



MODIS (Moderate Resolution Imaging Spectroradiometer) image of the Nile River Valley, from NASA.

## PHYSICAL LANDSCAPES OF ANCIENT EGYPT

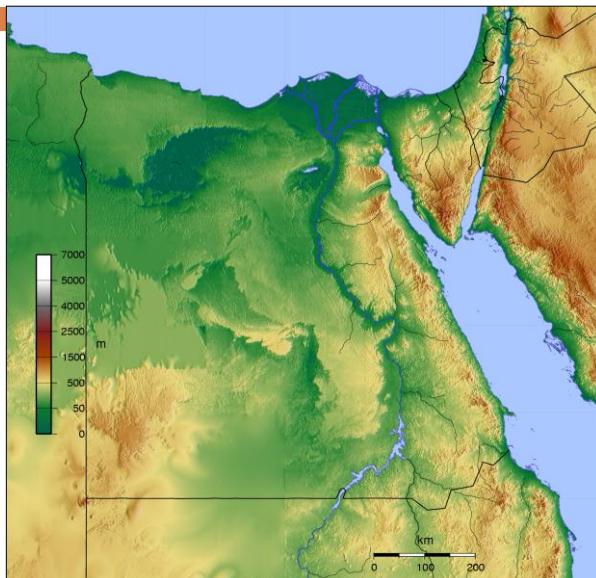
“EGYPT: GIFT OF THE NILE”

- HERODOTUS

Dr. John Paul Stimac

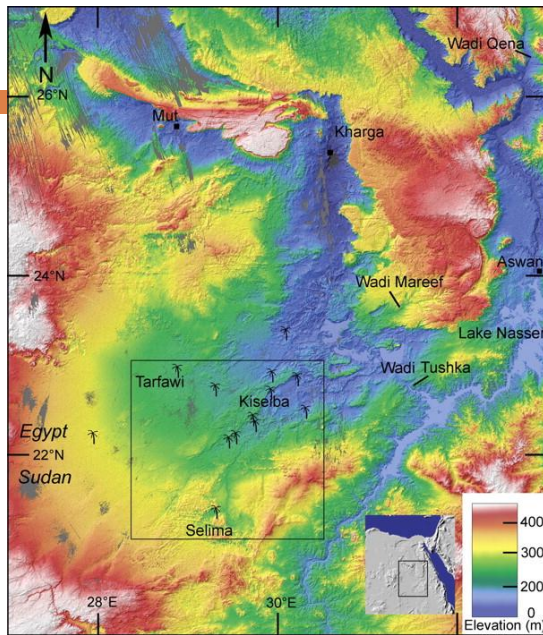
Honors College and Department of Geology/Geography

## Shaded relief map of Egypt

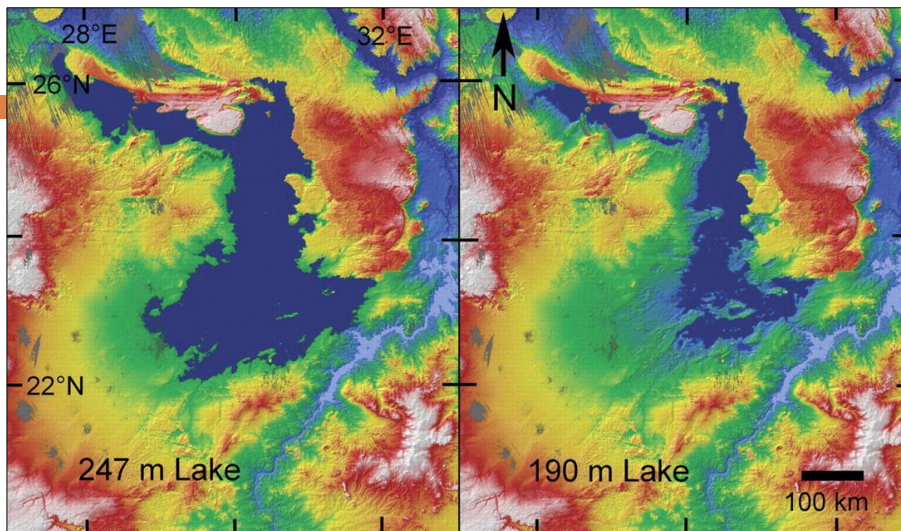


Note low-lying Qattara Depression in north-central Egypt.

