

A Historical GIS of Nubia based on the William John Bankes Archive (1815-1822)

Daniele Salvoldi

Freie Universität Berlin, Dahlem Research School, POINT Postdoc Fellow

Freie Universität



Berlin

Outline

- ▶ The Authors: Bankes, Linant, Ricci
- ▶ Turco-Egyptian expedition to Dongola, Sinnar, Darfur and Kordofan
- ▶ The Bankes Archive: Overview
- ▶ The Loss of Nubia
- ▶ Research Questions
- ▶ The Sources
- ▶ Methodology
 - ▶ Data Collection
 - ▶ Gazetteer
 - ▶ Access Database
 - ▶ ArcGIS HGIS, Layers drawing
- ▶ Interpretation

William John Bankes (1786-1855)

- ▶ Esquire, rich family
- ▶ Cambridge graduate (Greek inscriptions)
- ▶ Friend of Byron
- ▶ Started travelling in 1813 (Iberian Peninsula, Italy, Greece, Levante, Egypt, and Nubia), until 1819
- ▶ „The Nubian Explorer“
- ▶ Philae Obelisk
- ▶ MP (1820s and 1830s)
- ▶ Arrested in 1841, he flees the country and lives in exile



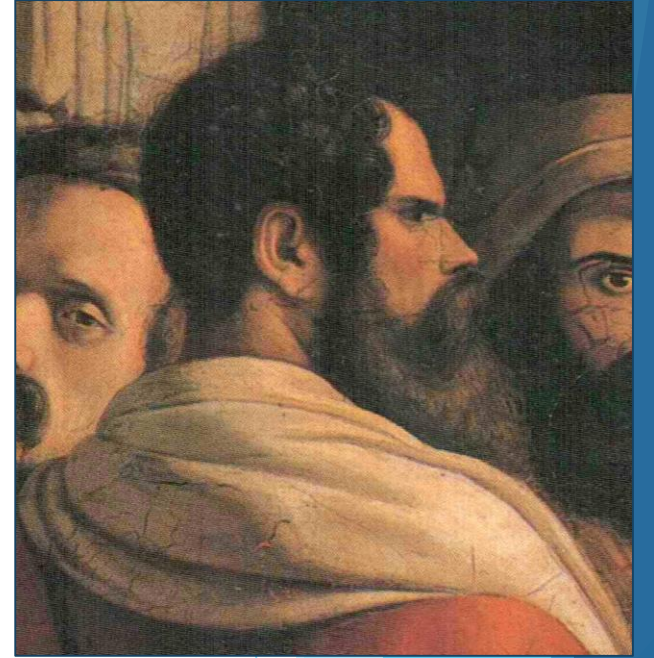
Louis Maurice Adolphe Linant de Bellefonds (1799-1883)

- ▶ Son of a French naval officer
- ▶ Employed in map making along the coast of Newfoundland (1814)
- ▶ Travel in the Eastern Mediterranean, then Egypt
- ▶ From 1817 in the service of William John Bankes
- ▶ Trips to Siwa, Sinai and Sennar (1820-22)
- ▶ Eastern Desert, Sinnar (1827, 1831)
- ▶ Egyptian Government Career:
 - ▶ Chief engineer of public works in Upper Egypt (1831)
 - ▶ Head of public works, Bey (1837)
 - ▶ Chief Engineer of the Suez Canal
 - ▶ Pasha (1873)



Alessandro Ricci (ca. 1794-1834)

- ▶ Physician
- ▶ Travel to Egypt in 1817
 - ▶ Work for Belzoni, then Salt and Bankes
 - ▶ Travel with Bankes to Nubia (1819)
 - ▶ Travel with Linant to Siwa and Sinai (1820)
 - ▶ Travel with Linant to Sennar (1821-22)
 - ▶ Collection of Egyptian antiquities
- ▶ Acquaintance with Rosellini and Champollion
- ▶ Franco-Tuscan expedition (1829-29)
- ▶ Sickness (1832) and death (1834)



Expedition to Dongola, Sinnar, Darfur, and Kordofan (1820-22)

- ▶ Isma'il Pasha (August 1820)
- ▶ Mehmed Defterdar Bey (early 1821)
- ▶ Ibrahim Pasha (June 1821)

- ▶ Defeat of the Mameluk remnants
- ▶ Collection of taxes
- ▶ Exploitation of mines
- ▶ Slaves

- ▶ Many Europeans and Americans within the army (doctors, pharmacists, and officers)



The Bankes Archive

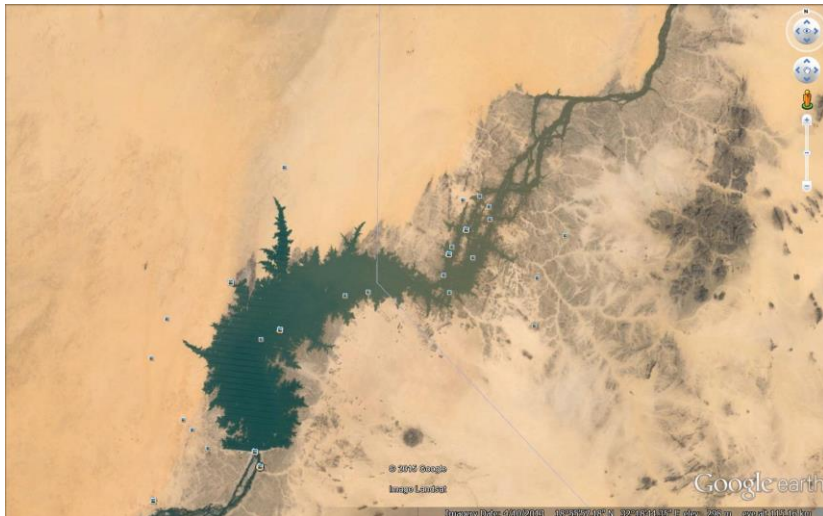
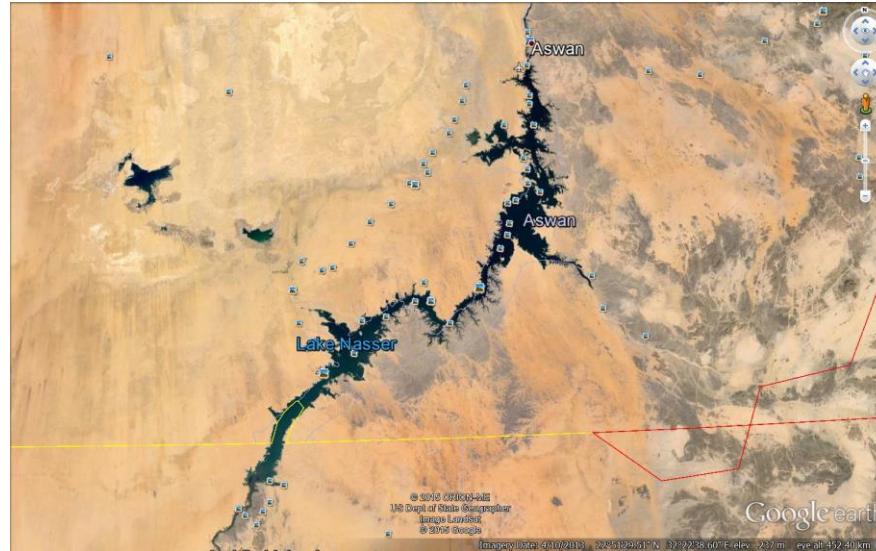
- ▶ Travel notes, drawings, plans, and maps
- ▶ Letters
- ▶ *How can we manage all this information?*

