

# **MayaArch3D: A Web-based 3D-GIS for the Analysis of the Archaeology of Copan, Honduras**

Markus Reindel

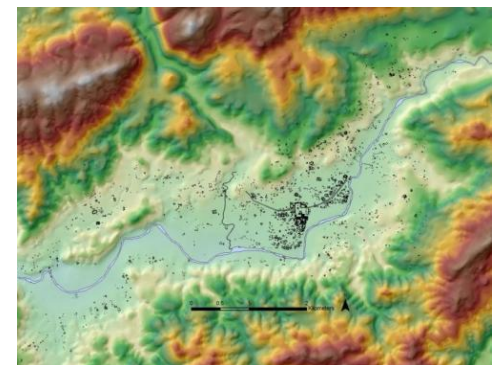
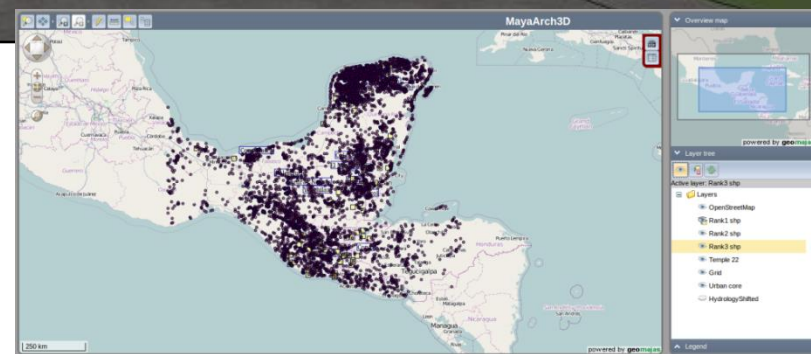
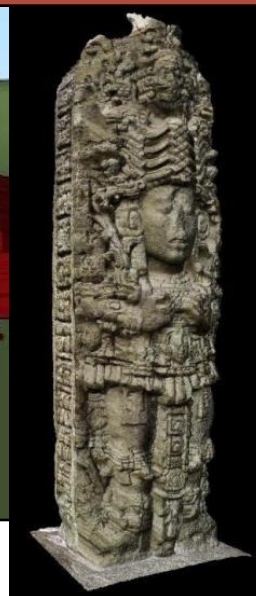
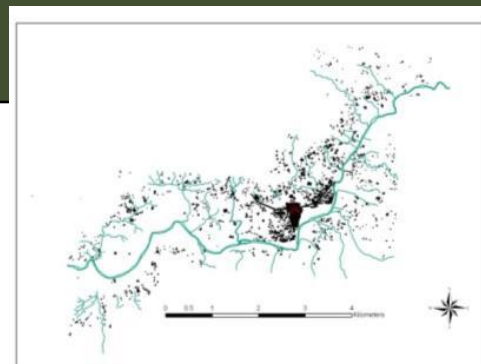
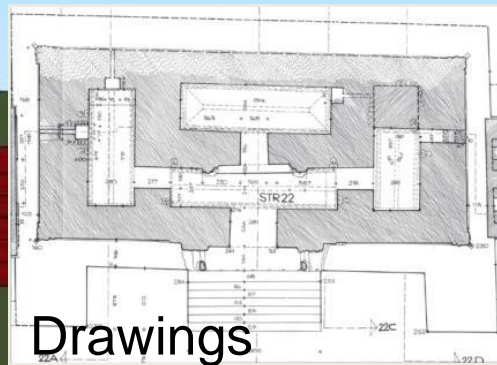
Jennifer von Schwerin

German Archaeological Institute (DAI)  
Commission for Archaeology of Non-European Cultures (KAAK),



