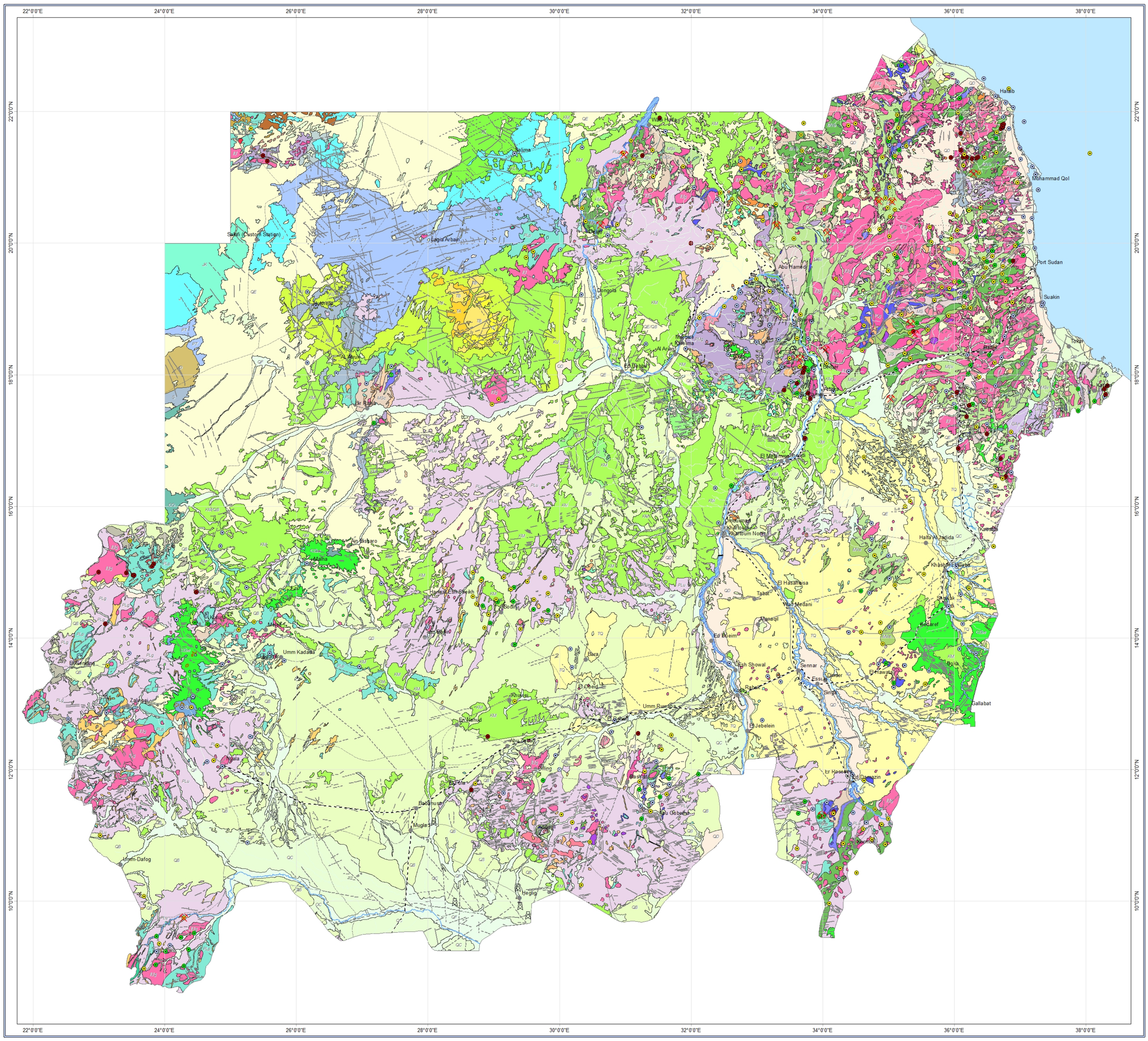
Geological Map of the Sudan Modified (2016)



