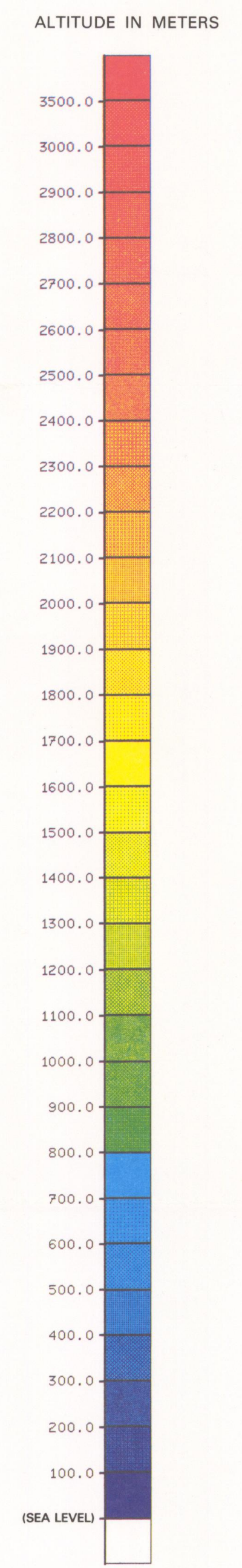
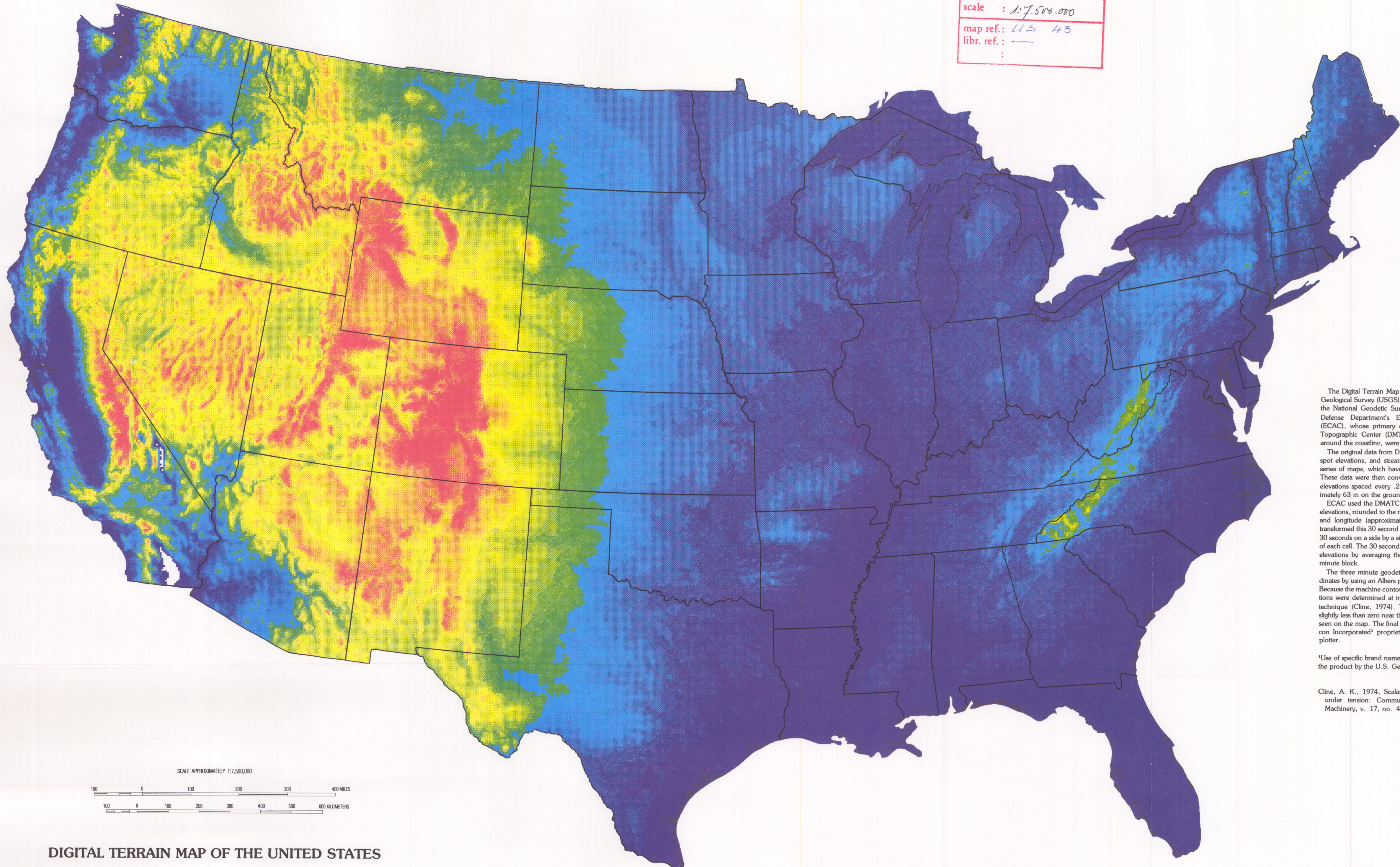


