



Nile Basin Initiative



E. Nile Technical Regional Office (ENTRO)
Nile Basin Initiative Trust Fund / IDA

Eastern Nile Watershed Management Project Cooperative Regional Assessment (CRA) for Watershed Management

TRANSBOUNDARY ANALYSIS ATLAS OF MAPS SUDAN



June 2006

The Consortium:



Tecsult International Limited



HYDROSULT Inc.

Consultants, Experts-Conseils
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Water B.V.

The Netherlands

In association with



Addis Ababa, Ethiopia



NILE CONSULTANTS

Cairo, Egypt

COMATEX NILOTICA

Khartoum, Sudan

ATLAS OF MAPS

SUDAN

DISCLAIMER

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A. SUDAN AND EASTERN NILE BASIN.

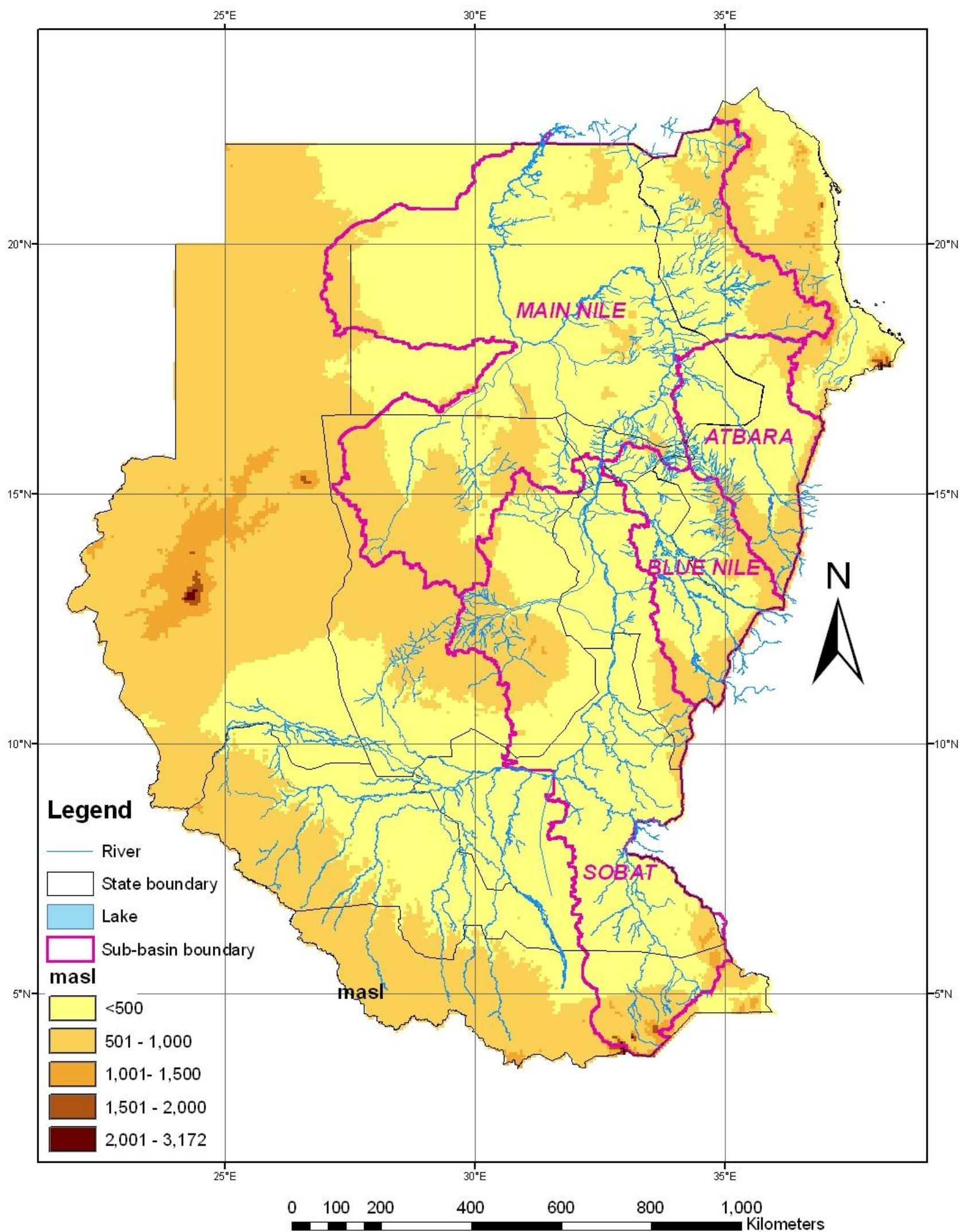
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**ETHIOPIA
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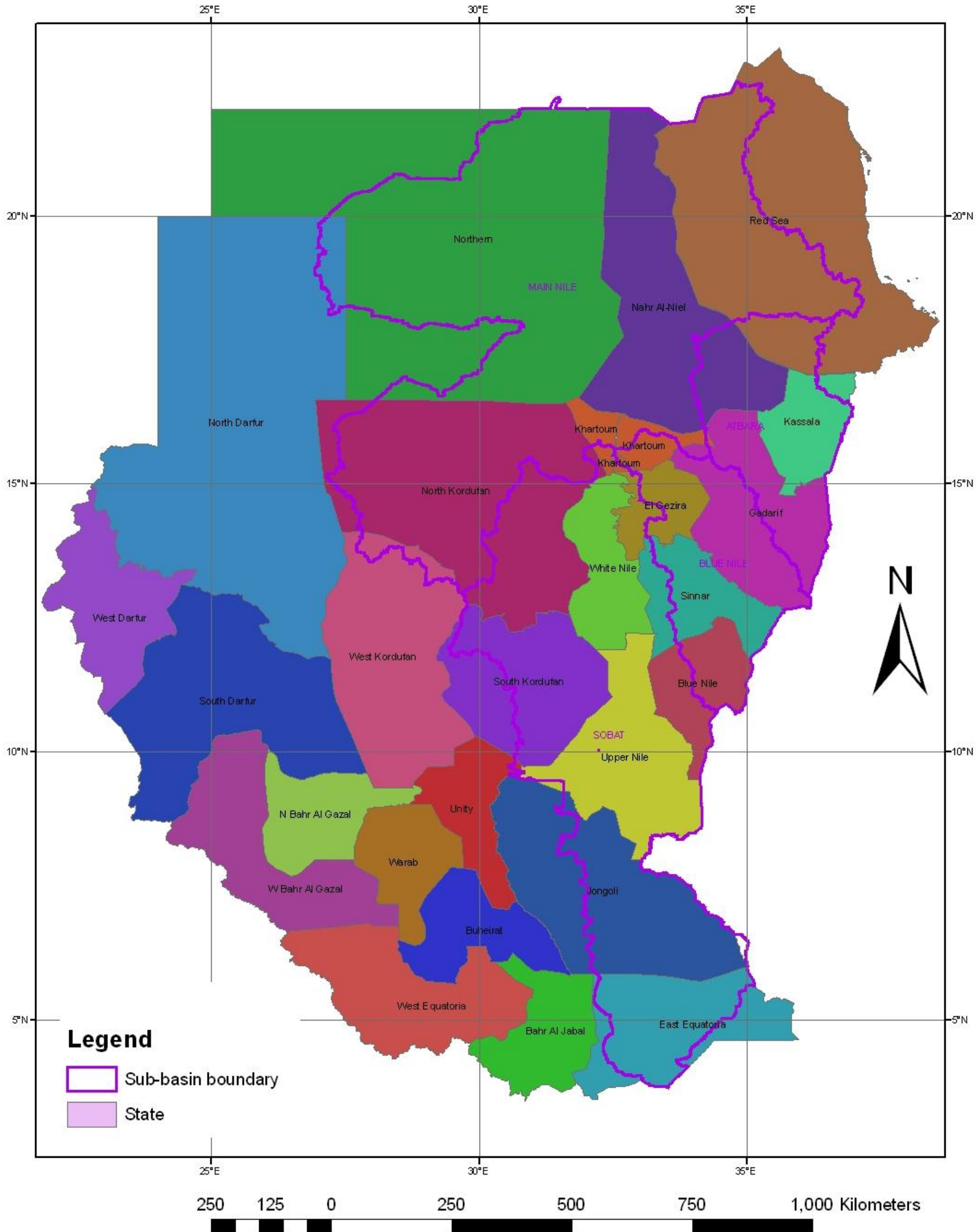
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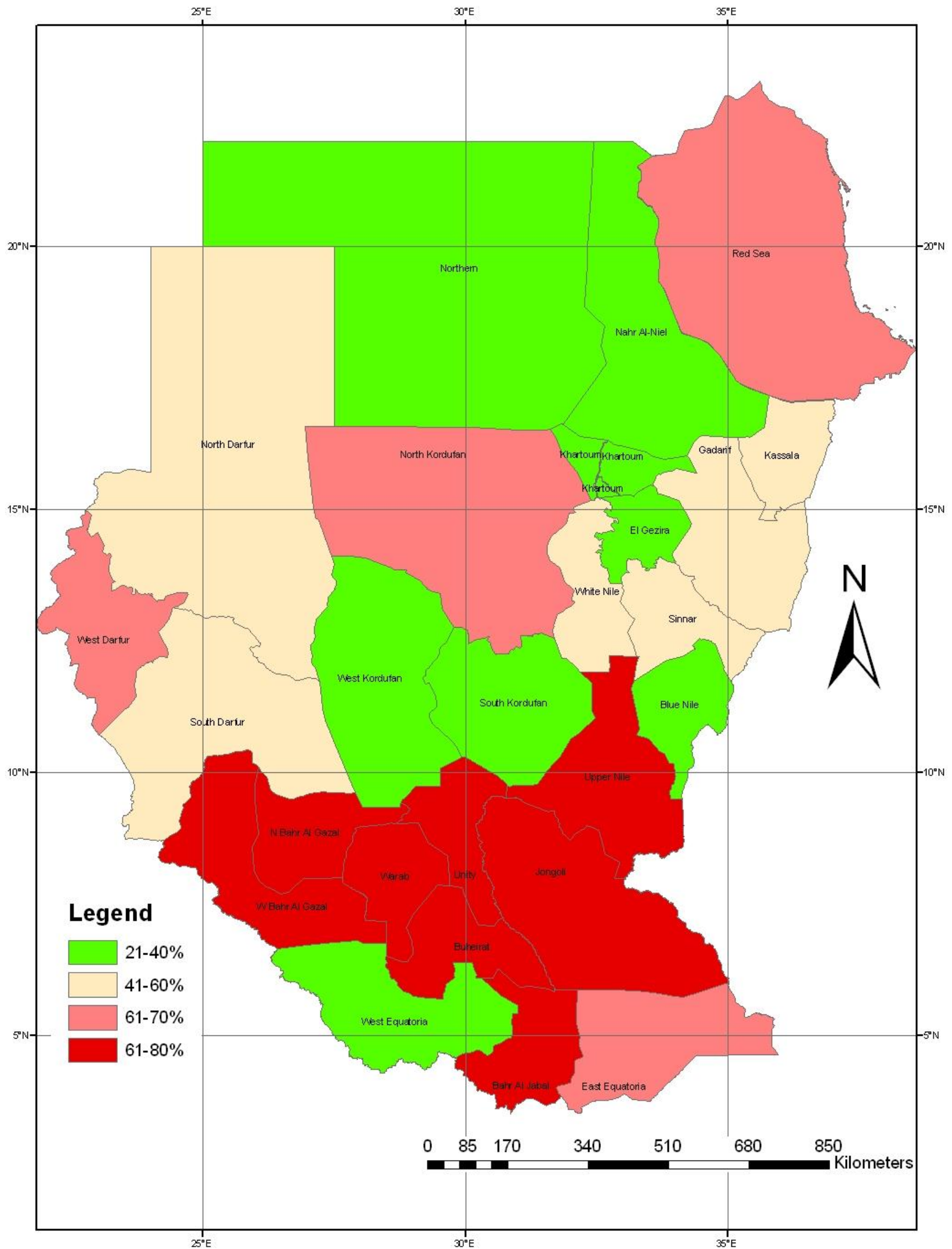
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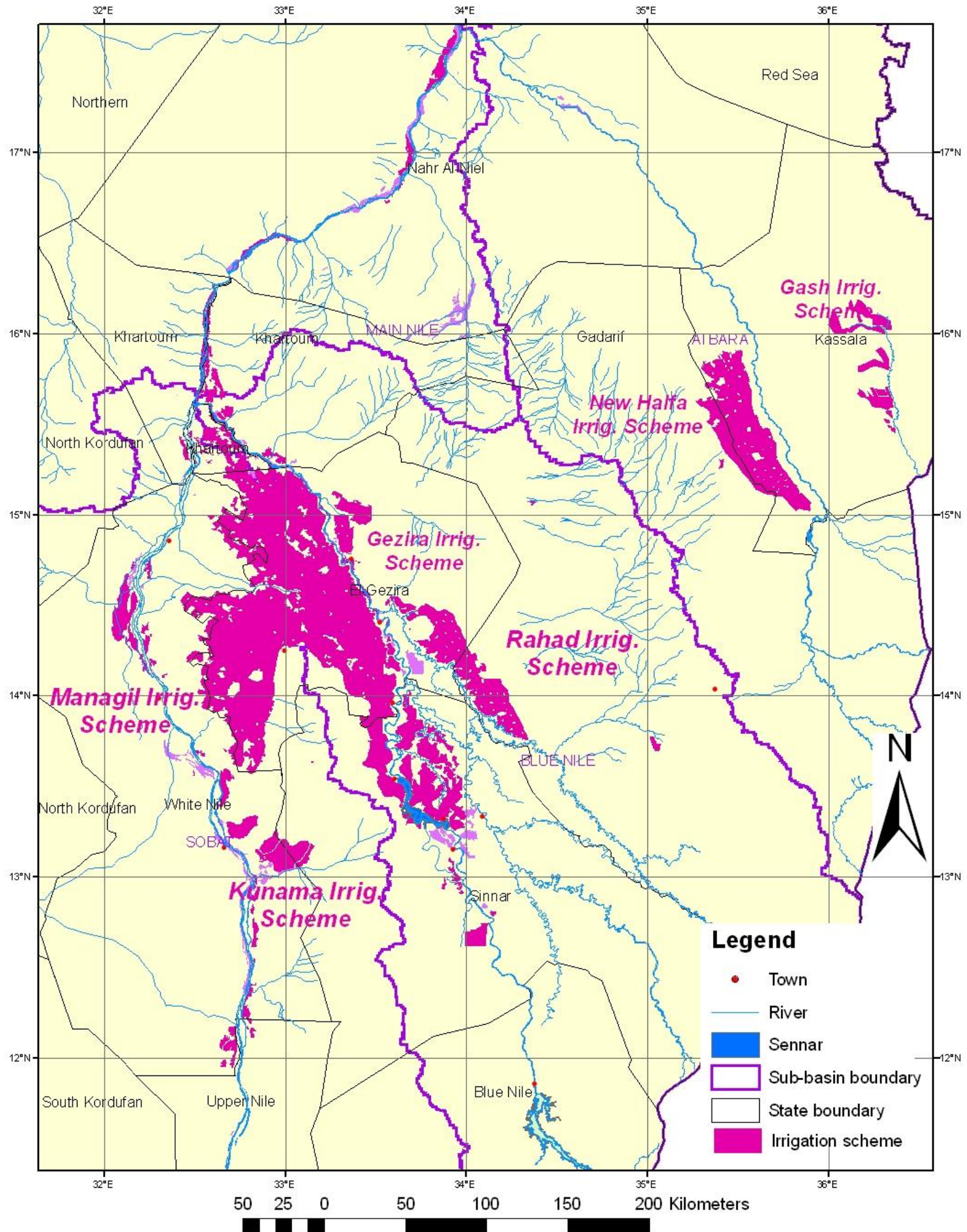
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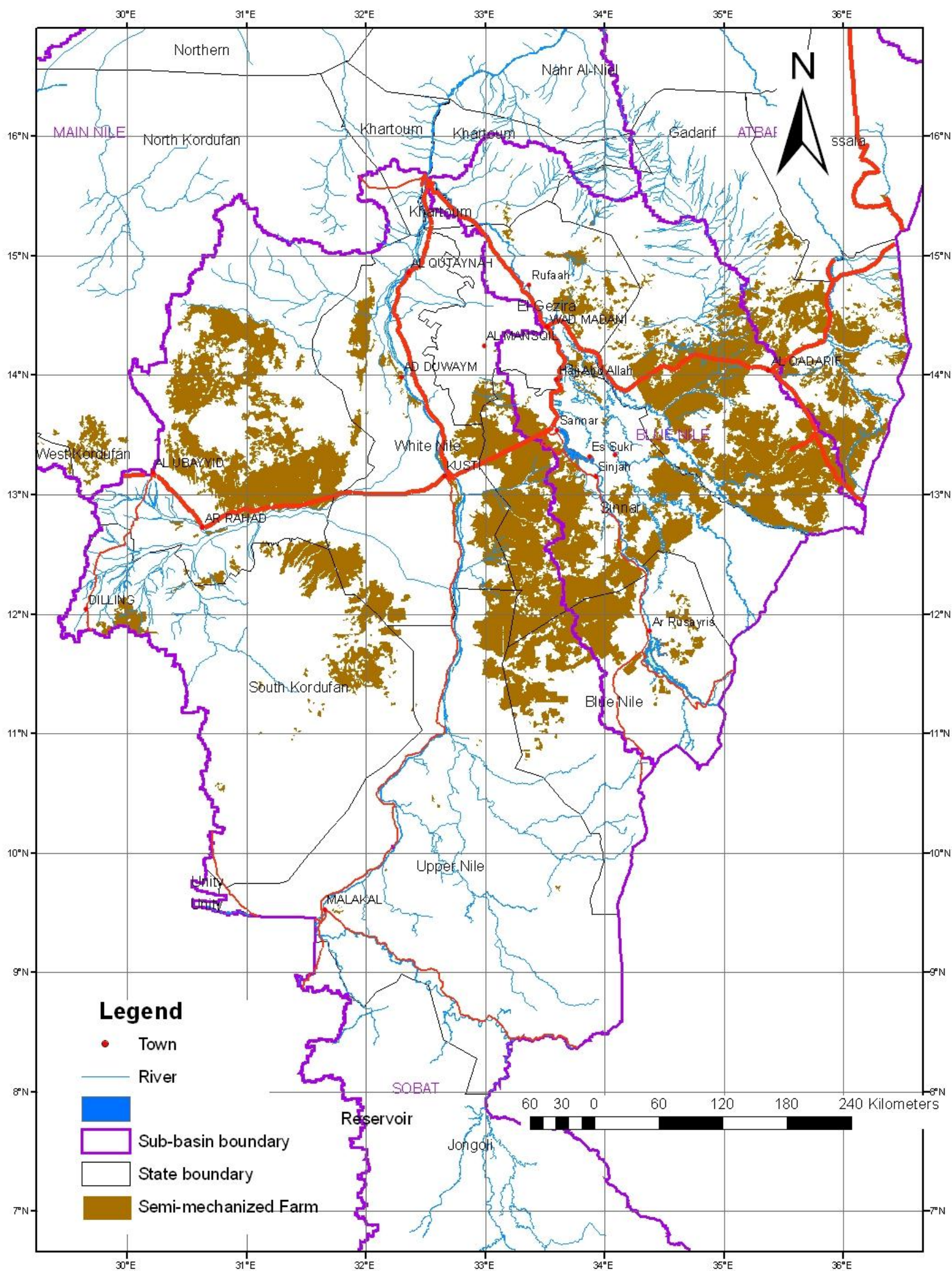
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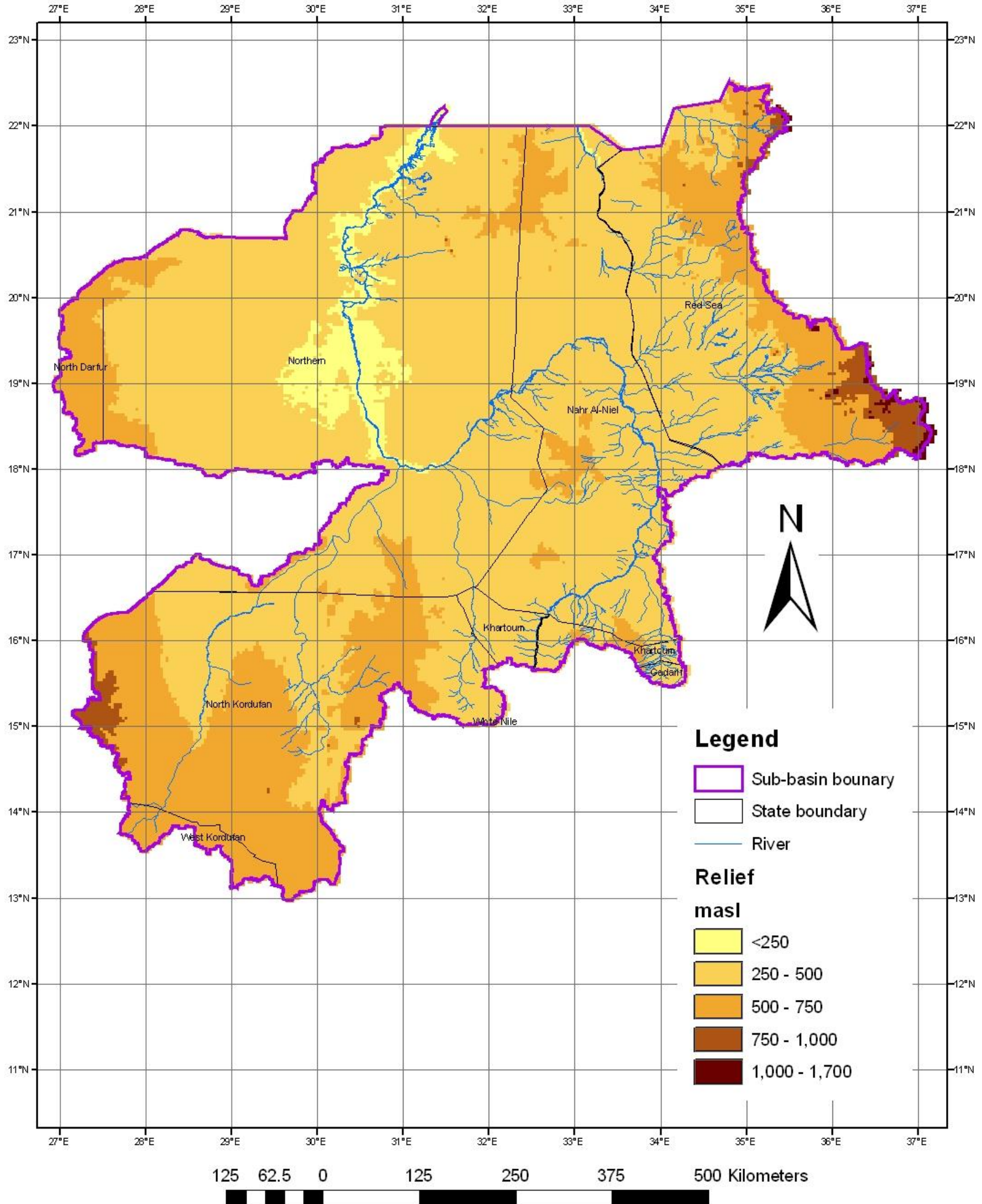
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B. MAIN NILE SUB-BASIN