Sedimentary Rocks

- PHANEROZOIC — CAINOZOIC — Q: Quaternary
  - QF: Recent alluvium and wadi deposits
  - QE: Colluvium,sand sheets and amalgamated dunes
  - QD: Older alluviums, raised terraces, younger gravel and sand plains
  - QC: Lacustrine deposits, alluvial fans, dunes and dune fields
  - QB: Palaeolevees, old gravel and stabilized dunes
  - QA: Raised coral reef
  - TQ: Umm Ruwaba Formation: Gravel, sand, silt and clay
- CAINOZOIC — T: Tertiary
  - TD: Undifferentiated Tertiary sandstone,Hudi chert and Miocenc Red Sea Sediments
  - TC: Upper Abyad: Cherty limestone, marine sand and laterite (Abyad Formation)
  - TB: Abyad limestone (Abyad Formation)
  - TA: Middle Abyad: Siltstone, sandstone, marl, carbonate, clay and gypsum (Abyad Formation)
  - KU: Basal Abyad: Fluviatile or near-shore marine sandstone, partly shale near top (Abyad Formation)
- NUBIAN SUPER GROUP (SENSU-LATO) — PALAEOZOIC, MESOZOIC — MESOZOIC — K: Cretaceous
  - KM: Fluviatile sandstone, lacustrine siltstone and mudstone
  - KL: Sandstone and siltstone
  - K: Cretaceous undifferentiated (mainly sandstone)
- MESOZOIC — J: Jurassic
  - JK: Fluviatile sandstone
  - J: Gilf Kebir sandstone: Massive fluviatile sandstone and some mudstone
- MESOZOIC — PT: Permo-Triassic
  - PT: Lakia Formation: Fluviatile sandstone, lacustrine siltstone and mudstone
- PALAEOZOIC — C: Carboniferous
  - CU: Lacustrine sandstone, siltstone,gypsum and mudstone and thin lignite beds (Wadi Malik Formation)
  - CL: Sandstone with Visean Flora (Wadi Malik Formation)
- PALAEOZOIC — D: Devonian
  - D: Marine and fluvial sandstone, major shale and siltstone beds in lower part (Tadarart Formation)
  - DL: Fluvial sandstone Uweinat Area (Tadarart Formation)
- PALAEOZOIC — S: Silurian
  - S: Umm Ras Formation: Sandstone with Cruziana accacensis, basal shale and some tillite. At Red Sea Hills near shore clastics of Ordovician to Silurian age
- PALAEOZOIC — O: Ordovician
  - O: Karkur Talh Formation at Uweinat area: Sandstone with Cruziana rouaulti
- PALAEOZOIC — C: Cambrian
  - CO: Cambro-Ordovician fluviatile sandstone and glacial deposits (Hassaouna Formation)
  - C: Amaki-Series: Molassic sandstone, conglomerate, greywacke and minor limestone(Possiblt Cambrian age) (Hassaouna Formation)
- PALAEOZOIC — P: Palaeozoic
  - PZs: Undifferentiated palaeozoic sediments

Abyad Formation; Wadi Malik Formation; Tadarart Formation; Hassaouna Formation — Nubian Super Group (Sensu-Lato)

Cainozoic volcanics

- CZig: Ignimbrites
- CZrh: Rhyolites
- CZba: Basalts

Cainozoic intrusives

- CZgr: Granites
- CZsy: Syenites
- CZgb: Gabbros

Cainozoic to Mesozoic

- CMZv: Basic to Intermediate volcanics

Mesozoic volcanics

- MZv: Acidic volcanics and pyroclasts+trachytes

Mesozoic intrusives

- MZgb: Gabbros
- MZsy: Syenites
- MZgr: Granites

Palaeozoic volcanics

- PZv: Lavas and pyroclasts

Palaeozoic intrusives

- PZgb: Gabbros
- PZan: Anorthosites
- PZca: Carbonatites
- PZsy: Syenites
- PZgr: Granites

Basement Complex

PROTEROZOIC — UPPER PROTEROZOIC

- IY: Younger intrusions, IYg: Granite, IYs: Syenite, IYb: Gabbro
- IU: Undifferentiated syn-late orogenic intrusions, IUg: Granite, IUb: Gabbro, IUs: Syenite, IUd:Diorite
- IO: Older intrusions including, IOg: Granite and Granodiorite, IOb: Gabbro, IOs: Anorthosite, IOq: Quartz porphyry
- MSv: Volcano-sedimentary greenschist assemblage
- MS: Metasediments
- MSc: Conglomerate and sandstone,slate,phyllite and schist
- MSm: Marble
- MSq: Quartzite
- MV: Metavolcanics
- MVa: Acidic metavolcanics
- MVb: Intermediate-basic metavolcanics
- OP: Ophiolite
- OPm: Mafic oceanic upper sequence
- OPu: Ultra mafic mantle lower sequence
- GA: Gneiss and amphibolite (roots of the arc-assemblage)
- GAm: Amphibolite
- GAn: Gneiss

