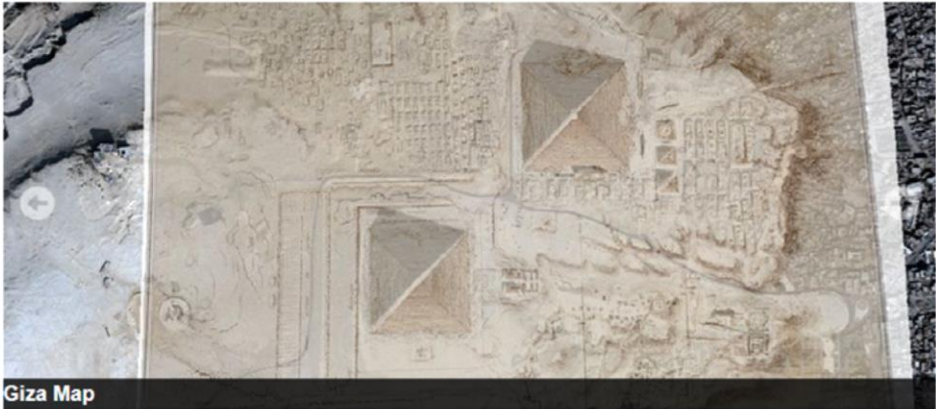


WorldMap

A GIS Platform for Scholarly Collaboration & Teaching

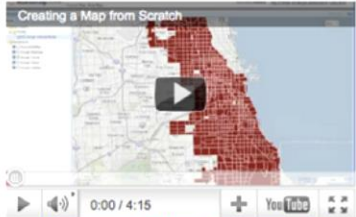
[Create a Map](#) [View a Map](#) [About](#)



Giza Map

Build your own mapping portal and publish it to the world or to just a few collaborators. WorldMap is open source software.

Creating a Map from Scratch



0:00 / 4:15

[Watch the WorldMap Quick Start video](#)

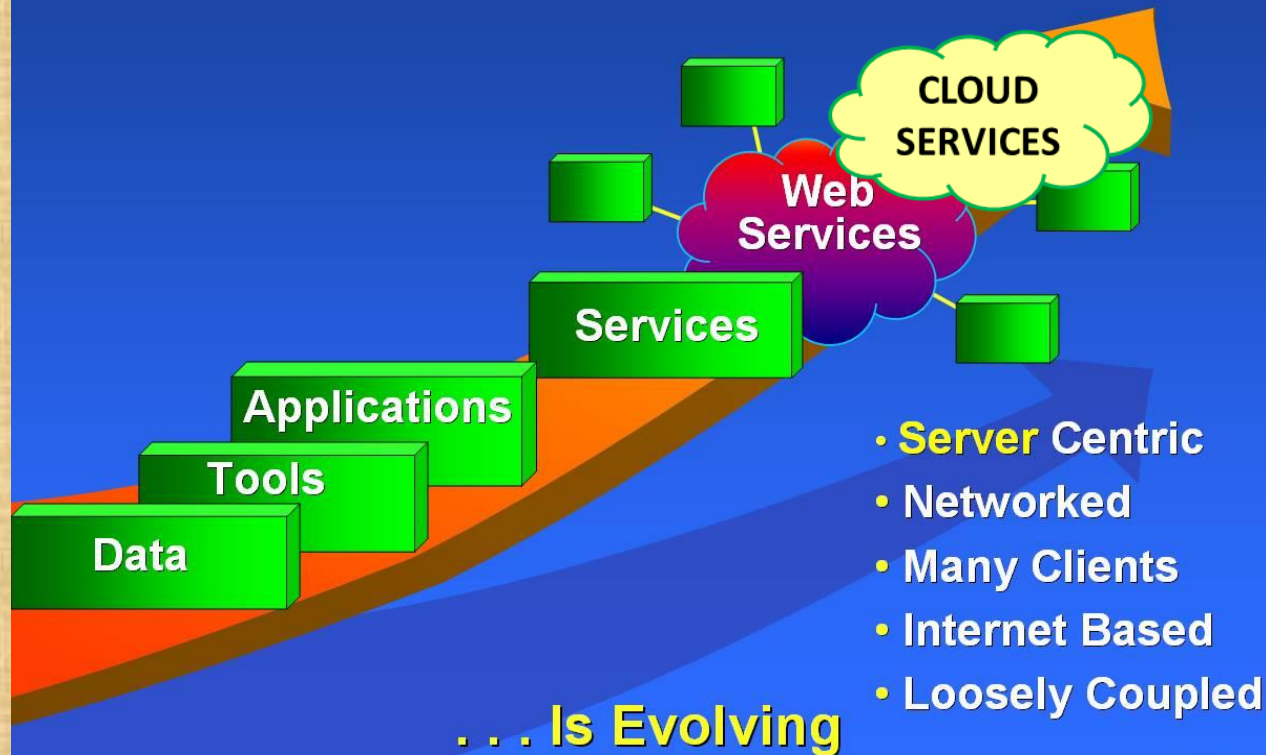
WorldMap is being developed by the [Center for Geographic Analysis](#) at [Harvard University](#).



Jeff Howry, Ph.D.
Harvard University



Geographic Information Software



UC2002Final-JD 6

The [WorldMap](#) system attempts to fill a gap between desktop GIS, which is generally light on collaboration, and web-based mapping solutions which generally limit customization of large datasets.

WorldMap Cloud Services & Use

- **Uses Cloud Services** – WorldMap application hosted in a remote data center with high-availability and the ability to expand (add more servers) or reduce resources depending upon user demand.

WorldMap runs on Amazon's Cloud aws.amazon.com/ec2











- **Web-based application** deployment requires no on-site IT support except a broad Internet connection and user laptops/desktops.

WorldMap – designed for **Firefox** and **Chrome**
(open source code browsers)

WorldMap System Statistics

As of February 21, 2017:

- 20,120 registered users
- 24,310 data layers added by users
- 7,032 map collections created
- 1,539,000 unique visitors
- About 1,300 visitors per day

Country ?	Sessions ? ↓	% New Sessions ?	New Users ?	Bounce Rate ?	Pages / Session ?
	1,908,019 % of Total: 100.00% (1,908,019)	80.74% Avg for View: 80.69% (0.06%)	1,540,510 % of Total: 100.06% (1,539,575)	66.55% Avg for View: 66.55% (0.00%)	2.08 Avg for View: 2.08 (0.00%)
1.  United States	753,695 (39.50%)	79.57%	599,688 (38.93%)	66.42%	2.21
2.  India	97,012 (5.08%)	92.52%	89,760 (5.83%)	65.74%	1.75
3.  United Kingdom	95,814 (5.02%)	84.72%	81,177 (5.27%)	69.80%	1.84
4.  Turkey	70,355 (3.69%)	81.83%	57,574 (3.74%)	73.74%	1.78
5.  Canada	61,282 (3.21%)	88.28%	54,101 (3.51%)	68.08%	1.89
6.  Ecuador	59,240 (3.10%)	33.09%	19,605 (1.27%)	78.07%	1.66
7.  China	50,372 (2.64%)	78.64%	39,612 (2.57%)	67.48%	1.83
8.  Pakistan	38,931 (2.04%)	93.17%	36,272 (2.35%)	59.31%	1.90
9.  Australia	38,430 (2.01%)	89.13%	34,253 (2.22%)	66.30%	1.86
10.  Germany	37,924 (1.99%)	76.28%	28,928 (1.88%)	64.06%	2.56

WorldMap Overview

WorldMap – a Web-based GIS?

A brief history of WorldMap

- Purpose & Features –
worldmap.harvard.edu/

Basic Concepts & Definitions

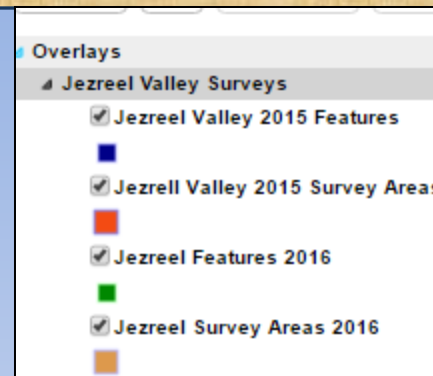
- **WGS84** Coordinate system for data upload
- Base map options – Google, OpenStreetMap, ESRI & Bing
- Layers can have Custom Labels

Examples

- A Tour of WorldMap sites which demonstrate its features
- Where WorldMap is used for presenting content
- Courses where Students contribute content

Essential WorldMap Features

- Add your own data – Data Upload (Shapefiles,) & Built-in Tools (Points, Lines and Polygons)
- Annotate your data and that of other users
- Collaborate – permissions to View & Edit



Why WorldMap?

WorldMap allows the user to:

- **Create and edit maps**

- **Use Online cartographic tools** for symbolizing layers (create or annotate points, lines or polygons)

- **Upload** datasets to create layers and overlay them with built-in Basemaps and thousands of other layers.