Bundesministerium  
für Bildung  
und Forschung





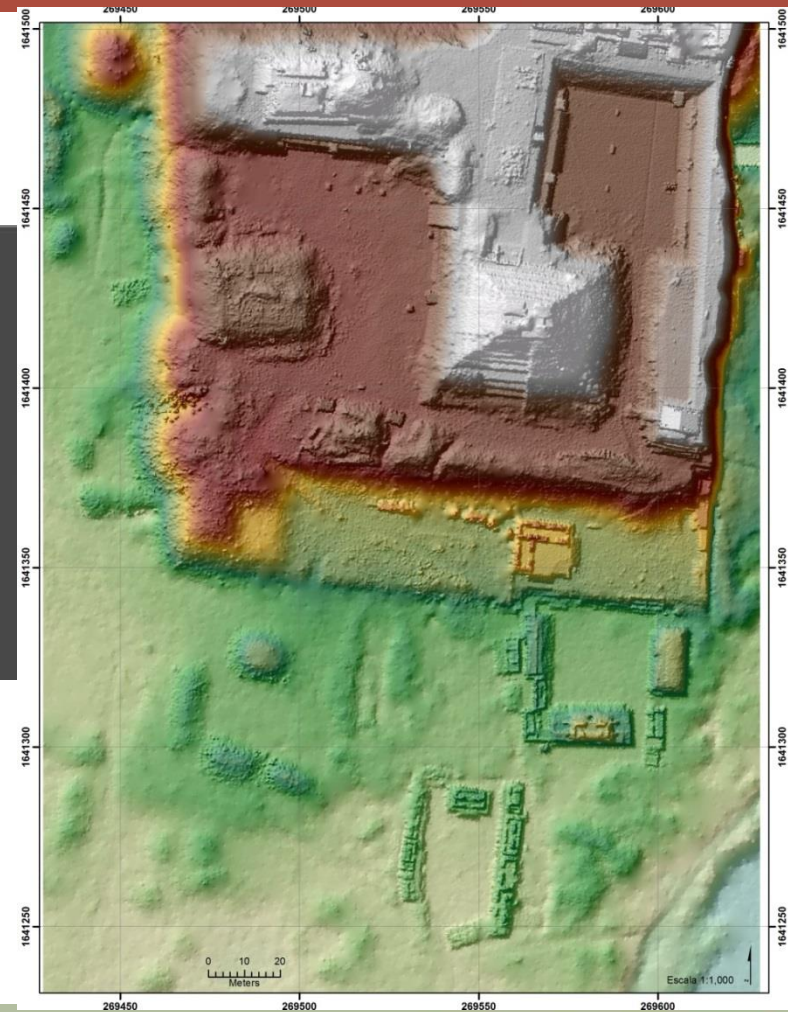
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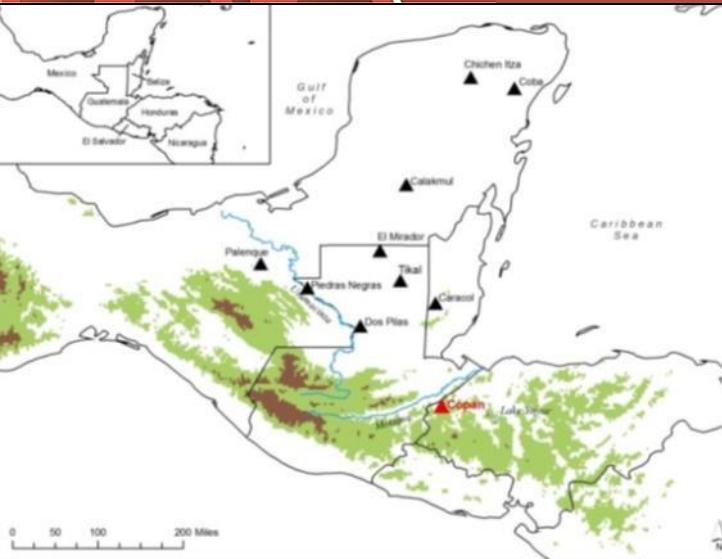
Photos

GIS data













QueryArch3D



## Beta-Testing @ U Mercerd and UNM, 2011

## Alliance Partners:



German Archaeological Institute DAI ,  
Commission for Archaeology of Non-  
European Cultures (KAAK), Bonn

- Archaeological Data Collection and Structuring, Requirement Analysis, Testing



GIScience Research Group, Department of  
Geography and Interdisciplinary Center for  
Scientific Computing (IWR), University of  
Heidelberg