Also note other low-lying areas in the southern part of Egypt.

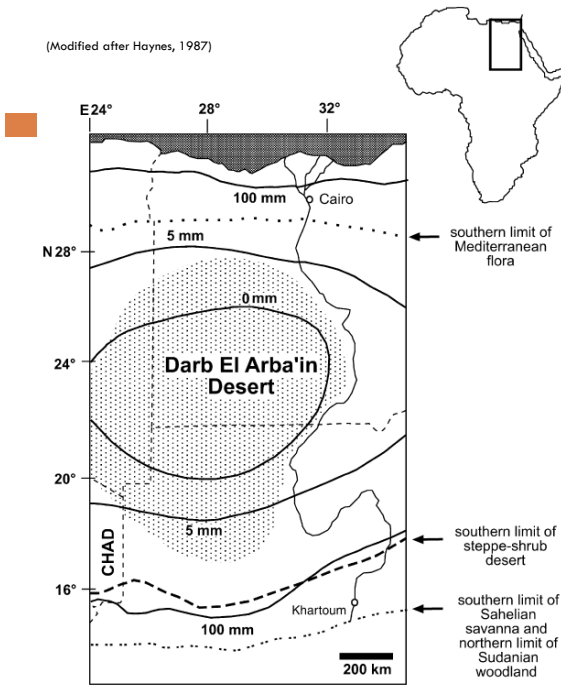


Digital Elevation Model (DEM) of southern Egypt and adjacent Sudan derived from NASA – provided Shuttle Radar Topography Mission (SRT) 3 arc-sec data. Middle Pleistocene (~0.5 Ma) overflow of Nile River to the west through Wadi Tushka is proposed to account for lake remnants, fossil fish, and paleochannel terminations at 247 m and 190 m. (From Maxwell *et al.*, 2010)



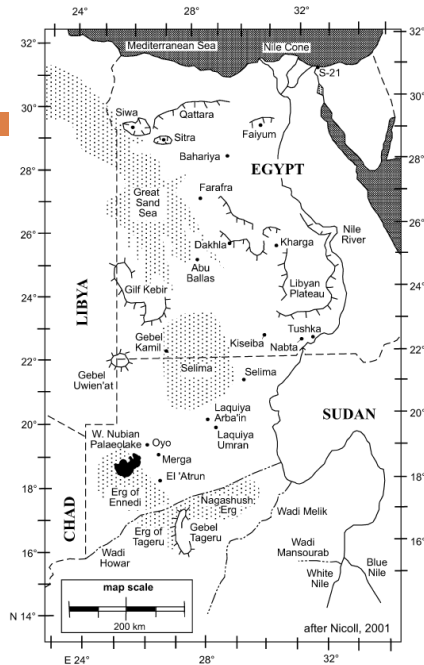
Lake levels at 247 m (68,200 km<sup>2</sup>) and 190 m (30,400 km<sup>2</sup>) that would have extended 350 km north from Sudan border to Kharga Oasis. Significant middle Pleistocene recharge of Nubian aquifer was likely by-product of these lakes, as well as creating attractive sites for human settlement. (From Maxwell *et al.*, 2010)

(Modified after Haynes, 1987)



Current, and pre-historic, isohyet patterns for southwestern Egypt.

Pattern would have been shifted about 10° northward after the last glacial period.

