2015-2020
- ***GeoTech,*** - Bishop Dunne High School, Dallas, TX
  2010-2020
- ***MODS Summer Graduate Student Orientation Program -*** Yale School of Forestry & Environmental Studies
  2006-2014
- ***Geospatial Law & Policy -*** Yale Law School, with Dr. Richard Brooks
  2011
- ***Geophysical Prospecting Methods for Archaeology -*** Yale University, with Dr. William Honeychurch
  2012-2014
- ***The Yale Map Department GIS Workshop Series*** - Yale University
  2005-2014

Skillset

- Comprehensive understanding of industry standard spatial and relational data models, formats, and operational infrastructure
- Curriculum development and implementation
- Application of machine learning methods to spatial & imagery-based data
- Familiarity with humanitarian data infrastructure, including OpenStreetMap, Humanitarian OpenStreetMap Task Manager, Field Papers, participatory mapping techniques, etc…
- Data discovery and distribution systems

- Data description, metadata and cataloging standards, including MARC, MODS, GBL, STAC, DCAT & DDI
- Comprehensive knowledge of proprietary and Free & Open Source Software for Geospatial Data Science
- Cloud-based spatial data platforms, SaaS, APIs and services
- Development and scripting languages, including Python, JavaScript, R and Unix Shell
- Working familiarity with Agile/SCRUM project management methodologies
- Archaeological field research design and implementation
- Public speaking