- **Georeference** scanned or digital maps online through Warp <http://warp.worldmap.harvard.edu>

- **Publish** one's data to the world or to just a few collaborators

- **Export data** to standard interoperable formats

- **Link map features** to media content (images, data sources or citations)

© 2012 Center for Geographic Analysis at Harvard

<http://about.worldmap.harvard.edu/>

What Makes WorldMap Unique?

- **Publish** one's data to the world or to just a few collaborators.

Permission Level	Can View a Map	Can Download a Layer	Can Edit a Style	Can Add/Remove a Layer	Can Change Permissions
None	No	No	No	No	No
View	Yes	Yes	No	No	No
Edit	Yes	Yes	Yes	Yes	No
Manage	Yes	Yes	Yes	Yes	Yes

Permissions

Who can view or download this?

- ☐ Anyone
- ☐ Any registered user
- ☐ Harvard Users
- ☒ Only users who can edit

Who can edit this?

- ☐ Any registered user
- ☐ Harvard Users
- ☒ Only users who can edit

☒ rhomsher

☒ Add user...

Who can manage and edit this?

☒ jhowry

☒ Add user...

Viewers:

- **Anyone**
- **Any Registered User**
- **Only Users who can Edit**

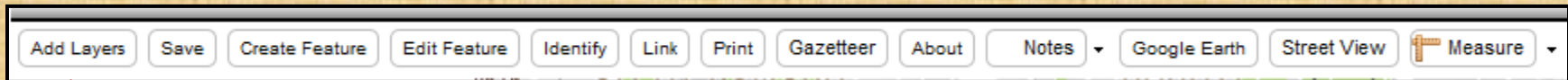
Editors:

- **Any Registered User**
- **Only Users who can Edit**
- **Users who can Manage & Edit**

Map Creator is Default MANAGER & EDITOR

WorldMap Functionality

WorldMap Functionality – the principal Navigation bar



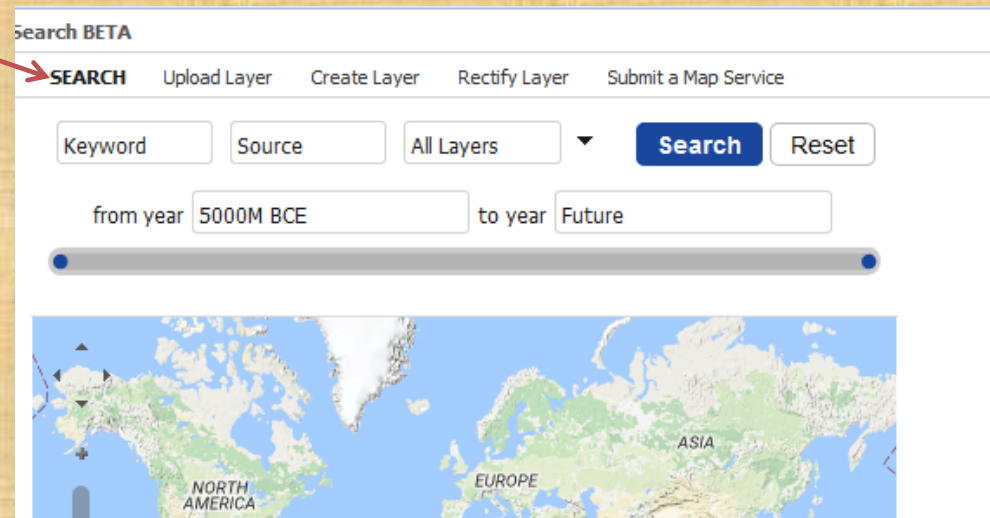
Top Level Menu lead to Second and Third Tier Menus

Search BETA

SEARCH Upload Layer Create Layer Rectify Layer Submit a Map Service

Short video demo

<https://youtu.be/lbSCw6LHsWg>



Reference:

<https://2016.foss4g-na.org/session/hhypermap-platform-enable-geospatial-search>

WorldMap 'Super' Search

SEARCH All of WorldMap's layers and thousands of layers across the Web (101,000 and still Indexing more layers daily)!

Search BETA

SEARCH

Upload Layer

Create Layer

Rectify Layer

Submit a Map Service

Keyword

Source

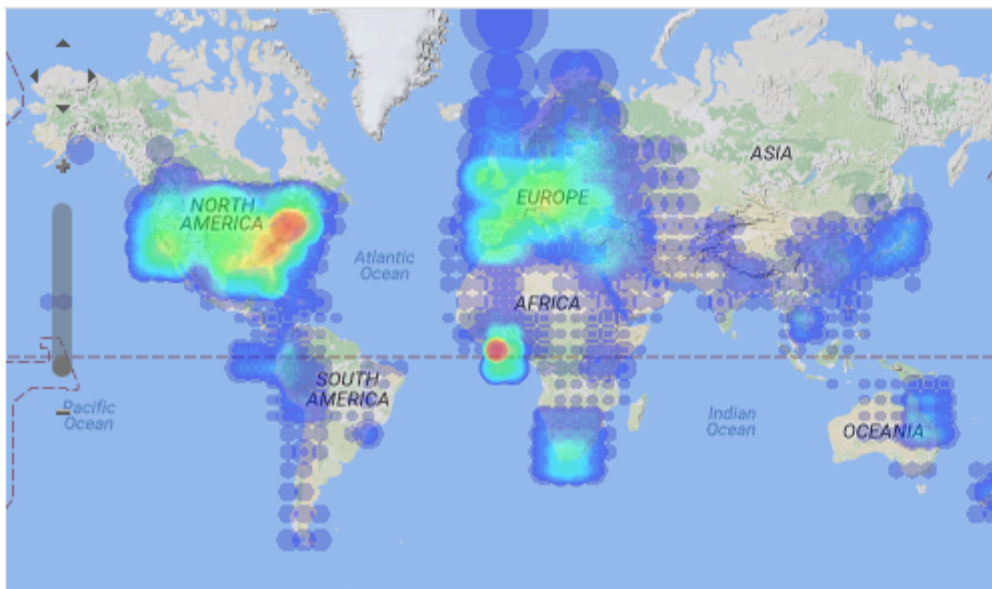
All Layers

Search

Reset

from year 5000M BCE

to year Future



Title	Source	Date
IndexLetIdent	gis.icao.int	2016
OSM: 4000 un-tagged probabl...	worldmap.ha...	None
Major World Watersheds	water.disco...	2016
Major World Watersheds	water.disco...	2016
Major World Watersheds	water.disco...	2007
WRI Major Watersheds of the ...	worldmap.ha...	2016
{ERS_port_nb}	maratlas.dis...	2016
00	maratlas.dis...	2016
{ERS_port_nb}	maratlas.dis...	2016
657 Crude Oil Refineries - Retr...	worldmap.ha...	2006
Oil Refineries from IndustryAb...	worldmap.ha...	2016
AGEAR	gis.icao.int	2016
AGEAR	gis.icao.int	2016
World Natural Gas Flaring mu206	worldmap.ha...	2014

Prev

Next

Showing 1-200 of 100251

No Layers Selected

WorldMap Search & Selection of 'Shared Layers'