Subject	Quantity
Non-hieroglyphic inscriptions	67
Plans and sections	162
Landscape views	307
Egyptian epigraphy	567
Maps	12
Architectural details	69
Anthropology, fauna & flora	35
Objects, statues	16
Notes and sketches	457
Total	1,692

The Loss of Nubia

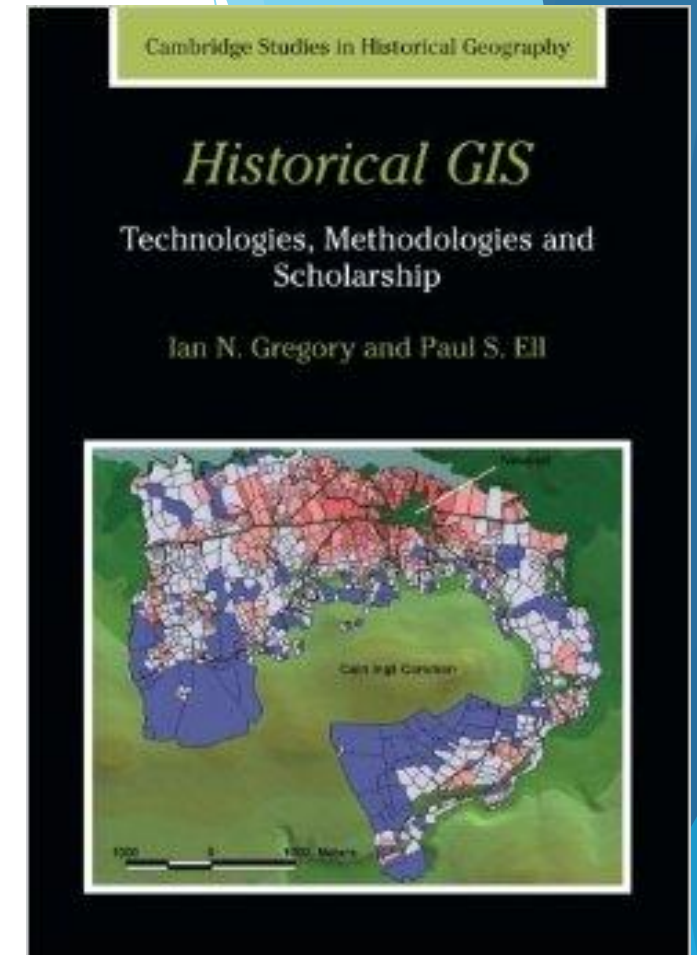
- ▶ Champollion, *Note remise au Vice-Roi pour la conservation des Monuments de l'Égypte* (1829); in the years following the Napoleonic expedition no less than thirteen entire temples were completely destroyed.
- ▶ “The apparent woodedness of the countryside seeming almost unbelievable to those who know the modern Sudan, while any report of a lion roaring near Ed Debba would nowadays be regarded as a figment of the wildest imagination” (Shinnie 1958)

Dams on the Nile



Research Question

- ▶ Can we use early 19th Century documents to attempt a reconstruction of a much changed *ancient* landscape?
- ▶ „How can we manage all this information?“
- ▶ Historical Geographic Information System (HGIS)
 - ▶ Relatively New
 - ▶ Growing Field



The Sources

- ▶ Landscape Drawings (Dorset History Centre, DHC)
- ▶ Inscriptions Copies (DHC, Florence Egyptian Museum)
- ▶ Maps (DHC, Florence Egyptian Museum)
- ▶ Plans and Cross Sections
- ▶ Fauna, Flora, Ethnography
- ▶ Notes
 - ▶ Sheets (DHC)
 - ▶ Two Volumes (British Museum)
- ▶ Journals
 - ▶ Linant's *Voyage* (Kingston Lacy House)
 - ▶ Linant's *Notices* (Kingston Lacy House)
 - ▶ Ricci's *Viaggi* (National Archives of Egypt)

Accuracy

- ▶ Not artists
- ▶ Technical and Academic knowledge (drawing, inscriptions, map making)
- ▶ Experience
- ▶ Ease of travel
- ▶ Publication (Linant vs. Ricci)
- ▶ Cross-check

Data (Nature)

Charles L. Redman, *Human Impact on Ancient Environments* (Tucson: University of Arizona Press, 1999)

- ▶ **Nature - Biotic**

- ▶ *Vegetation*
- ▶ *Fauna*
 - ▶ Wild fauna
 - ▶ Domesticated animals

- ▶ **Nature - Abiotic**

- ▶ *Climate*
 - ▶ Floods, precipitations
 - ▶ Winds
 - ▶ Atmospheric and Water temperature
 - ▶ Earthquakes
- ▶ *Geology*
 - ▶ Types of rocks, soil

Data (Culture)

- ▶ **Culture - Biotic**
 - ▶ *Ethnic Groups*
 - ▶ Tribes (distribution, migration patterns)
 - ▶ Immigrated communities
 - ▶ *Anthropology*
 - ▶ Rites, customs, religions, etc.
 - ▶ Handcrafts
 - ▶ Social structures, languages, etc.
 - ▶ *Traffic*
 - ▶ Trade routes, river or land ancient routes
 - ▶ Roads and dirt tracks
 - ▶ Sea and river harbours
 - ▶ *Historical Data*
 - ▶ Battles, important events, epidemics, etc.
- ▶ **Culture - Abiotic**
 - ▶ *Archaeological Heritage*
 - ▶ Ancient Egyptian monuments
 - ▶ Medieval sites (Nobatia, Makuria, Alodia)
 - ▶ Modern & Traditional buildings
 - ▶ *Settlements*
 - ▶ Cities, towns and villages with toponyms
 - ▶ Temporary settlements (Bedouins, trade, military camps)
 - ▶ *Water management*
 - ▶ Wells, springs, *wadis*, oases, dams and submerged areas
 - ▶ *Economy*
 - ▶ Crops, orchards, agricultural plots, gardens
 - ▶ Market sites, products traded, slave caravanserai, mining sites

Gazetteer

David Rumsey Map Collection

CARTOGRAPHY ASSOCIATES

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Media Information ⓘ

Nubia and Abyssinia to Bab El Mandeb.

