DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

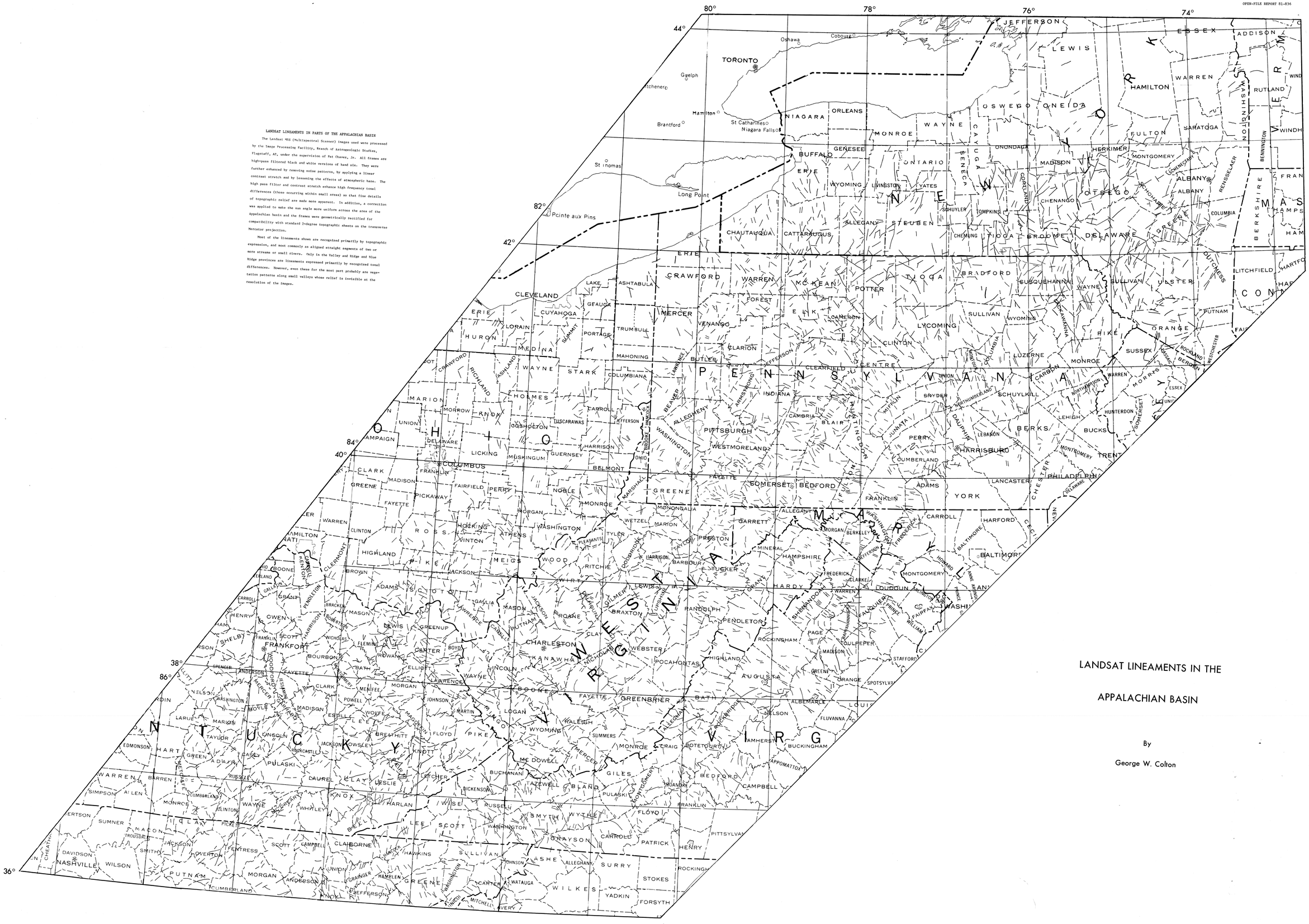
PREPARED IN COOPERATION WITH THE DEPARTMENT OF ENERGY
INTERAGENCY AGREEMENT # EX-76-C-01-2287

OPEN-FILE REPORT 81-836

LANDSAT LINEAMENTS IN PARTS OF THE APPALACHIAN BASIN

The Landsat MSS (Multispectral Scanner) images used were processed by the Image Processing Facility, Branch of Astrogeologic Studies, Flagstaff, AZ, under the supervision of Pat Chavez, Jr. All frames are high-pass filtered black and white versions of band six. They were further enhanced by removing noise patterns, by applying a linear contrast stretch and by lessening the effects of atmospheric haze. The high pass filter and contrast stretch enhance high frequency tonal differences (those occurring within small areas) so that fine details of topographic relief are made more apparent. In addition, a correction was applied to make the sun angle more uniform across the area of the Appalachian basin and the frames were geometrically rectified for compatibility with standard 2-degree topographic sheets on the transverse Mercator projection.

Most of the lineaments shown are recognized primarily by topographic expression, and most commonly as aligned straight segments of two or more streams or small rivers. Only in the Valley and Ridge and Blue Ridge provinces are lineaments expressed primarily by recognized tonal differences. However, even these for the most part probably are vegetation patterns along small valleys whose relief is invisible at the resolution of the images.



U.S. Geological Survey
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This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature.

SCALE 1:1 000 000

25 0 25 50 75 100 125 150 175 KILOMETERS

25 0 25 50 75 MILES

LANDSAT LINEAMENTS IN THE APPALACHIAN BASIN

By

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