Search BETA

SEARCH Upload Layer Create Layer Rectify Layer Submit a Map Service

Jerusalem

Source

All Layers

Search

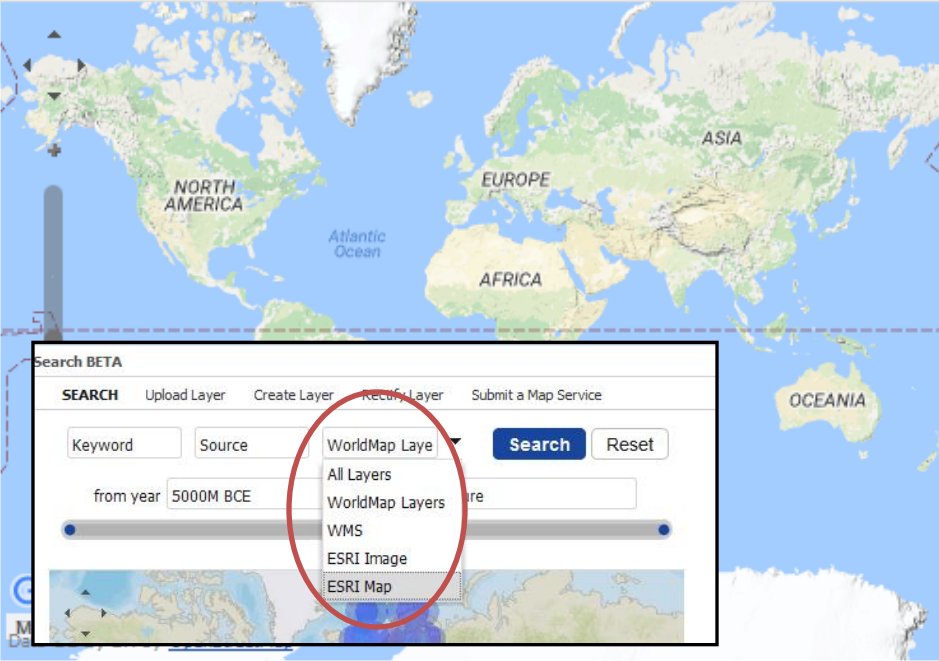
Reset

from year

5000M BCE

to year

Future



Search BETA

SEARCH Upload Layer Create Layer Rectify Layer Submit a Map Service

Keyword

Source

WorldMap Layer

All Layers

WorldMap Layers

WMS

ESRI Image

ESRI Map

Search

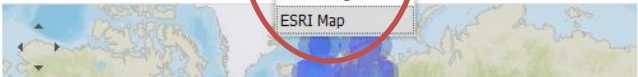
Reset

from year

5000M BCE

to year

Future



Title	Source	Date
Jerusalem	worldmap.ha...	2016
ancient Jerusalem	warp.world...	2016
Aerial Jerusalem	warp.world...	1945
Jerusalem Neighborhood Labels	worldmap.ha...	2016
Walking Jerusalem GPS	worldmap.ha...	2016
Jerusalem 1187 A.D	warp.world...	2016
Jerusalem_GPS	worldmap.ha...	2016
The Journey of Egeria (Ashto...	worldmap.ha...	384
Egeria	worldmap.ha...	384
Mary of Egypt	worldmap.ha...	2016

Prev

Next

Showing 1-10 of 10

ancient Jerusalem

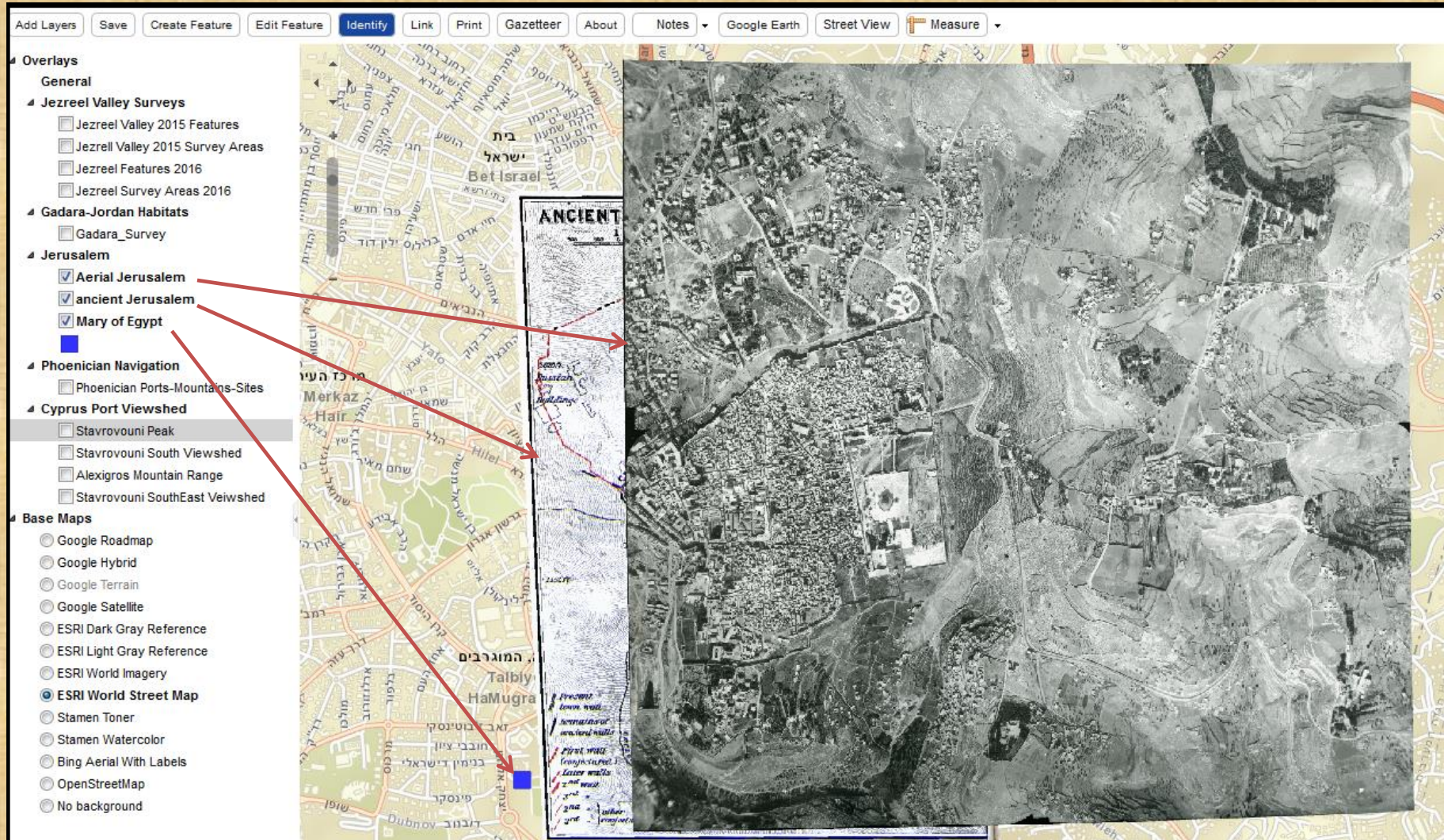
Mary of Egypt

Aerial Jerusalem

Clear Selected

Add To Map

Display of Selected Layers



<http://worldmap.harvard.edu/maps/nel/W6d>

Add Layers: Search – Upload Layer – Create Layer – Rectify Layer – Submit a Map Service

Maximum allowed file size is 100 MB. Please contact us if you need to upload larger layers.

Upload Layer Data

Title:

Data:

SLD:

Upload Layer Data

Title:

Data:

DBF:

SHX:

PRJ:

Encoding:

SLD:

Abstract:

Keywords:








☐ I agree to the [Terms and Conditions](#)

WorldMap NEAR

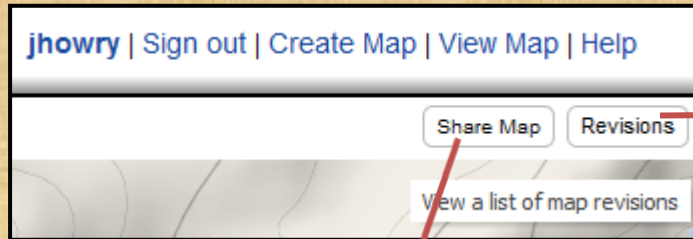
Add Layers Save Create Feature Edit Feature

Shapefile – browse to Upload

WorldMap Recognizes the Data file and prompts to upload related files

Name	Date modified	Type	Size
 Gadara all sites habitat mapping.qgs	8/19/2015 3:24 PM	QGIS Project	26 KB
 Gadara habitat ESRI shapefile.cpg	8/19/2015 3:22 PM	CPG File	1 KB
 Gadara habitat ESRI shapefile.dbf	8/19/2015 3:22 PM	DBF File	238 KB
 Gadara habitat ESRI shapefile.prj	8/19/2015 3:22 PM	PRJ File	1 KB
 Gadara habitat ESRI shapefile.qpj	8/19/2015 3:22 PM	QPJ File	1 KB
 Gadara habitat ESRI shapefile.shp	8/19/2015 3:22 PM	SHP File	1,216 KB
 Gadara habitat ESRI shapefile.shx	8/19/2015 3:22 PM	SHX File	21 KB

Sharing Layers and Revisions



Map Revision History	
Revision Date	User
Mon Feb 13 2017 13:20:22 GMT-...	jhowry
Mon Feb 13 2017 12:42:40 GMT-...	jhowry
Fri Feb 10 2017 14:58:22 GMT-05...	jhowry
Fri Feb 10 2017 14:57:56 GMT-05...	jhowry
Fri Feb 10 2017 14:22:03 GMT-05...	jhowry
Fri Feb 10 2017 14:18:03 GMT-05...	jhowry
Fri Feb 10 2017 13:57:25 GMT-05...	jhowry
Fri Feb 10 2017 13:48:52 GMT-05...	jhowry
Fri Feb 10 2017 13:48:09 GMT-05...	jhowry
Fri Feb 10 2017 13:37:22 GMT-05...	jhowry
Fri Feb 10 2017 13:25:39 GMT-05...	jhowry
Thu Feb 09 2017 19:25:53 GMT-0...	jhowry
Thu Feb 09 2017 19:03:18 GMT-0...	jhowry

WorldMap

NEAR EAST LANDSCAPES / Share

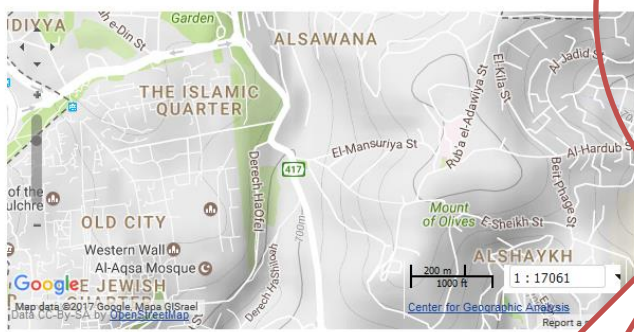
jhowry | Log out | Create Map | View Map | Help

NEAR EAST LANDSCAPES

★★★★★

Abstract: The maps in this collection contain the contributions of individuals interested in presenting geospatial data concerning their research or teaching interests.