ISM - WAGENINGEN
country : USA
subject : *The ma*
scale : 1:7,500,000
map ref. : LIS 43
libr. ref. : —
:



The Digital Terrain Map of the United States was generated from a U.S. Geological Survey (USGS) digital data base created from data obtained from the National Geodetic Survey (NGS). NGS received these data from the Defense Department's Electromagnetic Compatibility Analysis Center (ECAC), whose primary data source was the Defense Mapping Agency Topographic Center (DMTC). Data for a few degree squares, especially around the coastline, were obtained by ECAC from other sources.

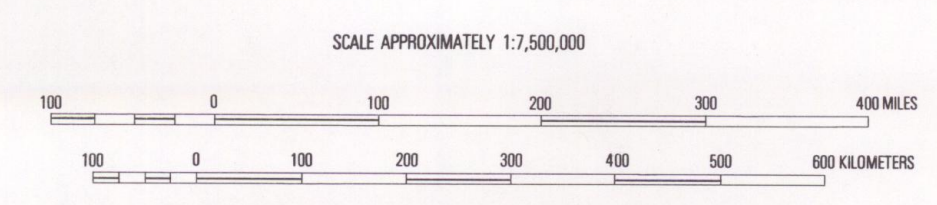
The original data from DMATC were generated by digitizing contour lines, spot elevations, and stream and ridge line data from the 1:250,000 scale series of maps, which have contour intervals ranging from 15 m to 61 m. These data were then converted to a rectangular grid of values, producing elevations spaced every .254 mm on each 1:250,000 scale map (approximately 63 m on the ground).

ECAC used the DMATC data and data from other sources to obtain point elevations, rounded to the nearest ten meters, for every 30 seconds of latitude and longitude (approximately every .83 km on the ground). The USGS transformed this 30 second point elevation data to average elevations for cells 30 seconds on a side by a simple average of the elevations of the four corners of each cell. The 30 second cell data were then converted to three minute cell elevations by averaging the 30 second cell data contained in each three minute block.

The three minute geodetic coordinates were then changed to map coordinates by using an Albers projection with a central meridian of 96 degrees. Because the machine contouring method requires equally spaced data, elevations were determined at intervals of 6 km by using a spline under tension technique (Cline, 1974). The interpolation method created some values slightly less than zero near the coastline and is the reason for some white dots seen on the map. The final interpolated data set was contoured using Applicon Incorporated¹ proprietary software and plotted on an Applicon color plotter.

¹Use of specific brand name does not necessarily constitute endorsement of the product by the U.S. Geological Survey.

REFERENCE
Cline, A. K., 1974, Scalar- and planar-valued curve fitting using splines under tension: Communications of the Association for Computing Machinery, v. 17, no. 4, p. 218-224.



DIGITAL TERRAIN MAP OF THE UNITED STATES
By
Richard H. Godson
1981