

Sharable version – some images have been removed from the original version

Sharing location data

Sensitive data in archaeology

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**Universiteit
Leiden**
The Netherlands



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FAIR-IMPACT project
Online webinar

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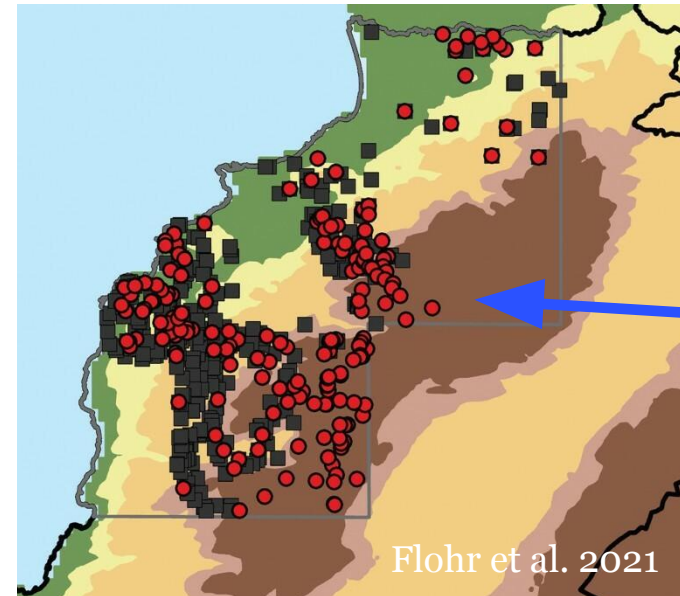


*Except when
mentioned otherwise*

Sensitive research data in archaeology

*Image (removed) illustrating personal data in archaeological research data
(interviews, focus groups, ethnoarchaeology)*

*Image (removed) illustrating
burial data*



Location data!

Why care?



Looting pits at the archaeological site of Bab edh-Dhra in Jordan

Photo by: APAAME project, Robert Bewley, APAAME_20141013_RHB-121, CC BY NC-ND

Geolocation data in research

- Real-time geolocation data -> GDPR
- Location of endangered species (ecology)
- Location of precious resources (e.g. geology)
- Location of heritage sites (archaeology, cultural heritage)
- And more



Finding the right balance

Protecting from harm
to the archaeology

Keeping the research
value, sharing a
reusable dataset,
engaging the public



Finding the right balance

Criteria for determining the sensitivity of taxa and data in ecology

1. Risk of harm: is the taxon subject to harmful human activity?
 2. Impact of harm: how sensitive is the taxon to the harmful human activity?
 3. Sensitivity of data: Will the release of data increase the harm?
- Decision on publication and level of generalisation

Chapman AD (2020)