- Technical Infrastructure, Development of 4DWebGIS



MayaArch3d.org  
2012-2015

## Partners:



DAI – IT, Berlin

- IDAI.field Hosting and Support
- Future collaboration with OpenInfRA und IANUS



FBK - 3D DOM, Trento, Italy

- Remote Sensing, 3D Image Acquisition, Processing and Analysis, Database Design



University of Nebraska Lincoln

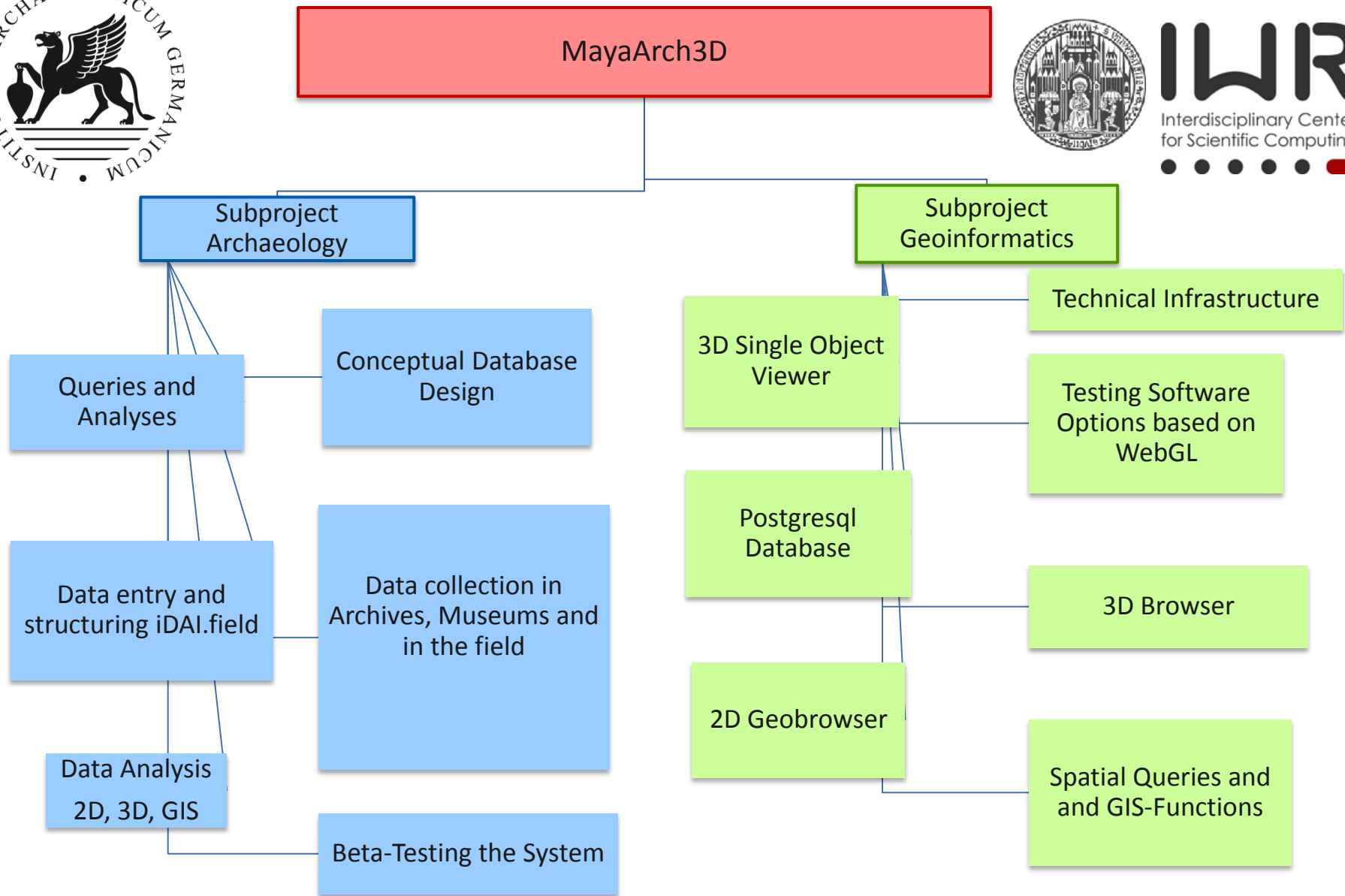
GIS analyses

Digital Tool Development



Honduran Institute of Anthropology and  
History (IAHAH), Honduras

- Conservation, Infrastructure, Research Permits