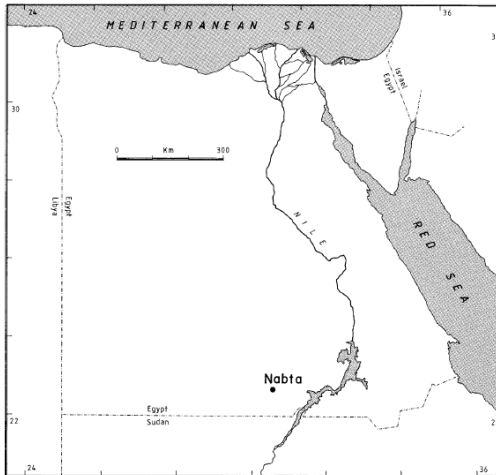


Note:

- Depressions and sand seas (e.g., Selima in southern Egypt)
- Plateaus
- Natural "funnel" into southern Nile River Valley

(From Nicoll, 2003)

## Nabta Playa site – megalithic site



(From Wendorf and Schild, 1998)

- Constructed in ~6800 BCE;
- Site of megalithic construct;
- Predates Stonehenge by nearly 1,000 years;
- Nearly on the Tropic of Cancer (ideal for an observatory);
- Monsoons shifted south after this period, ~4800 BCE (just prior to development of the Egyptian cultures in the southern Nile River Valley).

## Cattle worship was important at Nabta



Several tumuli found with ritually buried cattle (adult and juvenile)

(From Wendorf and Schild, 1998)

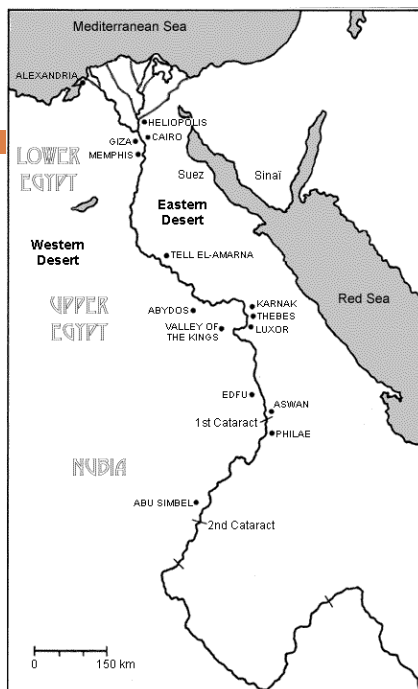




## Isis, the “Mother God”

Isis, the “mother” deity in Egyptian pantheon of gods/goddesses is typically depicted with horns of a bull.

Religion in Egyptian society was an amalgamation of local deities of regions that were conquered – bound the society together.



## Geographic isolation

Isolated by the:

- Western Desert to west and south;
- Eastern Desert and Red Sea on east
- Mediterranean Sea to the north

This isolation can prove to be beneficial:

- Protected region;
- Abundant natural resources;
- Fertile soils with regular flooding by the Nile River.

(From Wendorf, 2003)



Natural Resources map of Ancient Egypt. Note that all resource deposits are located immediately west of the Nile River Valley, or to its east in the mountains.

## Brief history of Egypt

- **Egyptian History, ~ 3100 BCE to 525 BCE**
  - Pre-history dominated by small city-states along Nile
  - **Old Kingdom**
    - Menes - Narmer united Upper/Lower Egypt
    - Pyramid building era; pharaohs considered divine
  - **Middle Kingdom**
    - 2<sup>nd</sup> Illness saw Semitic invasion: Hyksos from the northeast
  - **New Kingdom saw rise of empire**
    - 3<sup>rd</sup> Illness saw invasions by Kush (south), Assyrians (northeast), Sea Peoples
  - Eventually ruled by Persians, Greeks, Romans, Byzantines
- **Kush in Upper Nile assimilates Egyptian culture**
  - Ethnically were Black Africans
  - Adopted many of Egyptian practices: religion, architecture
  - Ruled Egypt as 26<sup>th</sup> Dynasty
  - Famous for iron, gold trade
  - Remained independent until Muslim conquests

## Physical (geomorphic) features

Deserts give rise to unique aeolian depositional and erosional features

- Depositional
  - Dunes
  - Ergs (sand seas)
- Erosional
  - Regs or serirs (expansive stony pavements)
  - Yardangs



Yardangs in the Western Desert

Note their compositions – lake sediments!

(Both from Nicoll, 1998)

## The Sphinx ... or a yardang?



## Use of local materials.



Mud bricks, sandstone and limestone facia, and black granite cobras at Saqqara.