<https://doi.org/10.15468/doc-5jp4-5g10>

Applied to archaeology

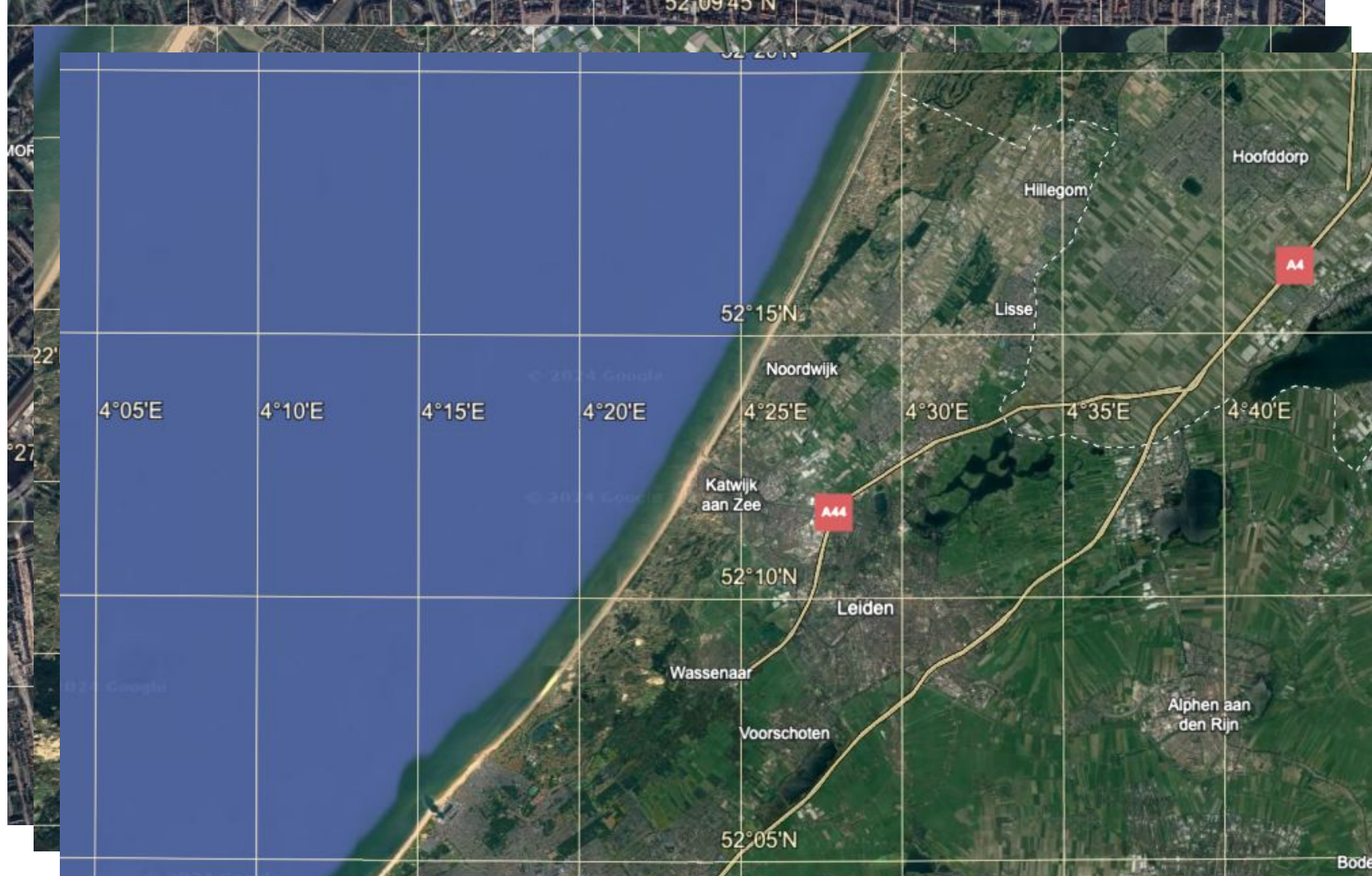
1. Risk of harm: could the site be subject to looting?
 2. Impact of harm: how sensitive is the site to looting?
 3. Sensitivity of data: Will the release of data increase the looting?
- Can the location data be published and is generalisation / obfuscation needed, and to what level?