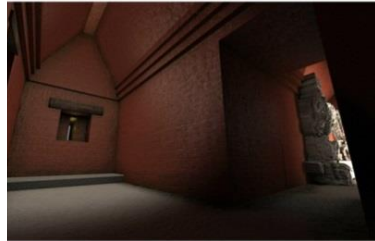


## Simulations / Statics

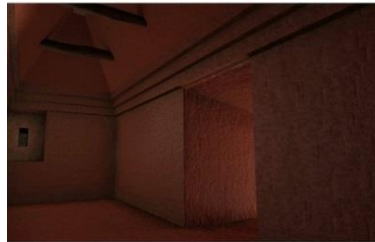


EXTERIOR VIEWS

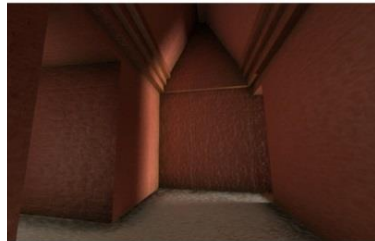
## Lighting Effects



WEST ROOM



NORTH ROOM



EAST ROOM



DOORWAY



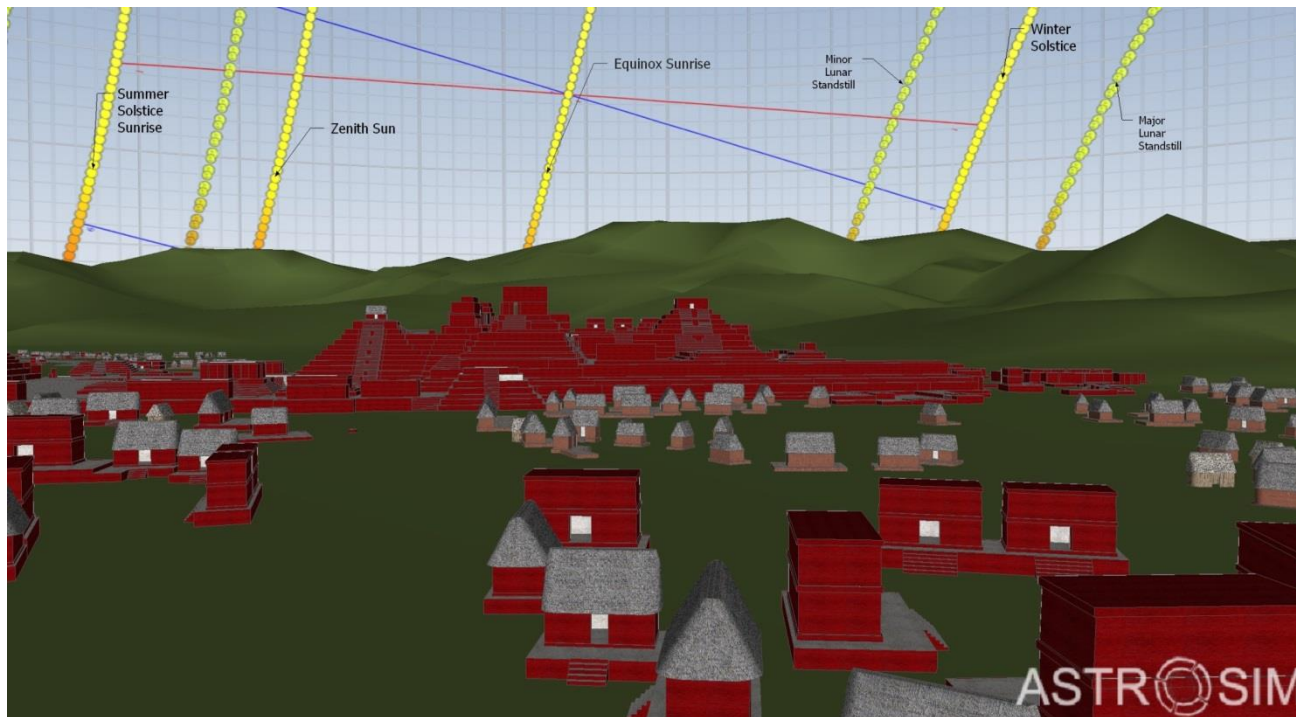
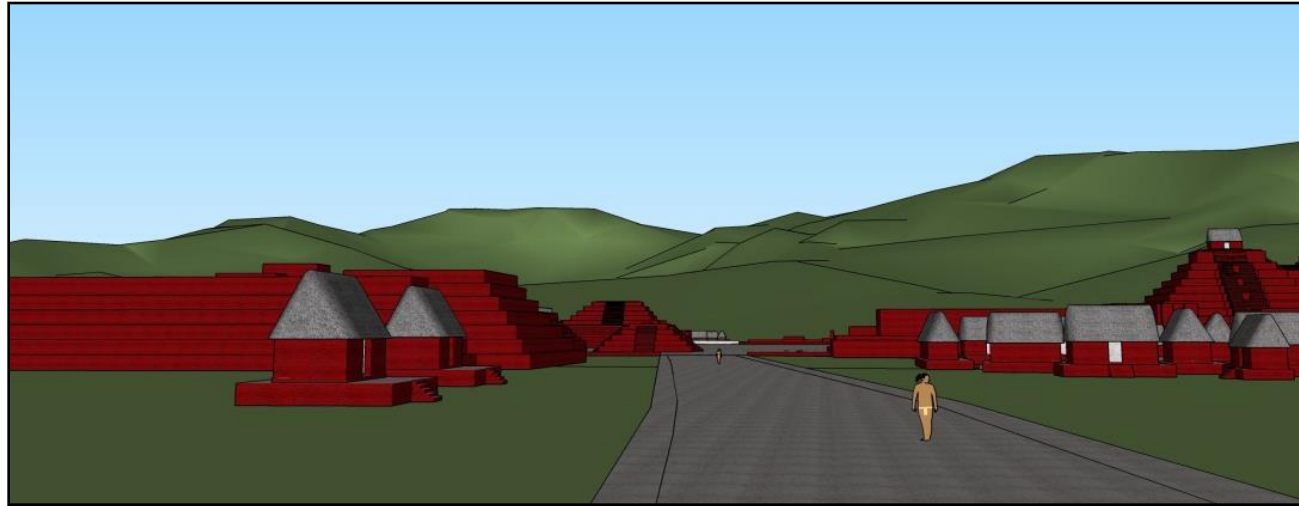
## CAD Simulation....



....vs. the reality-based data



## Visibility



## Orientation







## MAYAARCH3D - 3D MODELS

16550

[Start Page](#)[new 3d model](#)[Drawings&Maps](#)[Photos](#)

Title Stela A

Brief Description laser scan

**3D Model**

Created By Alessandro Rizzi Created On 2010

Software Innovmetric Polyworks

Attributes ☒ Textured ☐ Color Vertex ☐ Segmented ☐ Georeferenced Reality-Based? ☒ yes ☐ no

Resolution 3mm

Georef. Info

No. Triangles 4001096

No. Points 2002955

Copyright MayaArch3D/FBK

File-Name steleA File-Format wrf File-Size 335,157KB

File Location

URL

Data Location FBK

**Laserscan** **Photogrammetry**

Created By Fabio Remondino

Created On 2009

Scanner Model Leica Scanstation 2

Parameter

No. of Scans 4

Avg. Sampling Dist.