➕ Add To Workspace

▼ Record:

Author :

Lowry, J.W.

Author :

Sharpe, J.

Date :

1848

Short Title :

Nubia and Abyssinia to Bab El Mandeb.

Publisher :

Chapman & Hall

Publisher Location :

London

Type :

Atlas Map

Obj Height cm :

34

Obj Width cm :

44

Scale 1 :

3,380,000

Note :

Relief shown by hachures. Countries outlined in color. Inset of Mocha to Aden.

Reference :

P4327.

Country :

Eritrea

Country :

Sudan

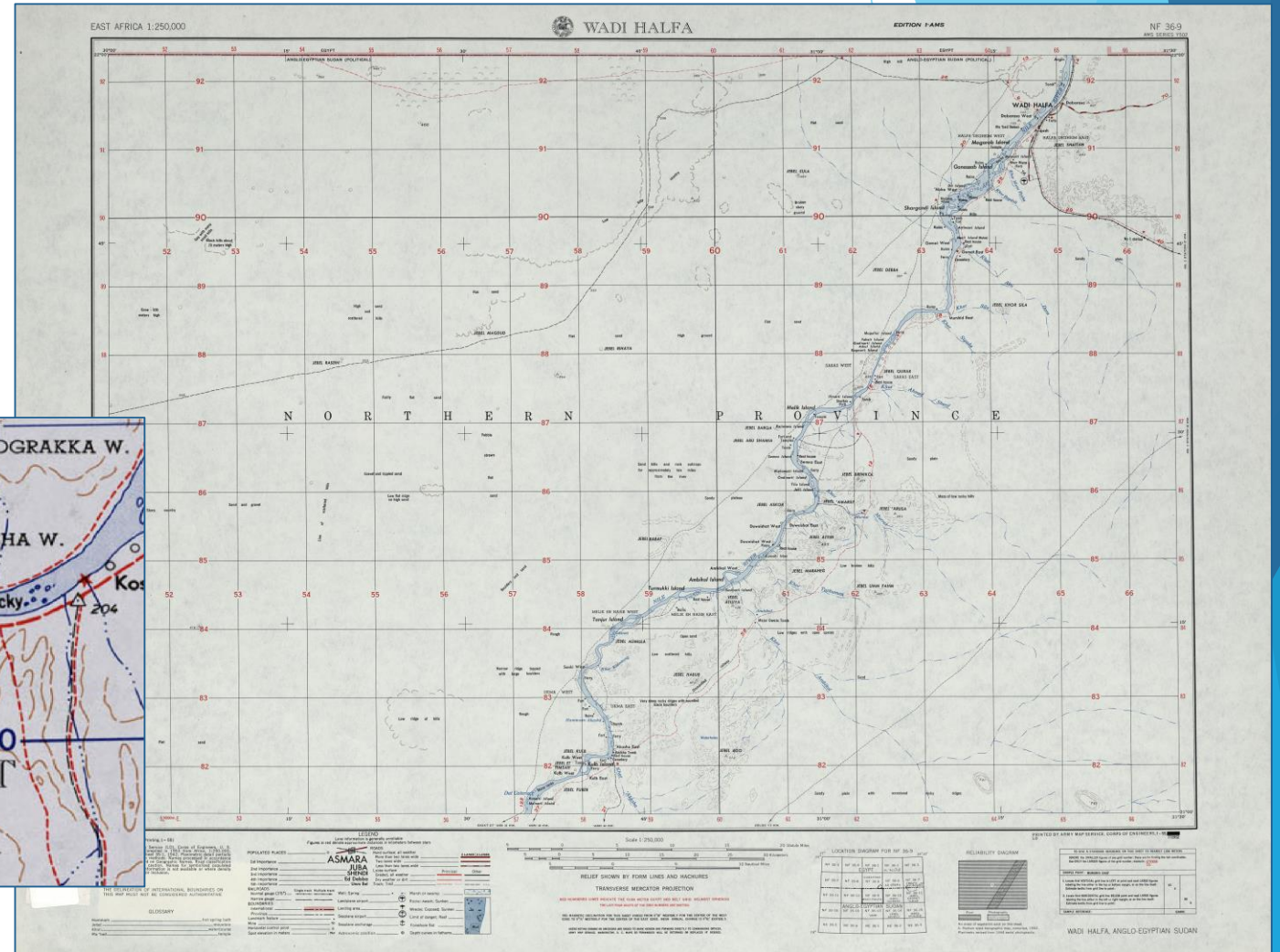
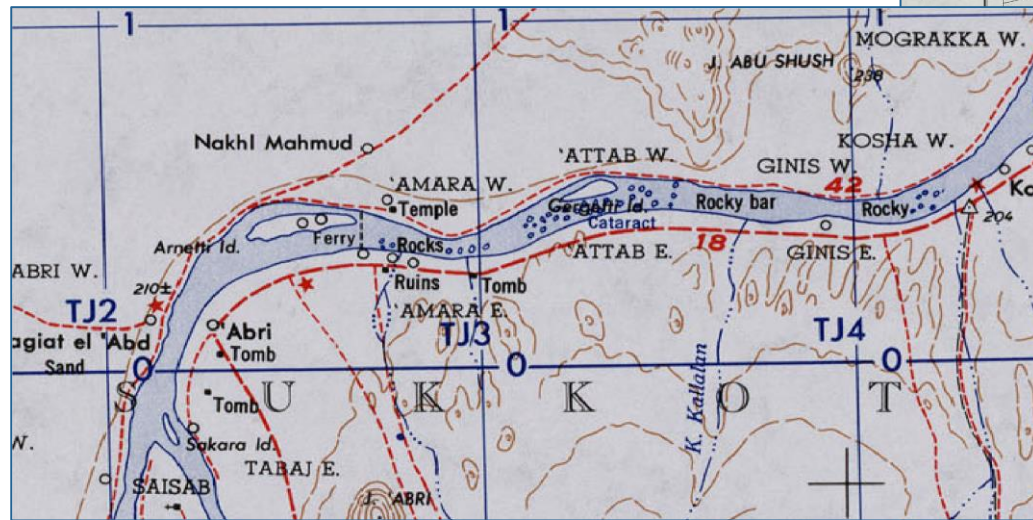
Region :