Keywords:



Map Layers

This map uses the following layers

- [Stavrovouni View East](#)
- [Alexigros Mountain Range](#)
- [Stavrovouni South](#)
- [Stavrovouni Peak](#)
- [Phoenician Ports-Mountains-Sites](#)
- [Jezreel Survey Areas 2016](#)
- [Jezreel Features 2016](#)
- [Jezreel Valley 2015 Survey Features](#)
- [Jezreel Valley 2015 Features](#)
- [Gadara Survey](#)
- 3894
- 1090
- [Mary of Egypt](#)

Map Views

This map has been viewed 67 time(s) by 24 user(s)

Map Permissions

Select what kind of privileges to allow.

Who can view or download this?

☐ Anyone

☐ Any registered user

☐ Harvard Users

☒ Only users who can edit

Who can edit this?

☐ Any registered user

☐ Harvard Users

☒ Only users who can edit

Who can manage and edit this?

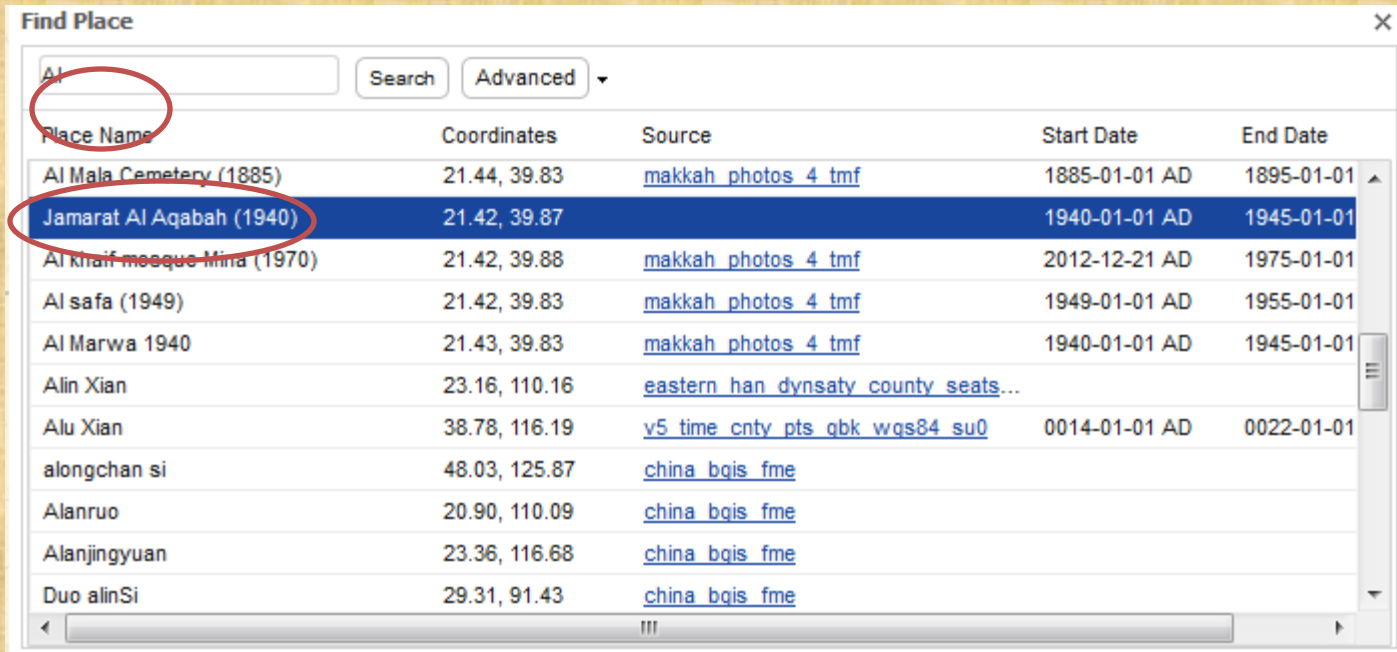
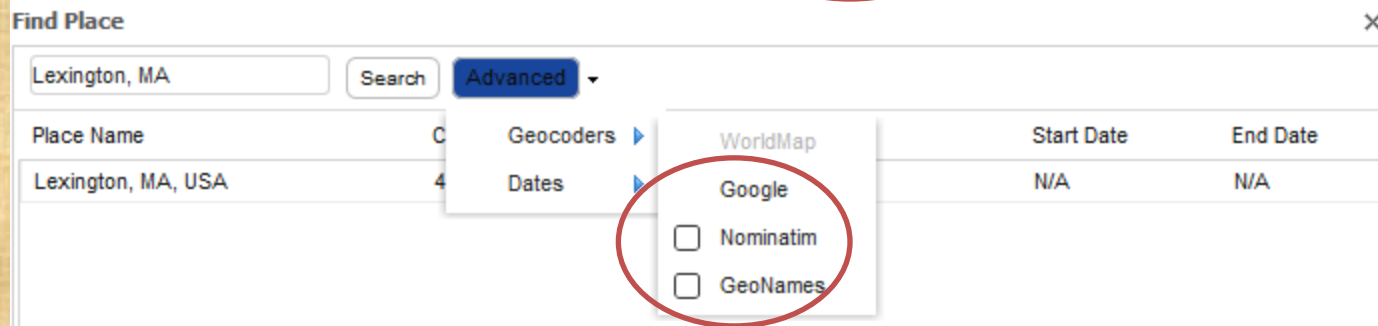
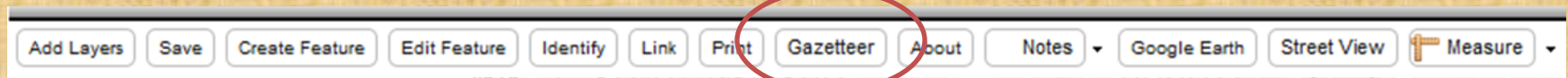
☒ jhowry

Control
Who Views
the **Map** &
Viewers of
Individual
Layers

Map Layers

Times Viewed
and by Unique
Viewers

•Gazetteer searches on Geonames, Nominatim (OSM) & Google.



Layers within WorldMap where place is found

Gazetteer search on “Al Aqa”

Find Place

Al Aqa

Search Advanced

Place Name	Coordinates	Source	Start Date	End Date
Jamarat Al Aqabah (1940)	21.42, 39.87		1940-01-01 AD	1945-01-01 AD
Dibba Road - Fujairah - United Arab Emirates	25.51, 56.36	Google	N/A	N/A
Shah Tus Aqa Ghar, Ghar, Ghazni	33.62, 67.05	Nominatim	N/A	N/A
بخش بیروزآباد، شهرستان سلم، استان لرستان	33.87, 48.18	Nominatim	N/A	N/A
بخش بستان آباد، استان آذربایجان شرقی، ایران	37.84, 46.78	Nominatim	N/A	N/A
بخش سریش، شهرستان سقر، استان کردستان	35.93, 46.32	Nominatim	N/A	N/A
بخش مرکزی، شهرستان سقر، استان کردستان	36.24, 46.07	Nominatim	N/A	N/A

Makkah Photos 4

☆☆☆☆

G+1 0

Abstract: Makkah Photos

Type: Vector Data

Legend

- Makkah Clock Tower
- Nor Mountain (Hera 1980)
- Other photos

Maps Which Use This Layer

- Makkah Map
- Makkah (Mecca) Historical Mapping

Jamarat Al Aqabah (1940)

Source: [makkah photos 4 tmf](#)

Start Date: 1940-01-01 AD

End Date: 1945-01-01 AD

Historic Mecca Atlas of Images On WorldMap

Makkah (Mecca) Historical Mapping

Powered by WorldMap

Add Layers Save Create Feature Edit Feature Identity Link Print Gazetteer About Notes Google Earth Street View Measure

Overlays

- 1880 Makkah Vector Data
 - ☐ Administrative Areas
 - ☐ Built-up Areas
 - ☒ Urban Limits
- Media
 - ☐ Historic Photos
- 1947 Vector Data
 - ☐ Makkah Wells
 - ☐ Makkah Built Up Areas
 - ☒ Makkah Urban Limits
 - ☐ Makkah Mountains
 - ☐ Makkah Admin
 - ☐ Makkah Agriculture
- Various
 - Makkah Base Map Layers
 - ☐ Holy Mosque
 - ☐ Districts
 - ☐ Makkah Municipalities (base map layer)
 - ☒ Street Centerlines
 - ☐ Road Centerlines
 - ☐ Road centerlines
 - ☒ Holy Zone

Makkah (Mecca) Historical Mapping

Historic mapping for the city of Makkah (Mecca)

Time periods: 1880, 1947, 1971 and 2012.

