ABOVE THE ROCKIES

Through Digital Eyes

Produced by the Cartographic Division

NATIONAL GEOGRAPHIC SOCIETY

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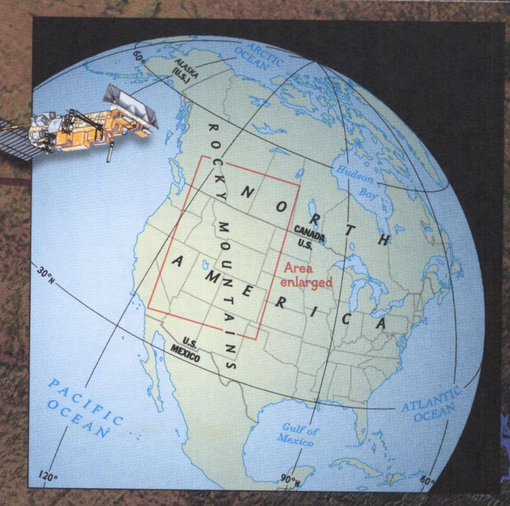
Washington, D.C., July 1995

Image created by Robert Stacey and Jim Knighton, WorldSat International Inc.
Elevation model processed by Richard Fretz.

Albers Conic Equal-Area Projection, Standard Parallels 23° 30′ and 45° 30′

SCALE 1:2,847,000 or 1 INCH = 45 MILES

STATUTE MILES 0 50 100
KILOMETERS 0 50 100



The land that became the Rockies was transformed 100 million years ago when a drifting North America rammed a dense oceanic plate. The continent's lighter crust bulged, and mountains began to rise. Just west of the Rockies the wrinkled-looking terrain of younger basin-and-range country was formed by crustal stretching and faulting, while the continent's drift over the stationary Yellowstone volcanic hot spot left a smooth, curved track that is now the Snake River Plain in southern Idaho.

To create this view, techniques of traditional mapping and satellite imaging were combined. Instruments on NOAA weather satellites orbiting some 520 miles above earth recorded the four images that make up this scene in infrared and visible light on virtually cloudless early spring days, when snow cover was near its maximum.

Satellite data were digitally plotted by WorldSat International of Canada on a standard map projection in order to cancel distortion induced by earth's curvature. For a three-dimensional effect, contour lines from corresponding topographic maps were digitized and converted to terrain features. Added realism comes from assigning natural colors to the satellite image. Finally, WorldSat directed a computer to select an inclination for the sun that would make mountains and canyons cast deep shadows.

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