Plus legal, ethical, and ‘political’ restrictions

Location obfuscation in archaeology - 1

Coordinate modification

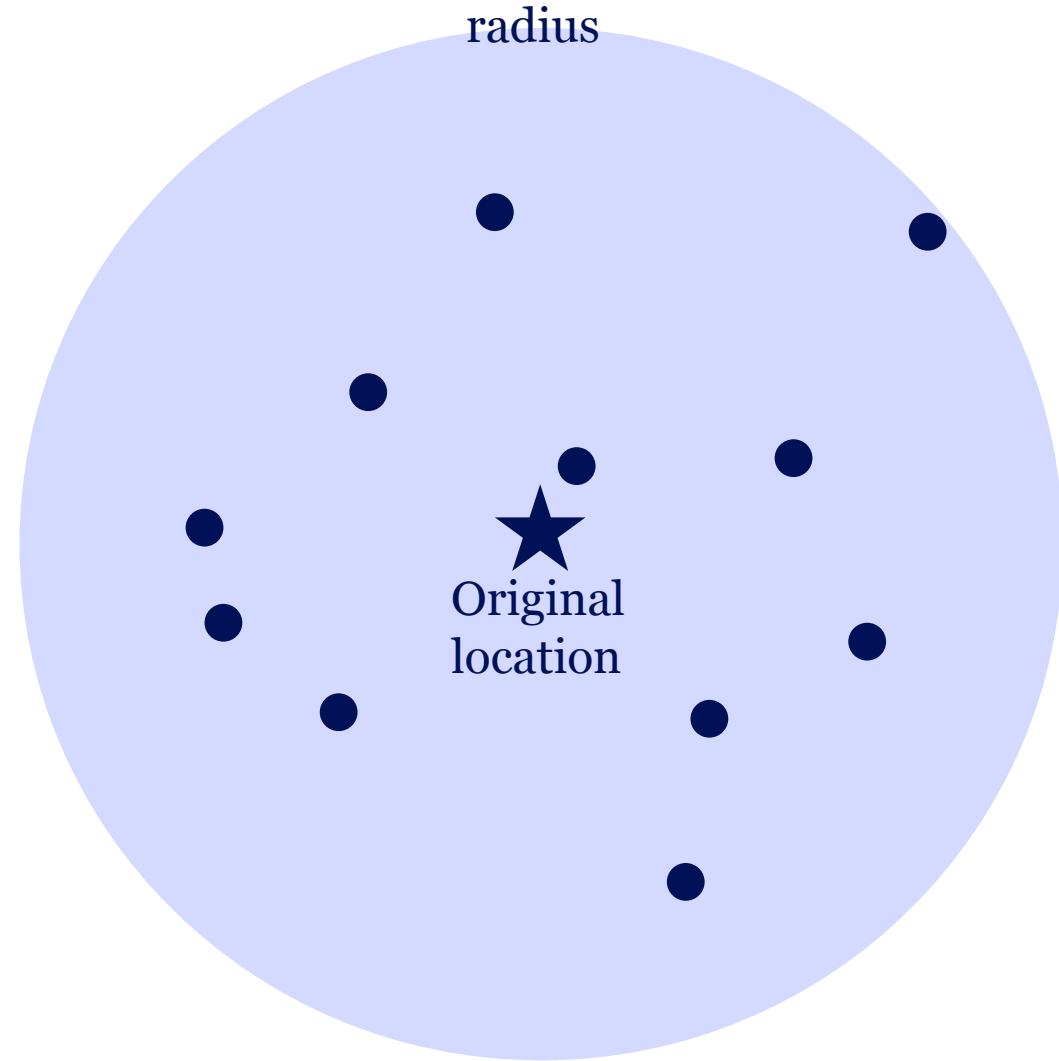
Decreasing of precision / resolution



Location obfuscation in archaeology - 2

Coordinate modification

- Randomization



Location obfuscation in archaeology - 3

Obscuring the location

- Adding a buffer
- Changing the shape