**Drawings**Existing Drawings ? ☐ yes ☐ no [n](#)

MayaArch3D

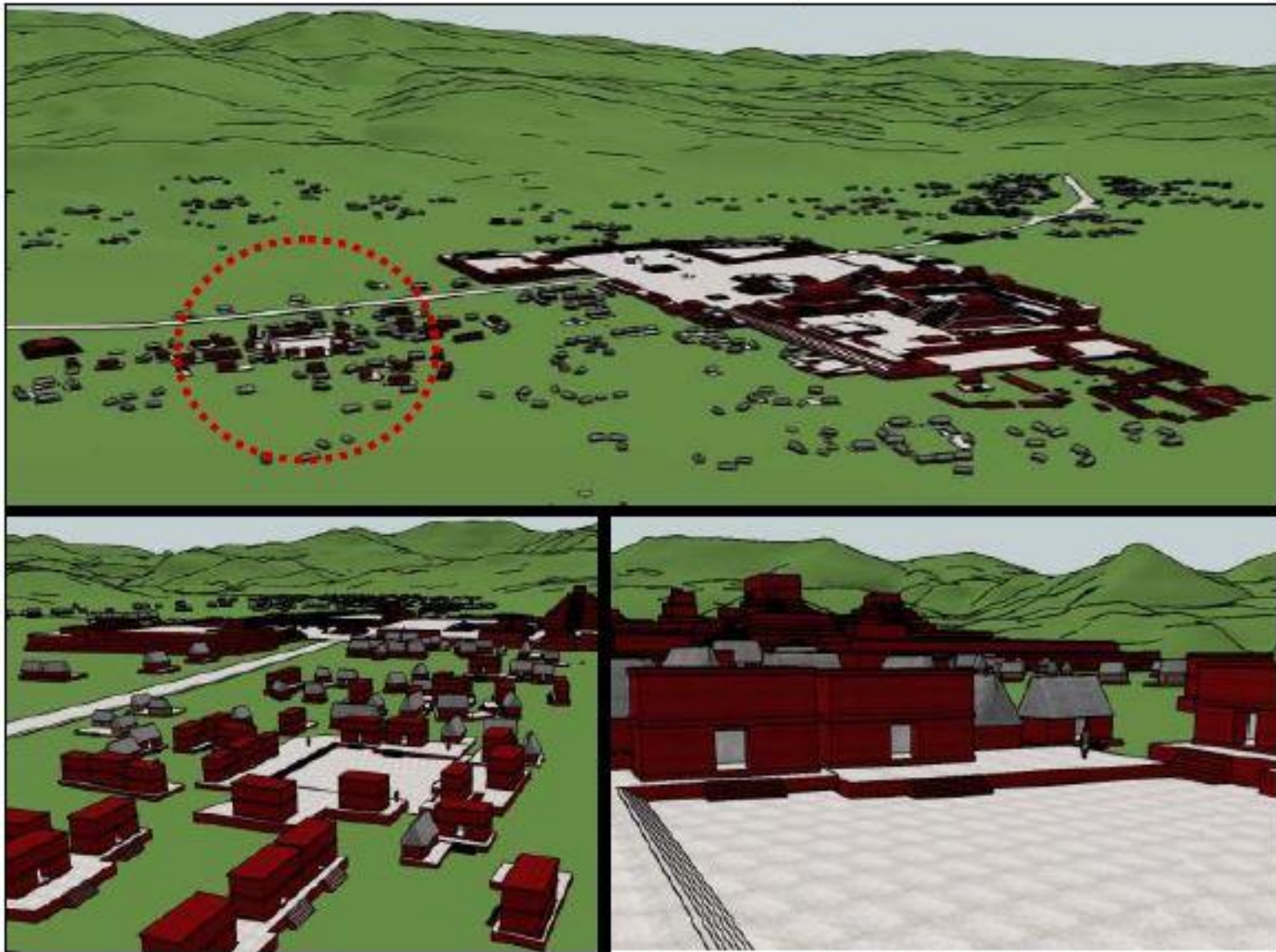
No. 3D Model

No.