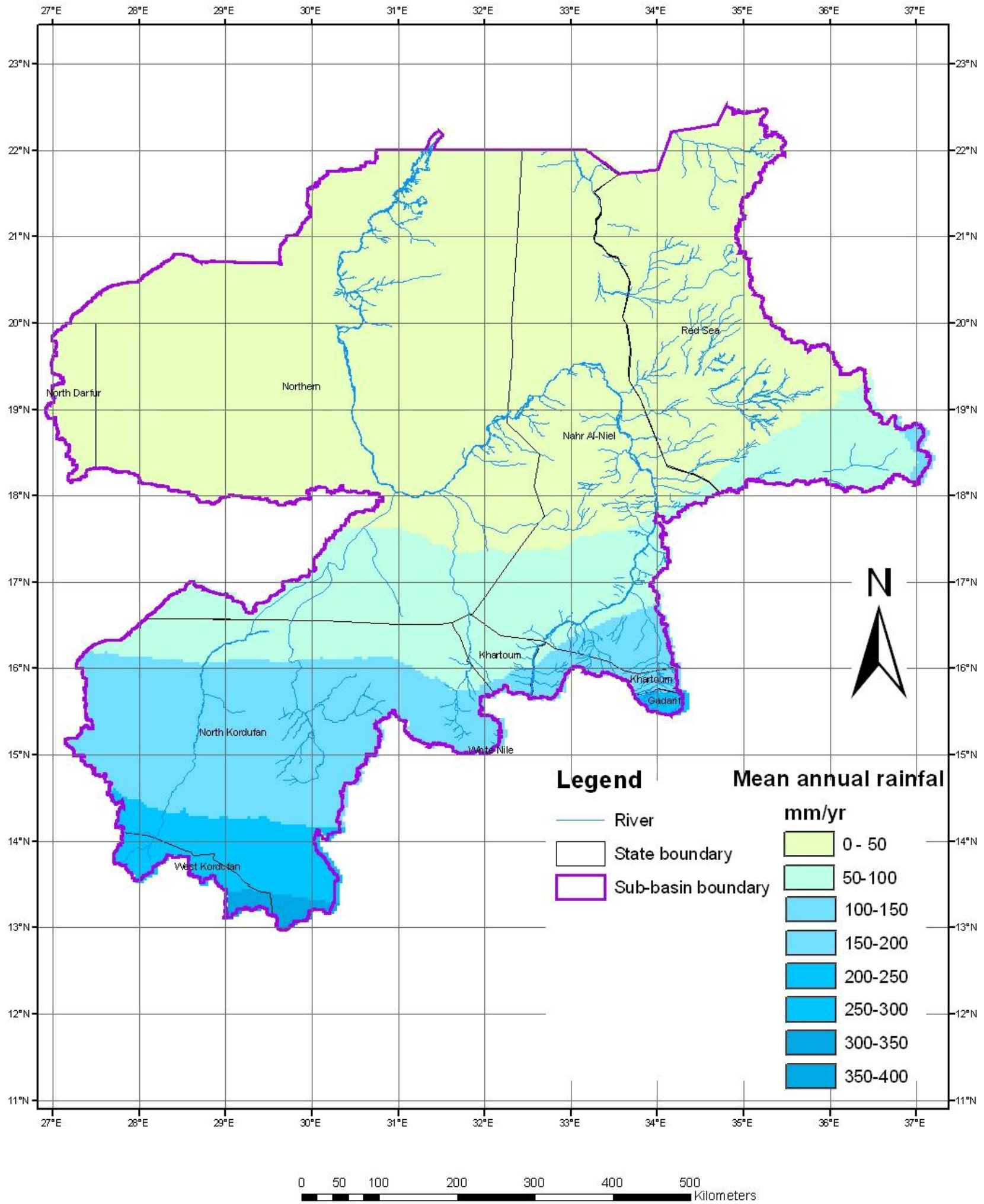
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**SUDAN
MAIN NILE SUB-BASIN
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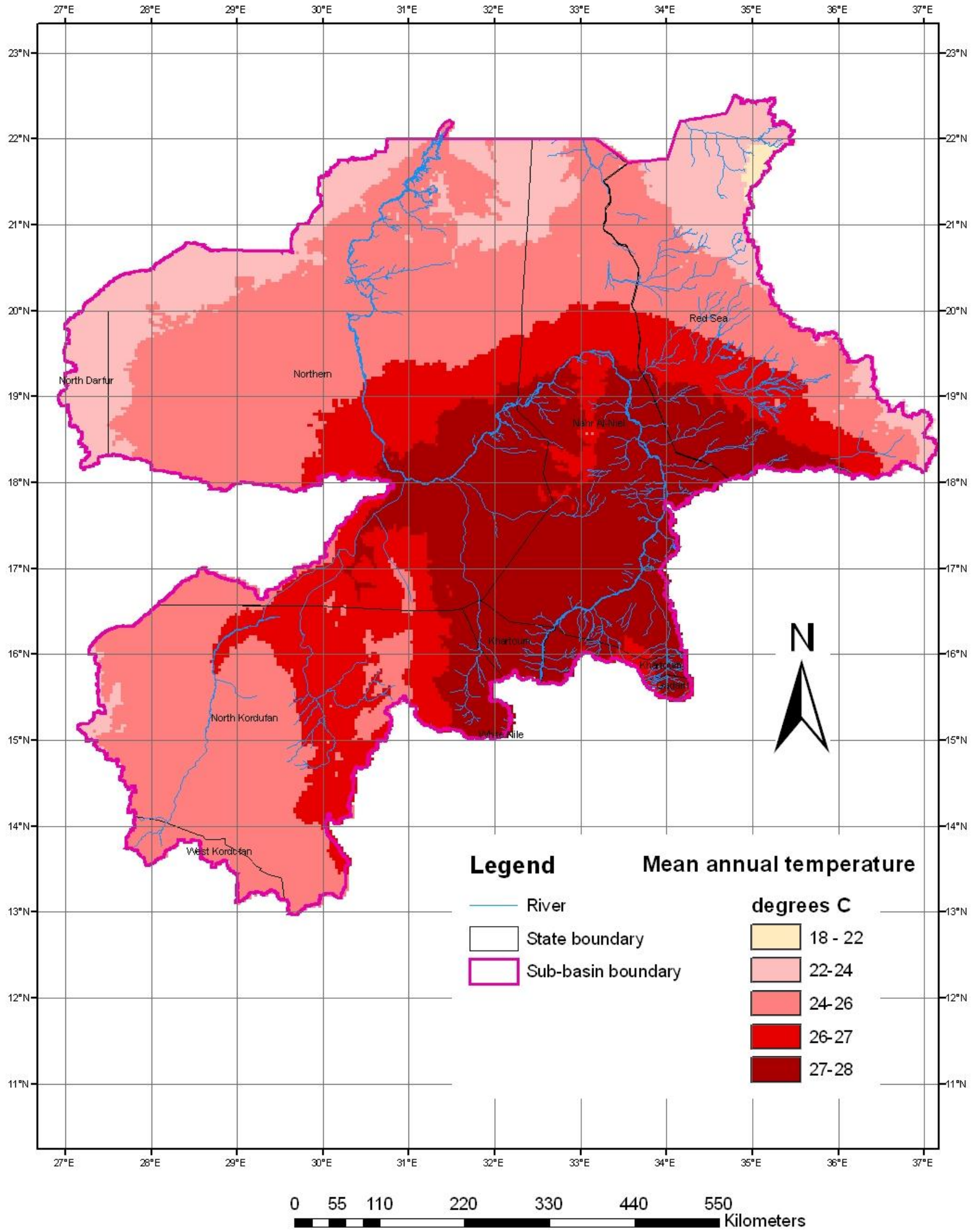
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SUDAN MAIN NILE SUB-BASIN MEAN ANNUAL RAINFALL



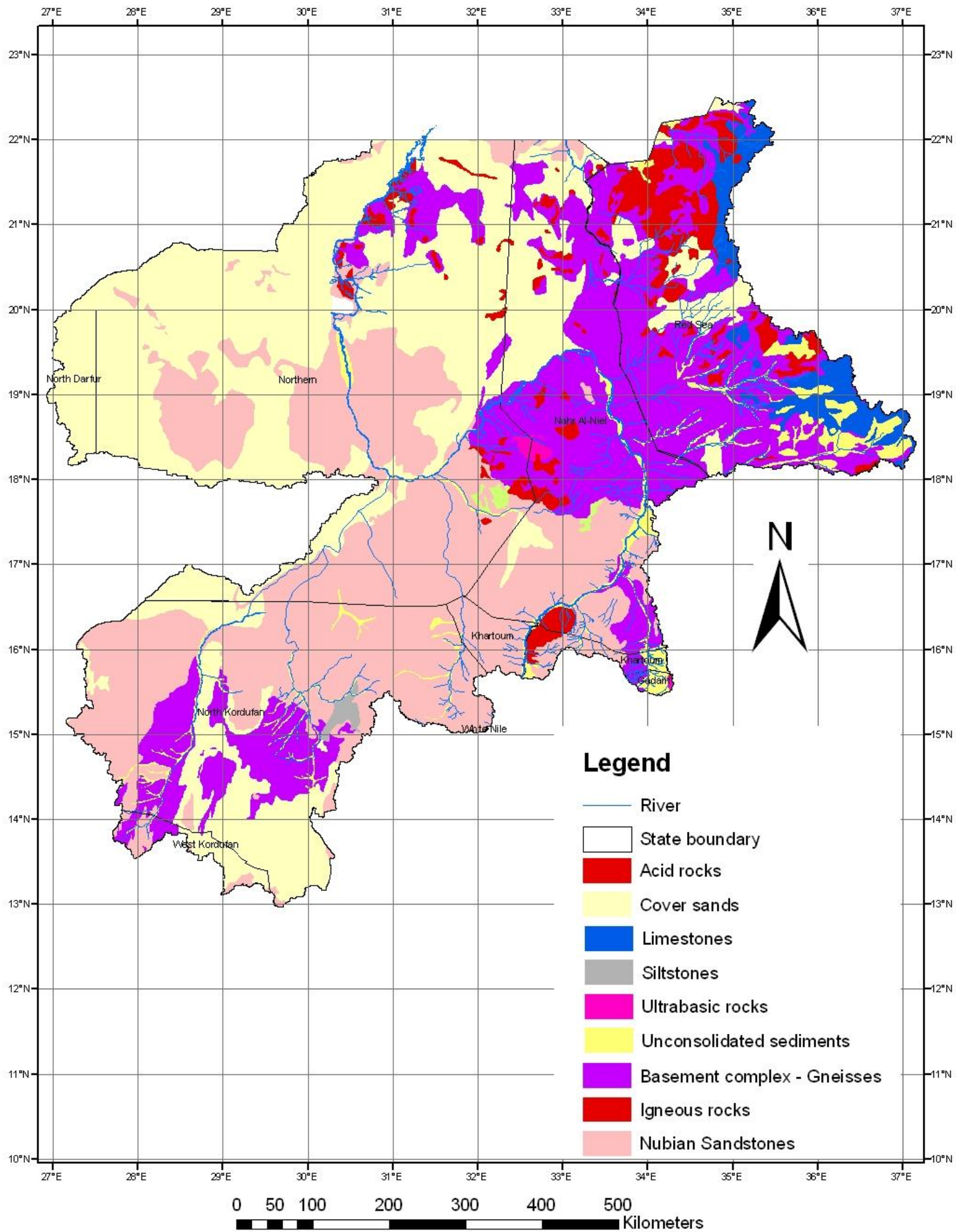
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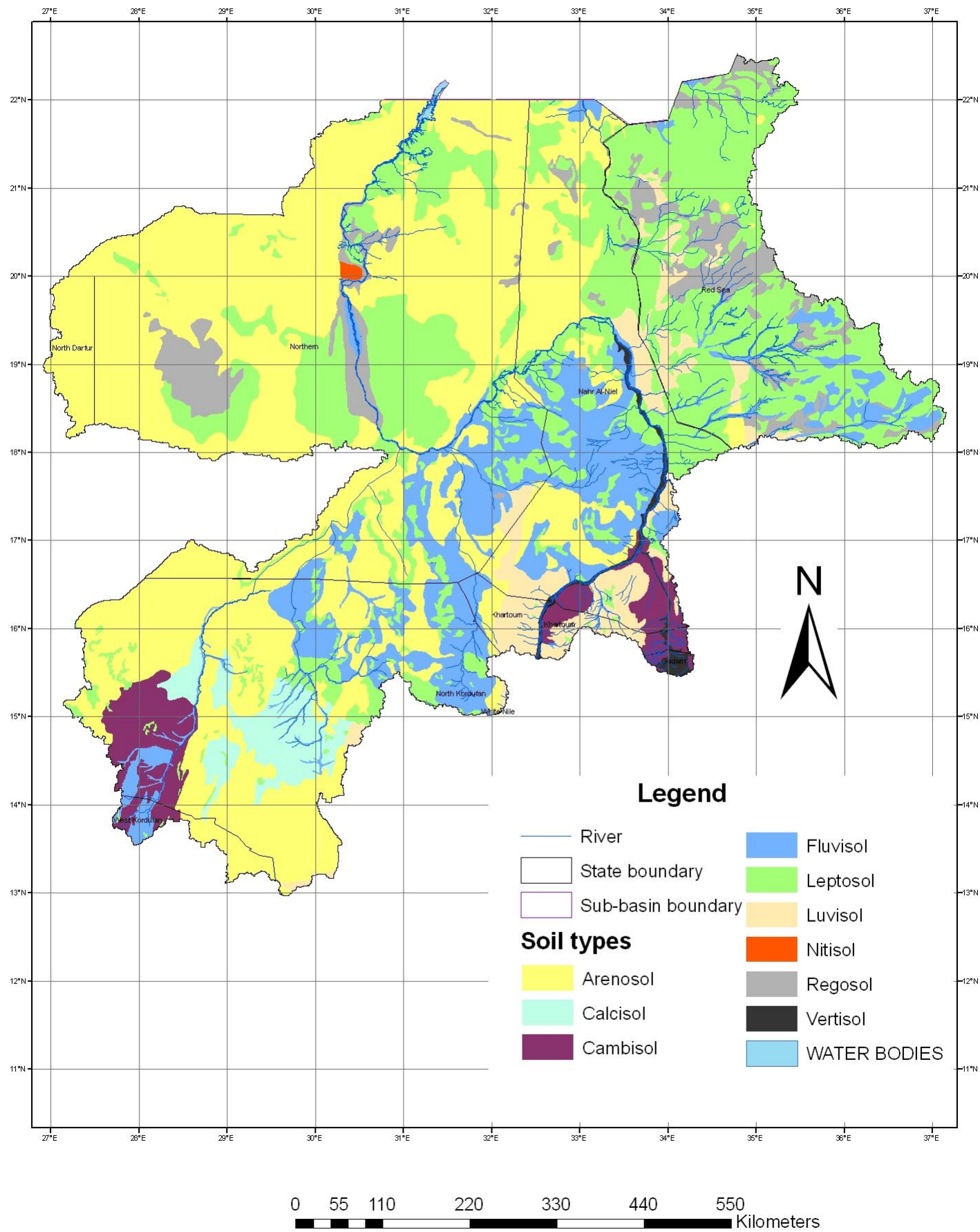
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SUDAN MAIN NILE SUB-BASIN GEOLOGY



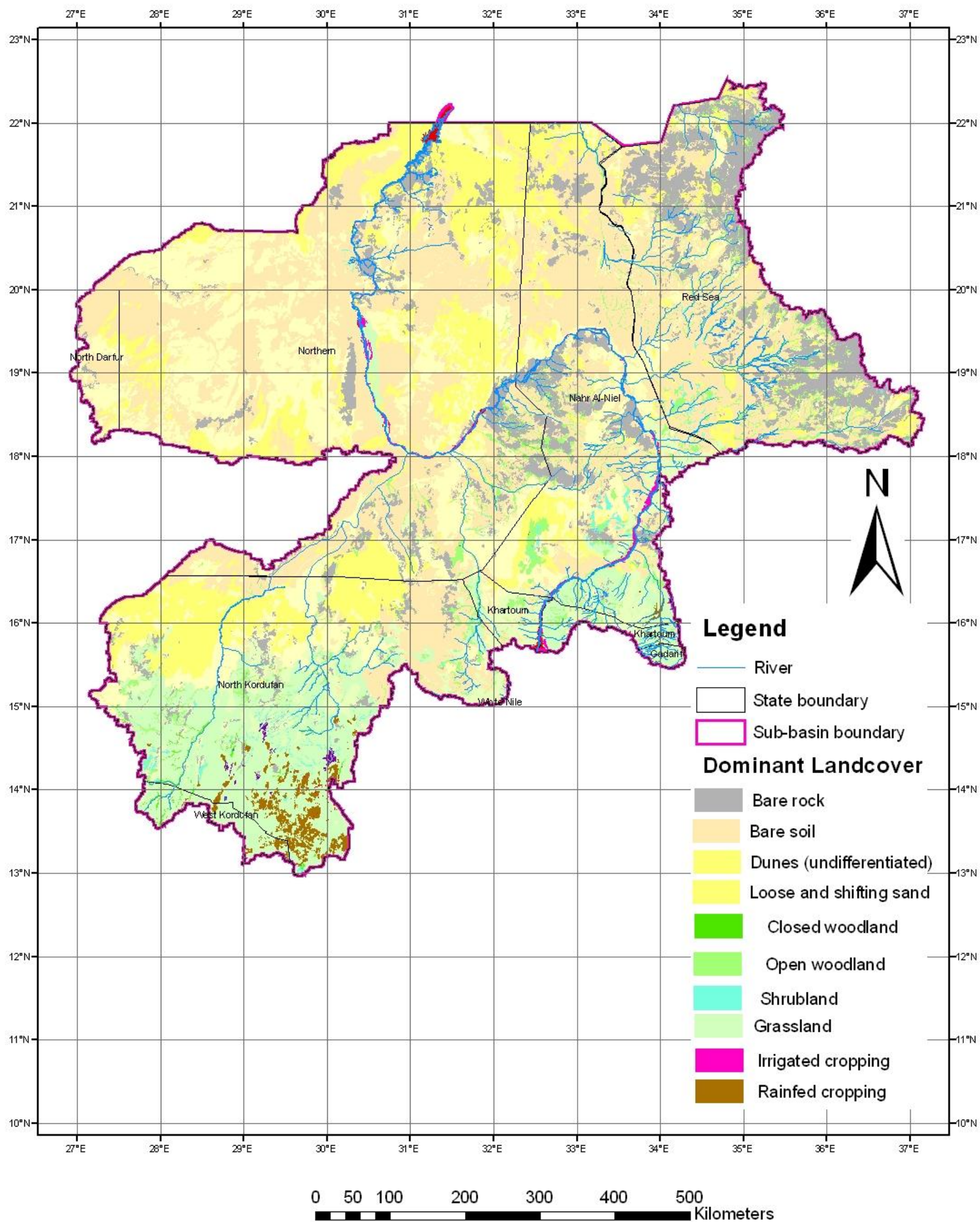
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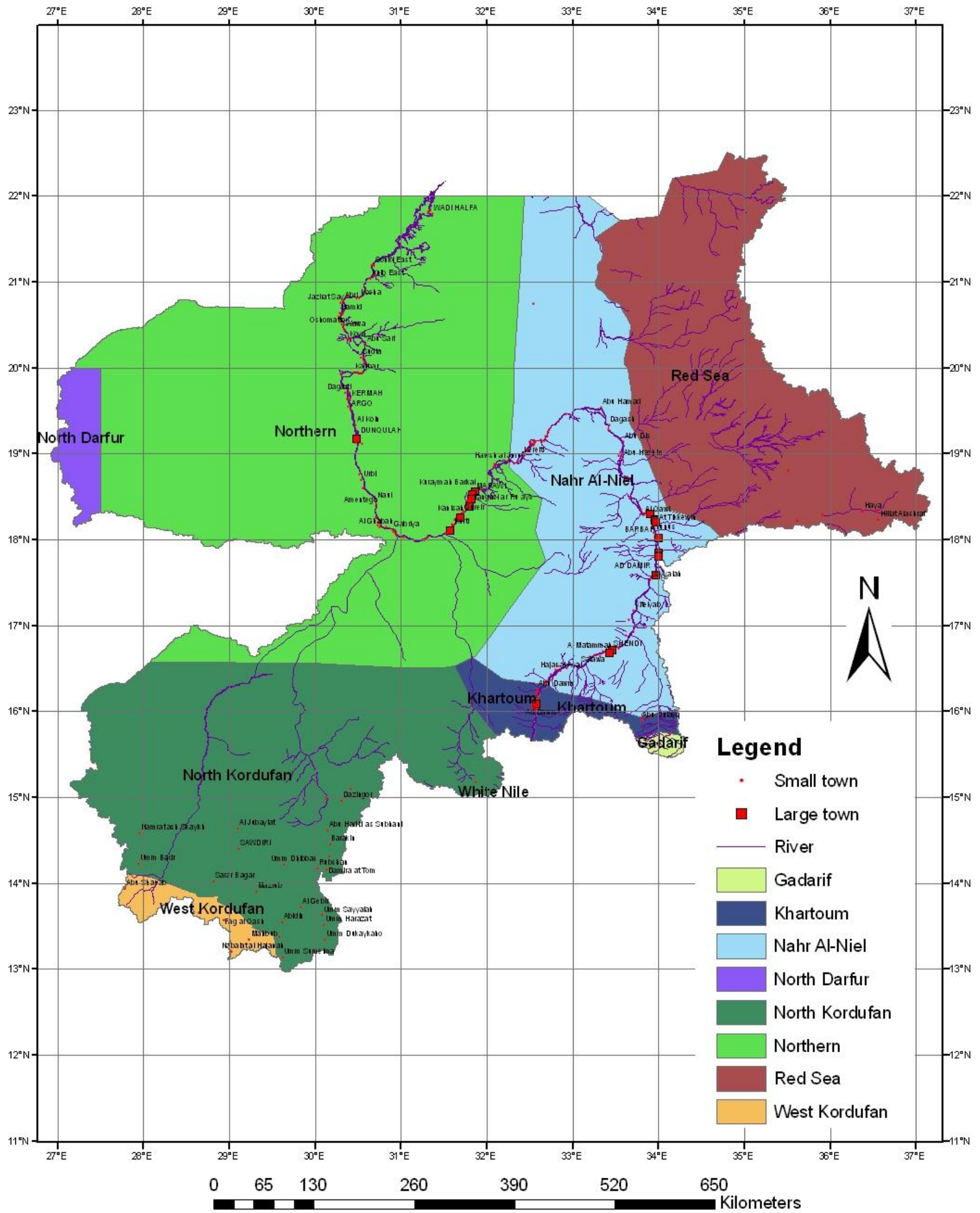
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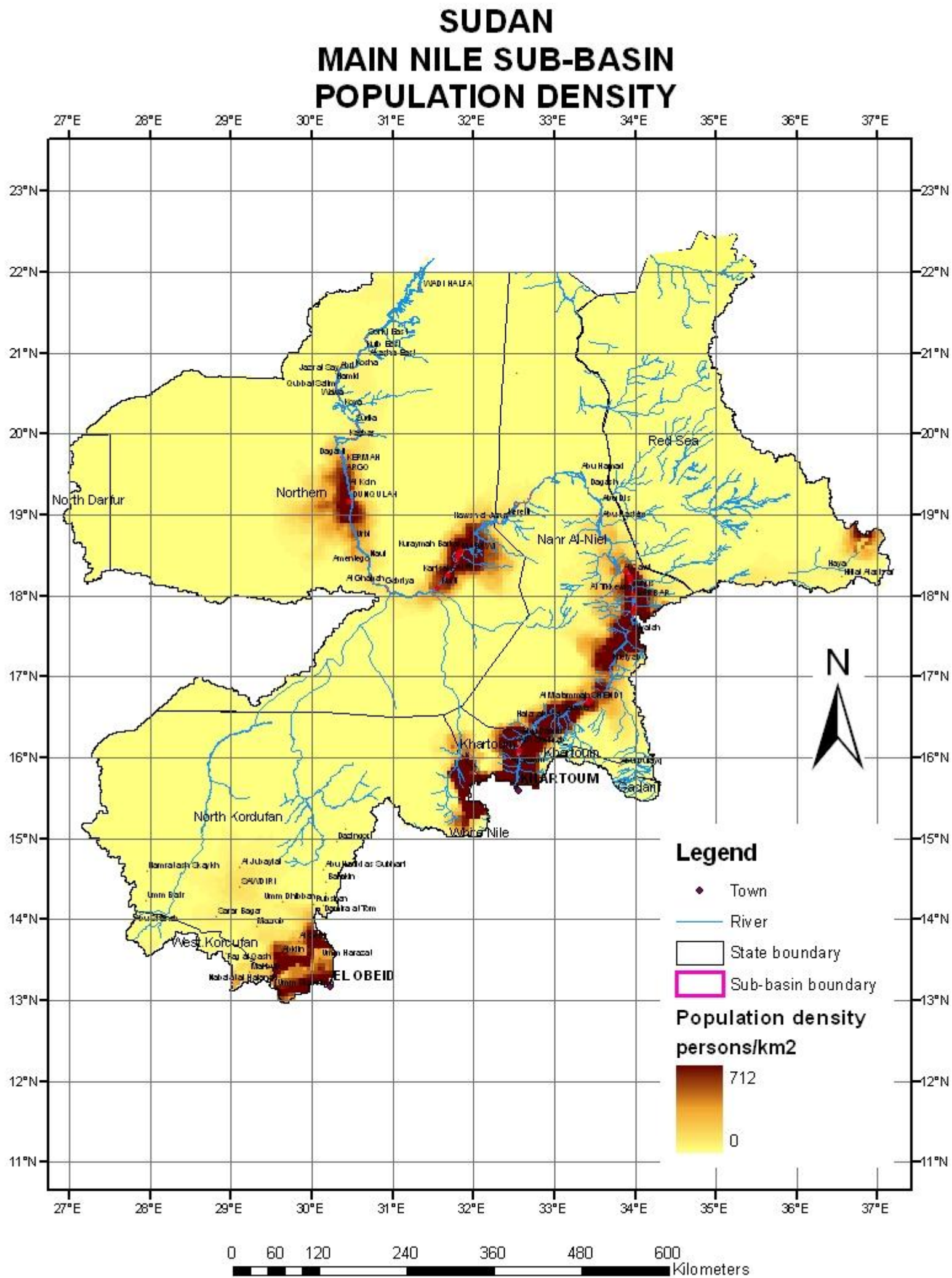


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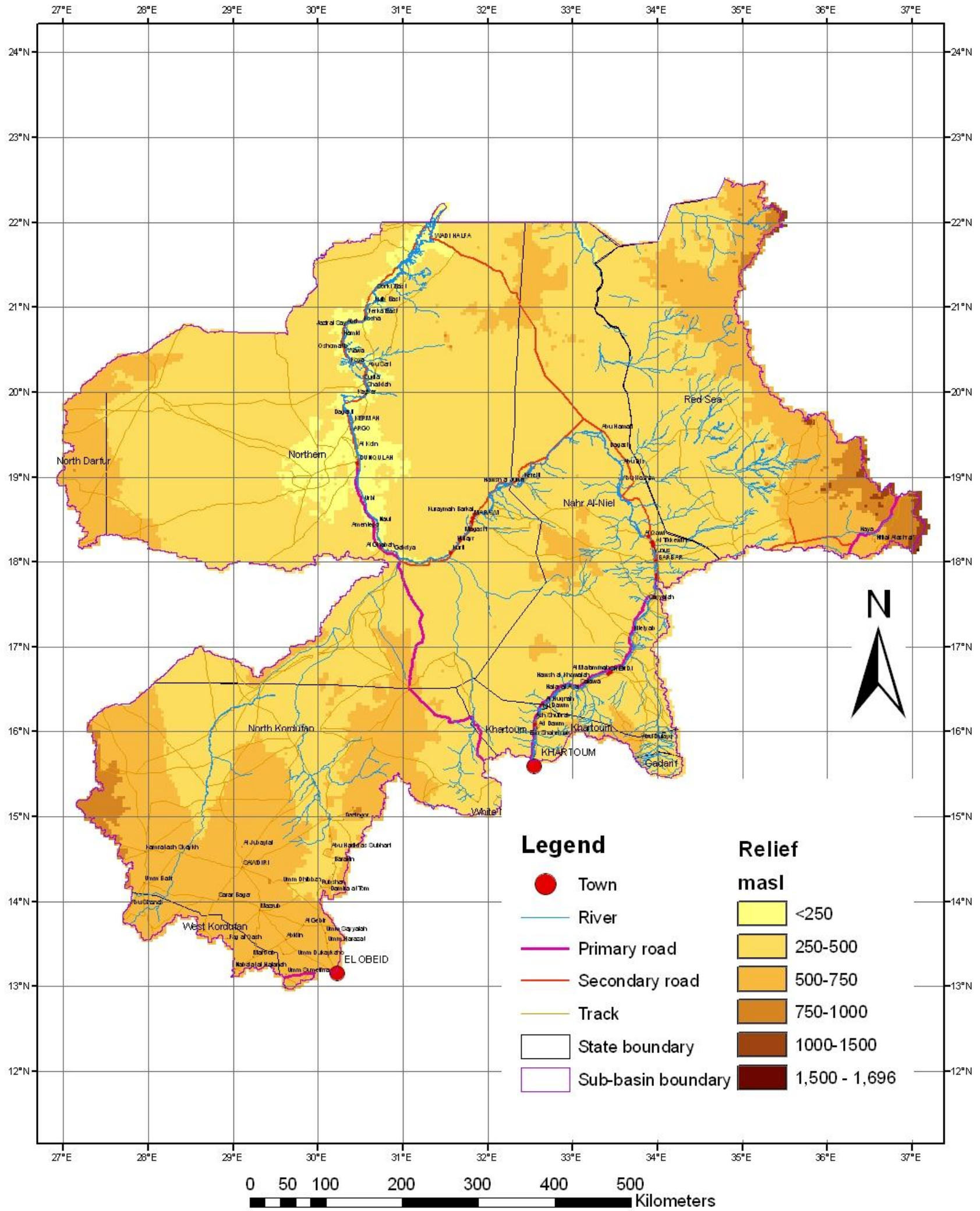


14. MAIN NILE SUB-BASIN: POPULATION DENSITIES (Source: Oak Ridge national Laboratory, 1002. Landscan 2002 Global Population Database).