- Replace by administrative unit

- PAN-00146328



<https://portable-antiquities.nl/pan/#/object/public/146328>

Referentietype

Kaart

Vindplaats Leiden



Location obfuscation in archaeology - 4

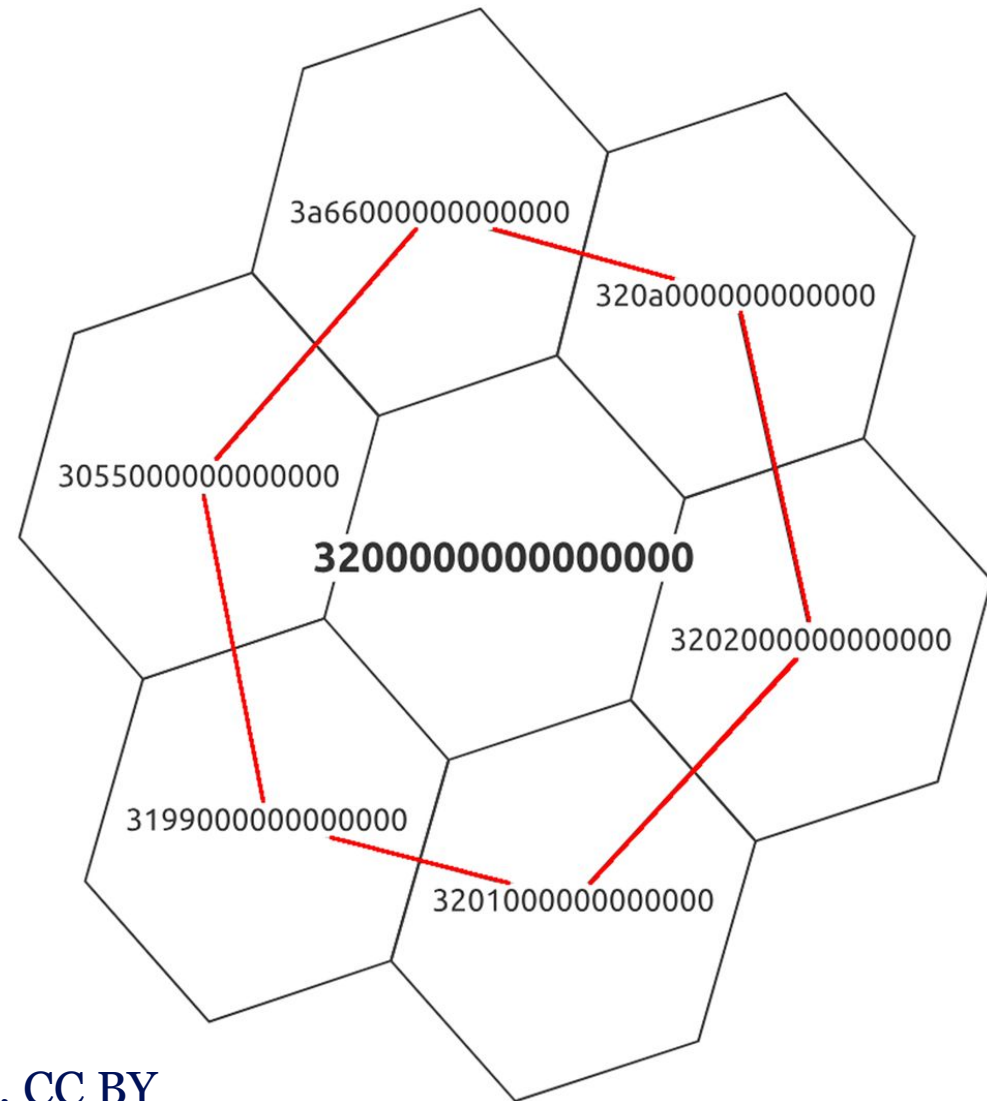
Discrete Global Grid System

A point coordinate is indicated as a hexagon, can be done at different levels

Try it at

<https://obfuscate.geoinsight.ai/>

(after the session...)

