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Geospatial Support Services in Academia: Empowering Geospatial Science and Technology Adoption

MIRIAM OLIVARES, GISP

Geospatial Support Services, Computational Methods and Data

Yale UNIVERSITY LIBRARY





How many are familiar with
geospatial support services?



Keep your hands
up if your
organization offers

*geospatial
support
services*



“Geospatial support services offer foundational support and a new form of capacity building - for the workforce of tomorrow”

GeoForce 5

Yale UNIVERSITY LIBRARY

Empowering Geospatial Science and Technology Adoption

TRAINING

FILLING THE GAP IN GEOSPATIAL CURRICULA

CONSULTATIONS

GUIDING GEOSPATIAL USERS TO ESTABLISH METHODOLOGIES AND SOLUTIONS

GEOINQUIRIES

RESPONDING TO USER QUERIES WITH GEOSPATIAL INSIGHTS AND SOLUTIONS

GRANT WRITING

PROVIDING EXPERTISE AND RESOURCES FOR THE GEOSPATIAL ASPECTS OF RESEARCH PROPOSALS



GEO NETWORKING

FOSTERING GEOSPATIAL COMMUNITY COLLABORATION AND KNOWLEDGE SHARING

SPATIAL DATA DISCOVERY

GUIDING USERS IN FINDING RELIABLE SPATIAL OPEN AND LICENSED DATA

SOFTWARE ASSESSMENT

ADVOCACY AND TESTING OF NEW SOFTWARE TO SUPPORT CUTTING-EDGE GEOSPATIAL ANALYSES

OUTREACH

INTRODUCING GEOSPATIAL TECHNOLOGIES, SHOWCASING APPS, AND FOSTERING LEARNING AND USE

Empowering Geospatial Science and Technology Adoption

GRANT WRITING TRAINING GEONETWORKING SOFTWARE ASSESSMENT



GEOINQUIRIES CONSULTATIONS OUTREACH SPATIAL DATA DISCOVERY

Empowering Geospatial Science and Technology Adoption

APPLICATIONS



Selected Yale projects

Photo by Allie Barton. Source: <https://library.yale.edu/news/extraordinary-collection-early-maps-display-beinecke-library>