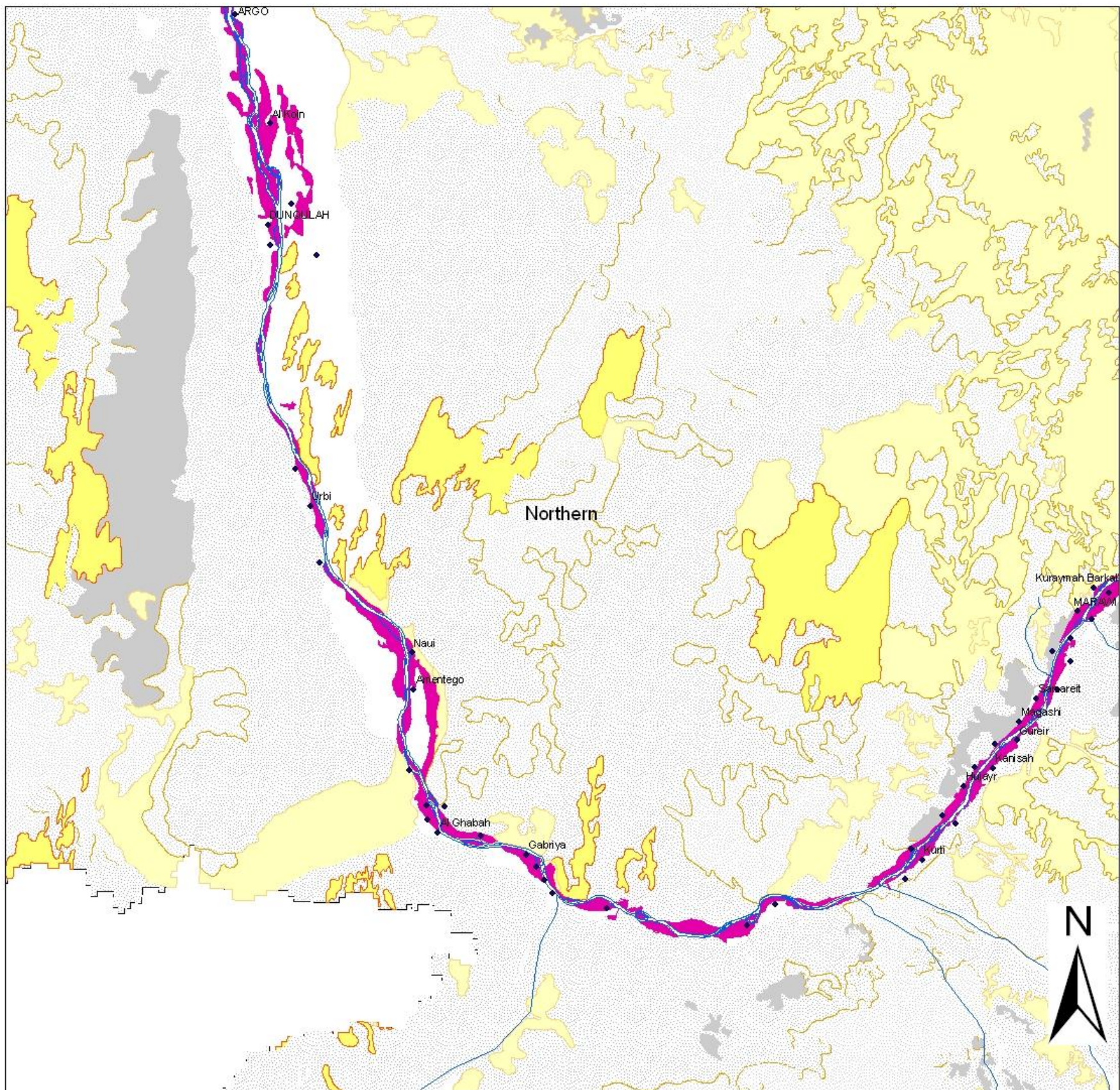


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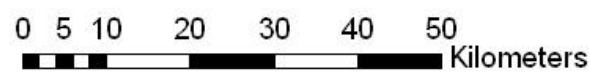
16. MAIN NILE: MOVING DUNE FIELDS (Source: Africover).



**SUDAN - MAIN NILE
SHIFTING SAND DUNES**

Legend

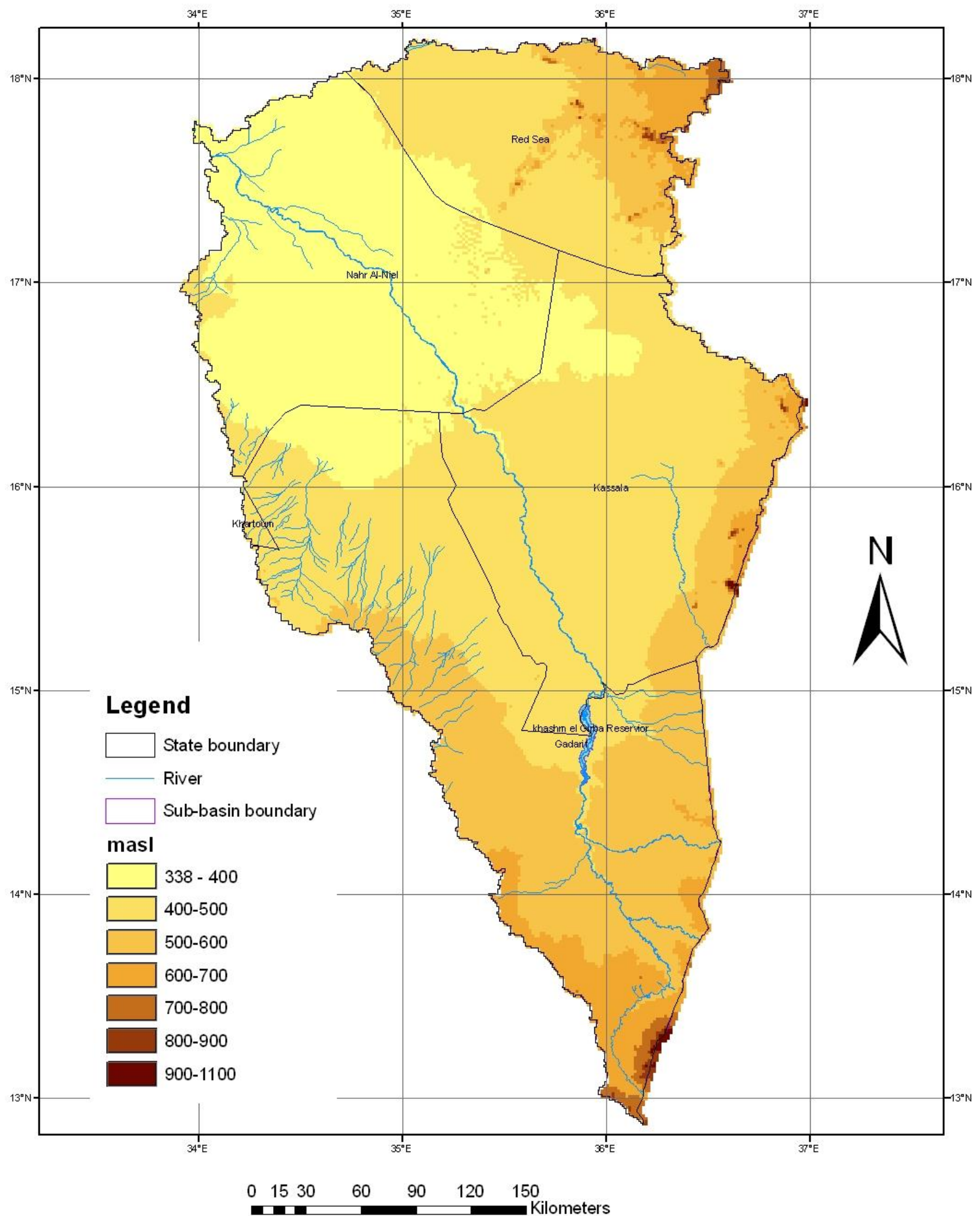
- Dunes
- Loose and shifting sand
- Bare rock with a thin sand layer
- Bare rock
- Bare soil
- Bare soil stony
- Irrigated Tree Crop (1 add. Herbaceous Crop) - Small Fields



C. ATBARA SUB-BASIN

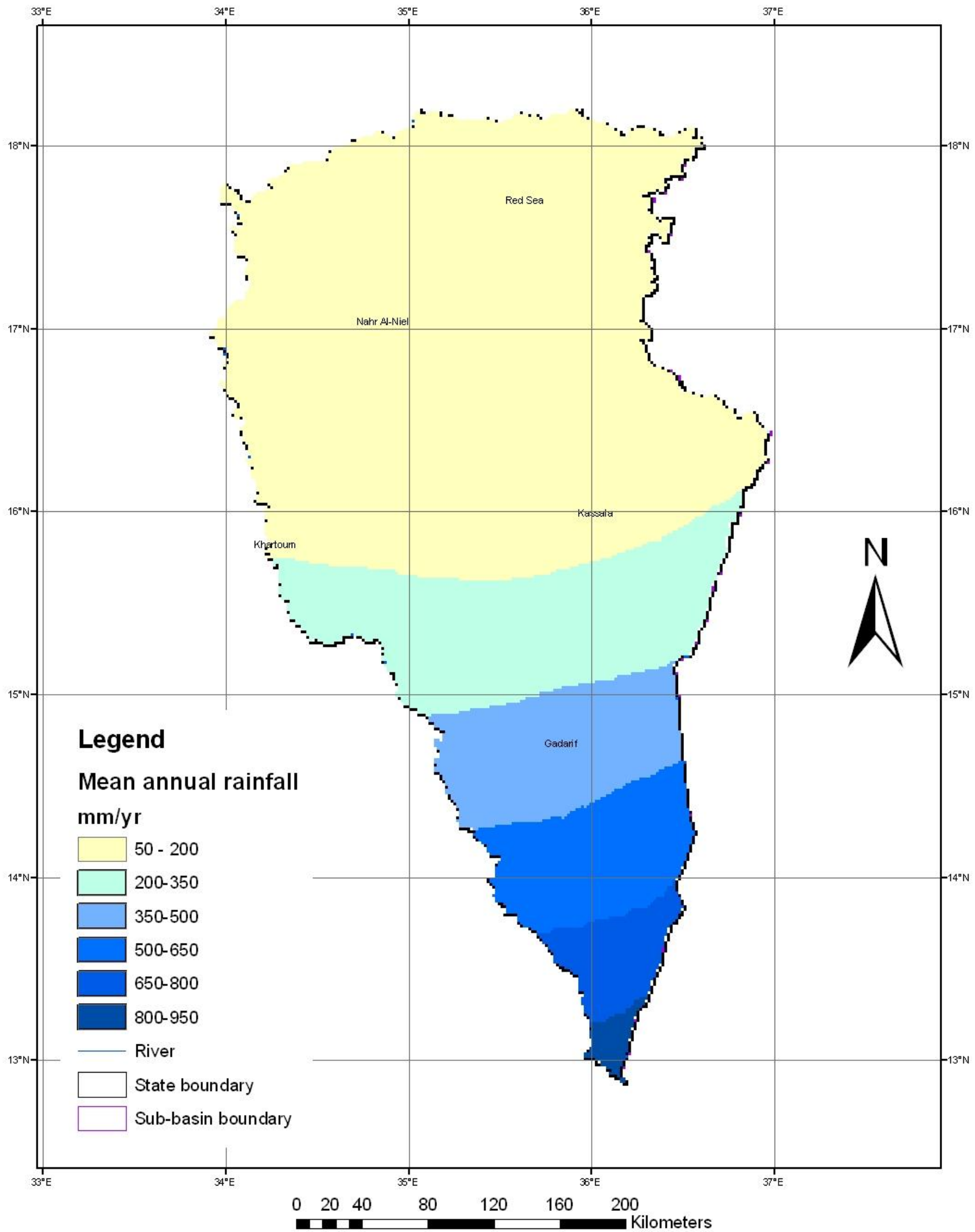
17. ATBARA SUB-BASIN: RELIEF AND DRAINAGE (Source: Shuttle Radar Mission DTM).

SUDAN ATBARA SUB-BASIN RELIEF AND DRAINAGE



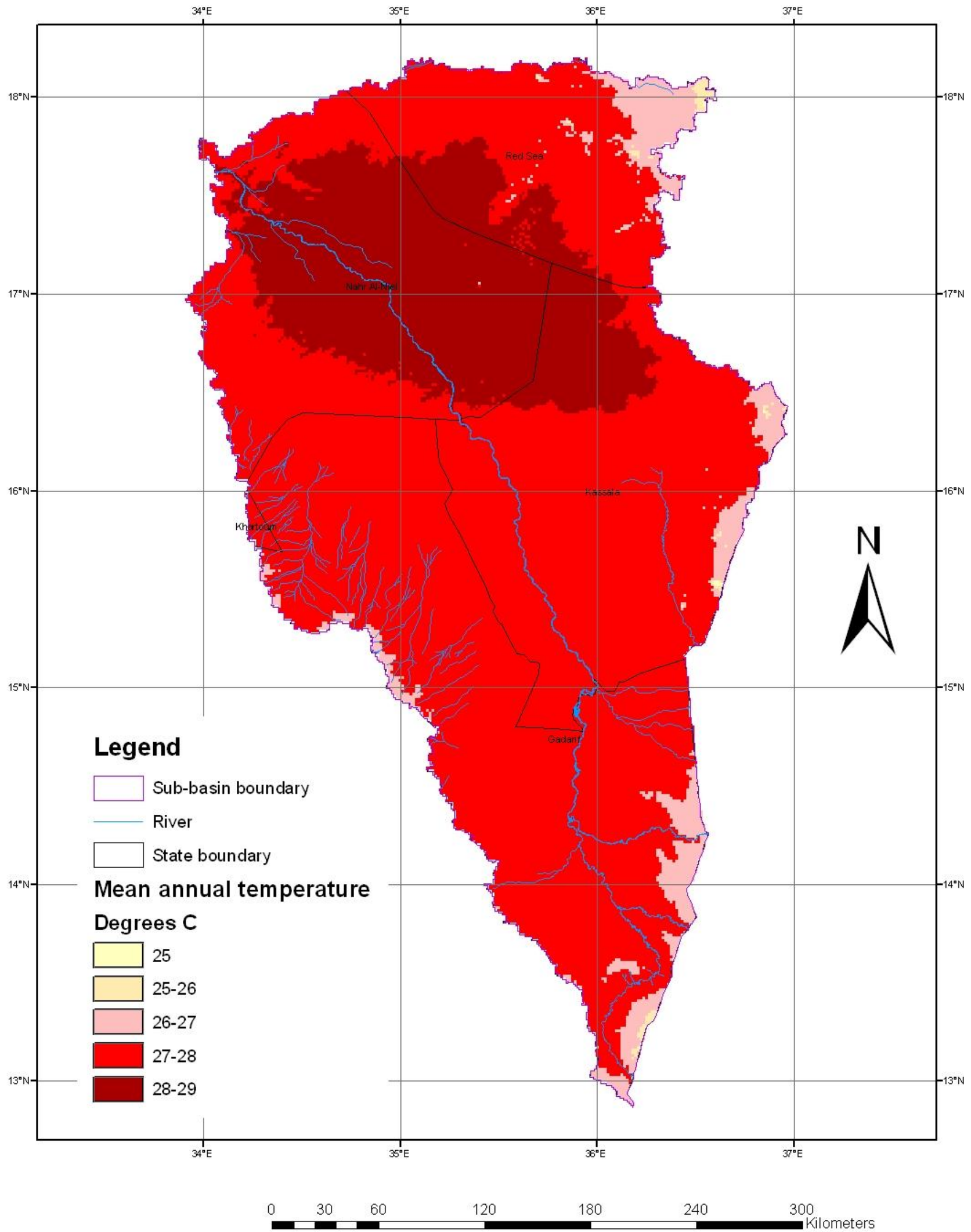
18. ATBARA SUB-BASIN: MEAN ANNUAL RAINFALL (mm/yr).

SUDAN ATBAR SUB-BASIN MEAN ANNUAL RAINFALL (mm/yr)



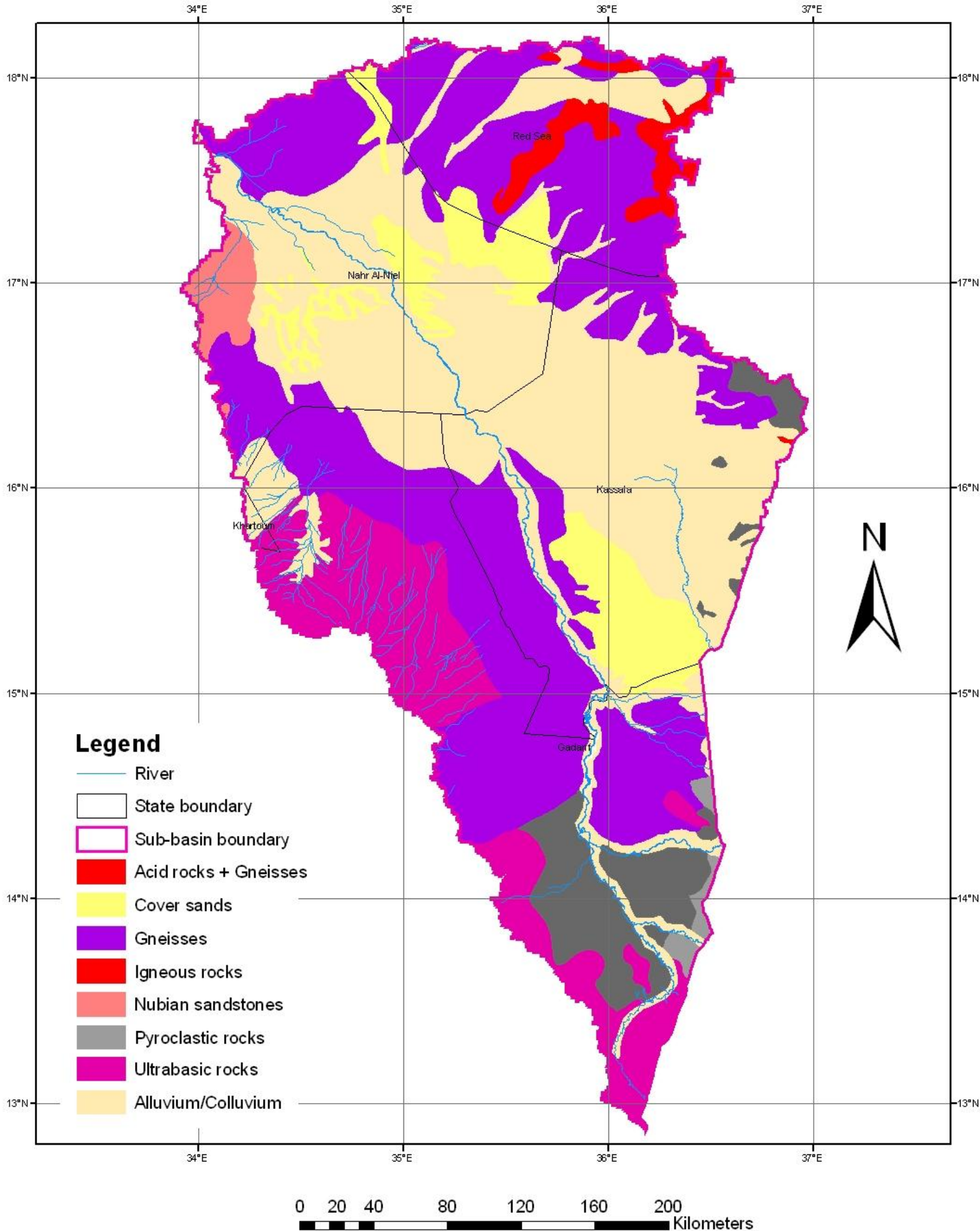
19. ATBARA SUB-BASIN: MEAN ANNUAL TEMPERATURE (Degrees C).

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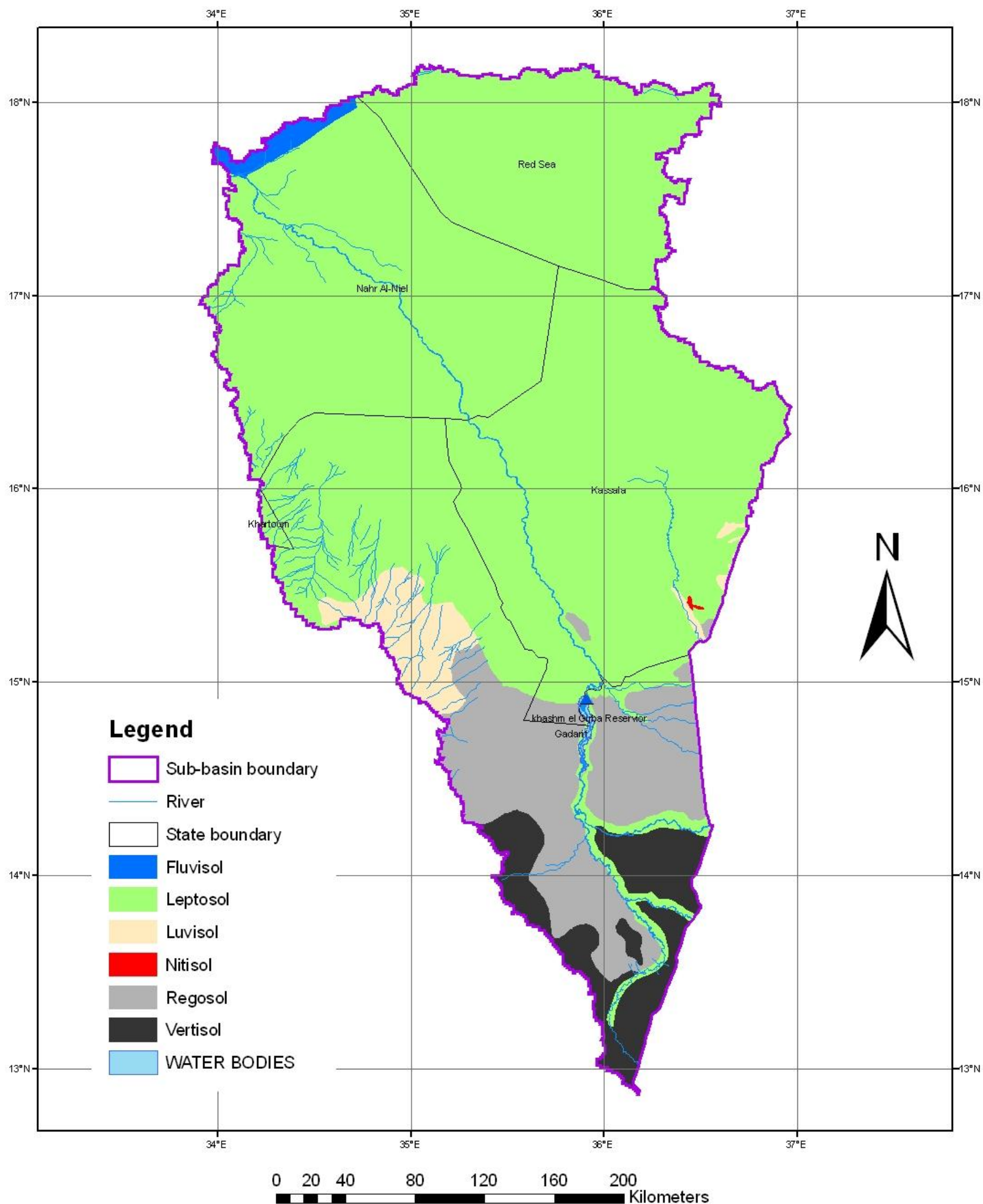
20. ATBARA SUB-BASIN: GEOLOGY (Source: FAO, 1998 "Soil and Terrain Database for Northeast Africa").