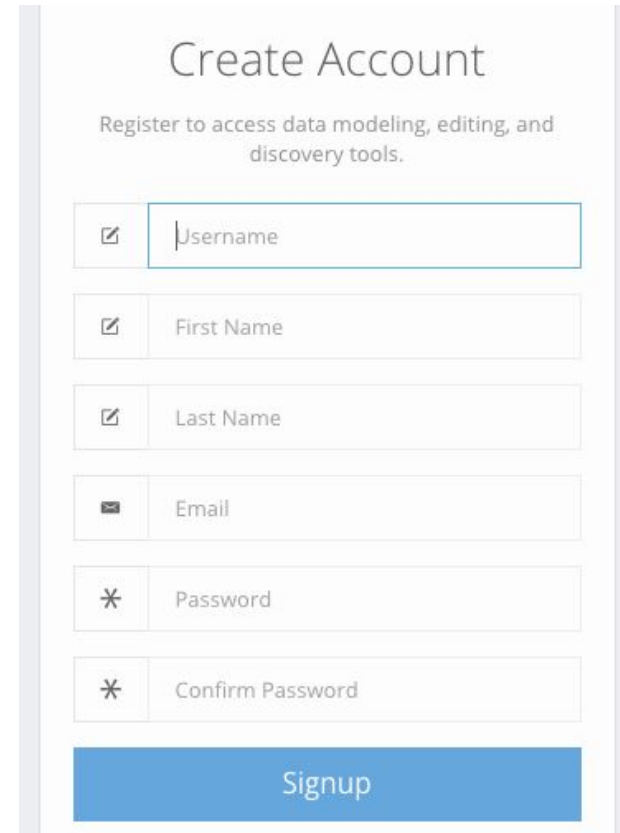


Caspari et al. 2024, Sci Data, CC BY

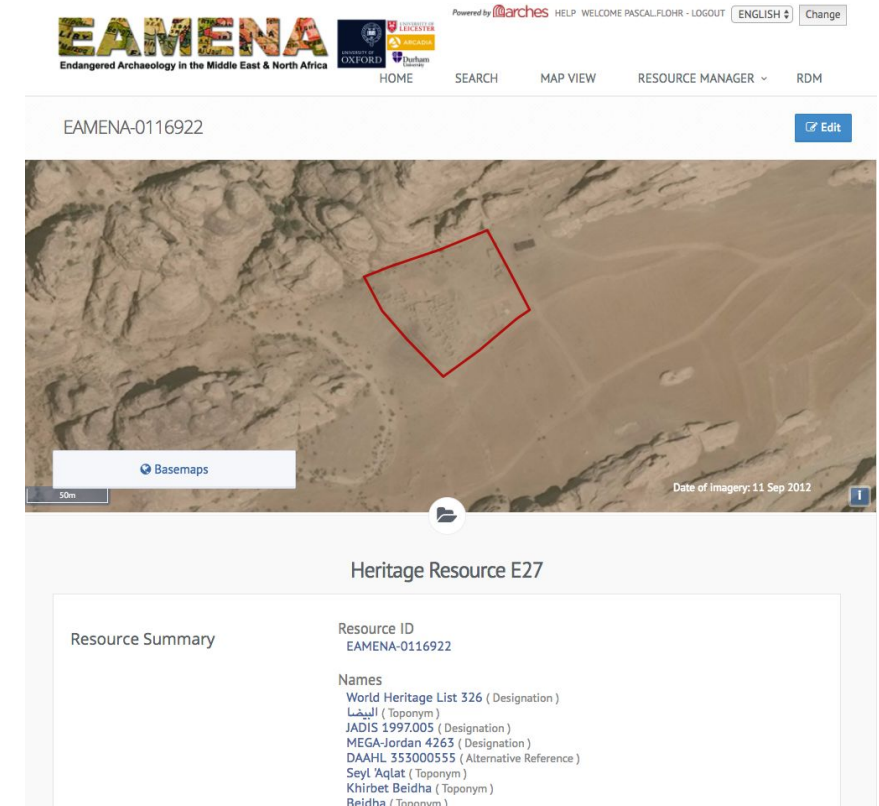
Levels of access



Portable Antiquities of the Netherlands: **only the administrative unit visible** without permission