Mapping 25+ Years of Research

Faculty member, HISTORY

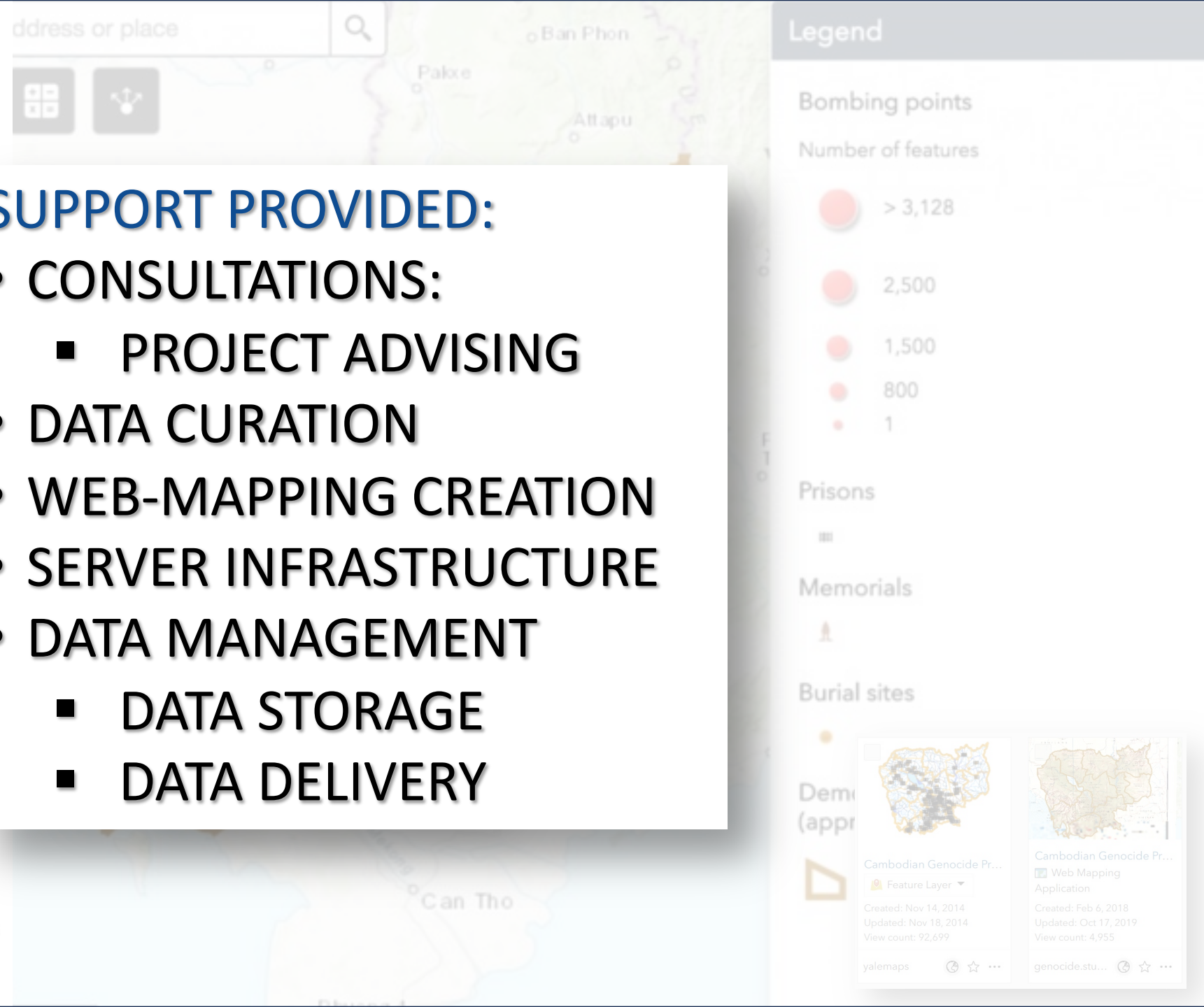
Used elevation models

Mapped villages, prisons, mass-grave sites, memorials, bombing points, etc.

The Cambodian Genocide Program Geographic Database can be accessed at
<https://yalemaps.maps.arcgis.com/apps/webappviewer/index.html?id=695677d4ce434c27e78d7f4685ab02ea>

SUPPORT PROVIDED:

- CONSULTATIONS:
 - PROJECT ADVISING
- DATA CURATION
- WEB-MAPPING CREATION
- SERVER INFRASTRUCTURE
- DATA MANAGEMENT
 - DATA STORAGE
 - DATA DELIVERY



Mapping Health Justice

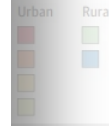
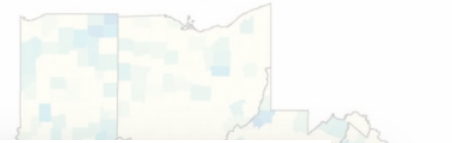
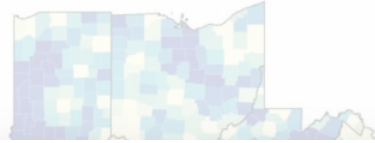
Clinician Scholar, MEDICINE

“ New research finds that some rural patients have to drive as long as two hours to access methadone treatment, which could be mitigated by new regulations.

”

SUPPORT PROVIDED:

- CONSULTATIONS
 - PROJECT ADVISING
 - TROUBLESHOOTING
- INSTRUCTION
 - WEB-MAPPING TOOLS AND PRINCIPLES
 - GEOCODING
 - NETWORK ANALYSIS



Digitizing Dissertation Data

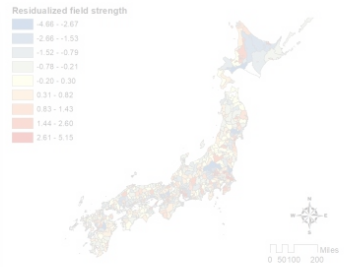
Ph.D. Candidate, ECONOMICS

Digitized radio signal zones
from a 1949 map

Spent about three weeks
to complete the polygons

SUPPORT PROVIDED:

- CONSULTATIONS
 - PROJECT ADVISING
 - TROUBLESHOOTING
- INSTRUCTION
 - DESKTOP TOOLS AND PRINCIPLES
 - GEOREFERENCING MAPS
 - DIGITIZING
 - EDITING ATTRIBUTE TABLE
 - CALCULATE AREA



(b) Residualized field strength

Residualized field strength. Panel (a) shows the AM wave field strength as a fundamental variable for radio exposure. I digitized the map in panel (b) shows the spatial distribution of residualized field strength. Residualized field strength is obtained by regressing field strength on the transmitter fixed effects, and all the other district characteristics such as population density and industrial composition.