Stela A 3D Model

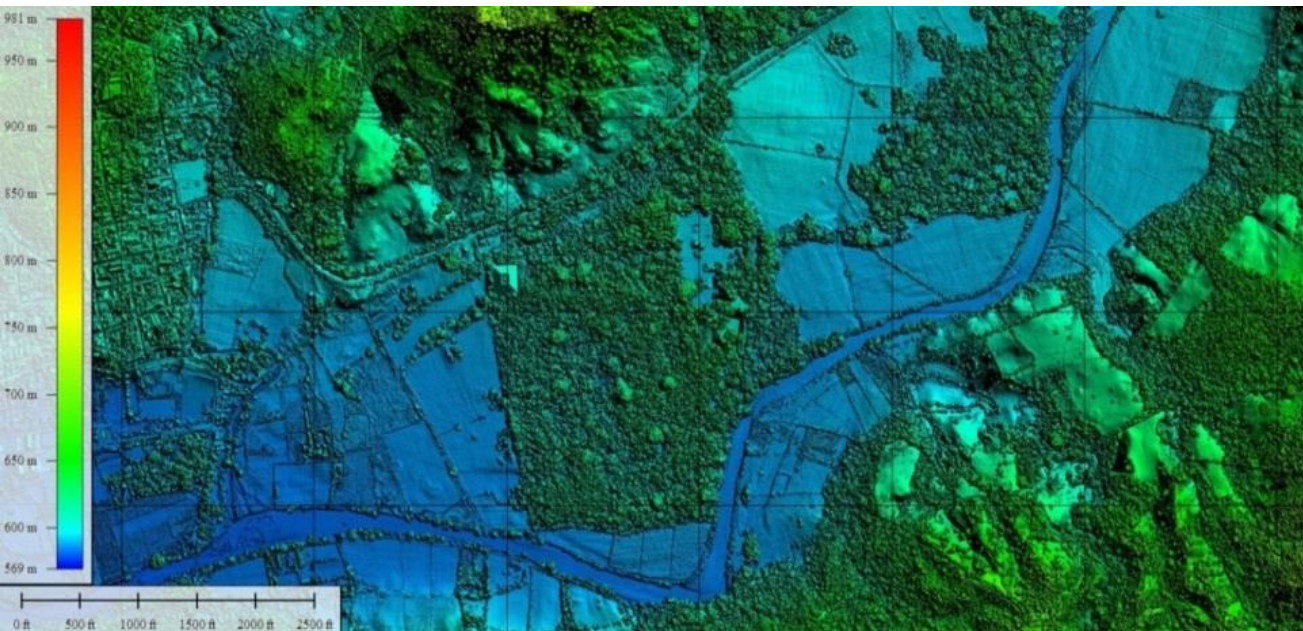
[16835](#)**Link to Record:**[Stone Object, CPN 1, ID 2390](#)

FS_BauwerkID		FS_St.ArtefaktID		FS_MetallID		DS Created by	J. von Schwerin
FS_BefundID		FS_KeramikID		FS_MolluskenID		DS Created on	2013-09-10
FS_St.ObjektID	2390	FS_KnochenID		FS_PutzID			
FS_ToposID							