Meraj Mirza and Ben Lewis

Enter Metadata & Choose if It can be Downloaded

**Editing details for
geonode:Ports_Kition_DVN_FQr**

*Title:
Phoenician Ports-Mou

*Date:
2011-11-14
01:46:17

Date Type:
Publication

Edition:

*Abstract:
Phoenician Ports, Mountains and Sites; published by Jeff Howry

Purpose:
Provide basis for navigation analysis

Distribution URL:

http://worldmap.harvard.edu/data/geonode:Ports_Kition_DVN_FQr

Distribution Description:

Online link to the 'Phoenician Ports-Mountains-Sites' description on GeoNode

Downloadable?



Download

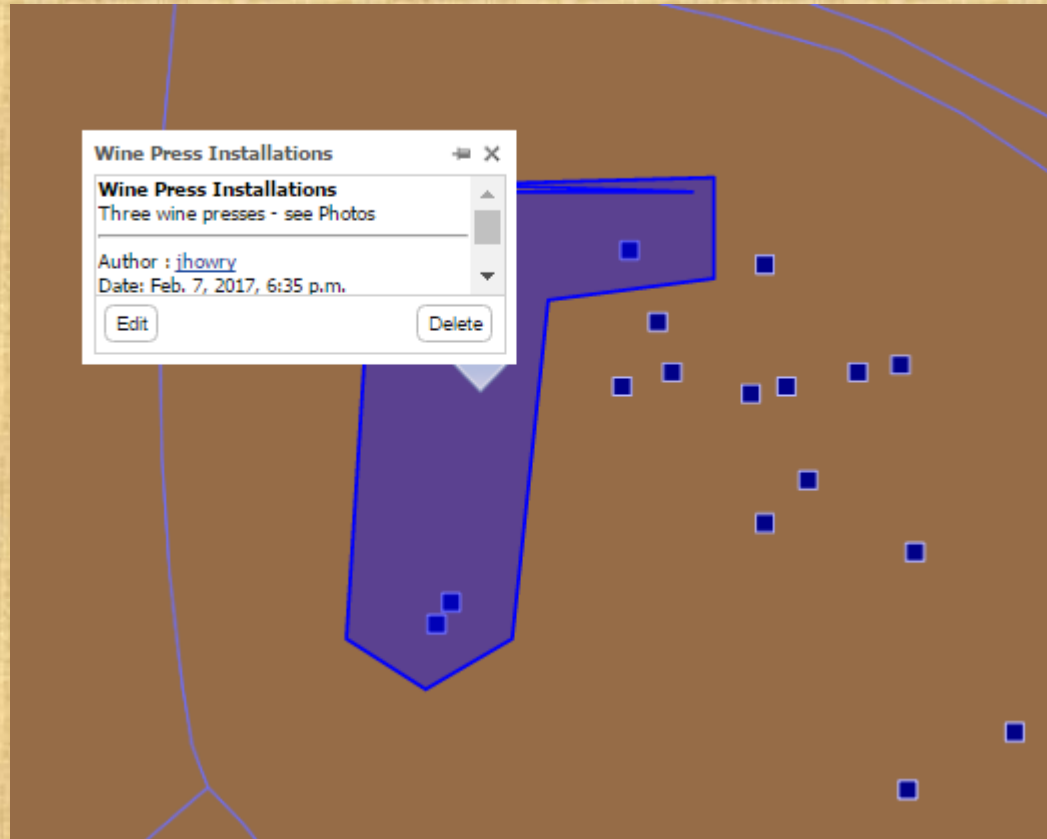
Data: [Zipped Shapefile](#) [GML 2.0](#) [GML 3.1.1](#) [CSV](#) [Excel](#) [GeoJSON](#) [GeoTIFF](#) [JPEG](#) [PDF](#) [PNG](#) [KML](#) [View in Google Earth](#)

Metadata: [TC211](#)

WorldMap Annotation

- **Allow** Collaborators to **Annotate** the features on your layers.

Highlight areas of
wine presses



- **Allow** Collaborators to **Annotate** your features on your layers.

WorldMap Georectifying Images Online

- **Warp** built into WorldMap for **Georeferencing** scanned Maps: warp.worldmap.harvard.edu/

WorldMap WARP

[Home](#) [Browse All Maps](#) [Upload Map](#) [Browse All Layers](#) [About](#)

Overview

Welcome to WorldMap WARP, a tool based on the MapWarper platform being developed by Entropy Free. The tool is for digitally aligning (geo-rectifying) scanned historical maps to match today's precise maps. Visitors can browse maps others have geo-rectified or upload their own to rectify. Any map which has been rectified here can be brought into WorldMap by following the instructions under Section 3.9.1 in WorldMap Help.



Tags

Zorzi Alaska 1865 Tangier carleton mines khoisan pipeline Transportation Bornholm Berlin Free 1933 Louisiana Phoenix

Search for All maps ☒ Rectified maps only ☐

Browse All Maps

Last Rectified Maps

Map	Title	Last modified	Status
	The Advance to Rimini <i>Source: Col. Nicholson's The Canadians in Italy: 1943 - 1945</i> View Map Rectify Map Download KML <small>Links: Source / Biblio Ref</small>	8 days ago.	3 control points.
	The Dieppe Operation: 19 August 1942 <i>Source: Col. Stacey's Six Years of War</i> View Map Rectify Map Download KML <small>Links: Source / Biblio Ref</small>	8 days ago.	3 control points.

- **Publish** one's scanned maps to the world or keep them private in **Warp**.

Summary - Tour of WorldMap

- Layout
- Layers
- Maps
- Tool Bar Features
- Annotation — Jezreel Valley Survey
- Symbolization
- Search — Web Search!! (>100,000 layers & growing)
- Mobile Client

DEMO of WorldMap Functions

NEAR EAST LANDSCAPES

<http://worldmap.harvard.edu/maps/nel/>

Major WorldMap Projects

Africa Map – Trade Routes, Ethnicity, Health & More

<http://worldmap.harvard.edu/africamap/>

China Map

worldmap.harvard.edu/chinamap/

**Social Justice – Get on the Map for Women & Girls –
Includes Video Clips**

worldmap.harvard.edu/womenintheworld/

Reischauer Institute – Japan Digital Archive (JapanMap)

<http://worldmap.harvard.edu/japanmap/>

**Trade Routes and Cities in Europe from Rome to the
Middle Ages**

<https://worldmap.harvard.edu/maps/europeoutlinemap>

**Radcliffe Institute for Advanced Study and Rappaport Institute
(Boston Research Map):**

<http://worldmap.harvard.edu/boston/>

World Economy – Income Stratification

worldmap.harvard.edu/maps/WorldEcon

Social Justice – Get on the Map for Women in the World

The image shows a web application interface for tracking social justice initiatives. It features a world map with numerous colored circular markers indicating locations. A sidebar on the left contains search filters, and a panel on the right displays details for a selected organization.

Identify Results

Name

- ☒ Economic Opportunity
 - Vital Voices
- ☒ Education
 - Virtue Foundation
 - International Institute of Mary Our H...
- ☒ Environment
 - International Society of Doctors for...
- ☒ Health and Well-Being
 - International Institute of Mary Our H...
 - CARE
 - Agenzia Nazionale Dell'immigrazione
 - Aga Khan Agency for Microfinance
 - Africare
 - International Islamic Relief Organiz...
 - Islamic Countries' Women Sports S...
 - Alliance for Arab Women
 - UN Women
 - International Islamic Committee for ...
 - Afro-Asian Peoples' Solidarity Org...
- ☒ Innovation
 - Virtue Foundation
- ☒ Law and Justice
 - Aim for Human Rights
 - Adalah Center for Human Rights S...

Feature Details

Orgname Vital Voices

Description

Vital Voices

Specializes in: Economic Opportunity

Vital Voices, in cooperation with the Middle East Partnership Initiative of the U.S. Department of State (MEPI) and a number of regional partners, undertook a groundbreaking project in 2007 to promote public-private partnerships for social and economic progress. The focus of the Building Public-Private Partnerships for Women's Advancement Program was to promote partnerships that result in a positive impact on communities, especially for women in Bahrain, Egypt, Iraq, Jordan, Morocco, Palestine, Tunisia, and the United Arab Emirates. This program was designed to encourage cross-sector collaborations in each country between private businesses, the government and civil society by showcasing successful models and building partner capacity.