Mapping Ancient Civilizations

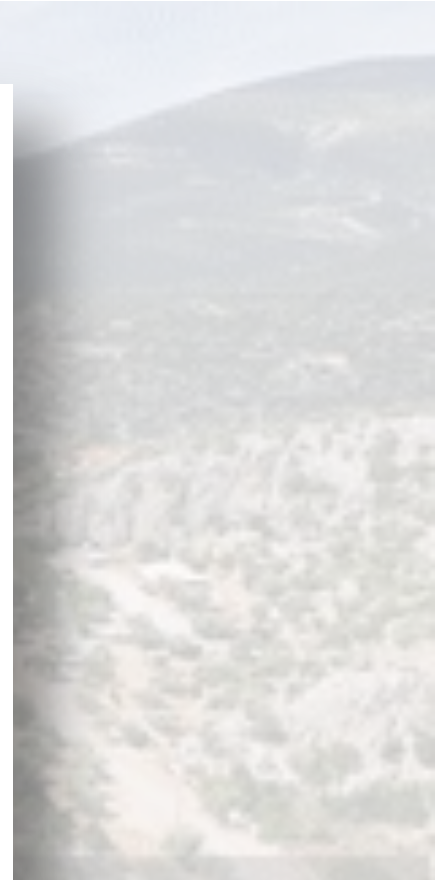
Scientist, MUSEUM

Fly drones and generate
3D models

Plans to map facsimile of
the De materia medica¹

SUPPORT PROVIDED:

- CONSULTATIONS
 - PROJECT ADVISING
- INSTRUCTION
 - DESKTOP TOOLS AND PRINCIPLES
 - DRONE TO MAP TOOL
- LICENSE ACQUISITION
- NETWORKING FOR ACCESS TO EXPERTISE



¹ A five-volume pharmacopeia of medicinal plants and medications originally written by a Greek physician in the first century C.E.

Collection

Yale's MCDB 221L



8 Running Through the 6 with ArcGIS: Income & Healthcar...



6 A Geospatial Investigation of Household Income and...



7 Environmental Health Disparities and...



12 The Correlation Between Diabetes & Socio-Economic...



10 The Coronavirus & College



11 Stopping the Spread

SUPPORT PROVIDED:

- 6-WEEK COURSE EMBEDDED ACCELERATOR
- INSTRUCTION
- 15 TEAMS/PROJECTS
 - TEAM GIS CONSULTATIONS
 - METHODOLOGY ADVISING

Teaching
Accelerat
a Biology

Scientist and Lect
MOLECULAR, CELLU
DEVELOPMENTAL B

64 Undergraduat

15 teams/project

Report: Students using GIS

for research; others

securing jobs

Some stats

WE ARE BUSY
GEOEMPOWERING
YALE MEMBERS



60-Minute Consultations

1,510 via LibCal

(automated reservation system)



ServiceNow GIS Help Tickets

595 resolved tickets

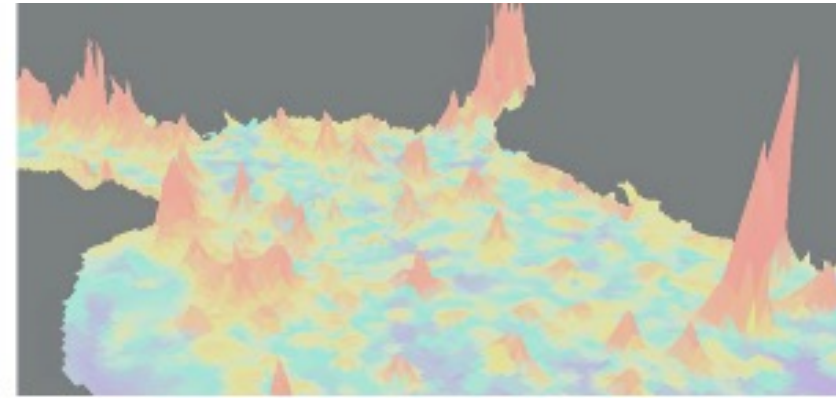


Email to GIS Librarian

Countless

1-week intensive geospatial training

40 participants per session



YALE GIS ACCELERATOR



Esri software usage

Yale Yale University's Esri ArcGIS Usage



Please visit [Yale Library's GIS Support Services](#) to learn about Yale's GIS resources