SUDAN ATBARA SUB-BASIN GEOLOGY



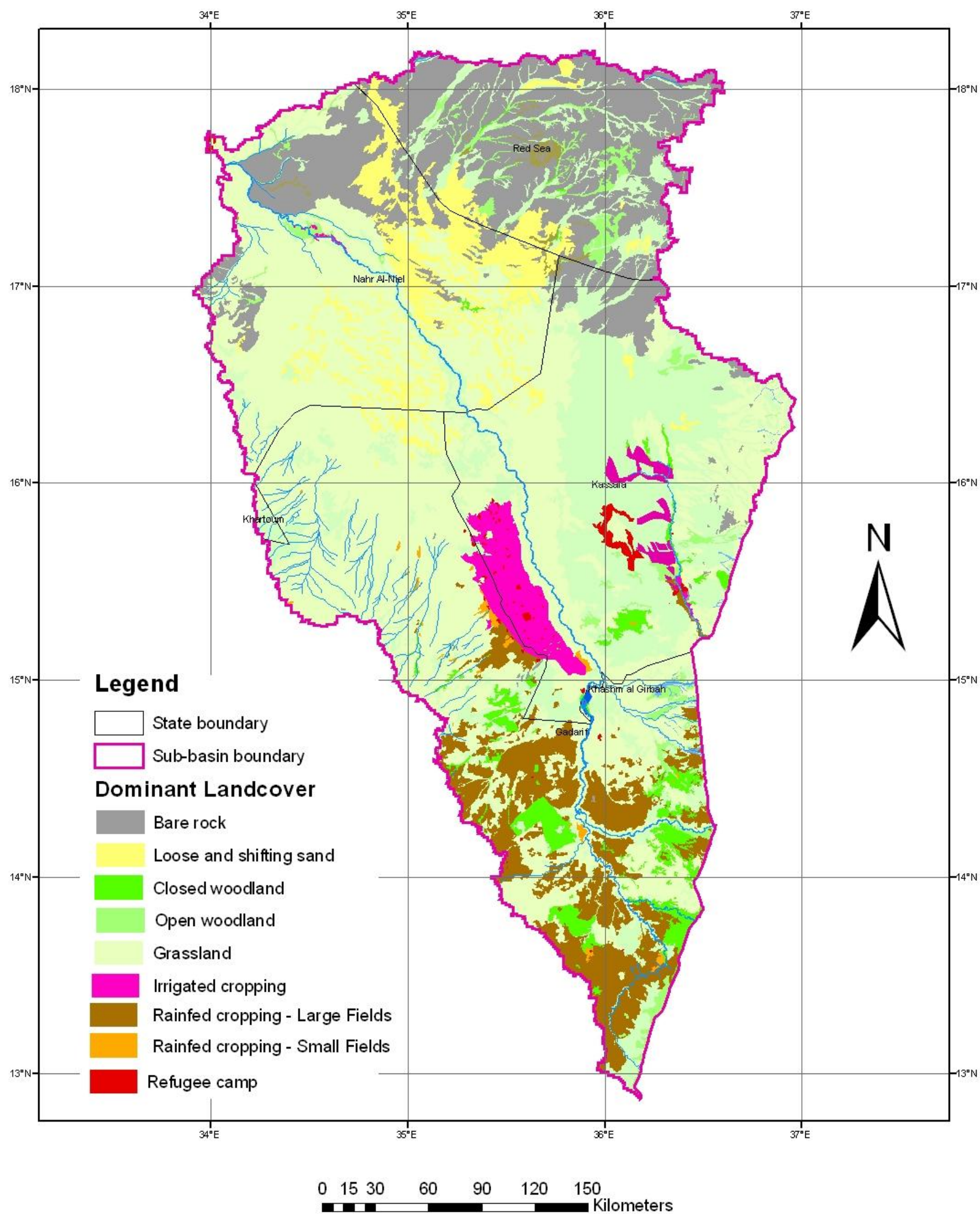
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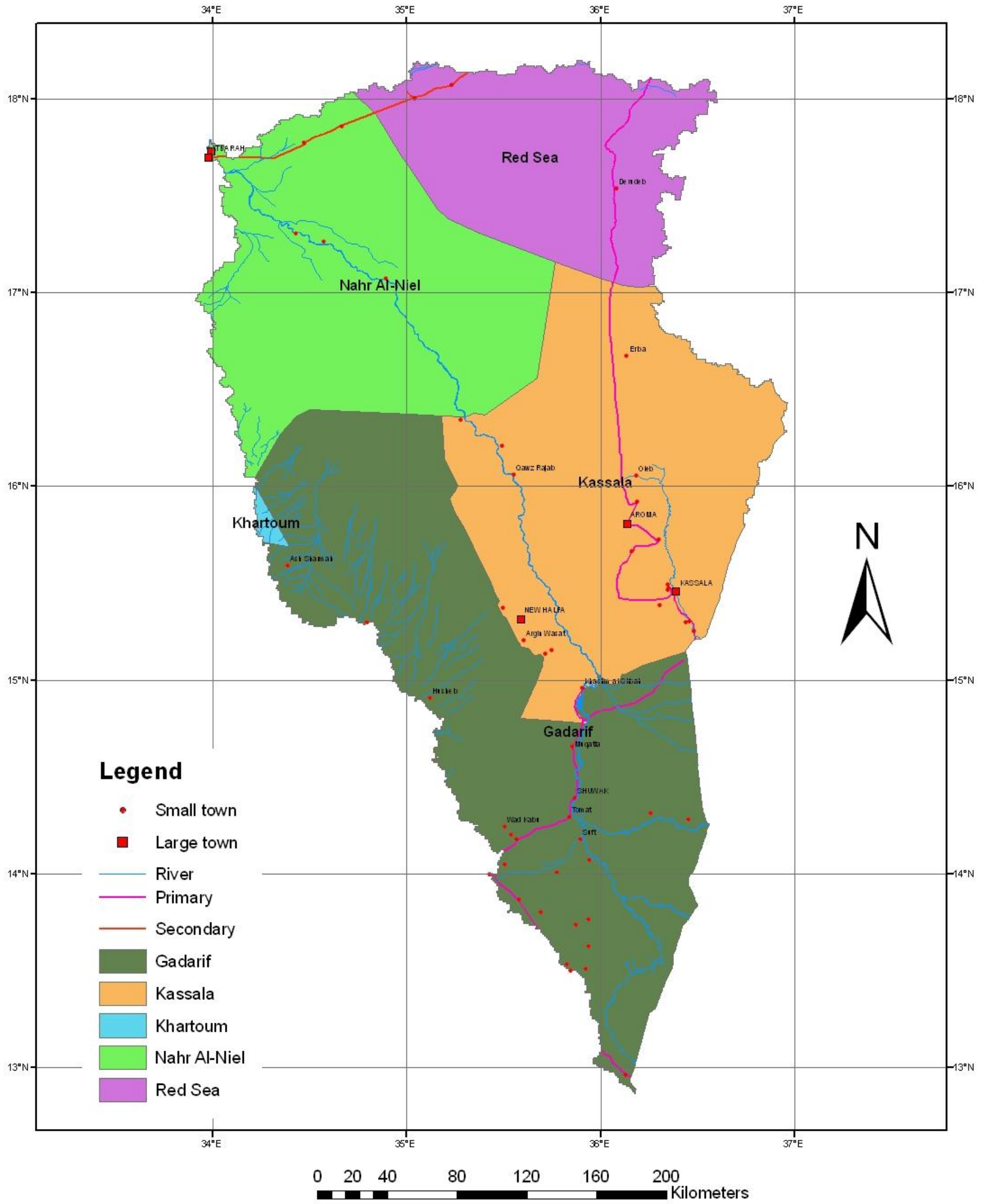
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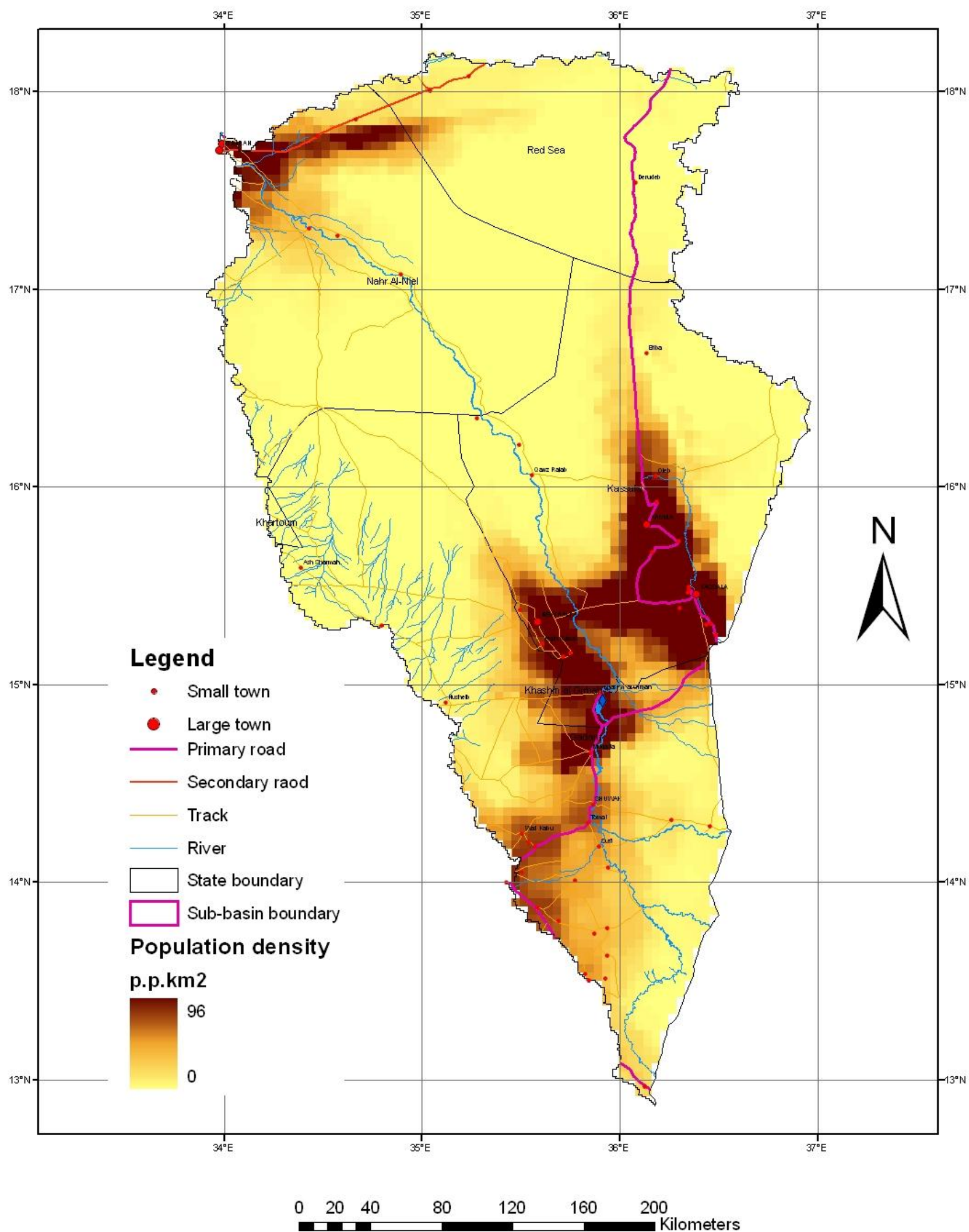
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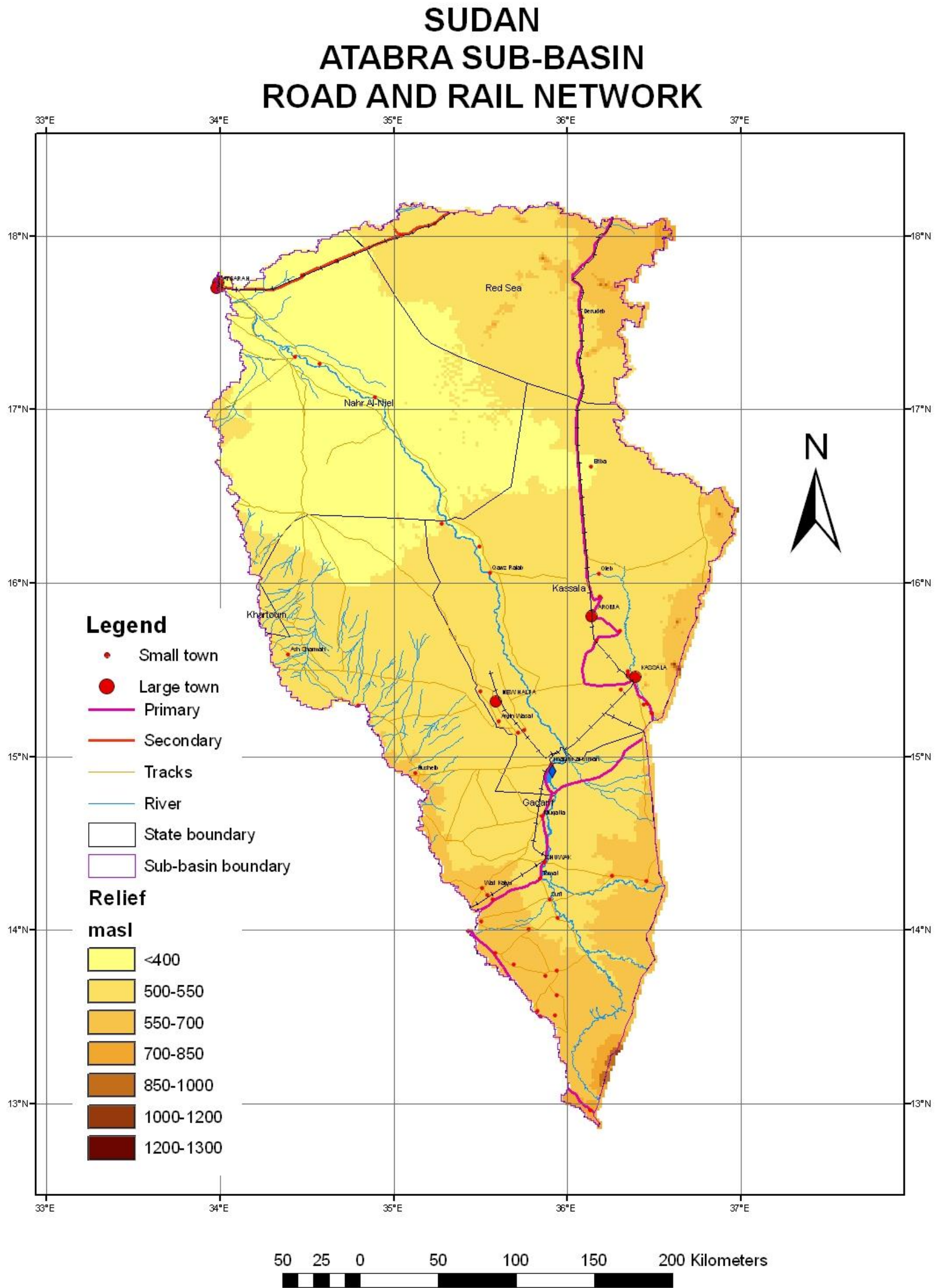


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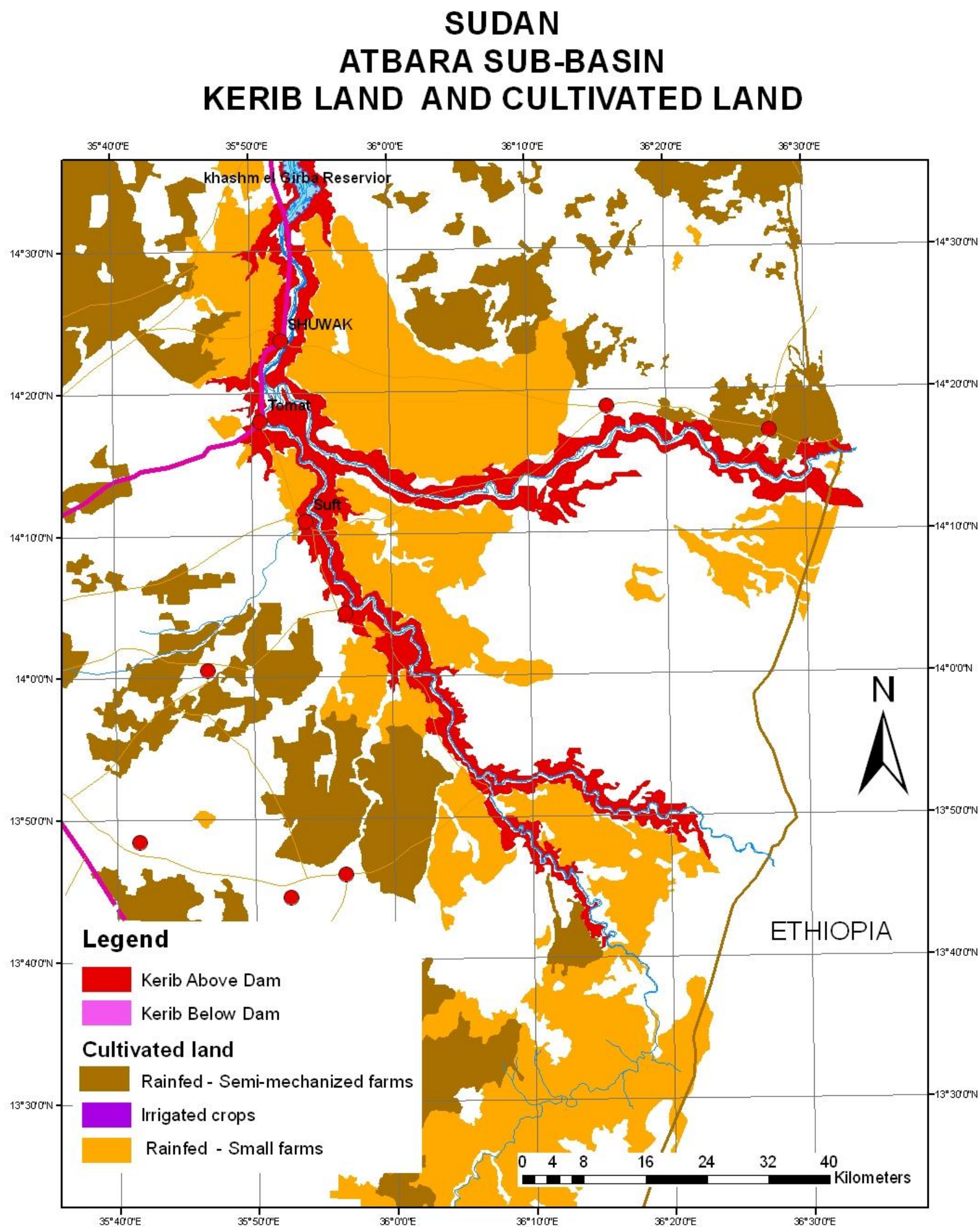
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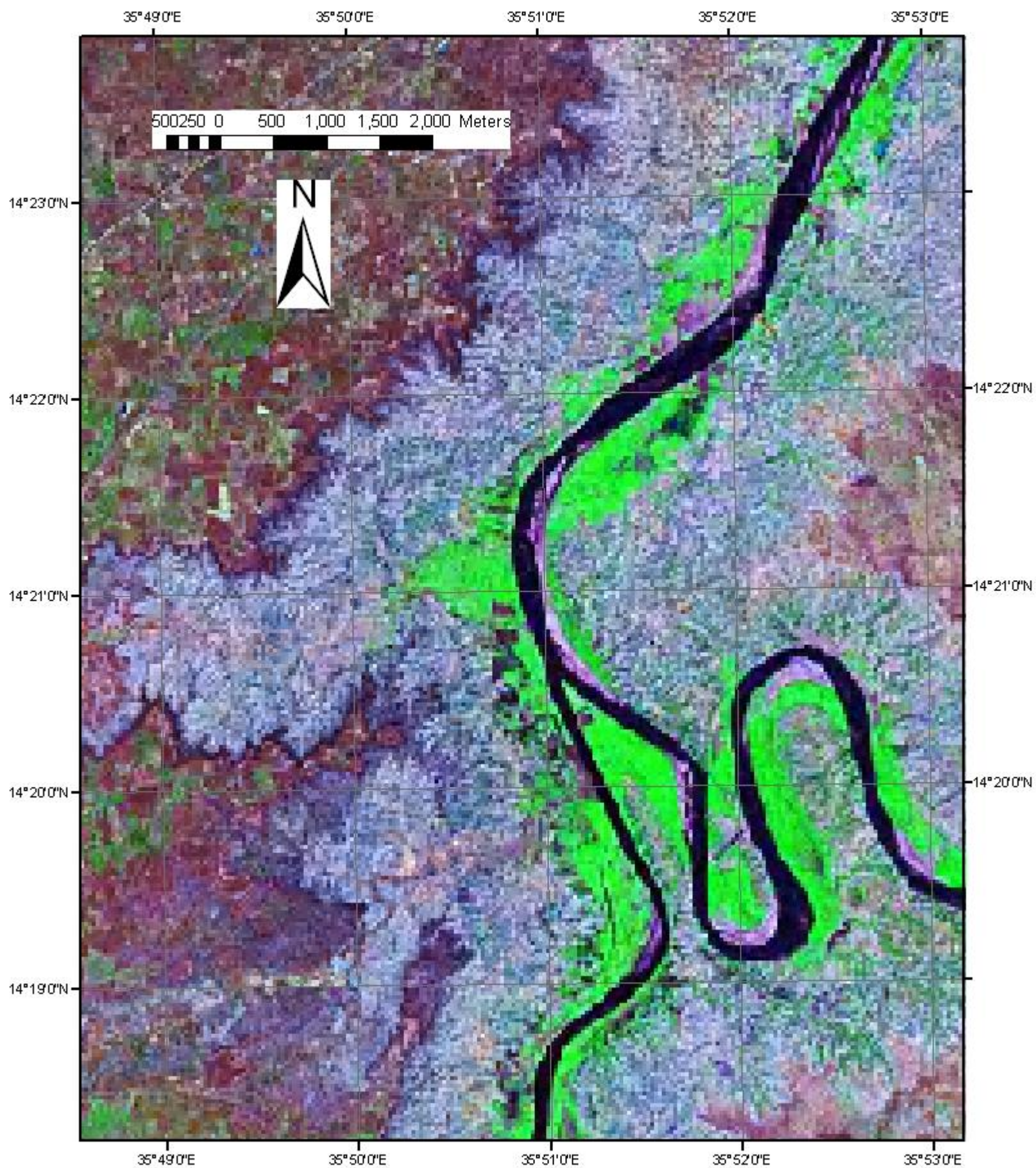