Vital Voices: It Starts with a Leader

Success story somewhere, and you're...

WorldMap Research Sites – Examples from the Near East

Research Maps

Archaeology & Digital Archive

Kition – Phoenician Port on Cyprus in 1st Millennium BCE

<http://worldmap.harvard.edu/maps/MedCoastGIS/Jji>

<http://hdl.handle.net/1902.1/15837> Digital Archive Collection

Shikhin, Israel

<http://worldmap.harvard.edu/maps/neareastcollab/Jli>

Zoom & Click

Giza, Egypt

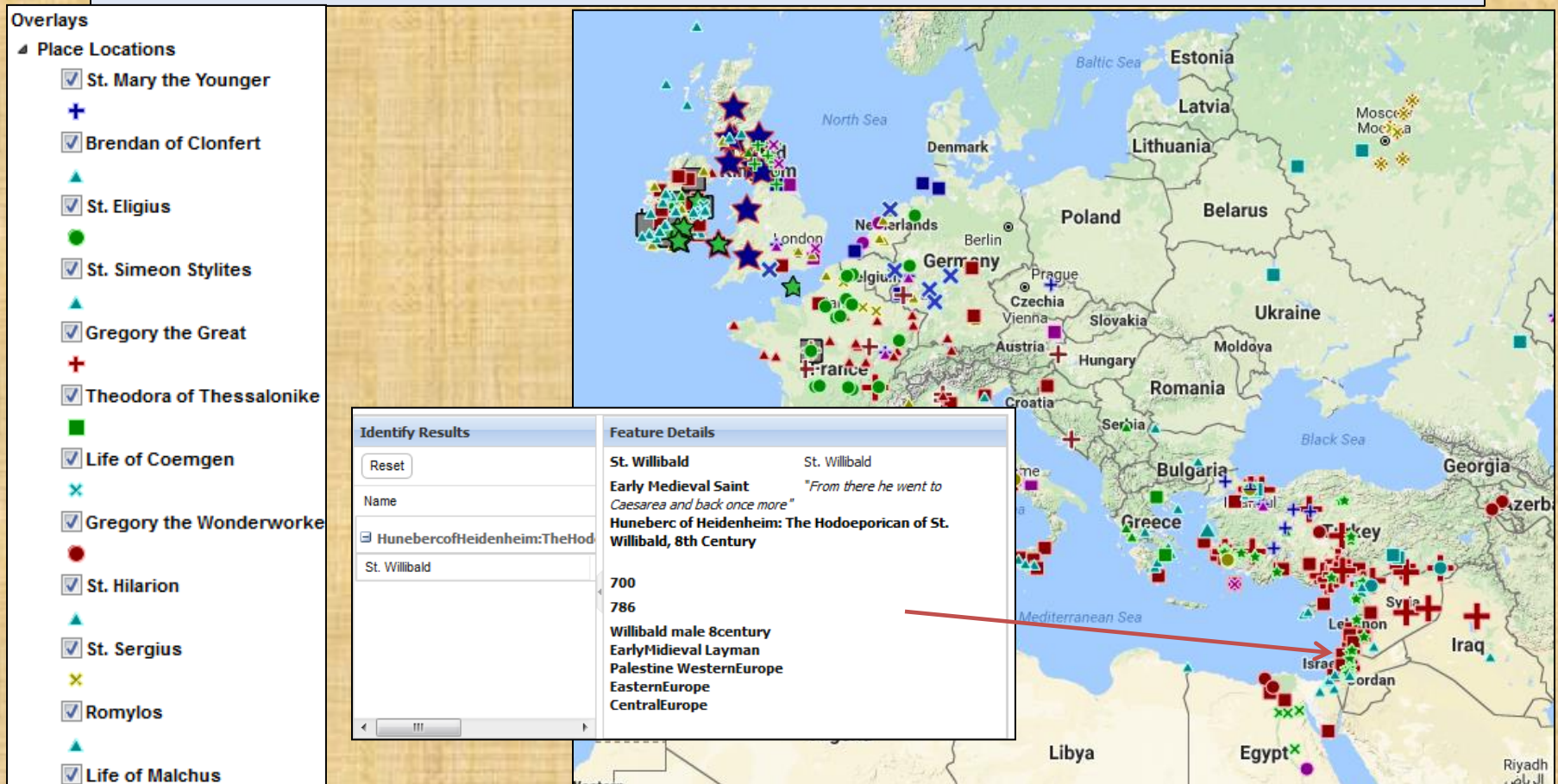
1878 Giza Plan - <http://worldmap.harvard.edu/maps/neareastcollab/Jlk>

Related Maps

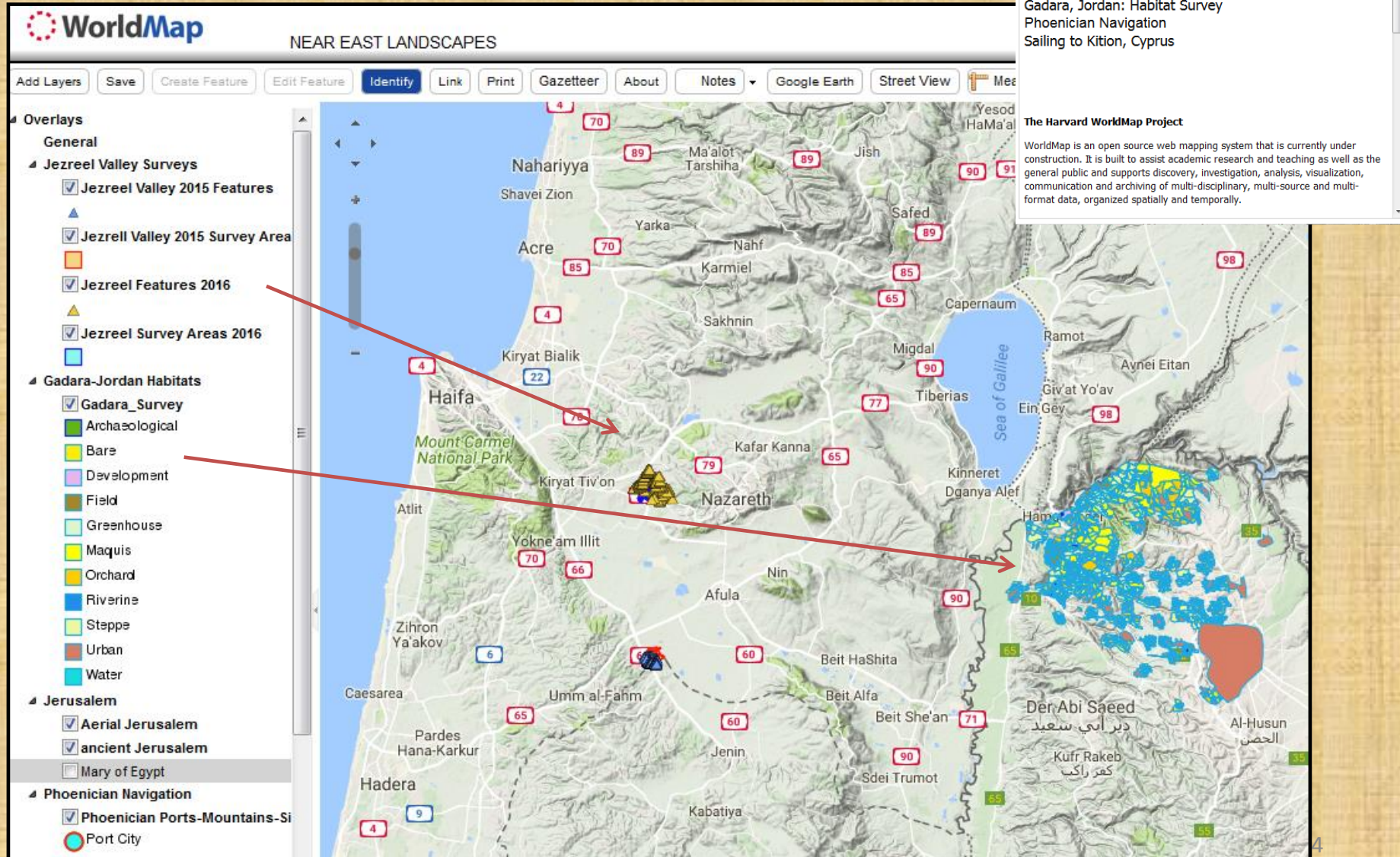
Harvard Course where students were required to post research on WorldMap