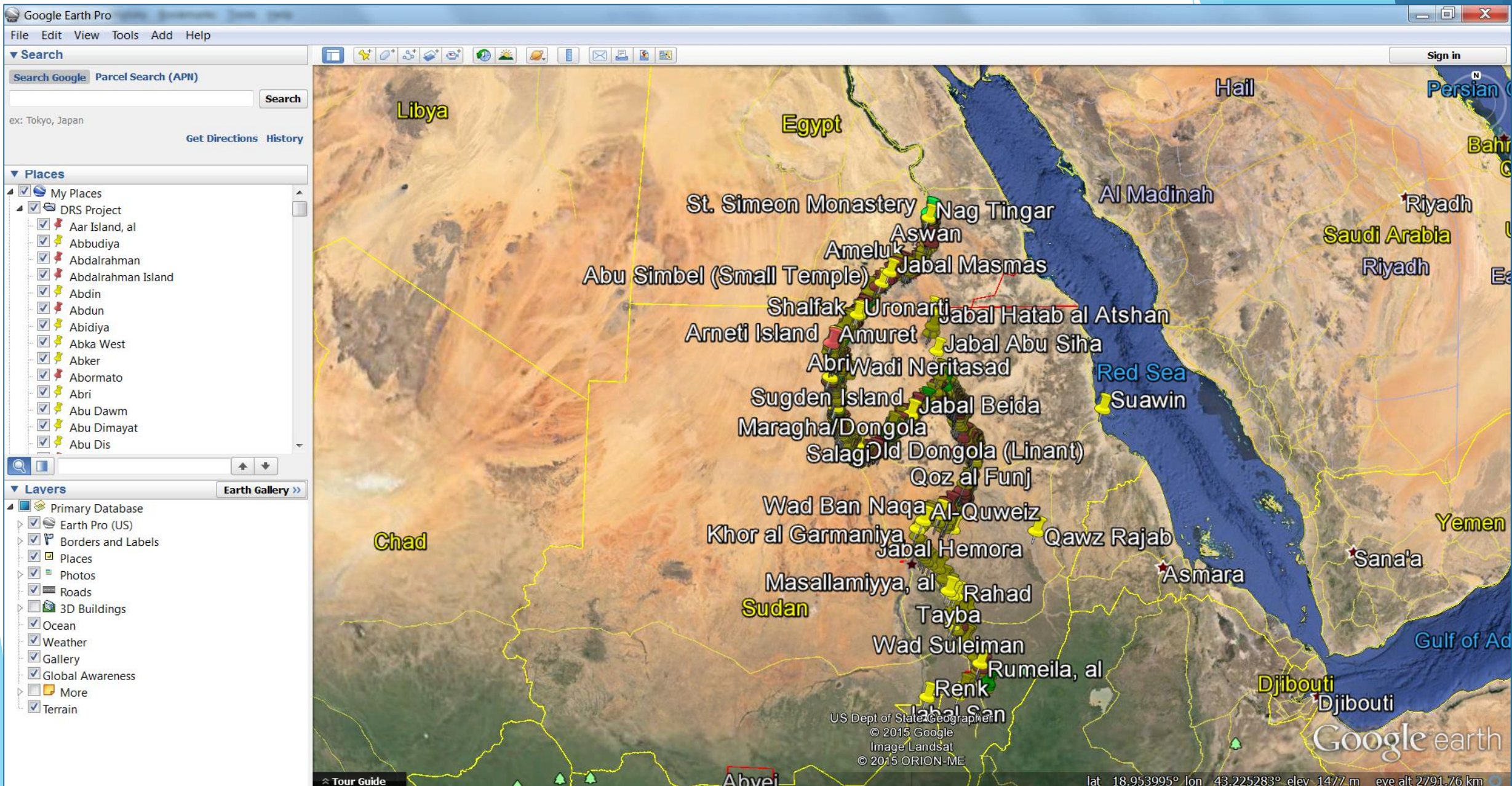
Red Sea

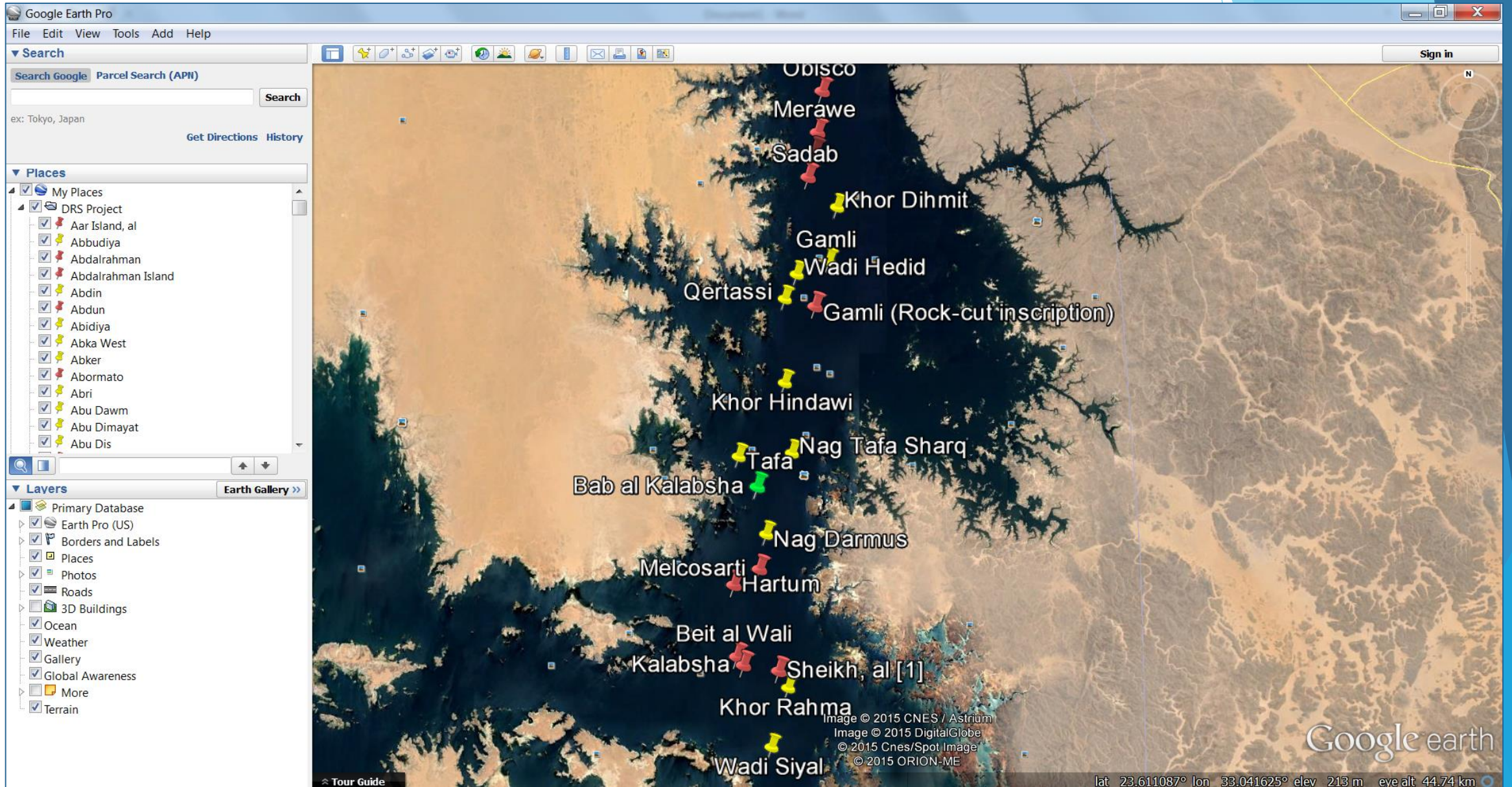


Coordinate Retrieval (1)

