U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

OPEN-FILE REPORT 02-437, v.
SHEET 2 OF 2
Explanatory pamphlet accompanies map

78° 00'
39° 30'
30'
77° 00'
15'
39° 00'

Martinsburg
Sharpsburg
Frederick
Monrovia
Charles Town
Leesburg
Gaithersburg
Rockville
Silver Spring

POTOMAC RIVER
SHENANDOAH RIVER
Opequon Creek
Antietam Creek
Catoctin Creek
Monocacy River
Goose Creek
Bush Creek
Rock Creek
Seneca Creek
Triadelphia Reservoir
Rocky Gorge Reservoir

RIDGE
BLUE RIDGE
SOUTH MOUNTAIN
CATOCTIN MOUNTAIN
MOUNTAIN
Blue Ridge Mountain

WEST VIRGINIA
VIRGINIA
MARYLAND

BERKELEY CO
JEFFERSON CO
WASHINGTON CO
FREDERICK CO
CARROLL CO
HOWARD CO
MONTGOMERY CO
CLARKE CO
LOUDOUN CO
FAUQUIER CO
FAIRFAX CO

MAP LOCATION

NLCD Land Cover Classification System

Water - All areas of open water or permanent ice/snow cover

- 11 — **Open Water** - All areas of open water; typically 25 percent or greater cover of water (per pixel)

Developed - Areas characterized by a high percentage (30 percent or greater) of constructed materials (e.g. asphalt, concrete, buildings, etc)

- 21 — **Low Intensity Residential** - Includes areas with a mixture of constructed materials and vegetation. Constructed materials account for 30-80 percent of the cover. Vegetation may account for 20 to 70 percent of the cover. These areas most commonly include single-family housing units. Population densities will be lower than in high intensity residential areas
- 22 — **High Intensity Residential** - Includes highly developed areas where people reside in high numbers. Examples include apartment complexes and row houses. Vegetation accounts for less than 20 percent of the cover. Constructed materials account for 80 to100 percent of the cover
- 23 — **Commercial/Industrial/Transportation** - Includes infrastructure (e.g. roads, railroads, etc.) and all highly developed areas not classified as High Intensity Residential

Barren - Areas characterized by bare rock, gravel, sand, silt, clay, or other earthen material, with little or no "green" vegetation present regardless of its inherent ability to support life. Vegetation, if present, is more widely spaced and scrubby than that in the "green" vegetated categories; lichen cover may be extensive

- 32 — **Quarries/Strip Mines/Gravel Pits** - Areas of extractive mining activities with significant surface expression
- 33 — **Transitional** - Areas of sparse vegetative cover (less than 25 percent of cover) that are dynamically changing from one land cover to another, often because of land use activities. Examples include forest clearcuts, a transition phase between forest and agricultural land, the temporary clearing of vegetation, and changes due to natural causes (e.g. fire, flood, etc.)

Forested Upland - Areas characterized by tree cover (natural or semi-natural woody vegetation, generally greater than 6 meters tall); tree canopy accounts for 25-100 percent of the cover

- 41 — **Deciduous Forest** - Areas dominated by trees where 75 percent or more of the tree species shed foliage simultaneously in response to seasonal change
- 42 — **Evergreen Forest** - Areas dominated by trees where 75 percent or more of the tree species maintain their leaves all year. Canopy is never without green foliage
- 43 — **Mixed Forest** - Areas dominated by trees where neither deciduous nor evergreen species represent more than 75 percent of the cover present

Planted/Cultivated - Areas characterized by herbaceous vegetation that has been planted or is intensively managed for the production of food, feed, or fiber; or is maintained in developed settings for specific purposes. Herbaceous vegetation accounts for 75-100 percent of the cover

- 81 — **Pasture/Hay** - Areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops
- 82 — **Row Crops** - Areas used for the production of crops, such as corn, soybeans, vegetables, tobacco, and cotton
- 85 — **Urban/Recreational Grasses** - Vegetation (primarily grasses) planted in developed settings for recreation, erosion control, or aesthetic purposes. Examples include parks, lawns, golf courses, airport grasses, and industrial site grasses