26. ATBARA SUB-BASIN: KERIB LAND AND CULTIVATION. (Source Landsat TM interpretation)



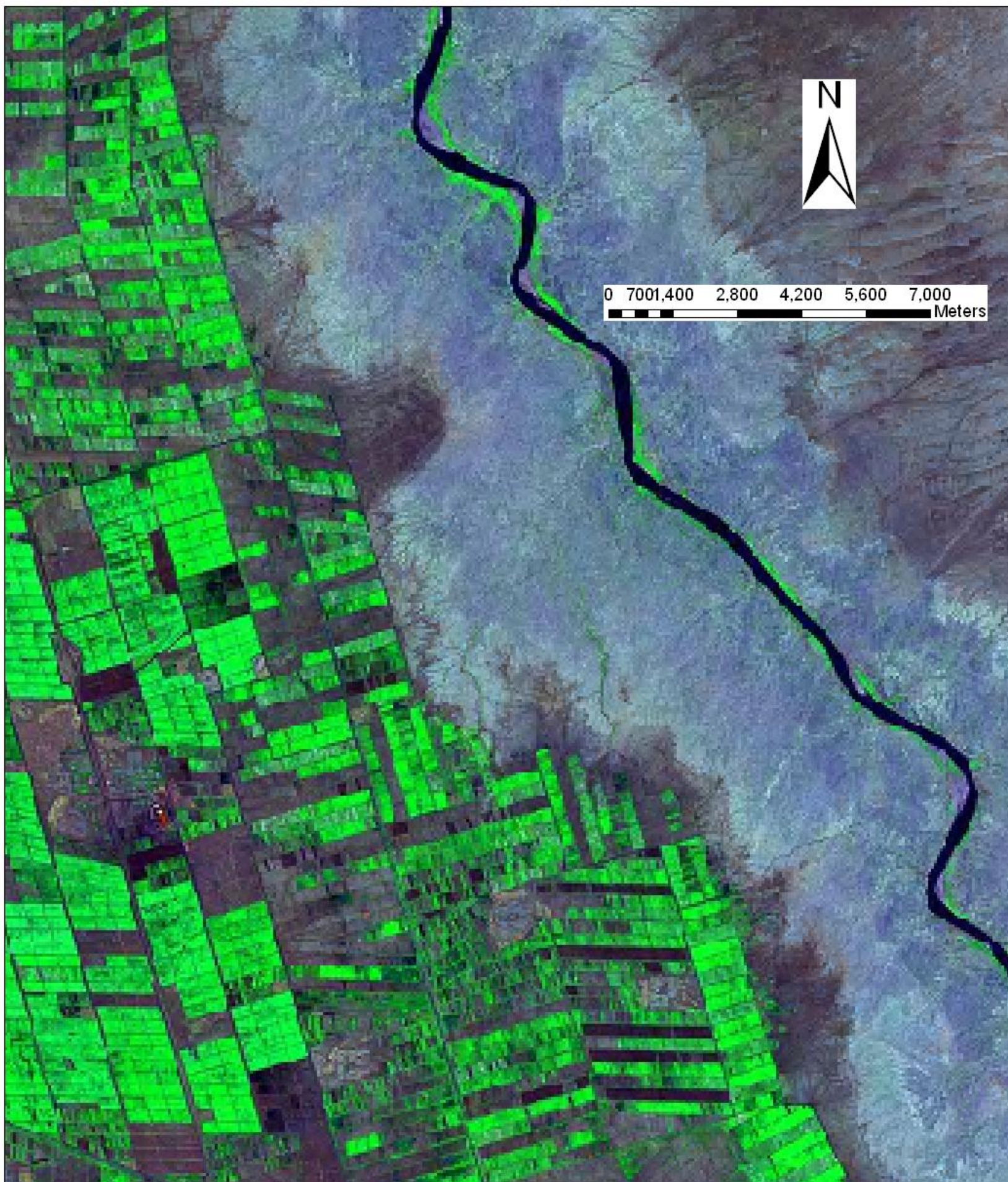
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SUDAN ATBARA SUB-BASIN KERIB LAND AT SHOWAK



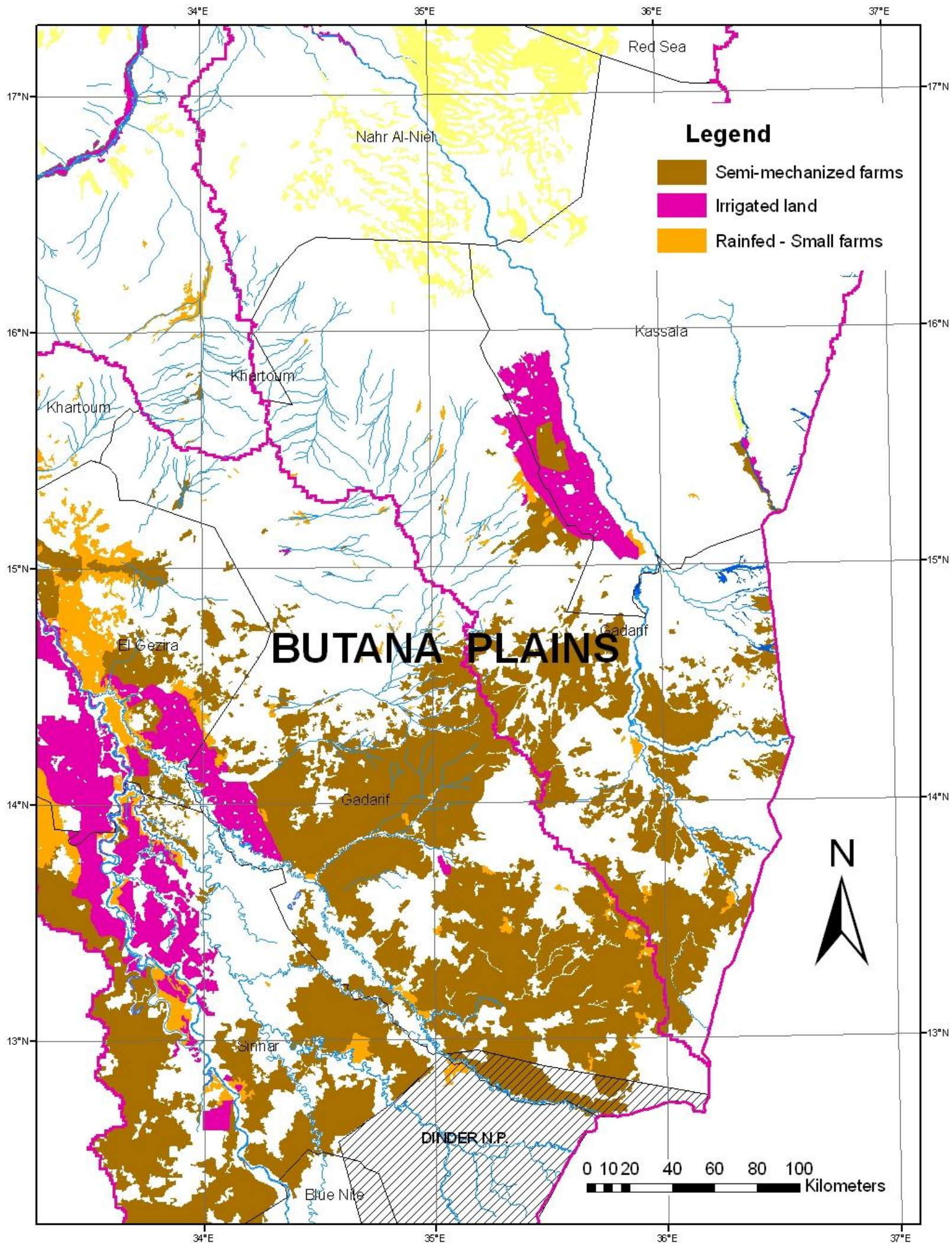
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(Source Landsat TM interpretation)

**SUDAN
ATBARA SUB-BASIN
KERIB LAND AT NEW HALFA
IRRIGATION SCHEME**



29. ATBARA AND BLUE NILE SUB-BASINS: ENCROACHMENT OF SEMI MECHANIZED FARMS ONTO THE BUTANA RANGELANDS.

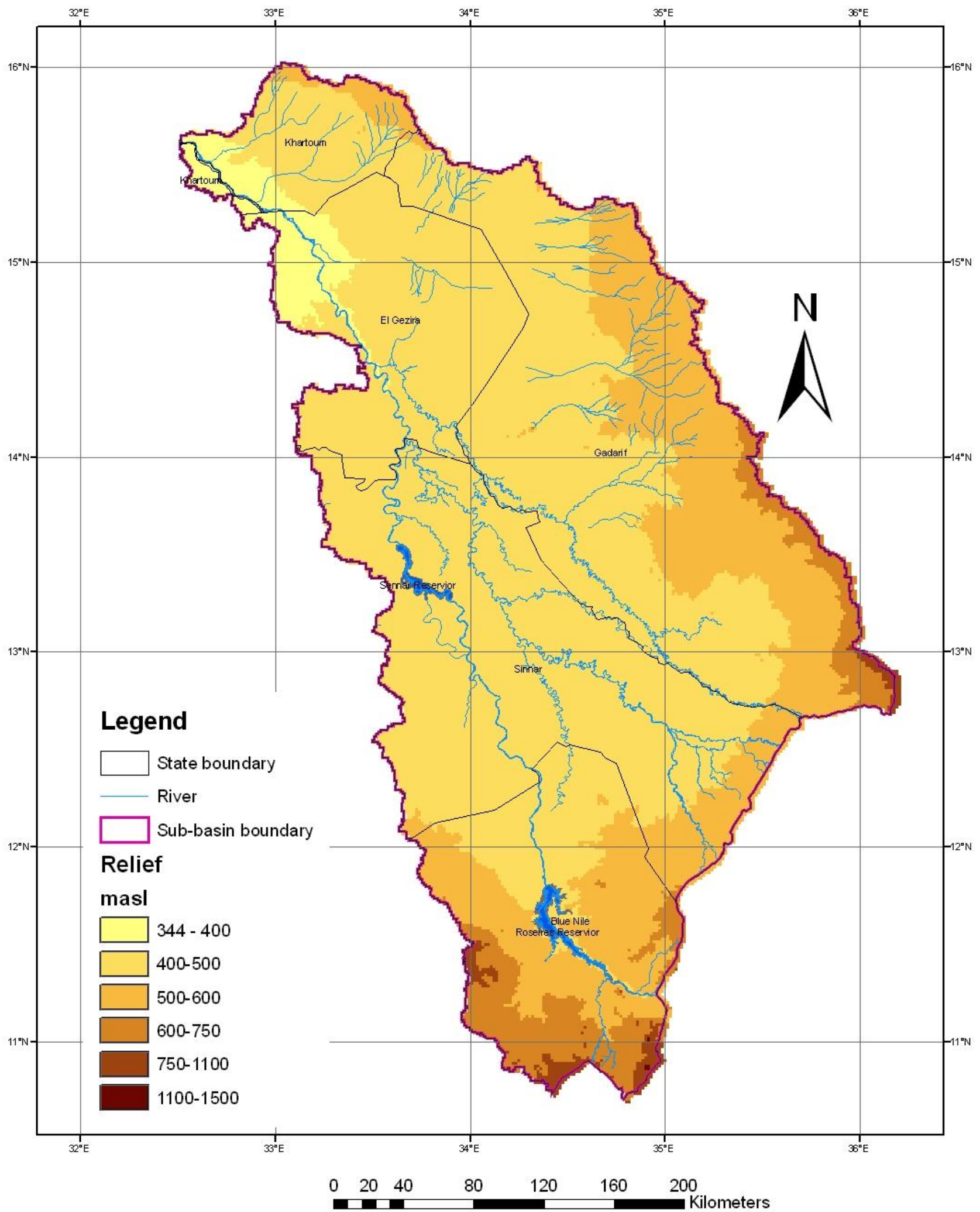
SUDAN
ATBARA AND BLUE NILE SUB-BASINS
SEMI-MECHANIZED FARM ENCROACHMENT
ONTO THE BUTANA RANGELANDS



D. BLUE NILE SUB-BASIN

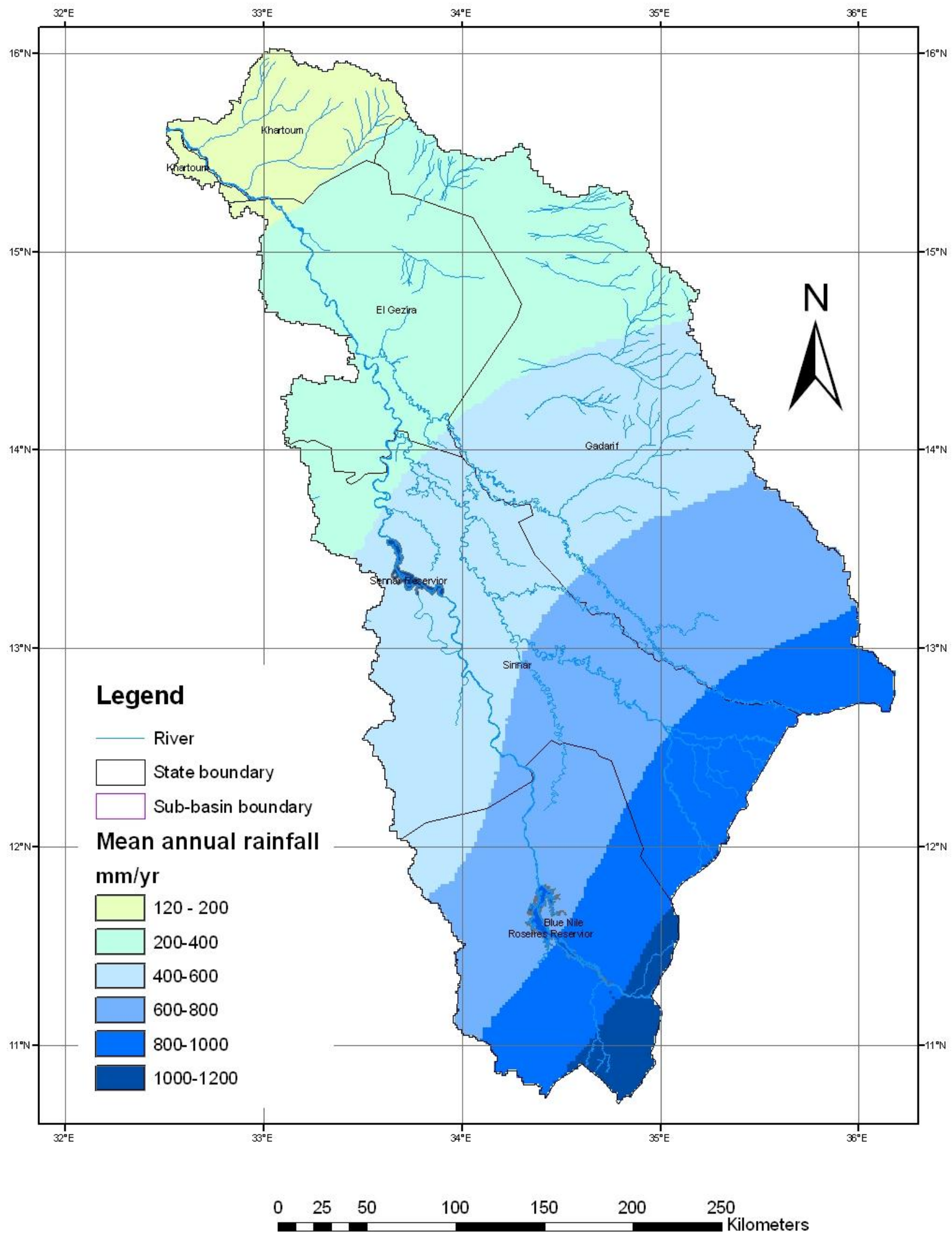
30. BLUE NILE SUB-BASIN: RELIEF AND DRAINAGE (Source: Shuttle Radar Mission DTM).

