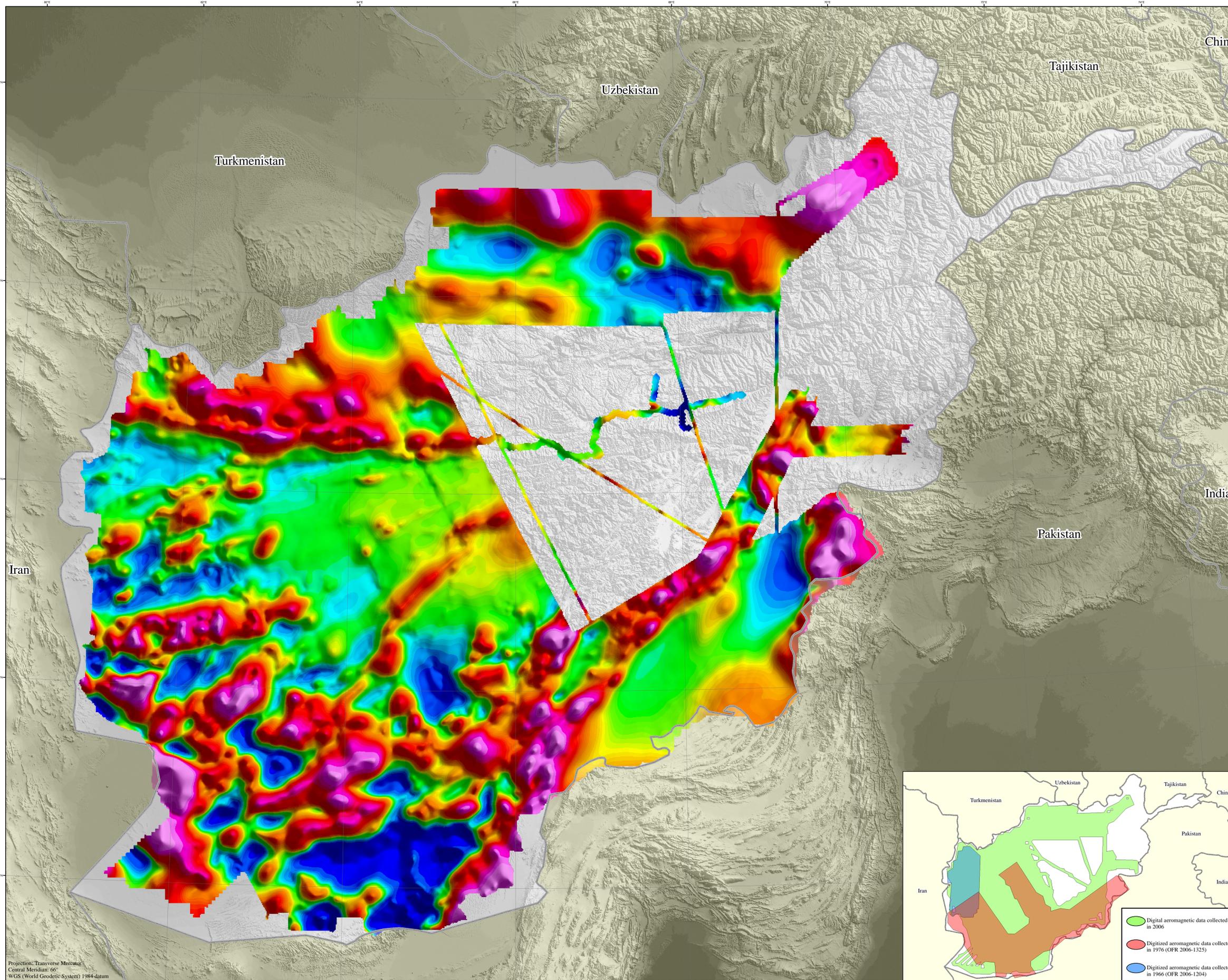


# Reduced-to-the-Pole Total Magnetic Intensity of Afghanistan



**ABSTRACT**

Afghanistan's geologic setting indicates significant natural resource potential. While important mineral deposits and petroleum resources have been identified, much of the country's potential remains unknown. Airborne geophysical surveys are a well accepted and cost effective method for obtaining information of the geological setting of an area without the need to be physically located on the ground. Due to the security situation and the large areas of the country of Afghanistan that has not been covered with geophysical exploration methods a regional airborne geophysical survey was proposed. Acting upon the request of the Islamic Republic of Afghanistan Ministry of Mines, the U.S. Geological Survey contracted with the Naval Research Laboratory to jointly conduct an airborne geophysical and remote sensing survey of Afghanistan. Data collected during this survey will provide basic information for mineral and petroleum exploration studies, which are important for the economic development of Afghanistan. Additionally, use of this data is broadly applicable in the assessment of water resources and natural hazards, the inventory and planning of civil infrastructure and agricultural resources, and the construction of detailed maps. The U.S. Geological Survey is currently funded by the US Agency of International Development to conduct resource assessments of the country of Afghanistan for mineral, energy, coal, hazards, and water resources. These geophysical and remote sensing data will be used directly in the resources assessments.

The airborne geophysical and remote sensing survey of Afghanistan was completed in August 2006. The P-3 "Orion" conducted 37 individual survey flights, logging over 220 hours of flight time during the survey. Approximately 2/3 of the land area of Afghanistan was surveyed. The survey area was limited by flight restrictions imposed by U.S. Central Command (CENTCOM). During the survey 113,000 line kilometers of magnetic data, 72,000 line kilometers of gravity data, and 110,000 line kilometers of SAR data were collected. Additionally, 150,000 square kilometers of hyperspectral imagery and 300,000 square kilometers of stereo true-color photography were collected.

The magnetic anomaly grids from the 2006 survey were subsequently merged with the ground magnetic survey data collected by the Afghan Geological Survey and the residual magnetic field data found in U. S. Geological Survey Open-File Report 2006-1206

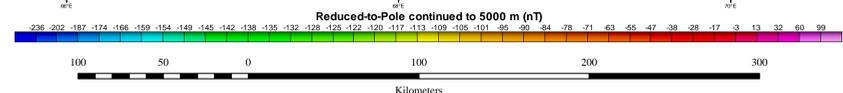
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Projection: Transverse Mercator  
Central Meridian: 66°  
WGS (World Geodetic System) 1984 datum



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