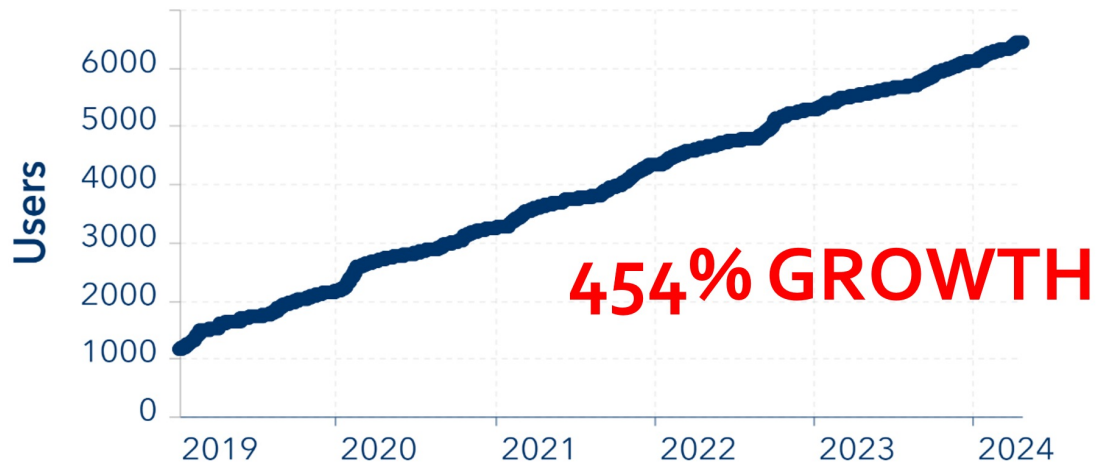
Total Registered Users

6,449 

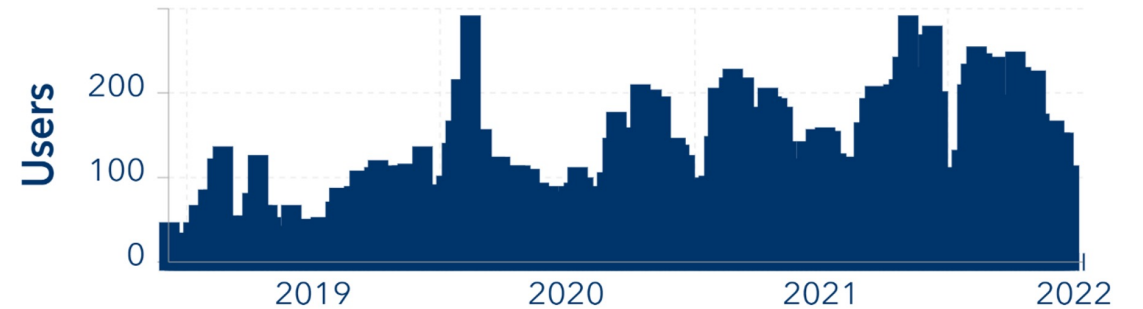
Last Updated: 4/26/2024

(4,300+ ACTIVE NETIDs)

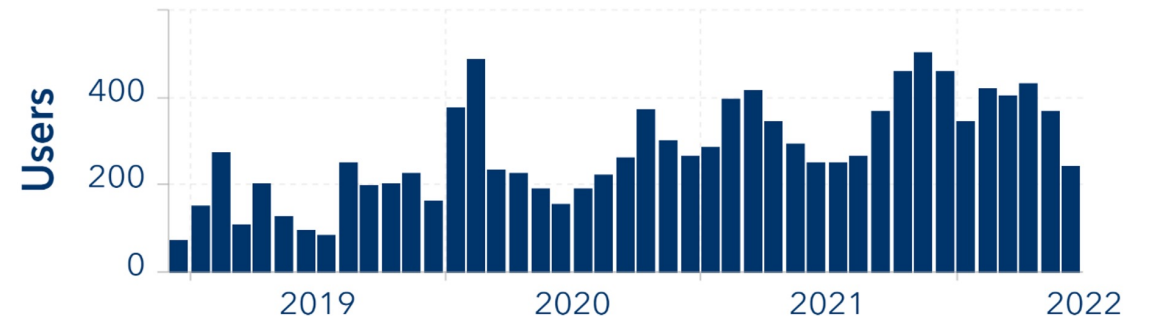
Registered Users by Day



Unique Logins by Week



Unique Logins by Month



Yale Launched a New Geospatial Center

Mission:

To create geospatial knowledge that solves humanity's most pressing challenges.



geospatial.yale.edu

GeoForce 5



GeoForce 5

Empowering Geospatial Technology Adoption in Academia

March 26, 2024

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