SUDAN BLUE NILE SUB-BASIN RELIEF AND DRAINAGE

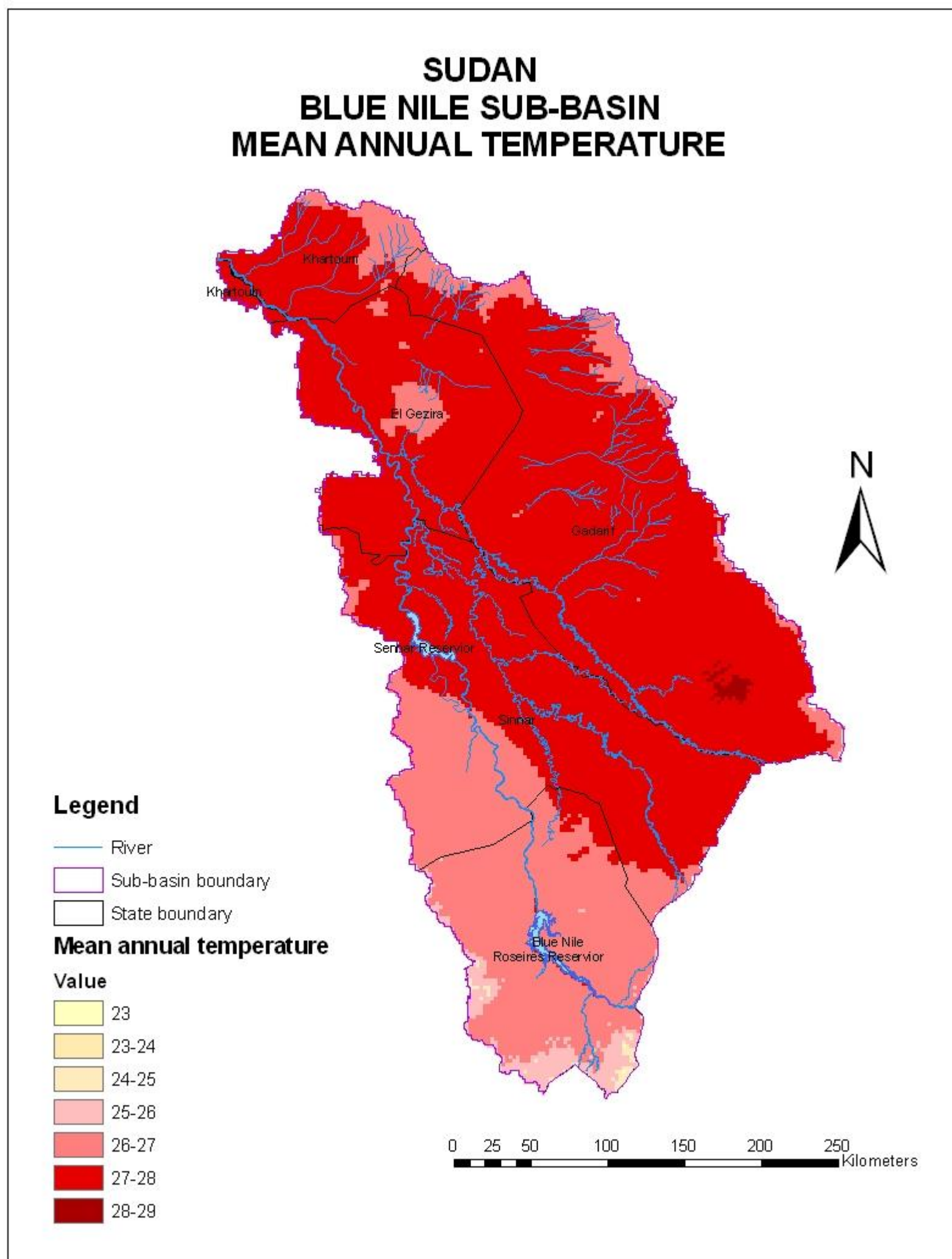


31. BLUE NILE SUB-BASIN: MEAN ANNUAL RAINFALL (mm/yr)

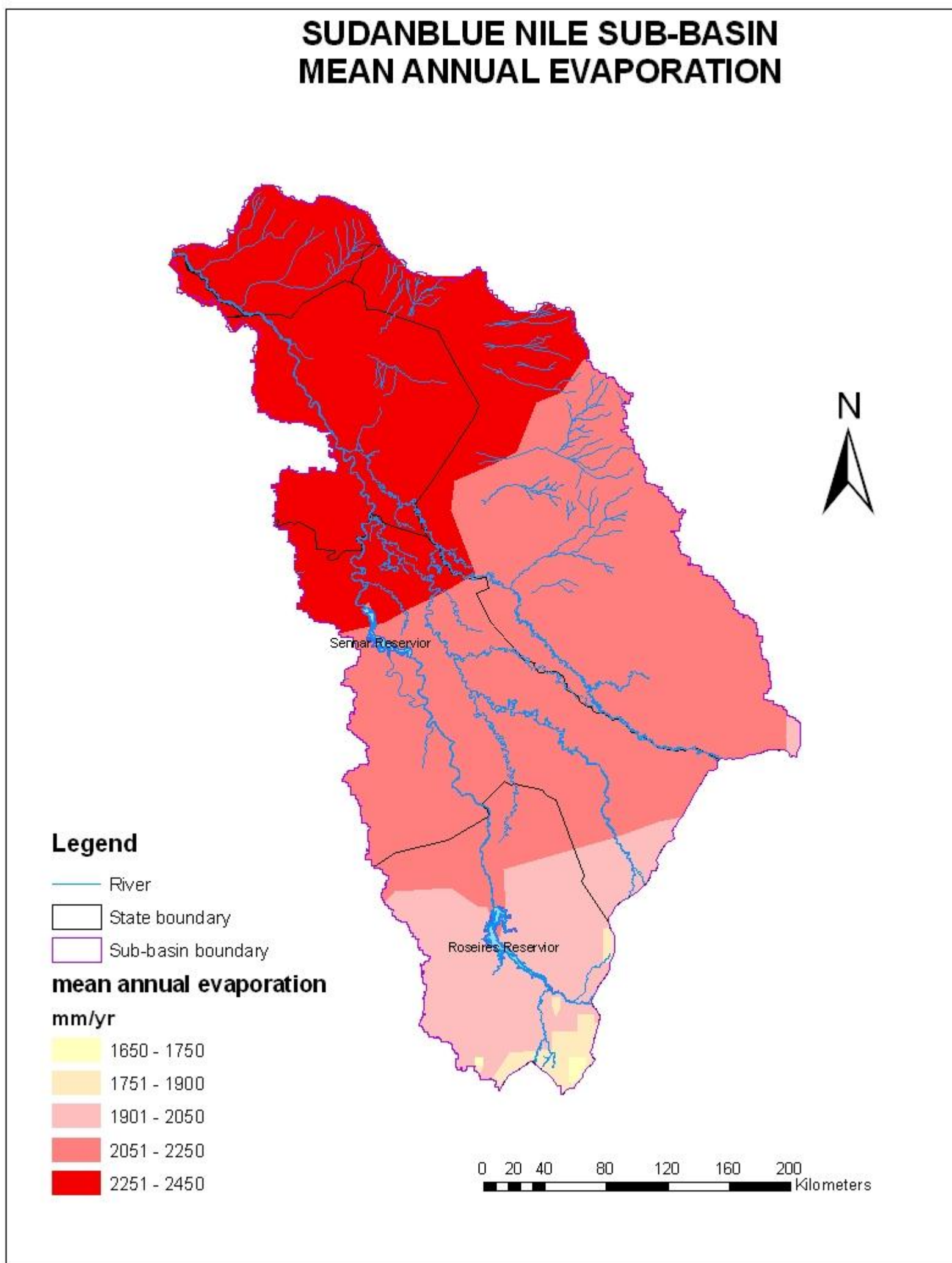
SUDAN BLUE NILE SUB-BASIN MEAN ANNUAL RAINFALL



32. BLUE NILE SUB-BASIN: MEAN ANNUAL TEMPERATURE (degrees C).

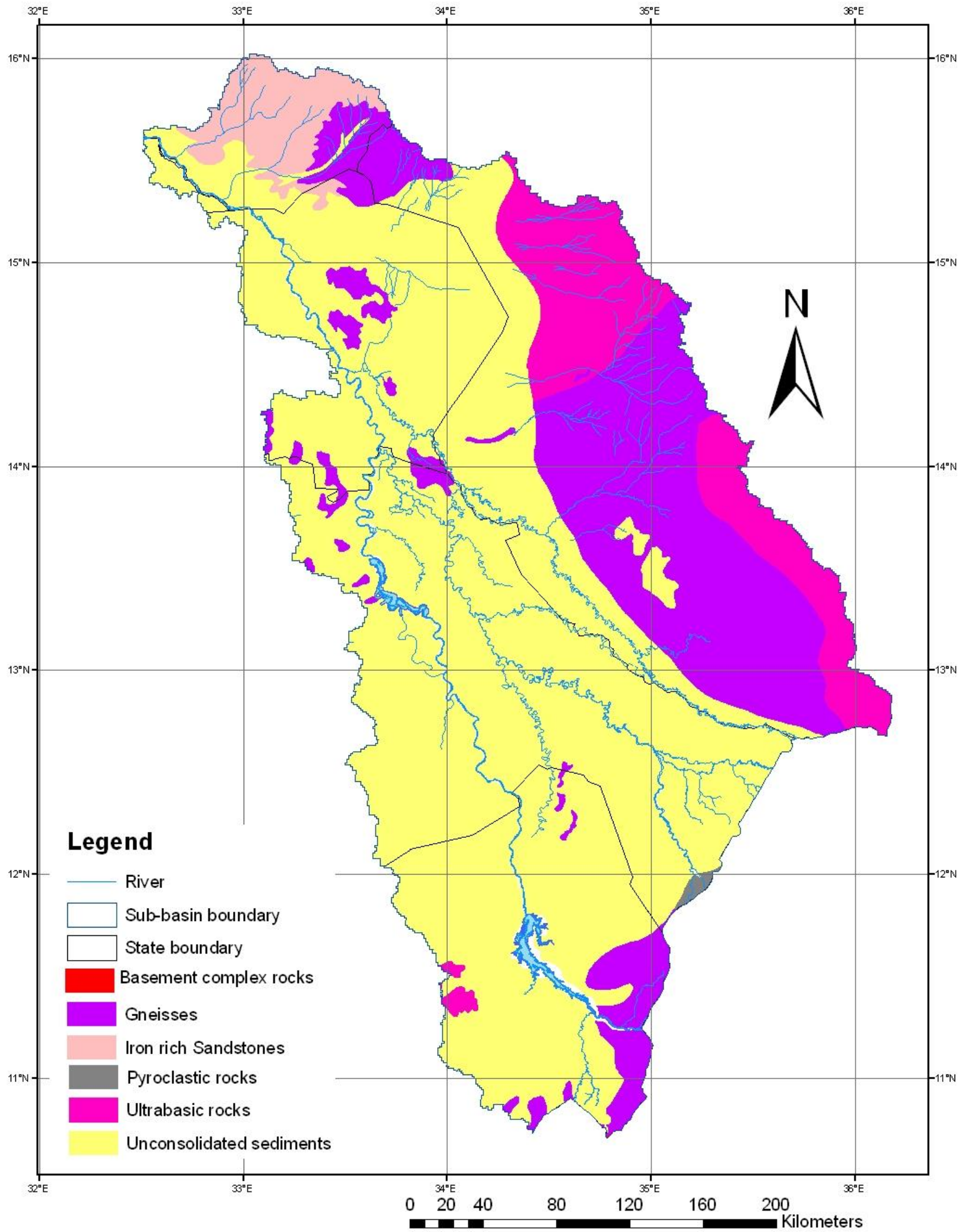


33. BLUE NILE SUB-BASIN: MEAN ANNUAL EVAPORATION (mm/yr)



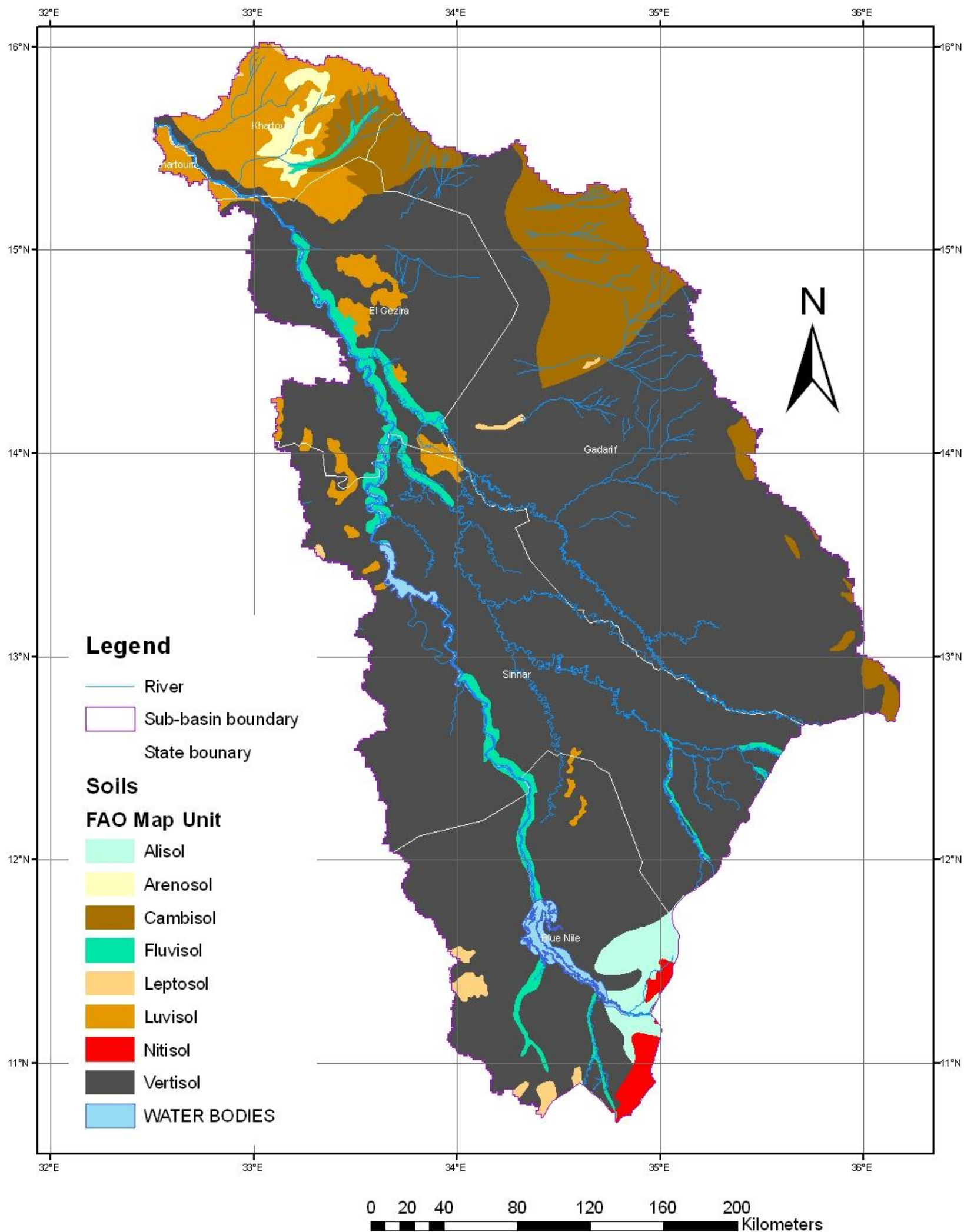
34. BLUE NILE SUB-BASIN: GEOLOGY (Source: FAO, 1998 "Soil and Terrain Database for Northeast Africa").

SUDAN BLUE NILE SUB-BASIN GEOLOGY

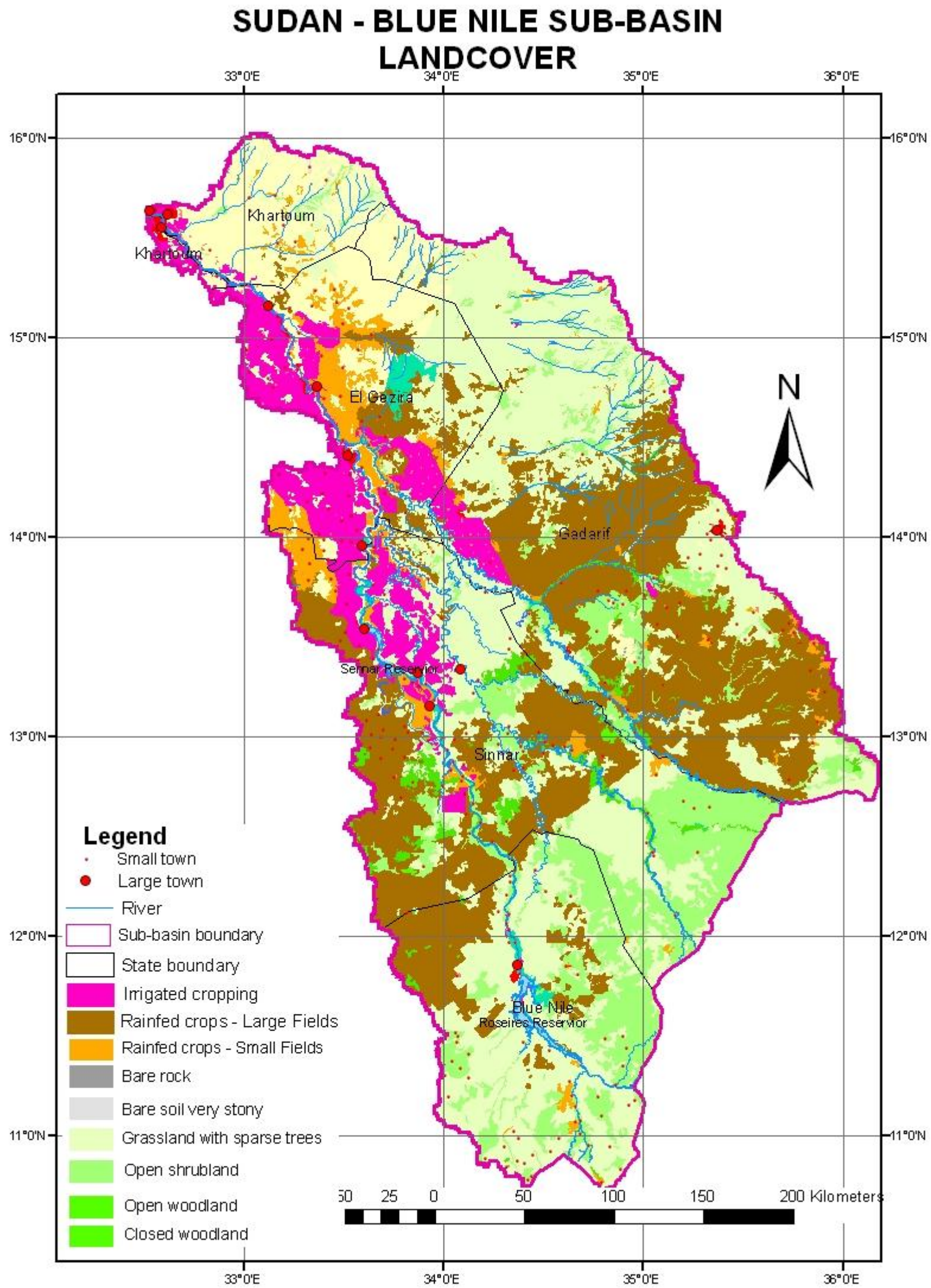


35. BLUE NILE SUB-BASIN: DOMINANT SOIL TYPES (FAO CLASSIFICATION))
 (Source: FAO, 1998 "Soil and Terrain Database for Northeast Africa).

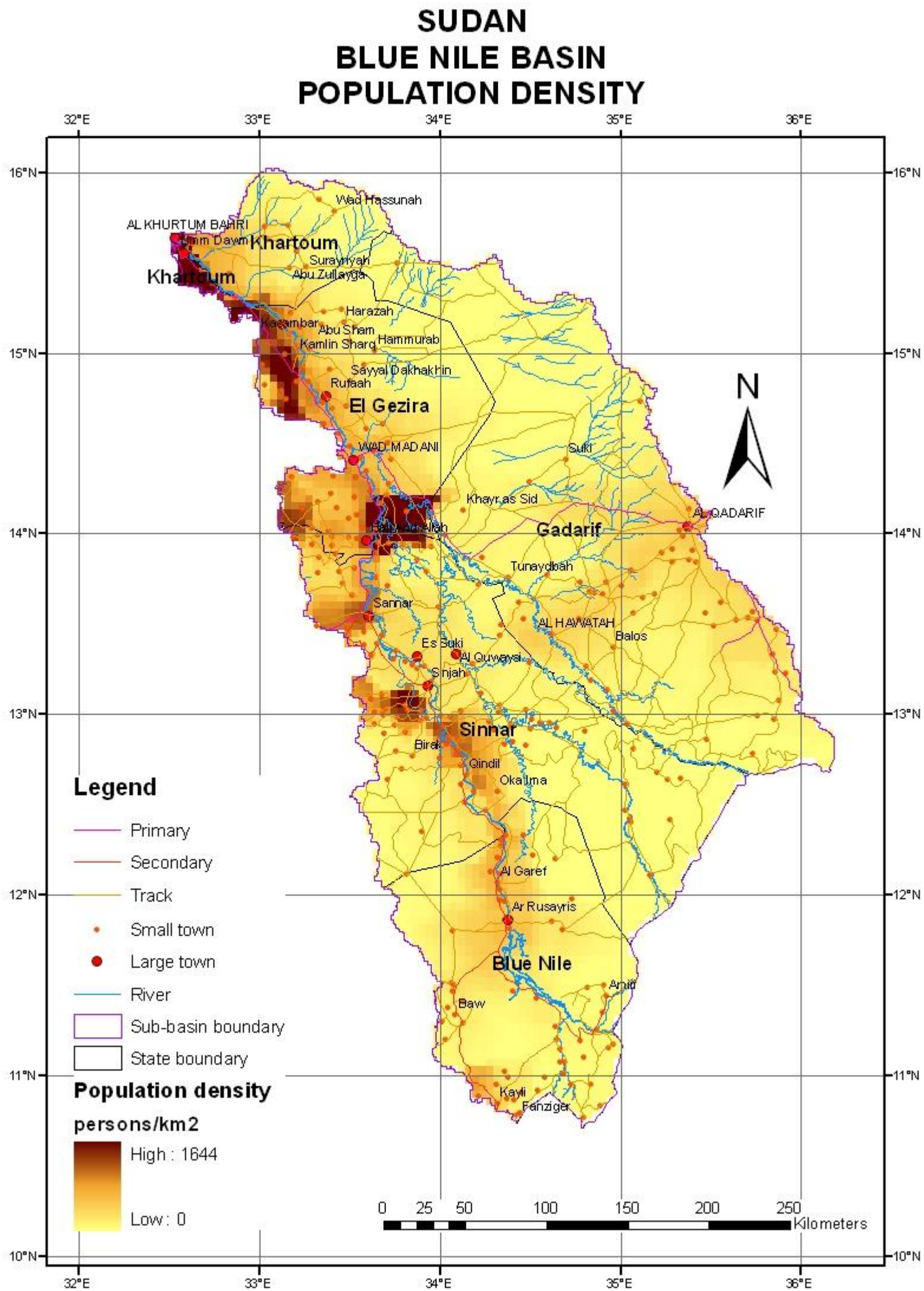
SUDAN BLUE NILE SUB-BASIN SOILS (FAO CLASSIFICATION)



36. BLUE NILE SUB-BASIN: DOMINANT LAND COVER TYPES (Source: Africover).

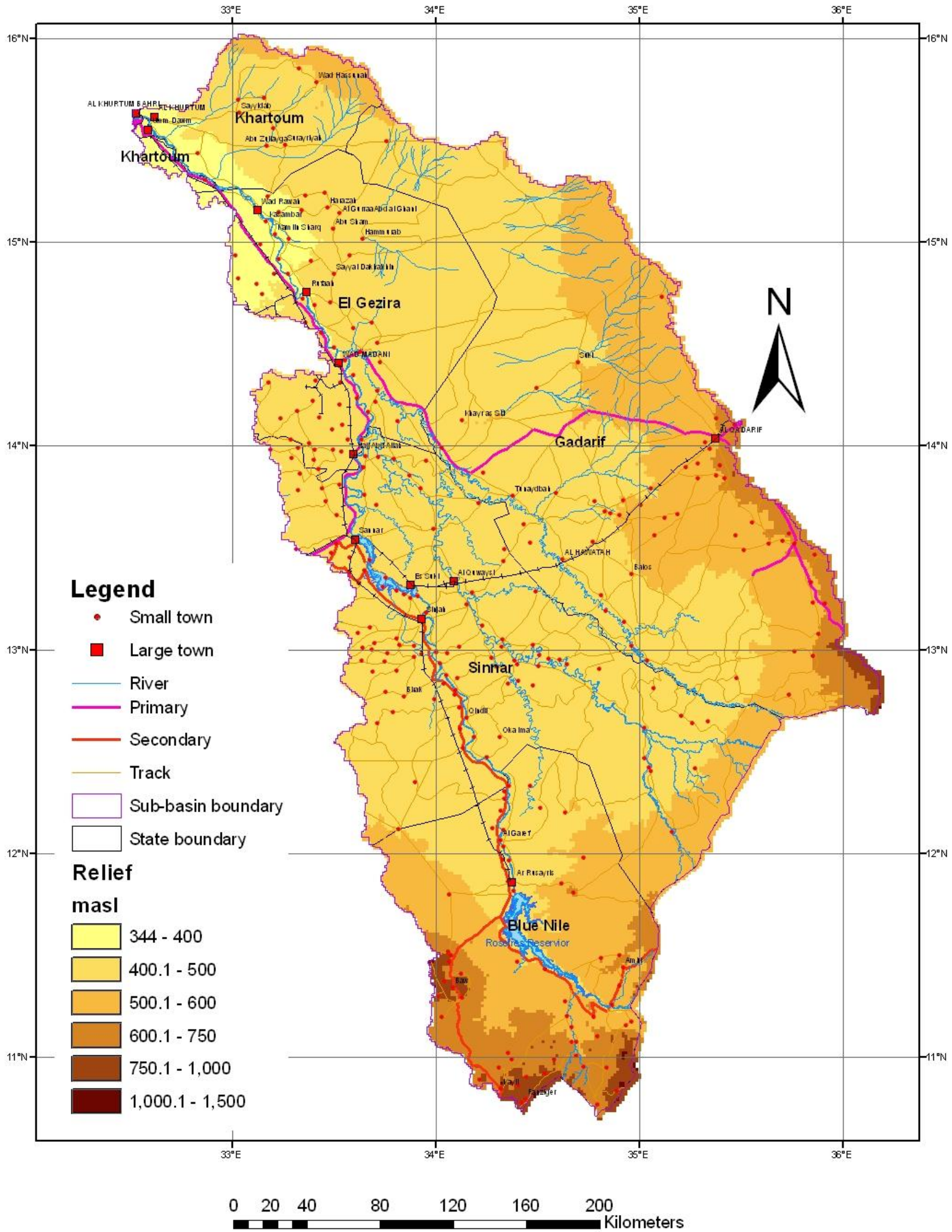


37. BLUE NILE SUB-BASIN: POPULATION DENSITIES (Source: Oak Ridge national Laboratory, 1002. Landscan 2002 Global Population Database).

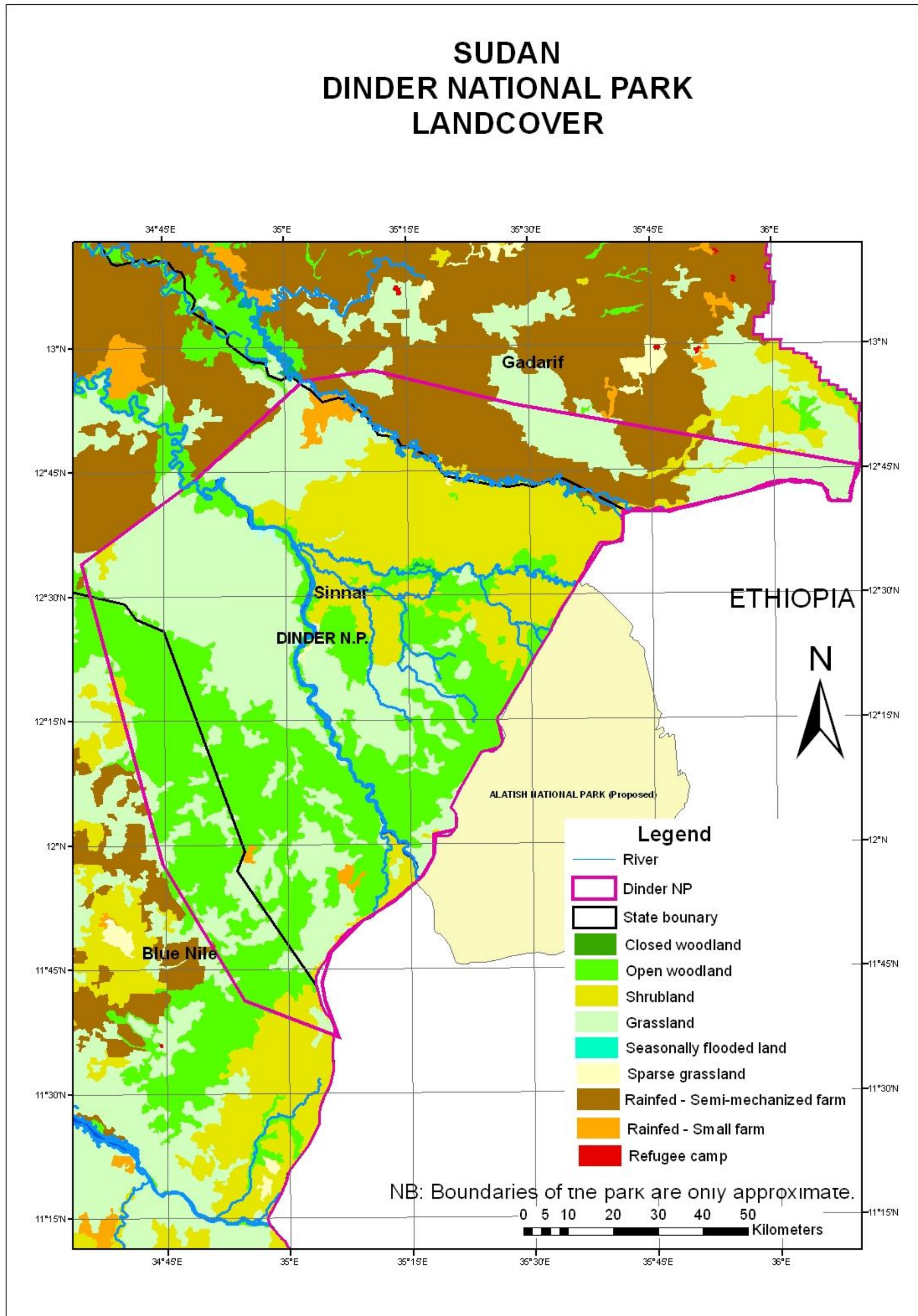


38. BLUE NILE SUB-BASIN: ROAD AND RAIL NETWORK (Source: Afriroads)

SUDAN BLUE NILE SUB-BASIN ROAD AND RAIL NETWORK

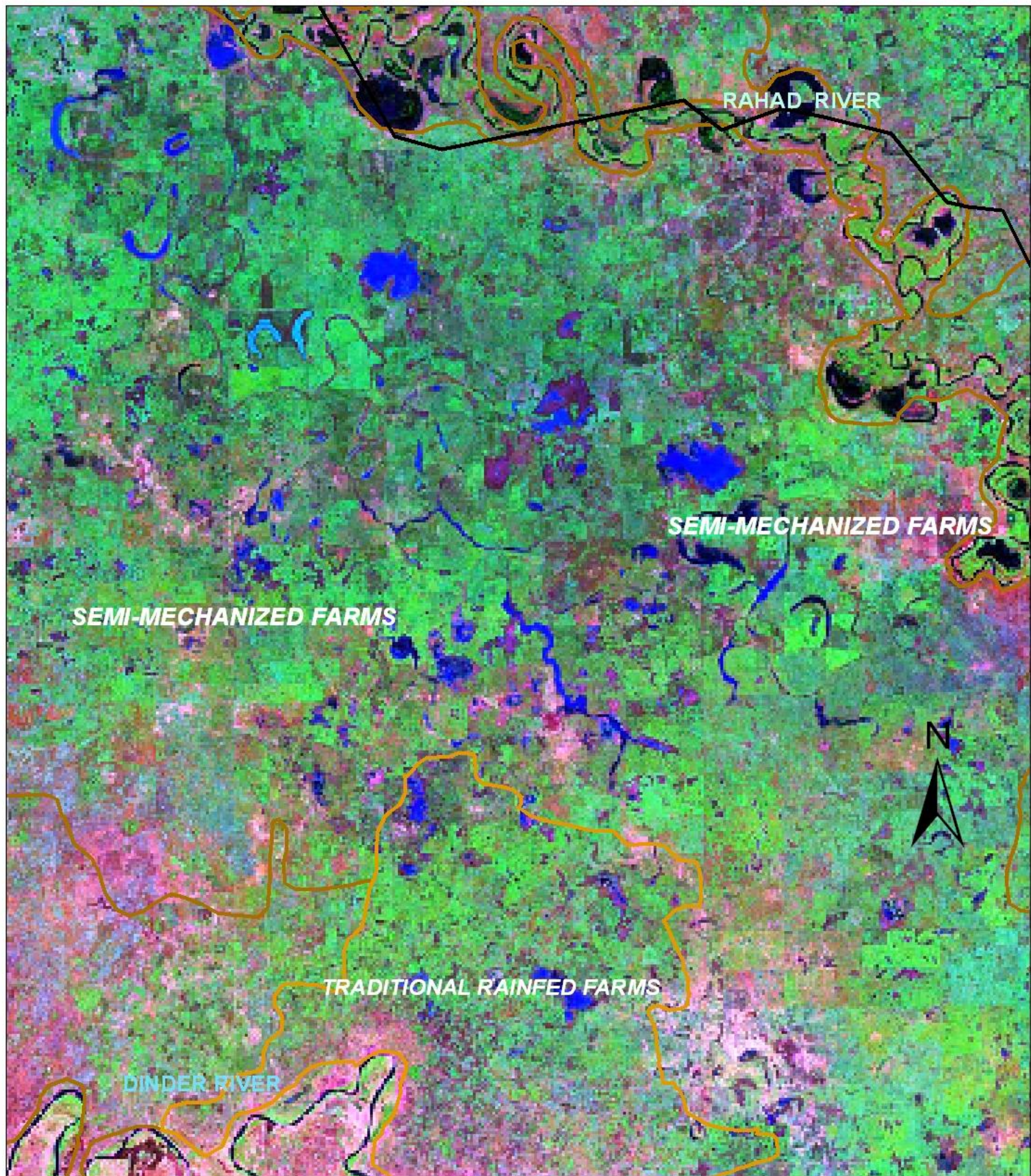


39. BLUE NILE SUB-BASIN: DINDER NATIONAL PARK - LAND COVER (Source: Africover).



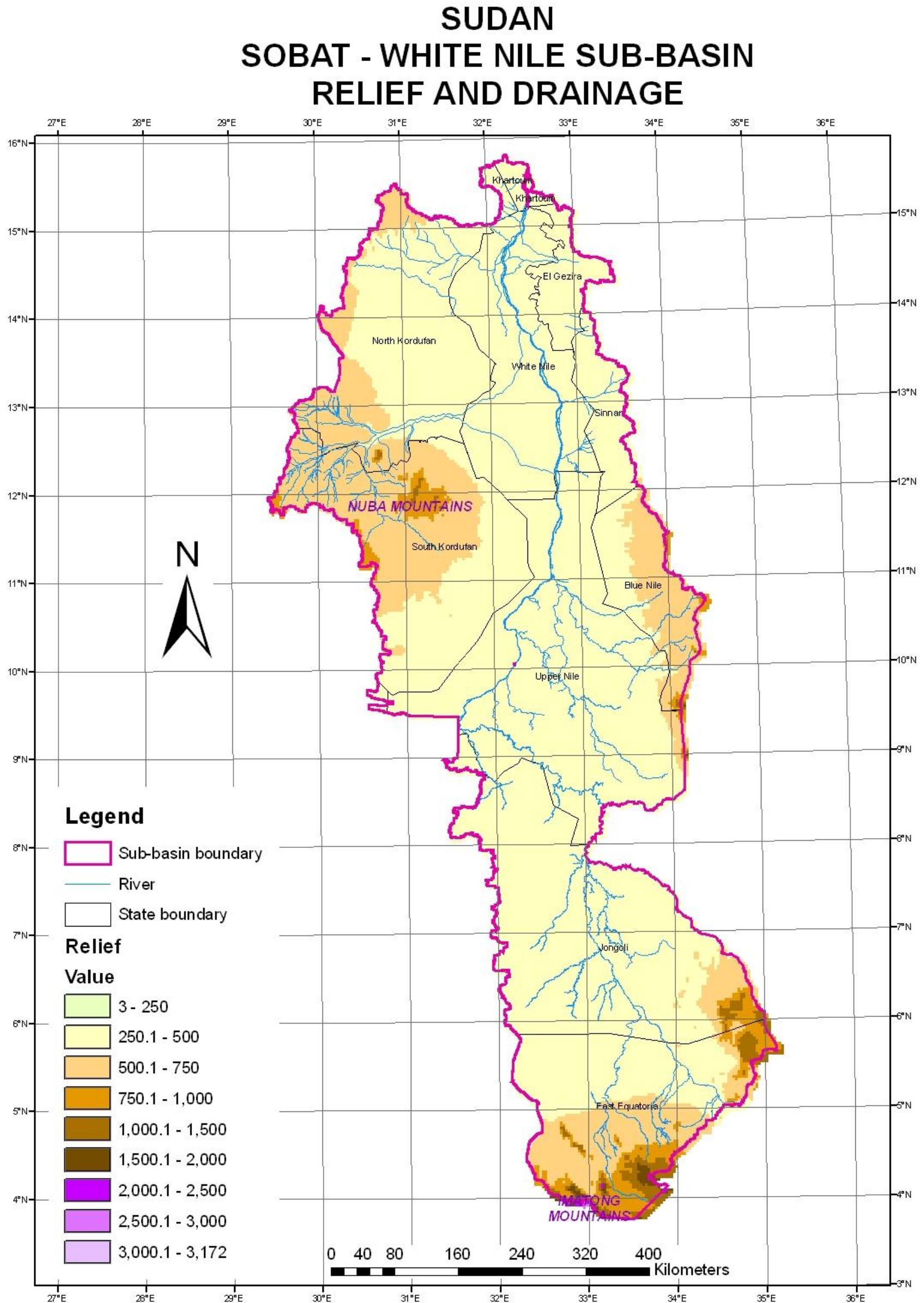
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**SUDAN
BLUE NILE SUB-BASIN
MAYA'A WETLANDS
AND SEMI-MECHANIZED FARMS**