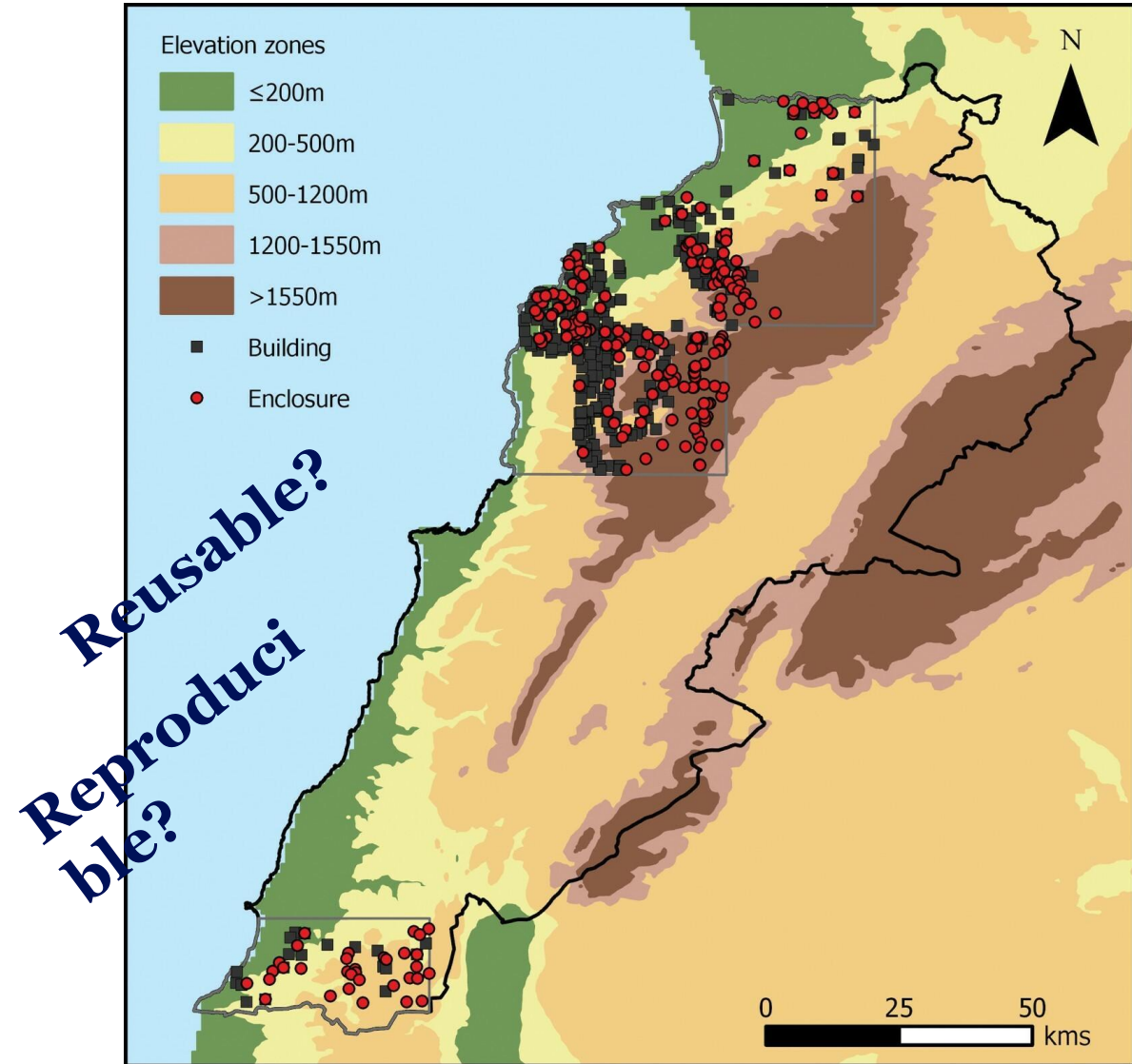
EAMENA database:
registration always required
Registered access +
researcher access levels



Previous version of the EAMENA database: public access with **zooming out prevented**
Logged in access for full location functionality

In sum

- Location of archaeological sites can be sensitive
- First decide if it is necessary to hide the location, and to what extent – the most difficult part
- Several options on how to obfuscate location
- Who to give access to what, and how to sustain this?



Flohr et al. 2021,
Levant

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Thank you!



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