Topographical Maps + Google Earth

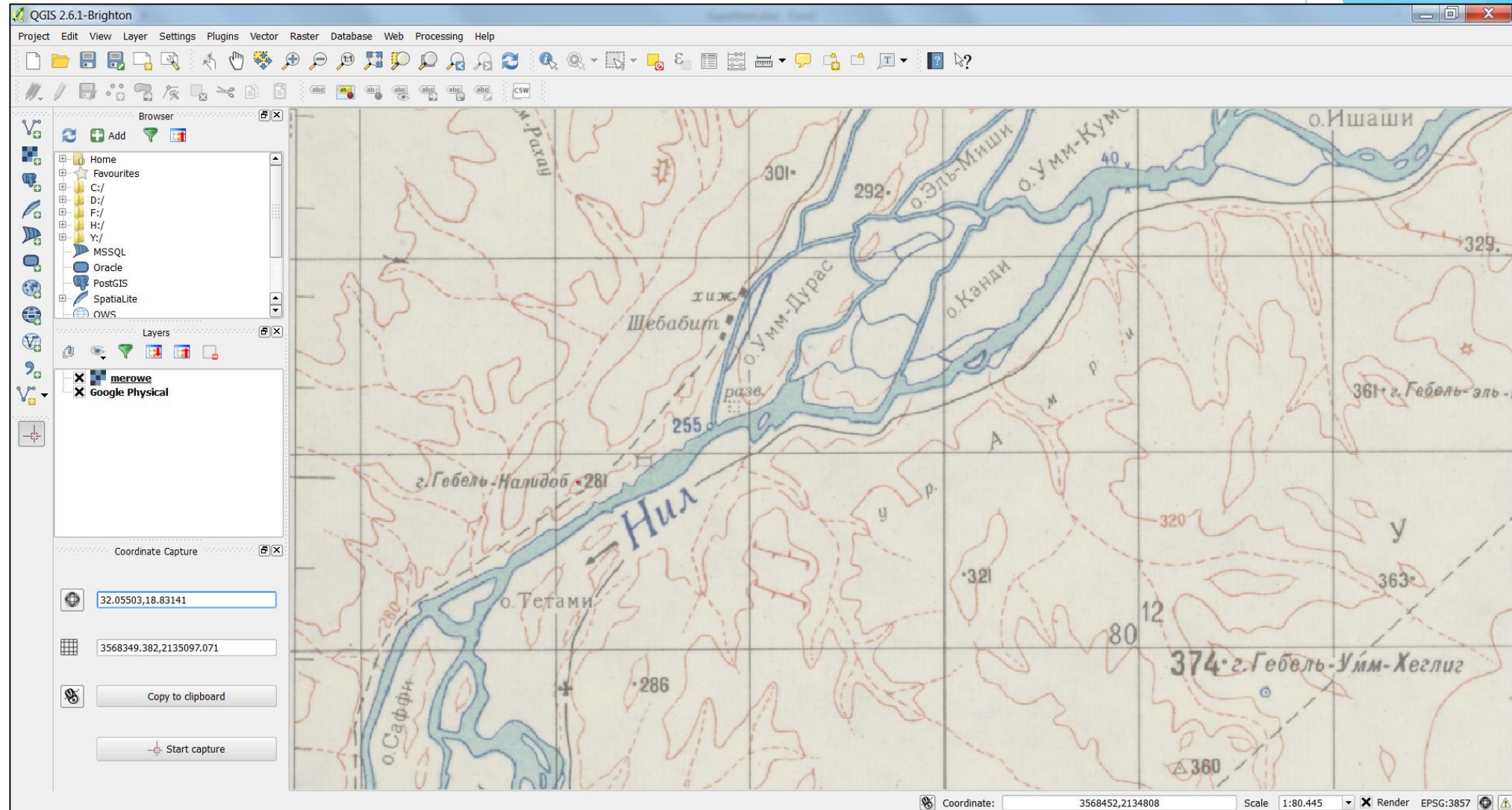






Coordinate Retrieval (2)