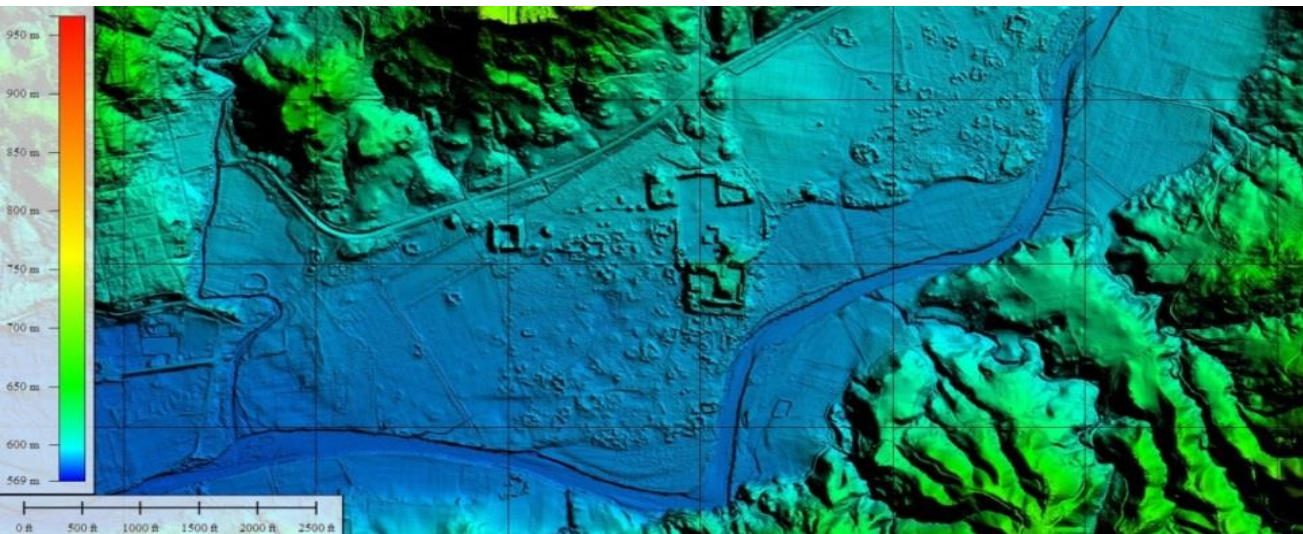


3D (SketchUp) model of the city's urban core (Richards-Rissetto 2011)

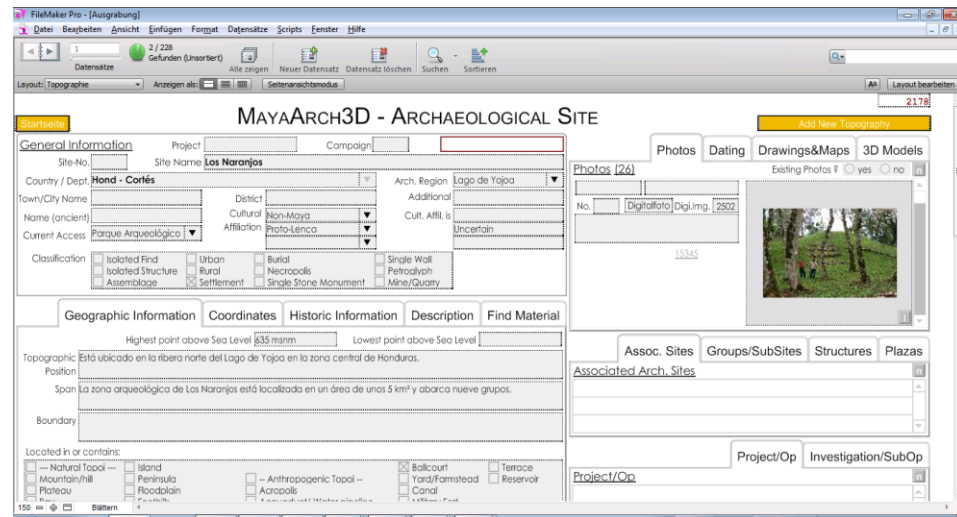




Digital Surface Model  
showing all points  
returned  
(including vegetation)

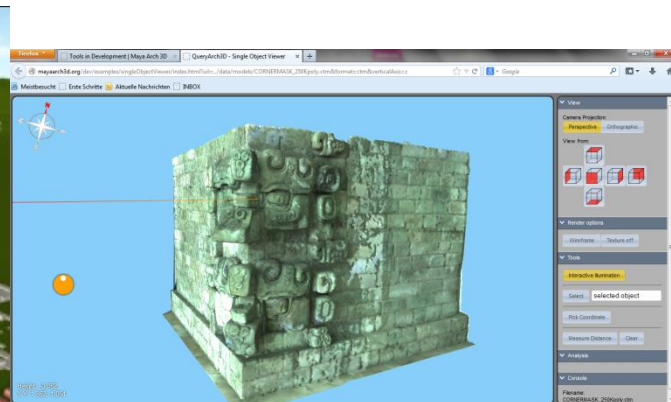


Digital Terrain Model  
of the same area with  
the vegetation removed



Database for 2D and 3D geometries

Archaeological Database



2D Browser

3D World  
Browser

High-resolution  
Single Object Viewer









Thank you!

MayaArch3D.org

Click on „Tools in Development“

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