Literature

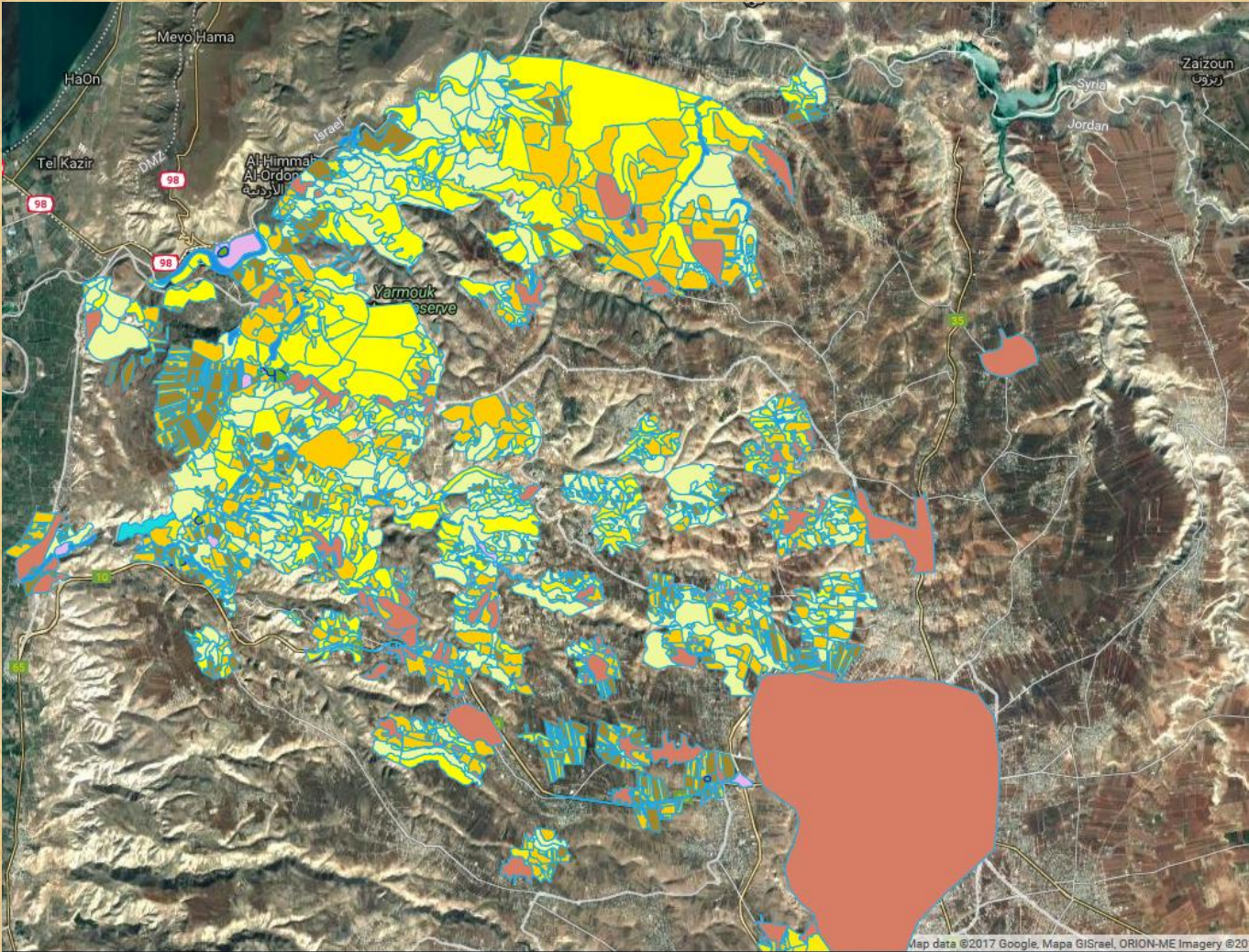
CB51 All Saints – Medieval History Course - Each Student prepared a layer for a saint. http://worldmap.harvard.edu/maps/cb51_all saints/JHf



NEAR EAST LANDSCAPES – Recent Contributions to WorldMap



Habitat Survey – Gadara, Jordan



<http://worldmap.harvard.edu/maps/nel/W6r>

Scale Control of Layer Display Allows Details to be Protected

Jezreel Valley Survey Features

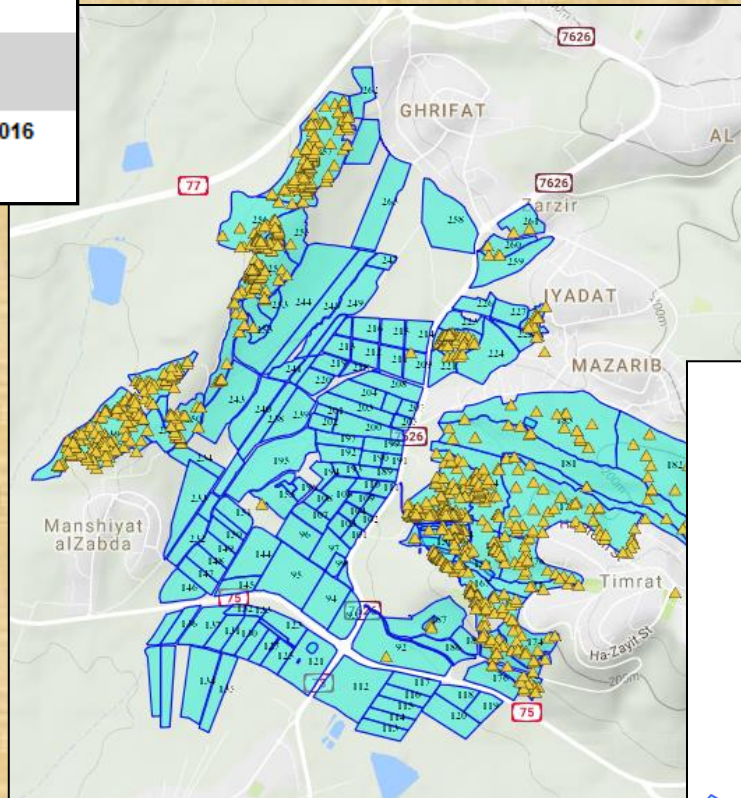
▲ Jezreel Valley Surveys

☒ Jezreel Valley 2015 Features

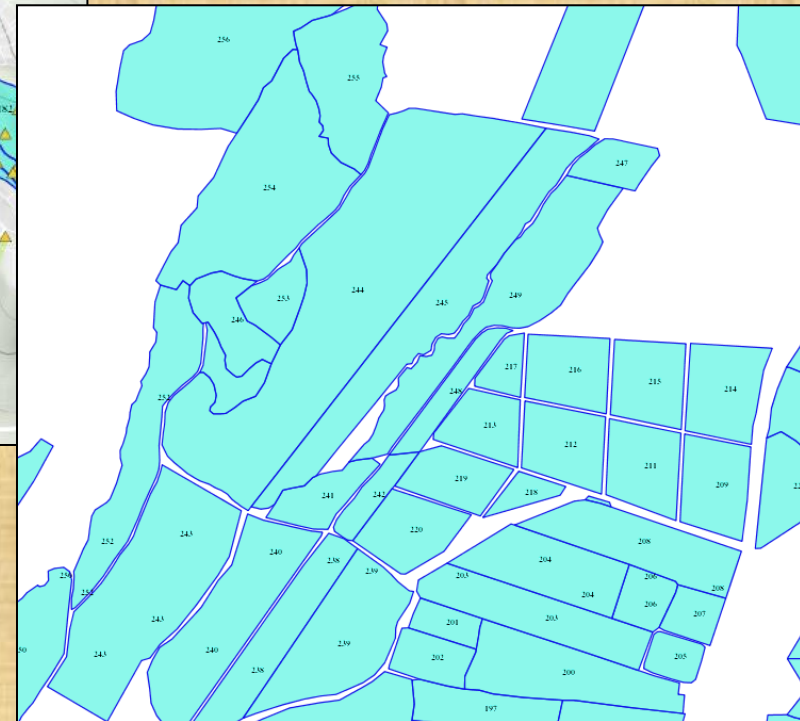
☒ Jezreel Valley 2015 Survey Area

☒ Jezreel Features 2016

☒ Jezreel Survey Areas 2016



**Feature Layer Scale Control
limits display of Archaeological
Feature Location**



Sailing to Kition – a Phoenician Navigator's View

Identify Results

Reset

Name

Phoenician Ports-Mountains-Si

Kition

Stavrovouni SouthEast Veiwsh

Feature Details

Site_Name	Kition
Site_Type	11
Lat	34.919981
Long	33.633131
Id	8
Dverse_Lin	http://hdl.handle.net/1902.1/15837

Phoenician Navigation

- ☒ Phoenician Ports-Mountains-Si
- ☒ Port City
- ☒ Sacred Mountain
- ☒ Island Harbor
- ☒ Phoenician Artifacts

Cyprus Port Viewshed

- ☒ Stavrovouni Peak
- ☒ Stavrovouni South Viewshed
- ☒ Alexigros Mountain Range
- ☒ Stavrovouni SouthEast Veiwsh

Link to Research Publication Source in a Dataverse digital archive

Viewshed of Mt. Stavrovouni

Using the distant landmark of Mt. Stavrovouni for navigating to Kition from Salamis or the Phoenician island port of Aradus Island.