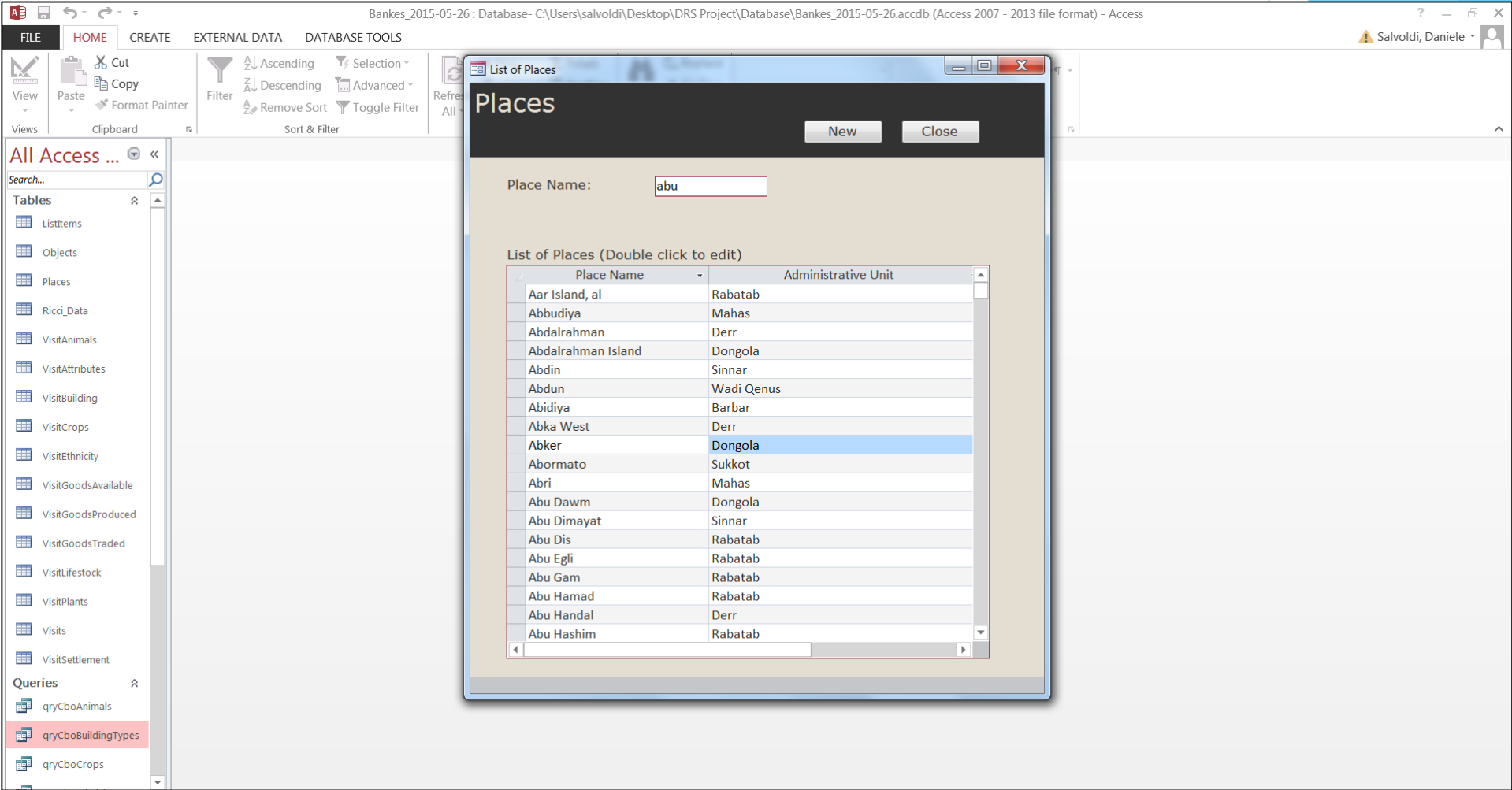
- ▶ Topographical Maps + GIS
- ▶ Georeferencing the maps