Middle Proterozoic remobilized ensialic continental basement rocks

PROTEROZOIC — MIDDLE PROTEROZOIC

- PMg: Gneiss
- PMm: Marble
- PMa: Amphibolite
- PMq: Quartzite
- PMs: Graphitic schist

Lower Proterozoic remobilized ensialic continental basement rocks

PROTEROZOIC — LOWER PROTEROZOIC

- PLu: Undifferentiated metamorphic rock, PLt: Migmatite, PLg: Gneiss
- PLp: Para Schist
- PLm: Marble and calc-silicate rocks
- PLq: Quartzite
- PLr: Banded Iron Formation
- PLc: Ferruginous Chert
- PLs: Graphitic Schist
- PLa: Amphibolite

Cratonic basement rocks

ARCHEAN — AR

- ARg: Granulite with mylonised and retrogressed equivalents
- ARn: Granulite (noritic varieties)

Structural Features

- Metamorphic banding or structural feetures
- Normal fault
- Strike-slip fault
- Dyke
- Volcanic dome
- Volcanic caldera or crataer

Major Tectonic Elements:

Suture:

AHS: Alaqui Hienai
DTFB: Dam Et Tor
DAS: Delgo Atmur
FTB: El Fao Twal Belt
INS: Ingessana Suture
KB: Kabus Belt
MSB: Musmar Sawakin belt
NS: Nakasib Suture
NSS:Nakasib South
OSHS: Onib Sol Hamed
NHFB: Nasb El Hedim Fold Belt
NSS: Naba Sohanit Suture
RB: Raheib Belt

Shear zone:

TCSZ: Third Cataract Shear Zone
AHSZ: Abu Hamed Shear Zone
ADSZ: Abu dis Shear Zone
AOSZ: Adobana Shear Zone
ASZ:Asawa Fault
BSZ: Baraka Shear Zone
CASZ: Central African Shear Zone
GSZ: EL Ga'ab Shear Zone
RMFB: Er Rassai-Maman Belt
GFB: Gebeit Fold Belt
HSZ: Hamisana Shear Zone
KSZ: Keraf Shear Zone
OKSZ: Okasha Shear Zone
OSZ: Oko Shear Zone
SKSZ: Sabaloka Shear Zone
SSZ: Sodari Shear Zone
UBSZ: Um Bader Shear Zone
UHSZ: Um Hani Shear Zone
URSZ: Um Rahau Shear Zone
ZFB: Zalingi Fold Belt
UDSZ: Un differentiated

Minerals Occurrences

- Gold
- iron
- Base Metals
- Industrial Minerals

Topographic and Cultural Features

- Capital city
- City
- State city
- Town
- Oasis
- Oil field
- Mine
- International political boundary
- Railway
- Asphaltic road
- Graded road
- Track road
- Streem
- Perennial river
- Seasonal khor or wadi
- Irrigation canals
- Dam with reservoir
- Perennial lake
- Seasonal Lake

Current map of scale 1:2,500,000 is modified after Geological Map of Sudan, 2004.

Main modifications are:
1. Majer Tectonic Elements
2. Mineral Occurrences
3. Active Mines Location
4. Simplified the Map Legend

Geological Units modified from current project of scale1:100,000 covers 8 Quarter Million Sheets (Wadi Halfa, Kosha, Qala El Nahal, El Gadaref, Sodiri, Umm Badir, Shendi, Dongla).

The project will continue Updating Geological Units form Quarter Million Sheets to scale 1:100.000 in the rest of the Sudan.

Data Source:

1.Geological Map of Sudan, 2004
2.Updated Mineral Occurrences shape file , 2016 (Planning Projects Administration)
3.Regional Geology Administration Missions
4.Mosaic of Landsat ETM Images
5.Active Mines data From Sudense Mineral Resources Company

Geographic Coordinate System: GCS WGS 1984
Datum: D_WGS_1984
Projected Coordinate System: edc16
Projection: Equidistant Cylindrical

N

0 125 250 500 Kilometers

1:2,500,000

Compilation of data, Cartography & Map layout by:

1. Hind Siddig Adam Hamed
2. Radwan Ahmed M.Nasor
3. Hatim Omer Idris El Heber

Regional Geology Administration, Geological Research Authority of the Sudan, Ministry of Minerals November, 2016