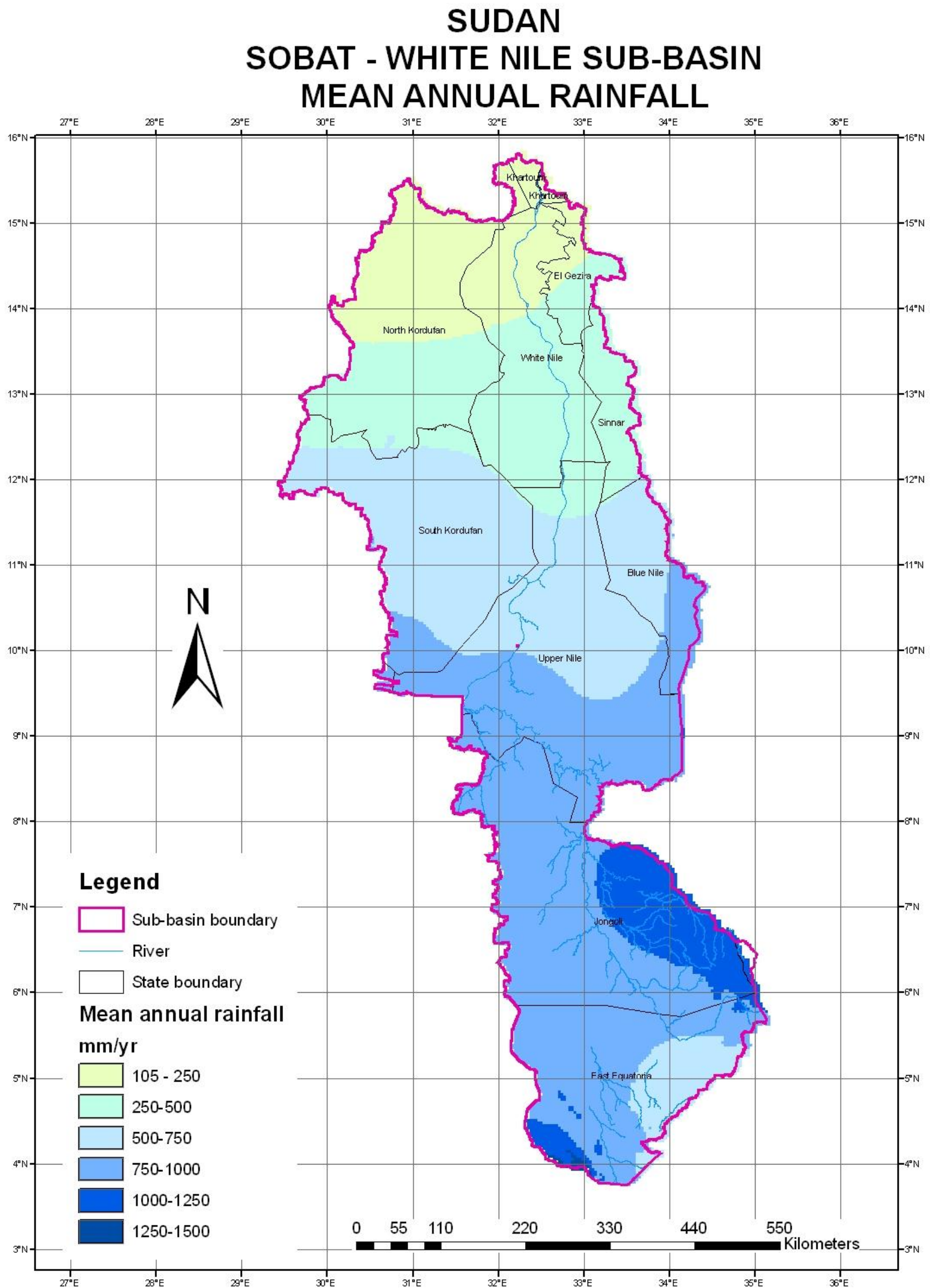


E. SOBAT-WHITE NILE SUB-BASIN

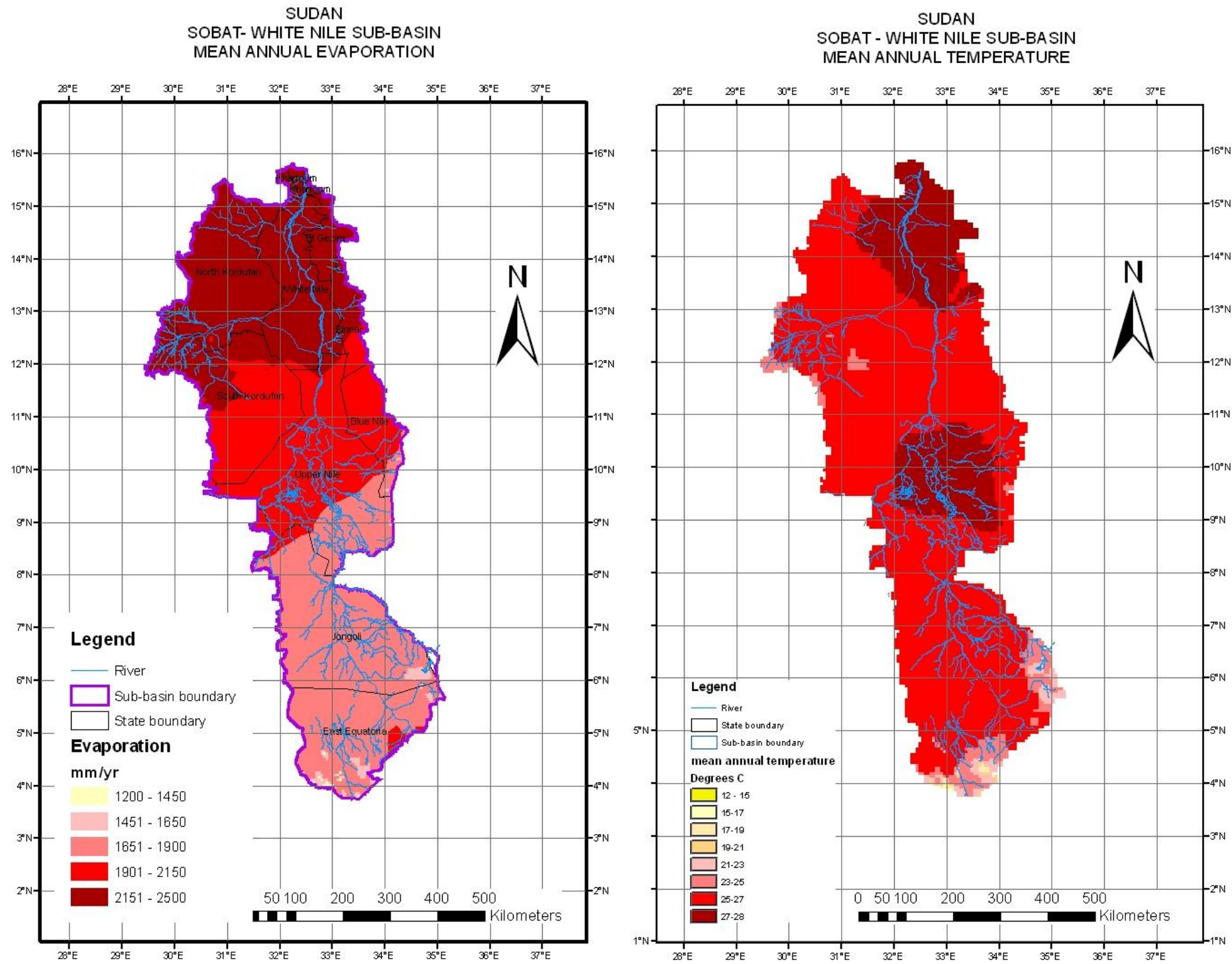
41. SOBAT-WHITE NILE SUB-BASIN: RELIEF AND DRAINAGE: (Source: Shuttle Radar Mission DTM).



42. SOBAT-WHITE NILE SUB-BASIN: MEAN ANNUAL RAINFALL (mm/yr).

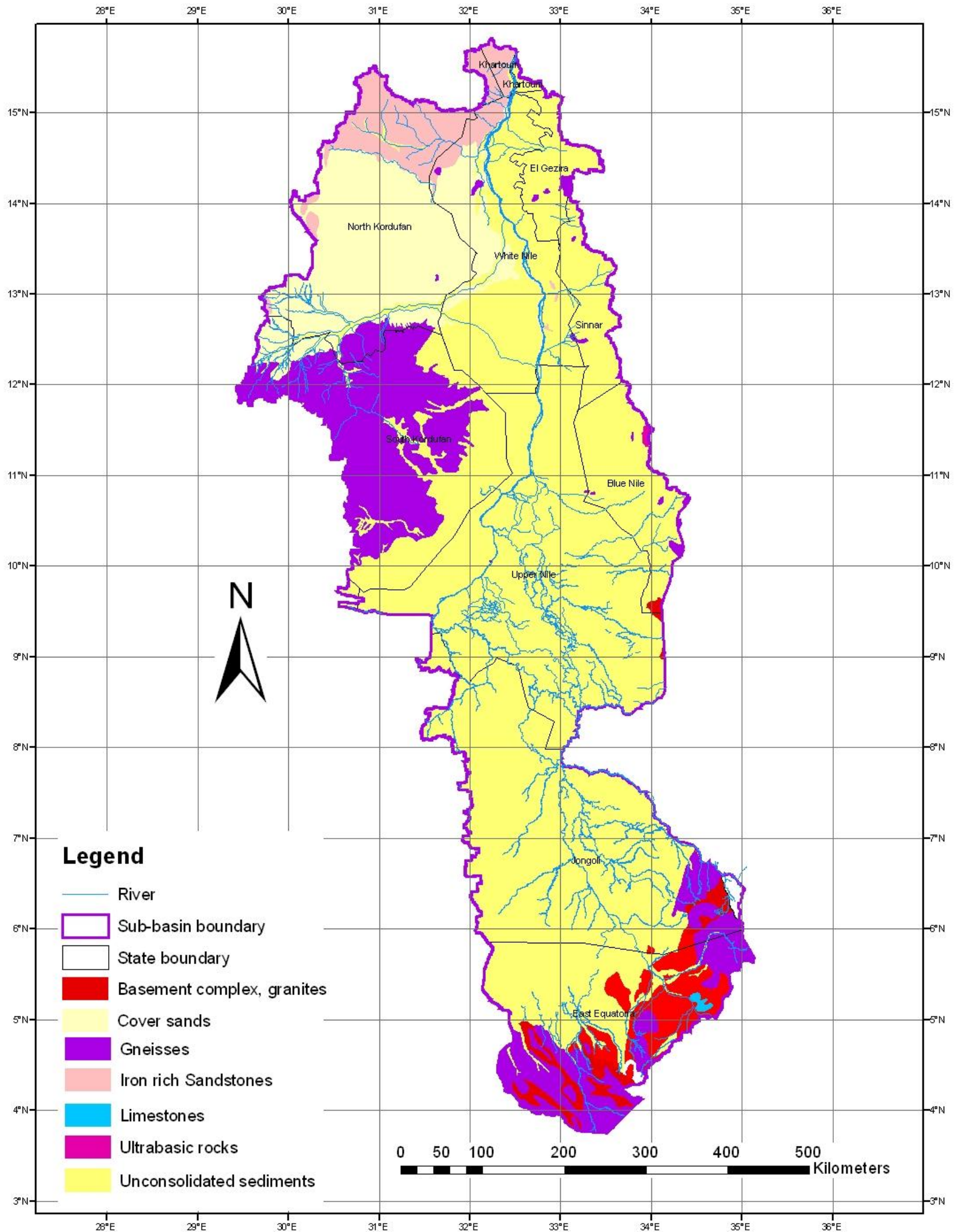


43. SOBAT-WHITE NILE SUB-BASIN: MEAN ANNUAL TEMPERATURE (°c) AND EVAPORATION (mm/yr).

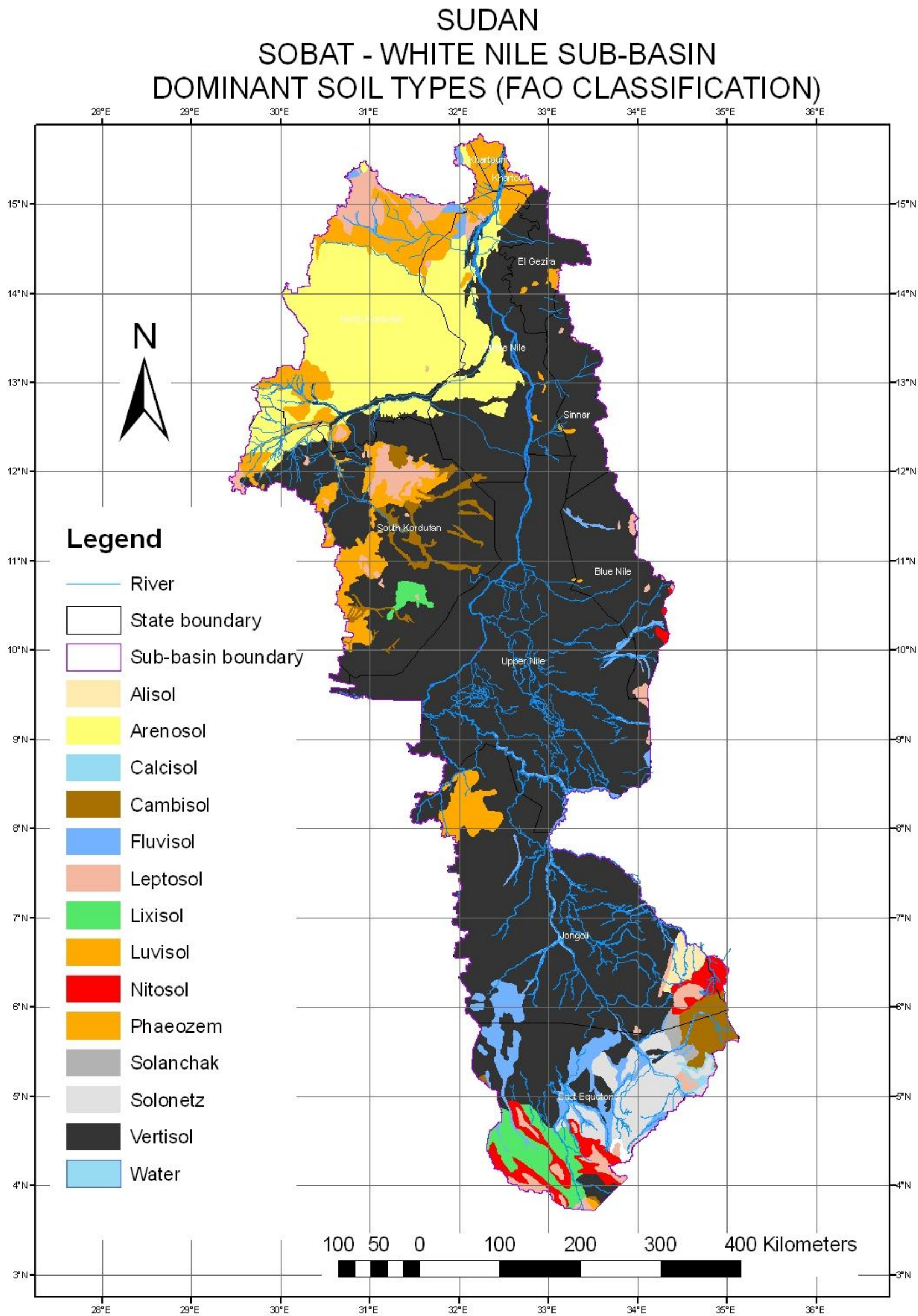


44. SOBAT-WHITE NILE SUB-BASIN: GEOLOGY (Source: FAO, 1998 "Soil and Terrain Database for Northeast Africa").

SUDAN SOBAT - WHITE NILE SUB-BASIN GEOLOGY

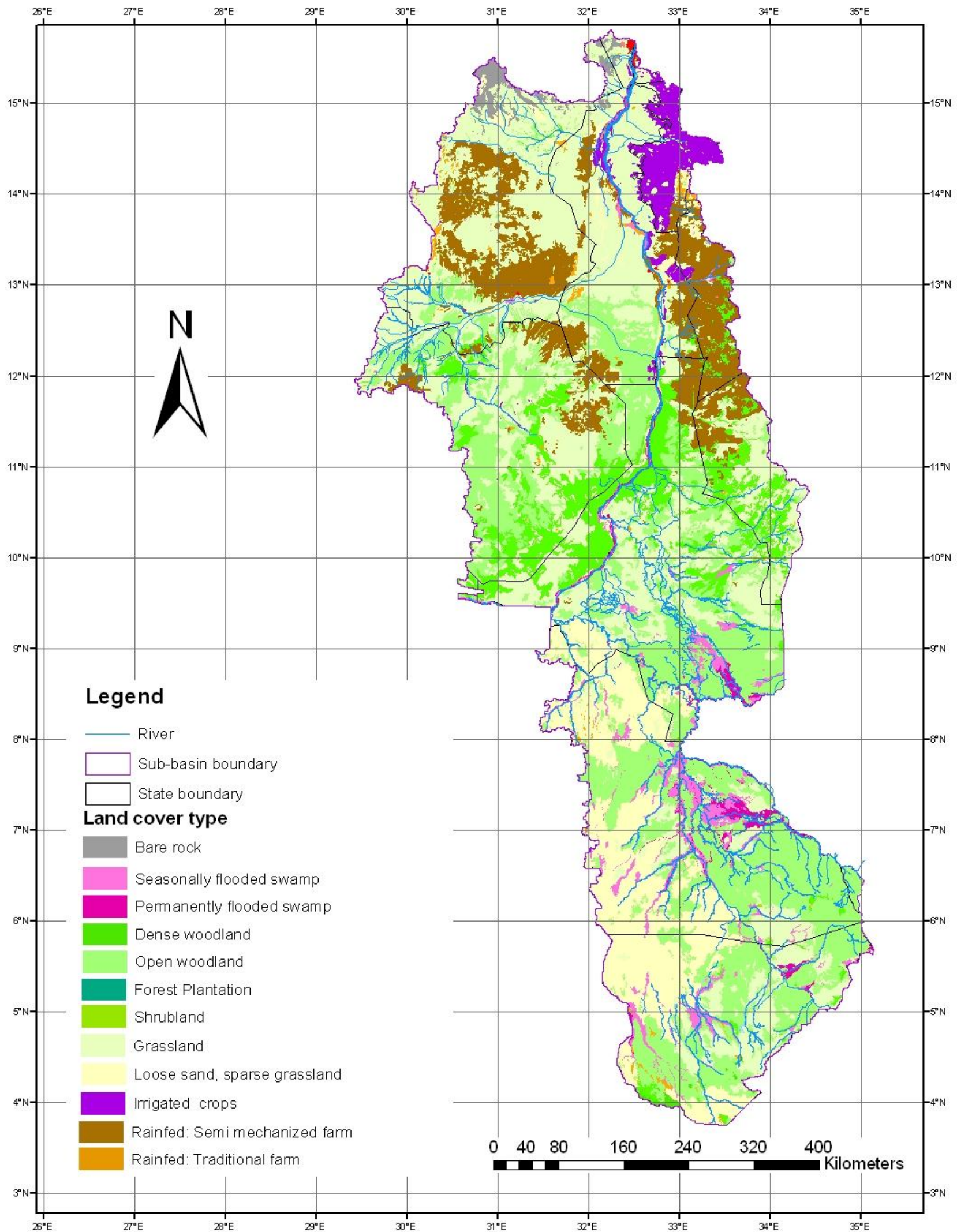


45. SOBAT-WHITE NILE SUB-BASIN: DOMINANT SOIL TYPES (FAO CLASSIFICATION) (Source: FAO, 1998 "Soil and Terrain Database for Northeast Africa").