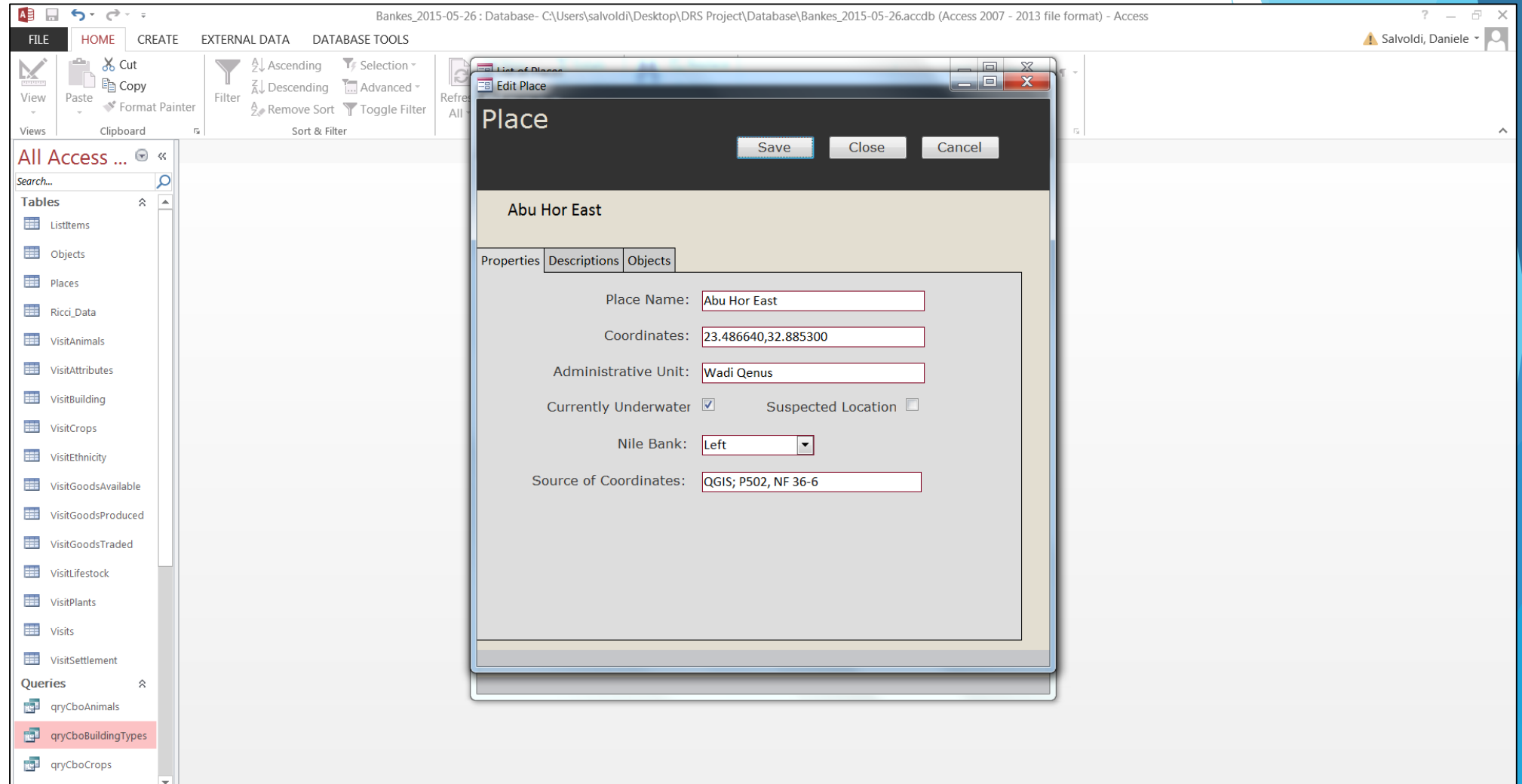
Gazetteer

Gazetteer.xlsx - Excel													
FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW ACROBAT													
Clipboard Font Alignment Number Styles Cells Editing													
E166 Isola del Sole													
ID	Name	Ancient Name	Classic Name	Ricci	Linant's Journal	Linant's Map	Cailliaud 1827	Prokesch von Osten 1827	Decimals_Y	Decimals_X	Coordinat	Toponym source	
1	Aswan		Syene	Assuano	Assouan				24.082064°	32.888469°	GE		
2	Aswan (Unfinished Obelisk)								24.076912°	32.895423°	GE		
3	Elephantine			Elefantina	Elephantine				24.084610°	32.885986°	GE		
4				Hayt el-Adjouz									
5				Birbé									
6													
7	Aswan (Wall)								24.050004°	32.883728°	GE		
8	(Old) Philae/Ile Cast el Heyoud			Philae	Philae	Philoée	Philae	G. Kassr Anas el Wudschut	24.020833°	32.889444°	GE		
9	Hesse Island					Ile Hessé		Gesiret el Hesseh	24.011145°	32.877213°	GE	Prokesch	
10	Bab					Bab		Bab	24.013685°	32.891529°	GE	Prokesch	
11	Nag Tingar					Congar			23.990479°	32.868364°	GE	Castaneda	
12	Tiki, al					Quitto		El Tiki	23.98495°	32.87749°	GE	Prokesch	
13	Shimat Mahdar					Mardar			23.983333°	32.866667°	GNS		
14	Meshe					Méchié			23.96473°	32.85975°	QGIS	Linant	
15	Kulutot					Couloutode		Kulutot	23.96556°	32.87935°	QGIS	Castaneda	
16	Saqiyat al Gamal			Sach el-Gemel				Sagiet Ghemel	23.92492°	32.86511°	QGIS	Prokesch	
17	Wadi Shellal			Ouadi Scialal	Vallé de Chelal				24.039891°	32.889012°	GE	Linant	
18	Aqaba Sihali				Accaba Sihali				24.019359°	32.917052°			
19	Gudi Island					Gaudri			23.95°	32.866667°	GNS		
20					Gerbode								
21	Shamet al Uwa			Sciamet el-Ouah	Chemtéloua	Chamtéloua	None	None	23.94348°	32.87749°	QGIS	Castaneda	
22	Dabod			Debode	Debode	Debode			23.86932°	32.87550°	QGIS	Castaneda	
23	Khor Baranurum					Ile Barambram	Ile Beremrem	Bab al Barambram	23.886799°	32.900763°	GNS		
24	Birein					Birendi			23.883333°	32.883333°	GNS		
25	Abdun					Abdoun	Abdoun/Abdoun		23.85983°	32.87646°	QGIS	Castaneda	
26	Nag Mireis					Mérié	None		23.82507°	32.89234°	QGIS	Castaneda	
27	Siali			Siale	Sihali	Sihale			23.82631°	32.91462°	QGIS	Castaneda	
28	Morkosarti					Morcosarti	Ile Markos	Gesiret Markos	23.81496°	32.90905°	QGIS	Castaneda	
29	Obisco					Obisco		Abisko	23.78195°	32.89915°	QGIS	Castaneda	
30	Khor Dimri					Déramit		Dimhüt	23.85°	32.883333°	GNS		

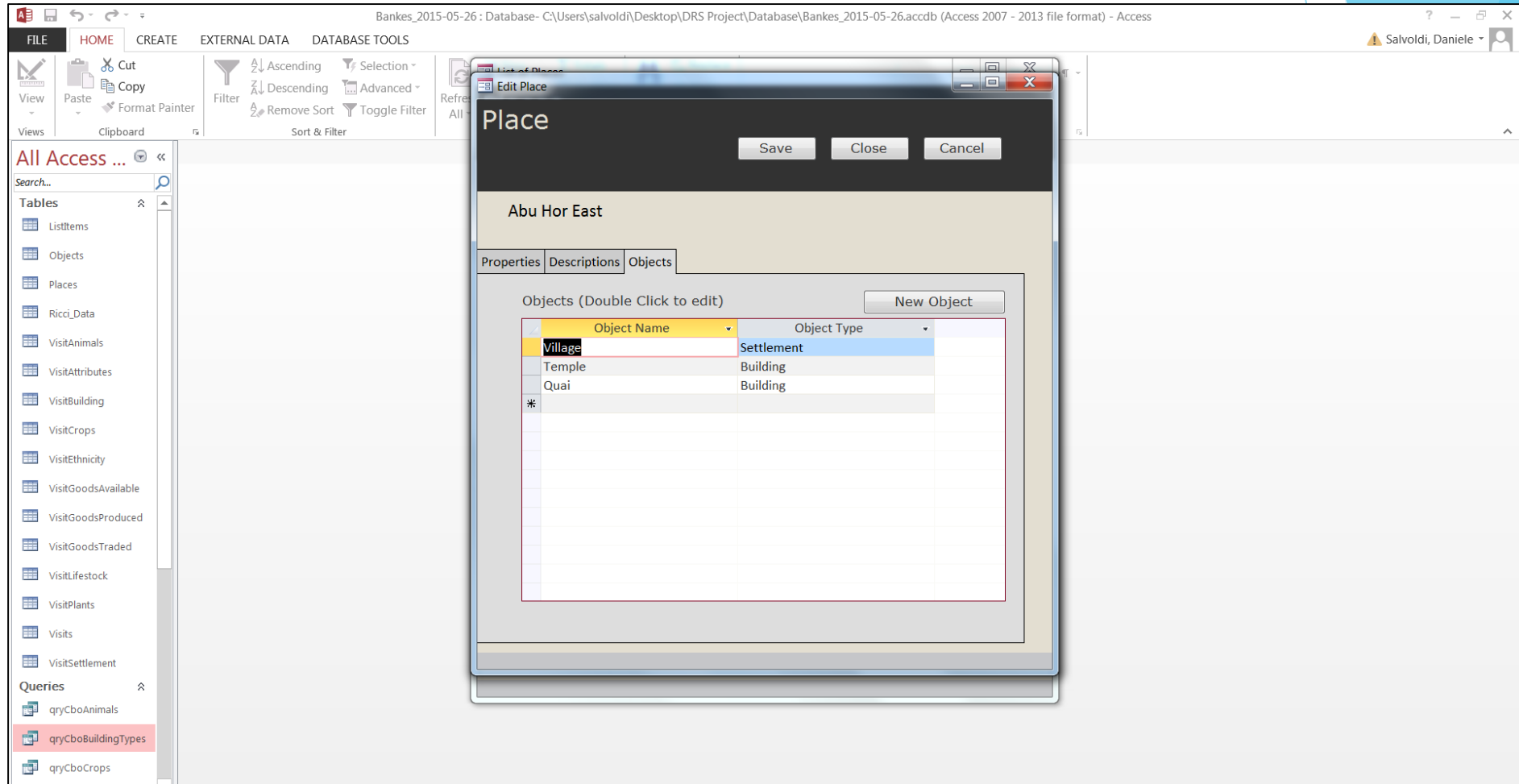
Access Database



Access Database



Access Database



Access Database

The screenshot shows the Microsoft Access application window. The title bar indicates the file is 'Banks_2015-05-26: Database- C:\Users\savoldi\Desktop\DRS Project\Database\Banks_2015-05-26.accdb (Access 2007 - 2013 file format) - Access'. The user is 'Salvoldi, Daniele'. The 'Object' dialog box is open, displaying the 'Edit Object' tab for the 'Abu Hor East - Temple' object. The 'Object Name' is 'Temple' and the 'Object Type' is 'Building'. A table of visits is shown with one entry: '18.08.1821' from 'Linant, Journal'. The background shows the 'All Access' task pane with a list of tables and queries.