Wetlands - Areas where the soil or substrate is periodically saturated with or covered with water as defined by Cowardin et al

- 91 — **Woody Wetlands** - Areas where forest or shrubland vegetation accounts for 25-100 percent of the cover and the soil or substrate is periodically saturated with or covered with water
- 92 — **Emergent Herbaceous Wetlands** - Areas where perennial herbaceous vegetation accounts for 75-100 percent of the cover and the soil or substrate is periodically saturated with or covered with water

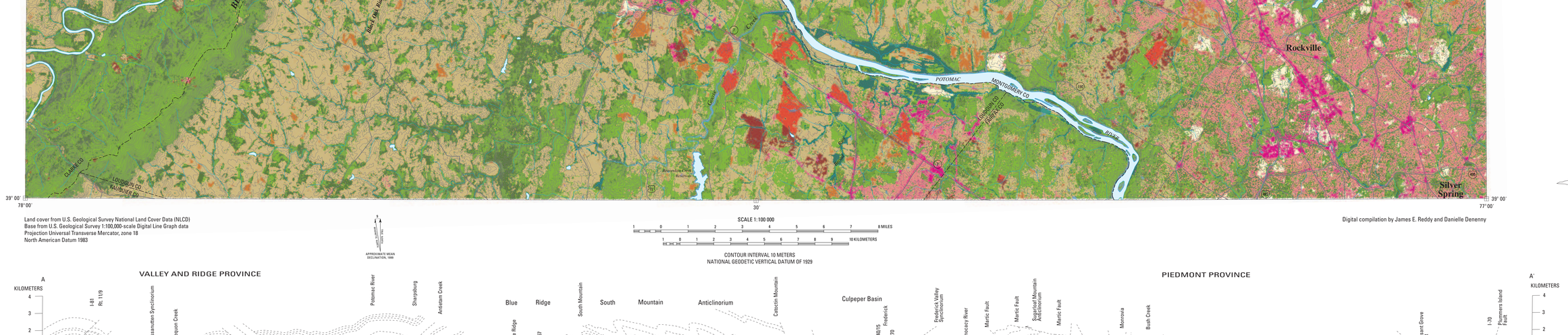
Land cover from U.S. Geological Survey National Land Cover Data (NLCD)
Base from U.S. Geological Survey 1:100,000-scale Digital Line Graph data
Projection Universal Transverse Mercator, zone 18
North American Datum 1983

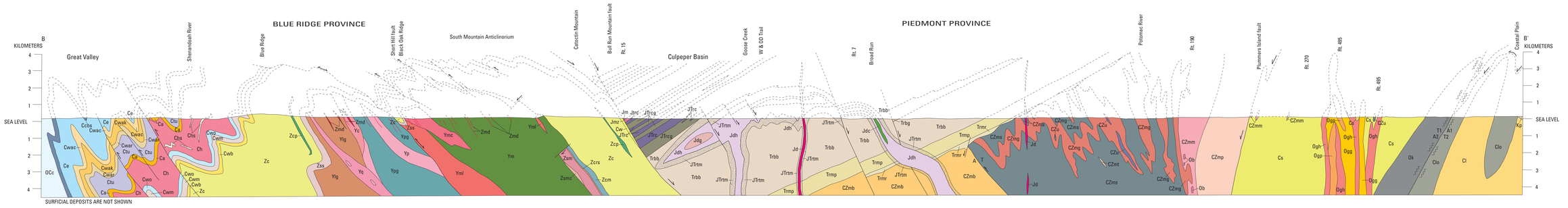
APPROXIMATE MEAN DECLINATION, 1999

SCALE 1:100 000
1 0 1 2 3 4 5 6 7 8 MILES
1 0 1 2 3 4 5 6 7 8 9 10 KILOMETERS

CONTOUR INTERVAL 10 METERS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

Digital compilation by James E. Reddy and Danielle Denenny





DIGITAL GEOLOGIC MAP AND DATABASE OF THE FREDERICK 30' x 60' QUADRANGLE, MARYLAND, VIRGINIA, AND WEST VIRGINIA

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This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards (or with the North American Stratigraphic Code)

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