The Database of Obsidian Sourcing Studies (DObsiSS): Using Git for Collaborative Management of Archaeological Data

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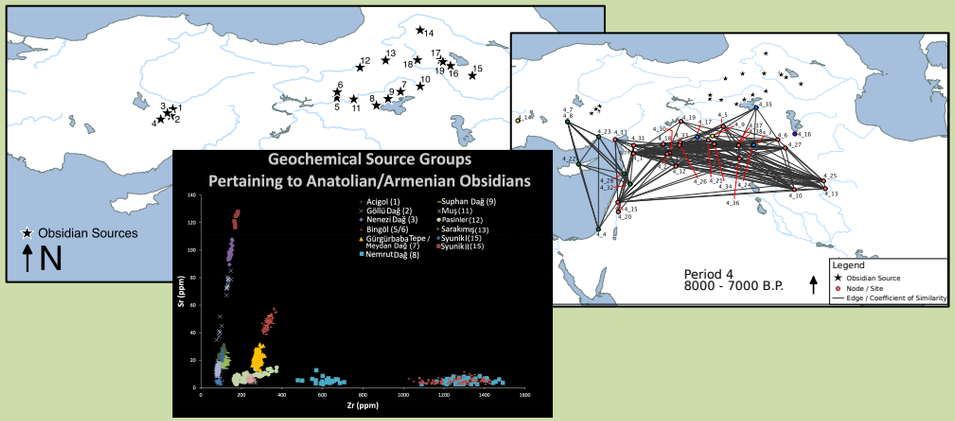
Obsidian is a volcanic glass used in prehistory to produce razor-sharp tools. The unique chemical signature of each geological source allows for the identification of the origin of artefacts' raw materials. En masse such data is used to reconstruct large-scale exchange networks over time (Batist 2014; Freund and Batist 2014; Golitko and Feinman 2014).



With obsidian sourcing studies being conducted independently by researchers around the world, most data tends to be published in a variety of formats. For those interested in leveraging this information for large-scale studies, it is important that the data be organized in a standardized manner. DObsiSS is a nascent effort to create an open-access standardized database to address these issues.

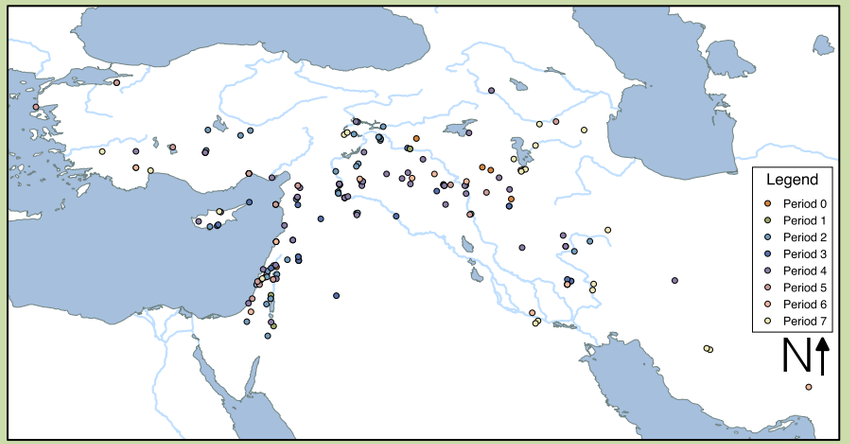
Period	ASPRO	B.P.	Northern Mesopotamia	Southern Mesopotamia	Anatolia / Levant	Levant / Upper Euphrates	Khuzestan
1	1	12000 - 10300	Zarzi	Zarzi	Late Natufian / PPNA	Mesolithic 2	
2	2	10300 - 9600	Zawi Chemi / PPNB	Zawi Chemi	Early/Middle PPNB	Neolithic 1	Bus Mordeh / Ali Kosh
	3	9600 - 8600	Zawi Chemi / PPNB	Zawi Chemi	Late/Final PPNB	Neolithic 1 / Neolithic 2	
3	4	8600 - 8000	Proto-Hassuna / Sotto	Ubaid 0	PPNC / Early PN	Neolithic 2	Mohammed Jaffar
4	5	8000 - 7600	Hassuna / Samarra / Halaf	Ubaid 1	Amuq A/B	Neolithic 3	Sabz / Choga Mami Transitional
	6	7600 - 7000	Halaf / Halaf-Ubaid Transition	Ubaid 2	Amuq B/C/D / Yarmoukian		
5	7	7000 - 6500	Ubaid 3 (Northern Ubaid)	Ubaid 3	Amuq E / Wadi Rabbah	Neolithic 4	Khazineh / Mehmeh
6	8	6500 - 6100	Late Chalcolithic 1/2	Ubaid 4	Amuq E	Neolithic 4	Bayat
7	9	6100 - 5700	Late Chalcolithic 3/4	Uruk	Amuq F/G	Neolithic 4	

Chronology

The chronology employed is based on that devised by the *Maison de l'Orient et de la Méditerranée*. Finer-resolution sequences are also being evaluated for specific regions.

Linked Data

The influences of various database schema on DObsiSS are explicitly defined through implementation of Linked Open Data principles. In particular, JSON-LD is used to integrate terminology with similar work in a machine-readable format.

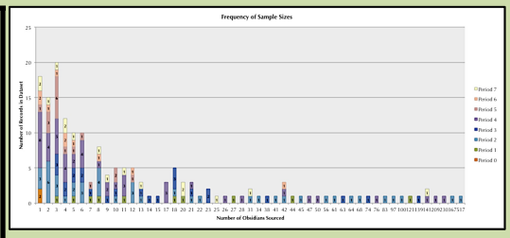


Location

Geographical coordinates are recorded for each site, plus the region and country. All data is made available in geoJSON format, an open geo-spatial standard that is compatible with most GIS software and visualization.

Sample Size

The number of sourced artefacts per site is recorded.



While other efforts have been made to compile regional obsidian sourcing results, this project distinguishes itself through the implementation of the Git protocol, which was actually designed in order to facilitate incremental updates to shared stores of information by peers working in a distributed yet similarly-motivated manner. As such, its emphases on increasing transparency, maintaining an open and collaborative environment, and allowing for potential extensibility render Git a great platform for the maintenance of a unified obsidian sourcing dataset.

Git is a collaborative data-sharing protocol that allows people to contribute to a repository of information by committing proposals for modification, submit new content to be added, and track any changes in a transparent manner.

The repository contains the primary dataset, schemas defining its guiding parameters, instructions for users, and any other pertinent documentation. All information contained within it is ascribed a Creative Commons license, so anyone may use or share it without restrictions.

People wishing to contribute to this collective effort must install Git on their own computer. Then they must download a copy of the repository as a clone, which may then be modified locally.

After changes are made, the user may commit them to be implemented within the main repository. Once submitted, Git detects all differences relative to the original documents and then visualizes them on the web-based interface as either additions or removals of information.

Anyone may view these proposed modifications and discuss their merits or flaws. All contributors, even those only involved in discussion, are verified through their email. This associates them with a real-world identity.

After engaging with contributors and assessing the committed changes, a DObsiSS moderator who manages the project may either reject the modifications or merge them into the repository.

Contents of the updated repository may be further refined through the same process of cloning it to a local machine, making changes, committing the proposed modifications, critical discussion, and potentially merging a new readily-available version of DObsiSS.

Bibliography

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