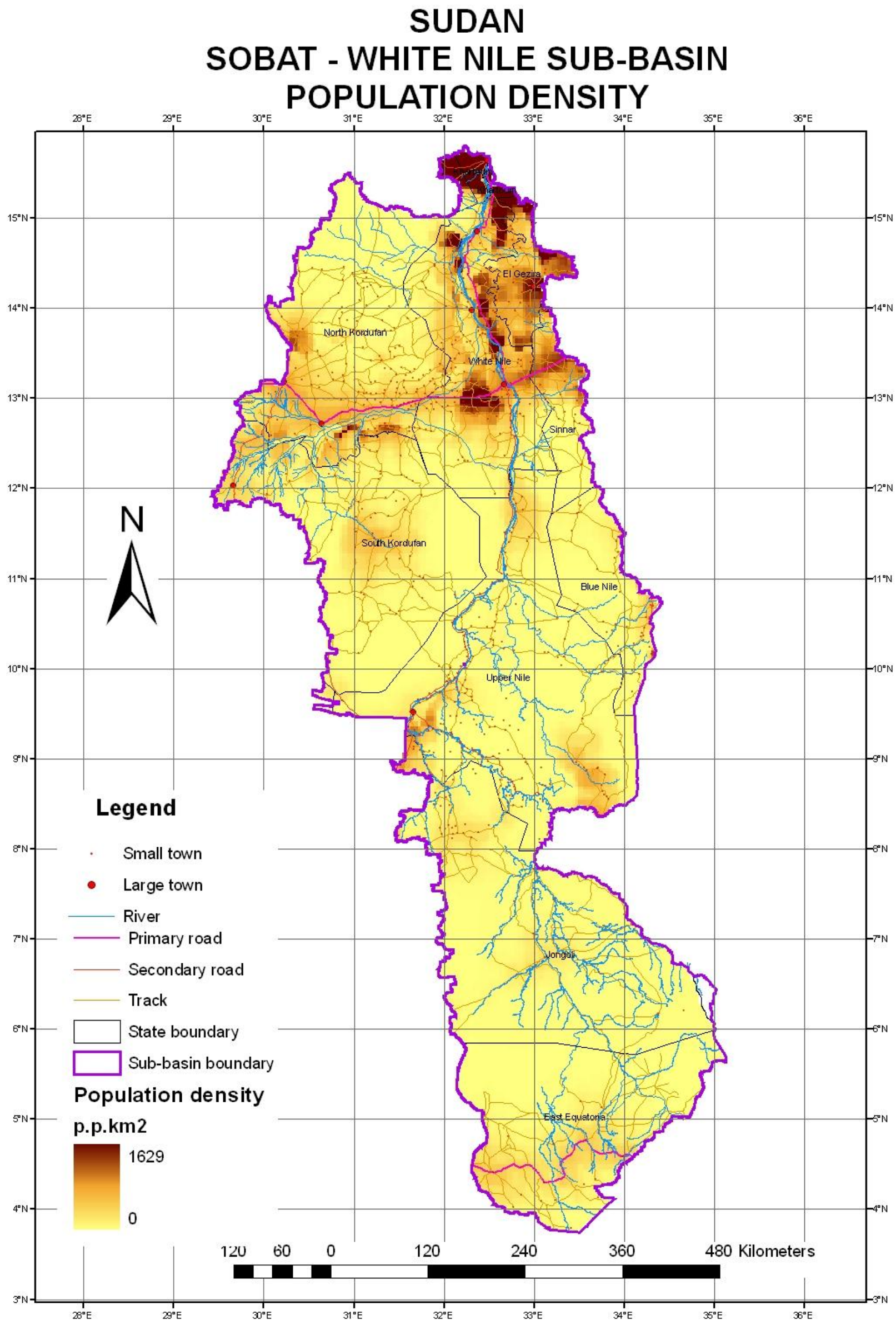


46. SOBAT-WHITE NILE SUB-BASIN: DOMINANT LAND COVER TYPES (Source: Africover).

SUDAN SOBAT - WHITE NILE SUB-BASIN LANDCOVER

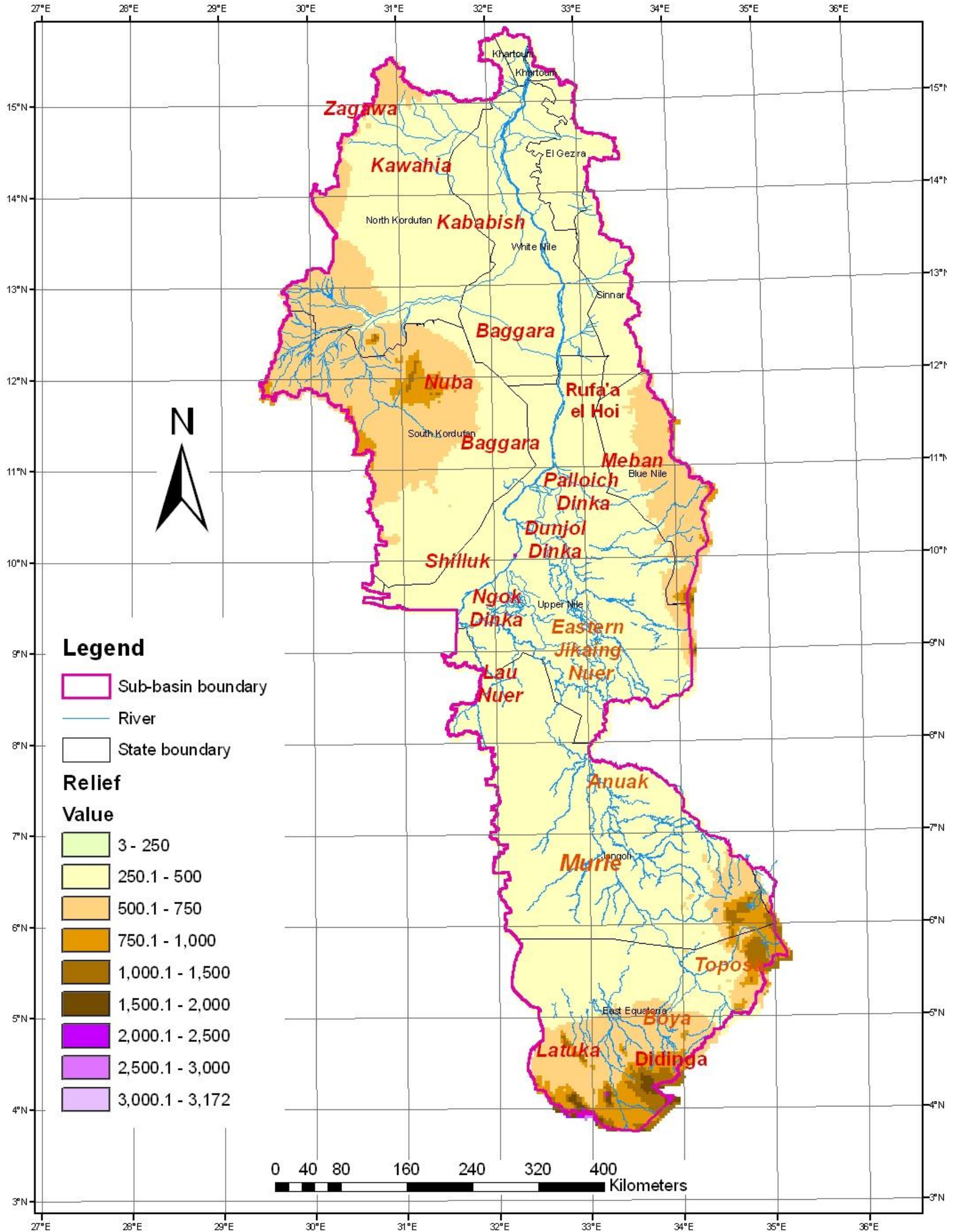


47. SOBAT-WHITE NILE SUB-BASIN: POPULATION DENSITIES (Source: Oak Ridge national Laboratory, 1002. Landscan 2002 Global Population Database).



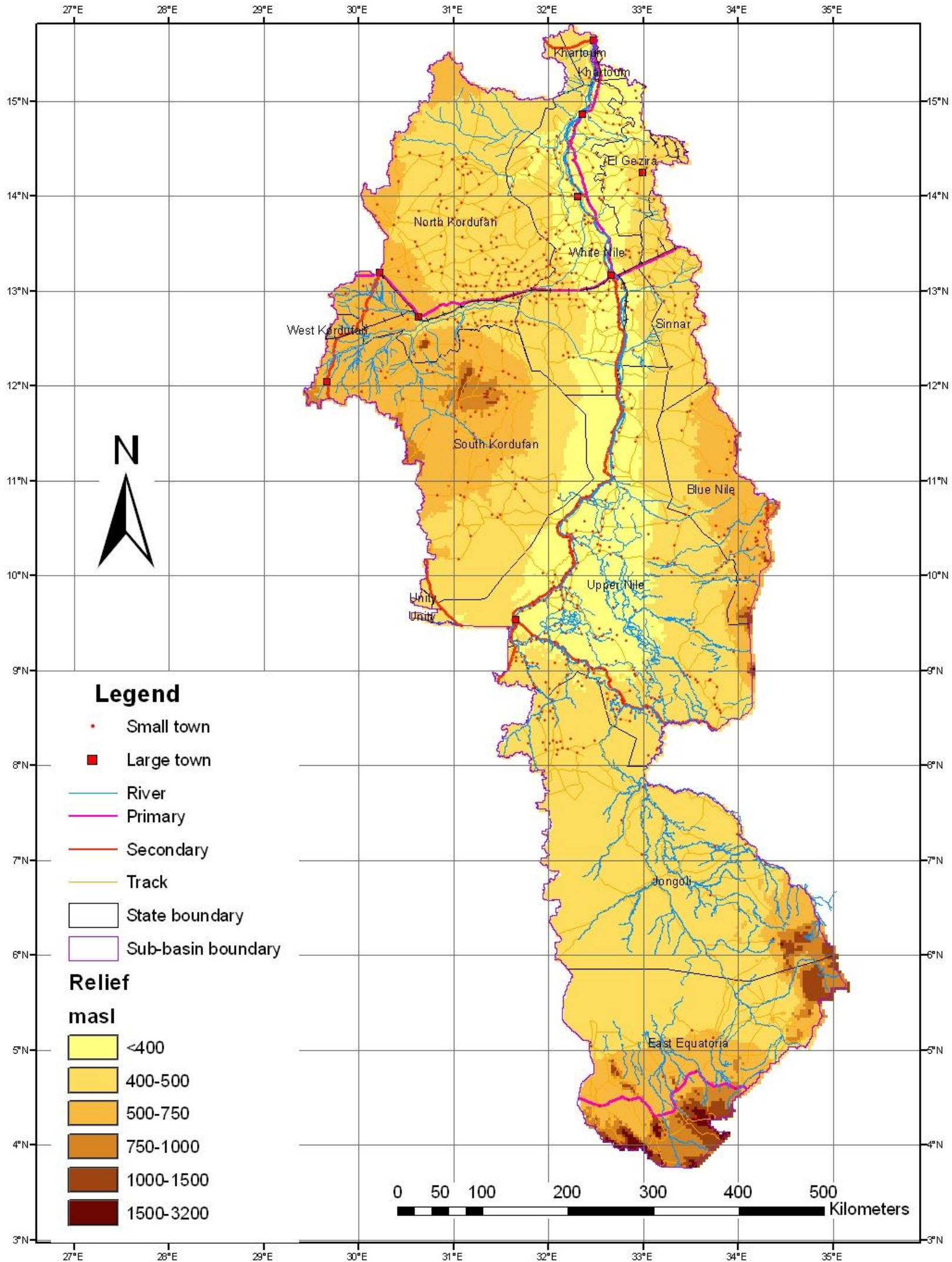
48. SOBAT-WHITE NILE SUB-BASIN: PEOPLES. (Sources. Various)

SUDAN SOBAT - WHITE NILE SUB-BASIN PEOPLES



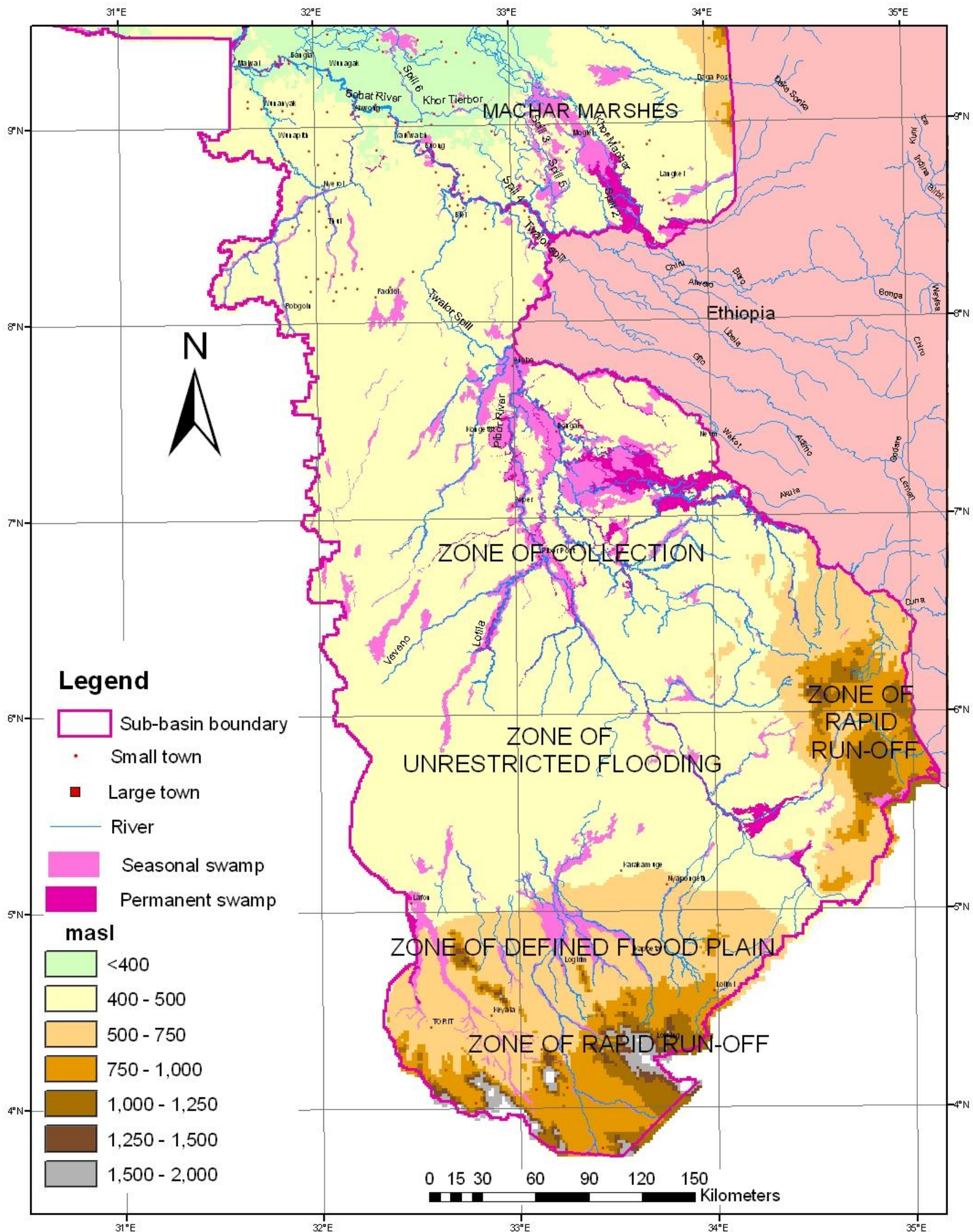
49. SOBAT-WHITE NILE SUB-BASIN: ROAD NETWORK (Source: Afriroads)

SUDAN
SOBAT - WHITE NILE SUB-BASIN
ROAD AND RAIL NETWORK

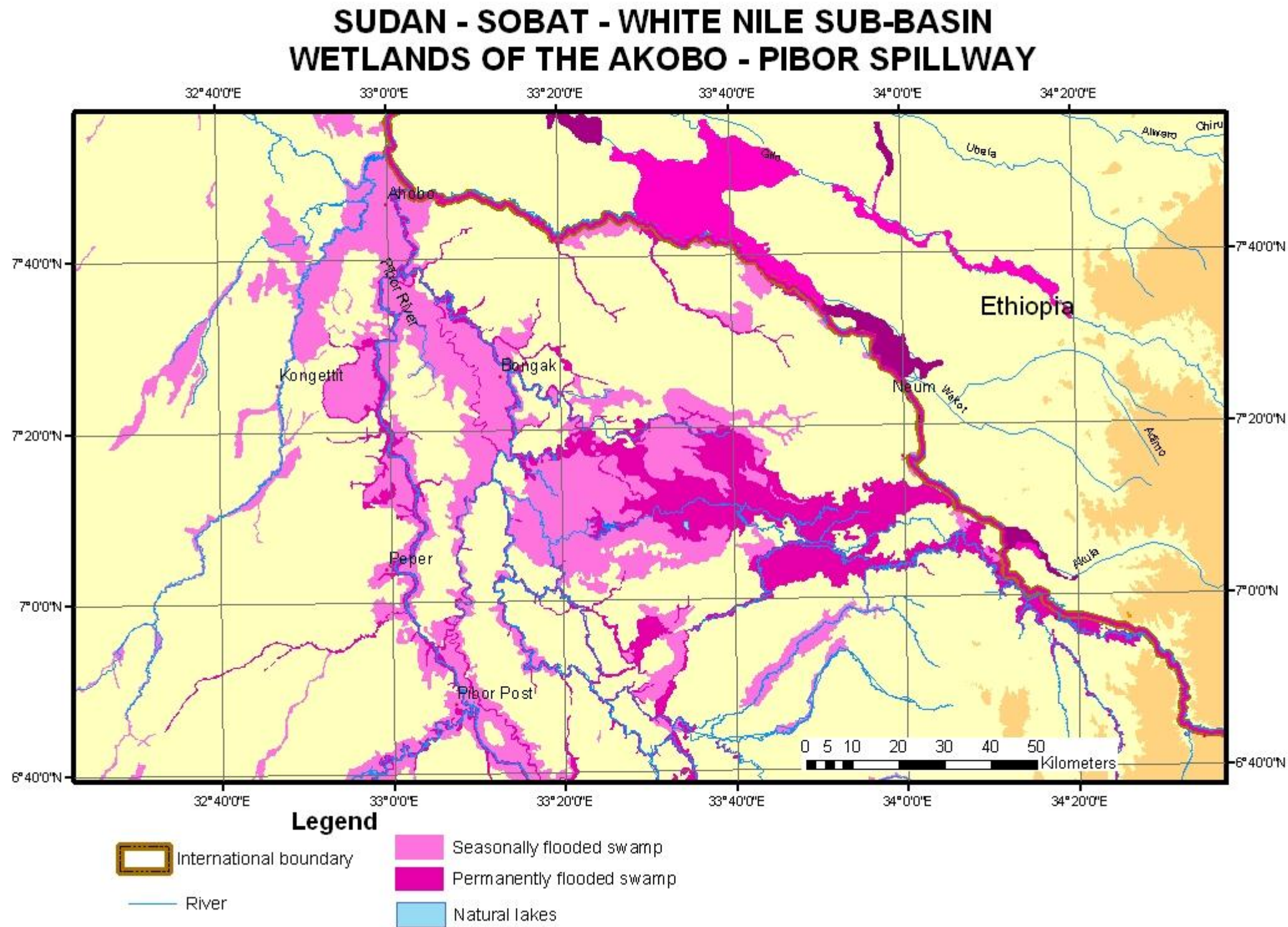


50. SOBAT-WHITE NILE SUB-BASIN: PIBOR-SOBAT CATCHMENT HYDROLOGY
 (Source: Jongli Investigation Team (1954) "The Equatorial Nile project and its Effects in the Anglo-Egyptian Sudan", 4 Volumes, Khartoum.

BARO-SOBAT-WHITE NILE SUB-BASIN PIBOR-SOBAT CATCHMENT HYDROLOGY

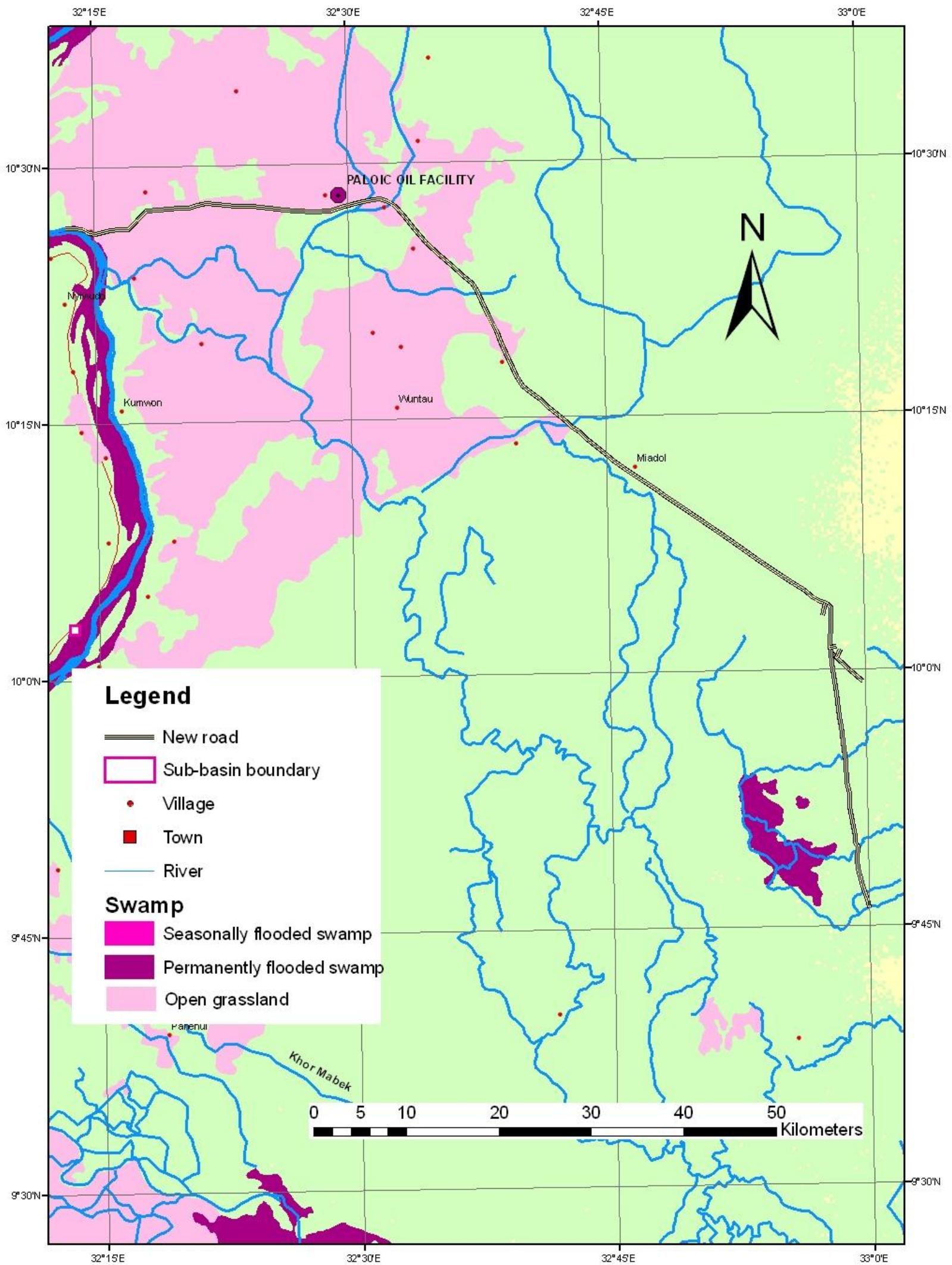


51. SOBAT-WHITE NILE SUB-BASIN: WETLANDS OF THE AKOBO-PIBOR SPILLWAY. (Source: Africover and Landsat TM interpretation).

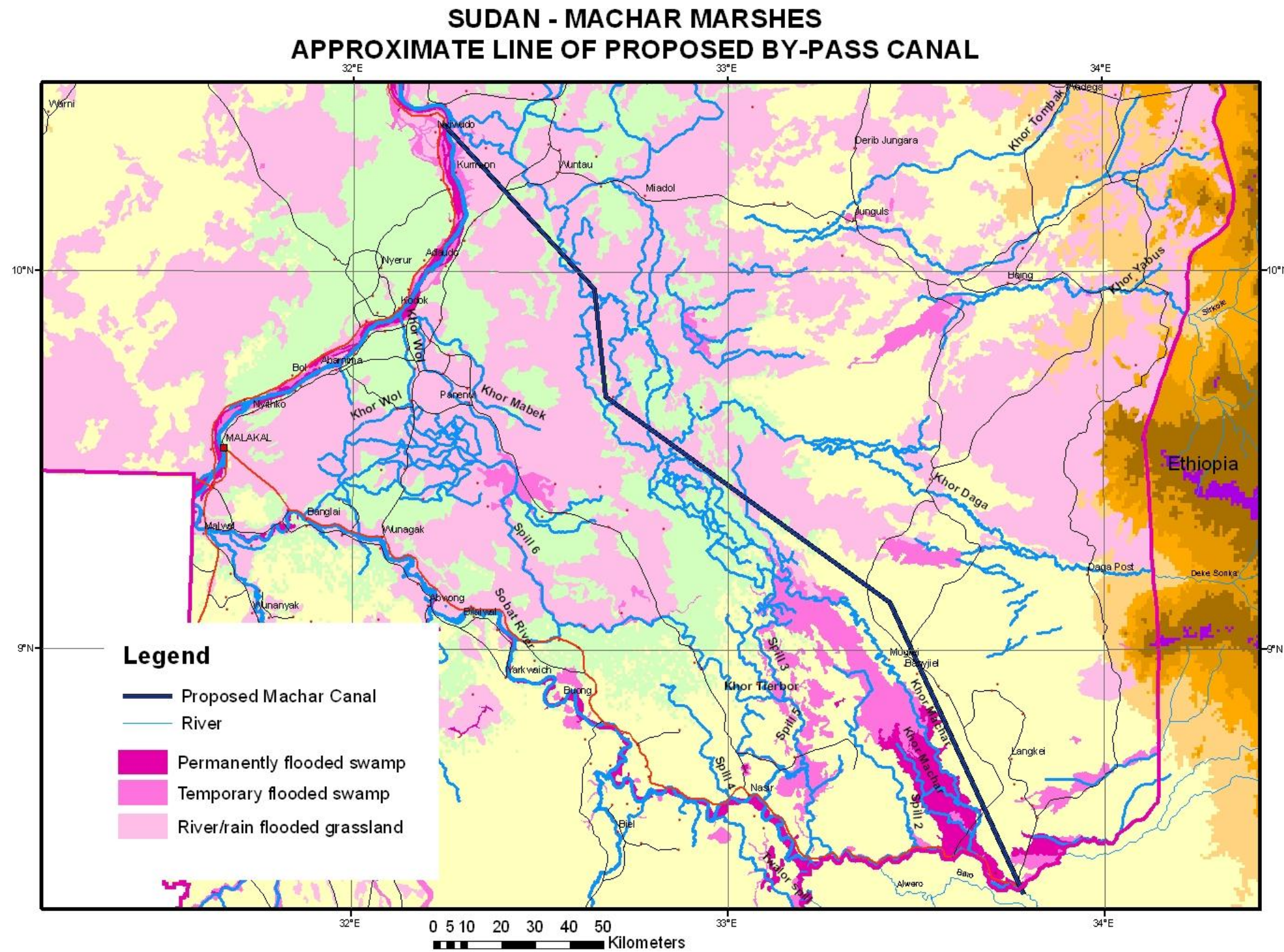


52. SOBAT-WHITE NILE SUB-BASIN: MACHAR MARSHES – OIL EXPLORATION AND NEW ROAD CONSTRUCTION. (Source: Landsat TM interpretation)

SUDAN - SOBAT - WHITE NILE SUB-BASIN OIL EXTRACTION AND NEW ROAD DEVELOPMENT



53. SOBAT-WHITE NILE SUB-BASIN: PROPOSED MACHAR MARSHES BY-PASS CANAL (APPROXIMATE ALIGNMENT) (Source: Howell, P et al (1988) "The Jonglei Canal: Impact and Opportunity", Cambridge Univ. press.



54. SOBAT-WHITE NILE: LOCATION OF HIGH MONTANE FORESTS – IMATONG MOUNTAINS. (Landsat TM N26.00-2000).