“Red granite” obelisk near Aswan.

Unfinished owing to a crack that developed after nearly done – duh!

## Juxtaposition of fertile area to desert



Note the river and lake(!) deposits in the background.

## Felucca on the Nile River at Aswan

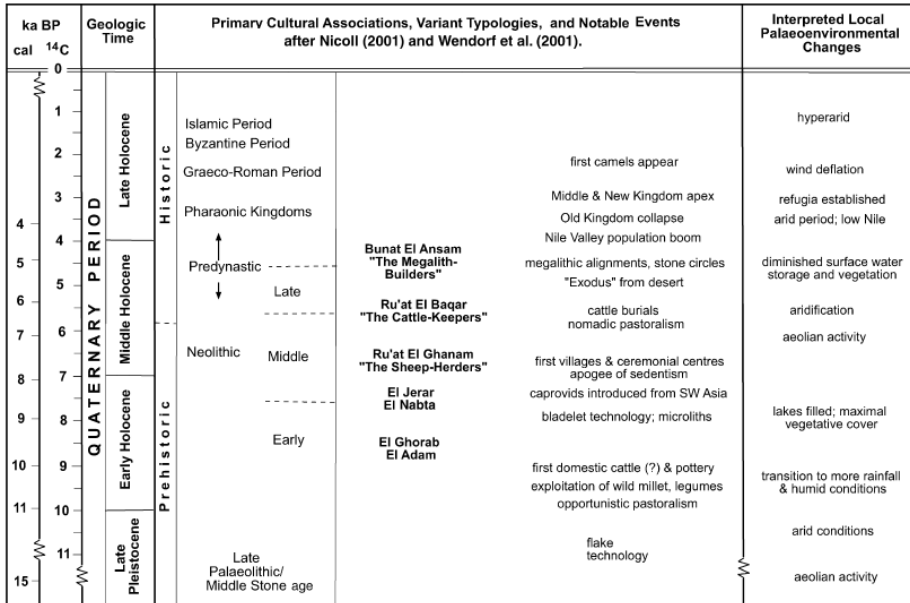


## Temple at Edfu

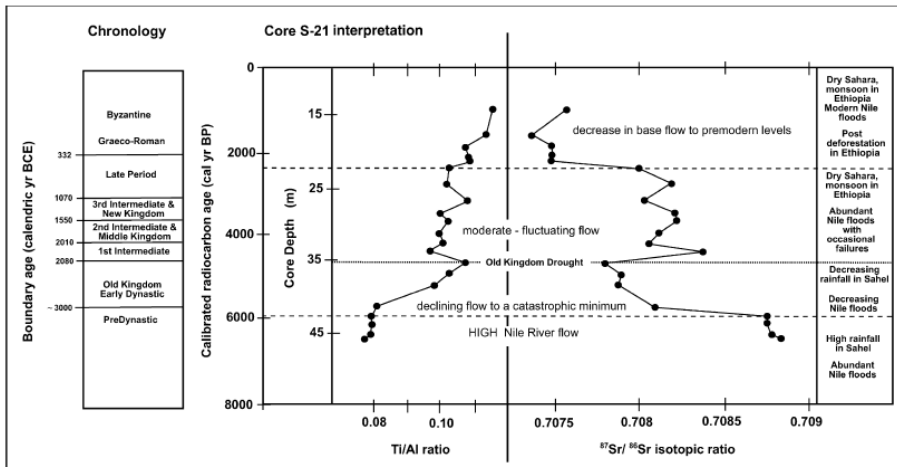
- Dedicated to Hathor;
- Built during the Ptolemaic Period, between 237 BCE and 57 BCE;
- Mud bricks with a veneer of sandstone;
- Note Hathor in black granite.



Red granite obelisk



(From Nicoll, 2003)



## Summary



- Originally populated by tribes from the south and west;
- Success tied to availability of water;
- Which in turn was tied to climatic variability;
- Rise and fall of the pharaohs directly tied to their environment (river, resources, and barriers) .