Arrival Date	Source	Name in Sou
18.08.1821	Linant, Journal	

Access Database

Bankes_2015-05-26 : Database- C:\Users\salsoldi\Desktop\DRS Project\Database\Bankes_2015-05-26.accdb (Access 2007 - 2013 file format) - Access

FILE HOME CREATE EXTERNAL DATA DATABASE TOOLS

View Paste Copy Cut Format Painter Filter Sort & Filter Selection Advanced Toggle Filter

Views Clipboard

All Access ...

Search...

Tables

- ListItems
- Objects
- Places
- Ricci_Data
- VisitAnimals
- VisitAttributes
- VisitBuilding
- VisitCrops
- VisitEthnicity
- VisitGoodsAvailable
- VisitGoodsProduced
- VisitGoodsTraded
- VisitLifestock
- VisitPlants
- Visits
- VisitSettlement

Queries

- qryCboAnimals
- qryCboBuildingTypes
- qryCboCrops

Edit Visit

Visit

Save Close Cancel

Objects at Abu Hor East - Temple

Properties Building

Source: Linant, Journal

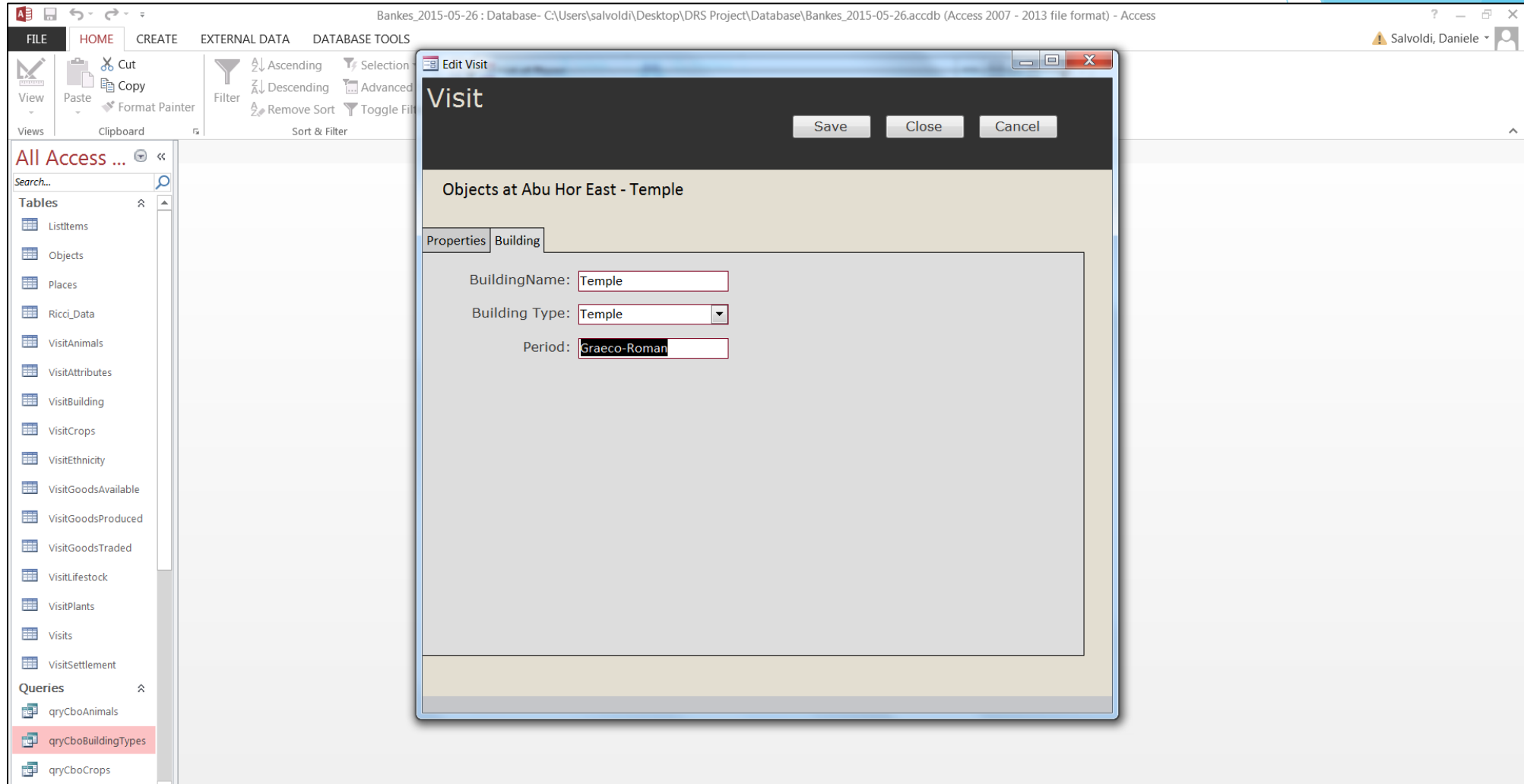
Pages: 30

Arrival Date: 18.08.1821 -10 -1 +1 +10 -Year+

Name in Source:

TravelMeans: Land

Access Database



GIS Layers

- ▶ Data from Access Database > Queries
- ▶ *Ad hoc* symbology
 - ▶ Colour, size, and shape coding
- ▶ Specifically drawn layers:
 - ▶ Nile course and islands
 - ▶ Route taken by travellers
 - ▶ Temple plans
 - ▶ Regional borders

Interpretation

- ▶ The maps will visualize an environment no longer extant and much closer to the ancient landscape, where ancient Egyptians, Nubians and Byzantines were making successful choices of exploitation and building. Maps will help to detect specific relations between different settlements and the natural environment, the concept of space itself and its organisation/modification through parameters like distance, river/road practicability, travel time, river flood range, climate, water and trade resources, etc.
- ▶ Ancient written sources: ancient Egyptian, Nubian and Meroitic literary and non-literary texts, religious compositions, and monumental inscriptions, as well as classical historical sources (Herodotus, Strabo, Cassius Dio, Procopius of Caesarea).
- ▶ Modern archaeological/ethnographical data: archaeological field reports, iconographical and architectural analysis, and ethnographic surveys. Starting from the 1905-07 Oriental Institute Expedition and the following Coxe Expeditions (1907-10), archaeological and ethnographic work in the area intensified in the 1960s before the completion of the Aswan High Dam and produced a rich collection of data.

Outcome

- ▶ On-line open HGIS
 - ▶ (TOPOI WebGIS)
 - ▶ Accessibility of georeferenced original drawings (National Trust, Dorset History Centre)

Thank you very much for your attention

► daniele.salvoldi@fu-berlin.de