Harvard Dataverse


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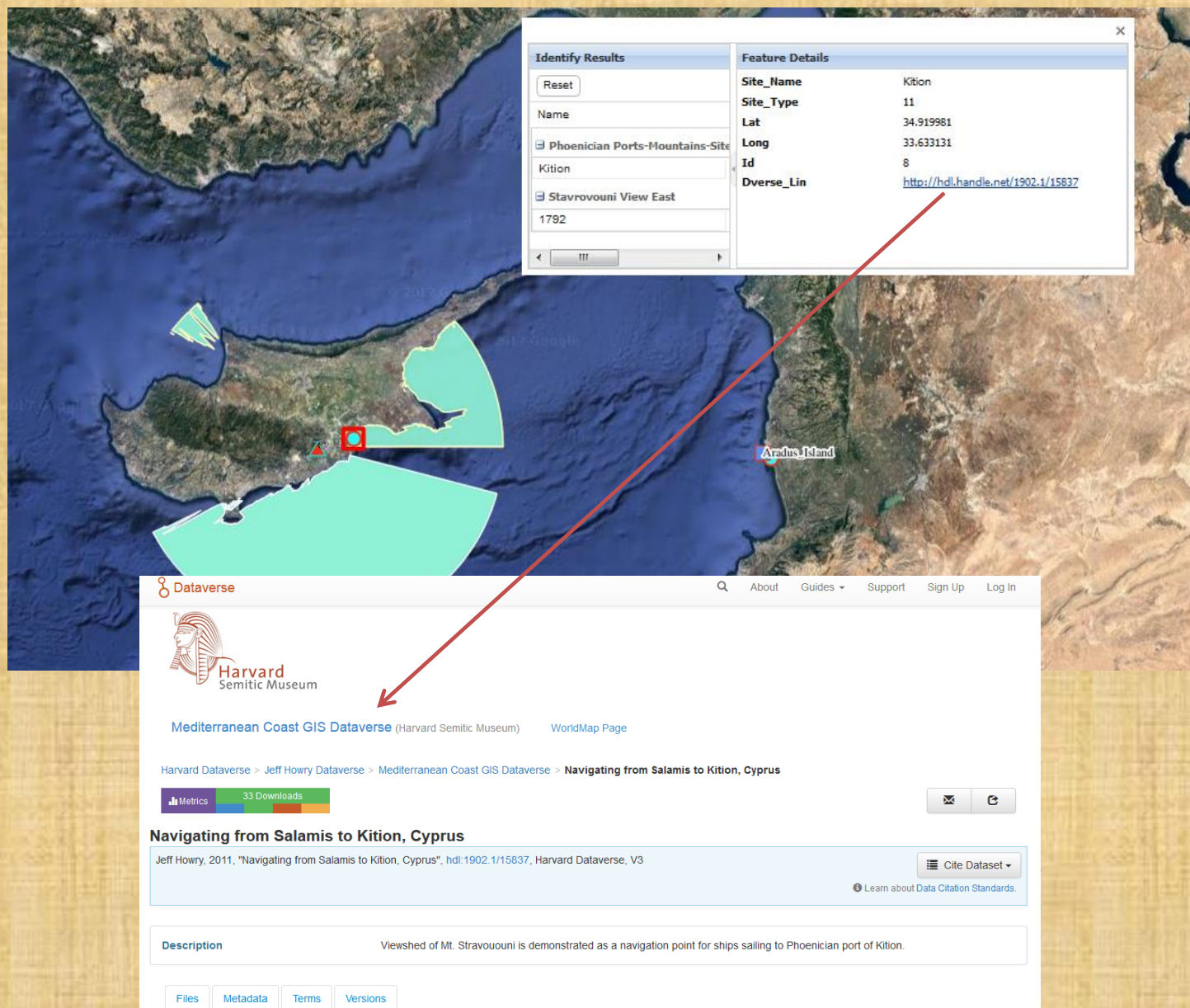
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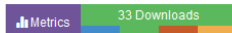


WorldMap integration with the Dataverse Published Research on Navigation to Kition



[Mediterranean Coast GIS Dataverse](#) (Harvard Semitic Museum) [WorldMap Page](#)

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Sailing to Kition from Salamis.pdf

Jeff Howry, 2011, "Navigating from Salamis to Kition, Cyprus",
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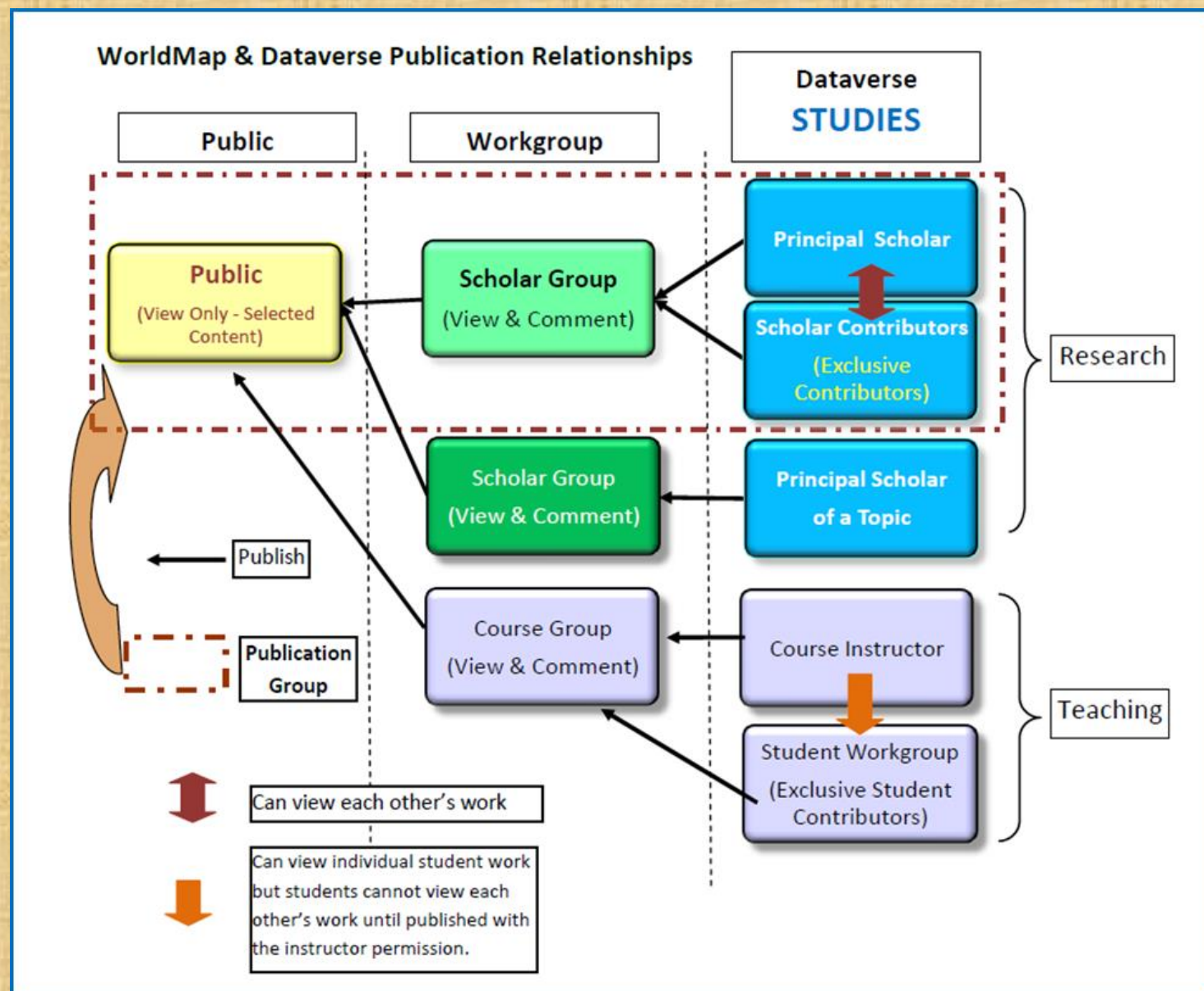
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Demonstrates how Mt. Stavrovouni, a peak in southwest Cyprus, was used for coastal navigation from Salamis to Kition

[Viewshed Navigation](#)

WorldMap Collaborative Model



Continuing the Conversation

WorldMap Near East Collaborative

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Join the Near East Collaborative E-mail List

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