

# The Nuba Mountains

Central Sudan

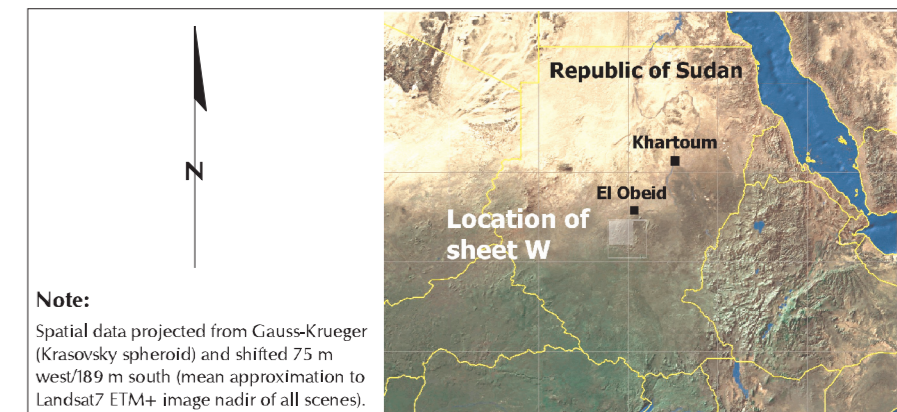
## Topographic Field Map

Map Sheet W (west): JMC Sector IV & V

1 : 250,000  
kilometers



Grid resolution: 50 meters  
UTM grid: 10 kilometer interval  
Geographic grid: 5 minute interval  
Projection: Universal Transverse Mercator (UTM)  
UTM Zone: UTMZ 35 (36 projected)  
Meridian of origin: 27 deg 00min E of Greenwich  
Latitude of origin: Equator  
Horizontal Datum: WGS84  
Vertical Datum: Mean sea level  
Spheroid: WGS84



Note:  
Spatial data projected from Gauss-Krueger (Krasovsky spheroid) and shifted 75 m west/89 m south (mean approximation to Landsat 7 ETM+ image nadir of all scenes).

### Point features

**From Russian topographic maps**  
● Settlement  
■ Spot height (elevation in m)

**From JMC sources**  
● Settlement  
○ Settlement (approx. location)  
▼ JMM/JMC infrastructure  
✕ Airstrip  
✕ Landing zone  
■ Market

### Polygon features

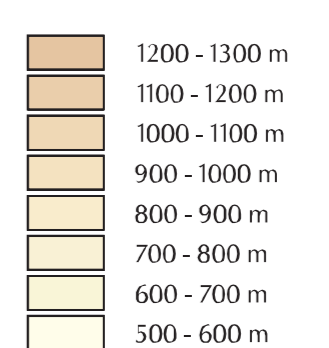
**From Russian topographic maps**  
■ Towns  
■ Seasonal surface water

### Line features

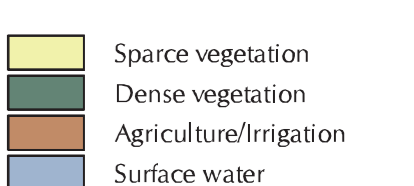
**From Russian topographic maps**  
— Perennial river  
— Seasonal river  
— Seasonal tributary river  
— Occasional tributary river  
— Contour (40 m interval)  
— Main contour (200 m interval)  
— Gravel road  
— Dirt road  
— Track/trail

**From image interpretation by CDE**  
— Railway  
— Pipeline  
— Airstrip  
— Main road  
— Gravel road  
— Dirt road

### Elevation classes



### Land cover classes



**Elevation classes:**  
derived from Digital Terrain Model DTM.

**Land cover classes:**  
derived from Landsat 7 ETM+. Classes based on Normalized Difference Vegetation Index (NDVI).

**Second Release:**  
February, 2003

The present map sheet is released by the Joint Military Commission as part of a series of 2 field maps of the Nuba Mountains area prepared by the Centre for Development and Environment, University of Bern, Switzerland. Map compilation was funded and supported by the Swiss Federal Department of Foreign Affairs.

The field map series and the map overview support the JMC mission in accordance with the ceasefire agreement between the Sudan People's Liberation Movement/Nuba and the Government of the Republic of Sudan that was signed on January 19, 2002 at Burgenstock (NW), Switzerland.

For additional information on this map as well as for comments and suggestions please contact the field office of the JMC (Nuba Mountains).

**Map sources:**  
The line and point features compiled on the map were provided partly by Eastview Cartographic (Minneapolis, USA) or collected in the field by JMC teams. Many objects (mainly linear topographic: infrastructure data, drainage network and settlements) were added by satellite image interpretation at CDE.

The Landsat 7 ETM+ images of Eurimage (Rom, I) used for land cover classification were acquired during the first half of 2002. The shaded relief was derived from a DTM that was calculated on the basis of vectorized contours, spot heights, lakes and flow accumulation schemes using algorithms provided by Environmental Systems Research Institute (Redlands, USA). The sun azimuth was set to 315 degrees (from North-West) and the sun elevation to 30 degrees above the horizon.

Georeferencing and land cover classification were obtained through standard algorithms (image nadir) for the co-registration of vector data and most likelihood classification for image data). Ground truthing and control points were not applied. The average geometric distortion is estimated to be below +/- 25.0 m. Boundaries, translocation and the location of settlements are not authoritative!

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