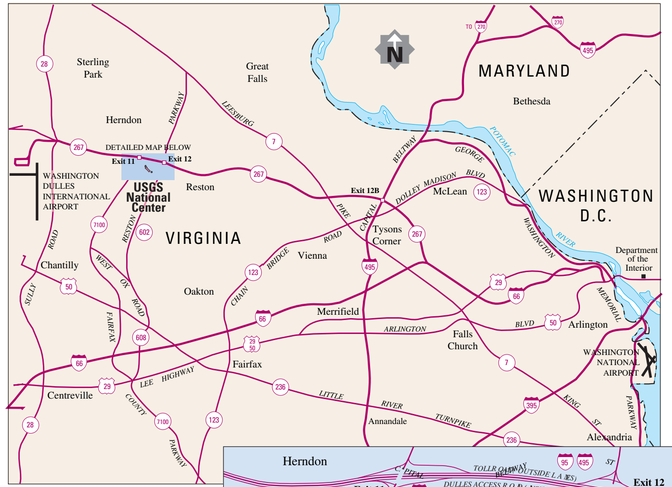

Directions to the USGS from the Beltway (I-495): Take the Dulles Toll Road west to exit 12, Reston Parkway. Turn left (south) onto Reston Parkway. At second light, turn right onto Sunrise Valley Drive and at second light, turn left at USGS Drive. A sign will indicate visitors parking.

USGS National Center Entrance:

Follow signs from the Visitors Parking. All visitors must enter at the Visitors Entrance and pass through a security screening process. All packages, briefcases, handbags, etc. will be scanned. Visitors must sign in and present a picture identification, such as a State driver's license. The guard will then issue a visitor's badge that must be worn at all times.

Note: Children under the age of 16 accompanied by a parent or sponsor (such as a teacher or counselor) are not subject to the entry screening process.

Visitors bringing laptop computers into the building are required to write the word "laptop" and the serial number on the sign-in beneath their printed name.

Main Switchboard for USGS National Center 703-648-4000
USGSGeneral Information 888-ASK-USGS (888-275-8747)

Earth Science Information
- Main Number 703-648-6045
- TDD 703-648-6131
- FAX 703-648-5545

USGS Visitors Center 703-64-VISIT (703-648-4748)

Visit USGS online at www.usgs.gov

USGS Library
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- FAX 703-648-6323
- TDD 703-648-4105
- Translations 703-648-4307

Employment Information . . . . . .
- Main Number 703-648-6131
- TDD 703-648-7788
- FAX 703-648-4113

Volunteers Opportunities
- Main Number 703-648-7440
- TDD 703-648-4249

Geology and Hydrology of the USGS Site

The USGS National Center site straddles the boundary of the eastern edge of the Triassic lowland and the margin of the Piedmont crystalline rock province. The Piedmont upland at the east side of the site is underlain by the Peters Creek Schist, a foliated metamorphic rock that is probably 550 to 650 million years old. The schist is overlain at an erosion unconformity by a layered sequence of conglomerate, sandstone, siltstone, and shale. These sedimentary rocks of Late Triassic age are typically dark red. The sedimentary sequence was intruded by 195-million-year-old diabase, some of which lies 500 meters (1,640 feet) west of the site. The rocks in contact with the diabase intrusion were thermally meta-morphosed (changed by heat) into hornfels, a brittle gray and mauve rock containing abundant green epidote crystals. The layered rocks are locally cut by normal faults and tilted 10 to 30 degrees to the west. The rocks were eroded over time and are weathered near the surface. A veneer of Quaternary alluvial sand, gravel, silt, and clay occupies the two small stream valleys that drain most of the National Center site.

USGS scientists continuously monitor the groundwater level at several observation wells on the National Center site. Between 1976 and 1980, the wells were drilled or cored to depths of 63 meters (205 feet) to 184 meters (605 feet). An observation well containing a continuous water-level recorder (hydrograph) is northeast of the main building in a small enclosed hut. Display panels explain the hydrograph's operation and provide additional information on the local and regional hydrogeology. The observation well can be reached by taking the Woodland Walk.

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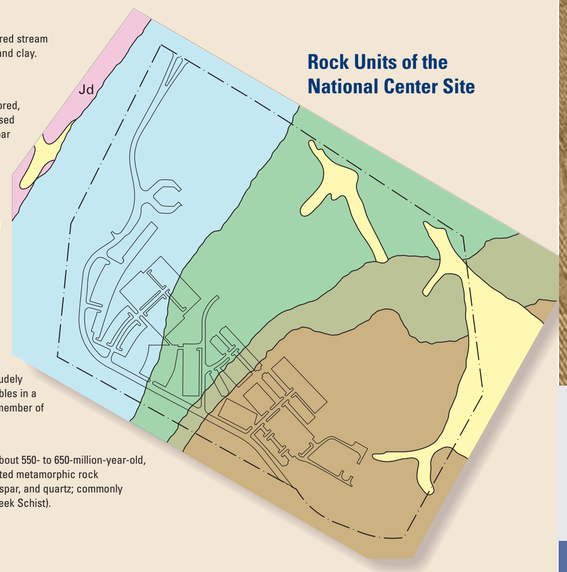
Rock Units of the National Center Site



Cenozoic

Qal — Alluvium (Quaternary) — layered stream deposits of sand, gravel, silt, and clay.

Mesozoic

Jd — Diabase (Jurassic) — about 195-million-year-old, dark-colored, intrusive igneous rock composed primarily of plagioclase feldspar and pyroxene.

Jtm — Hornfels (Jurassic) — about 195-million-year-old, gray to mauve metamorphic rock. Diabase intrusion changed the original Triassic shale and siltstone from soft sediments to hard, brittle hornfels.

Trms — Sandstone (Triassic) — about 220-million-year-old, red-brown to gray, feldspar and mica-bearing sandstone interbedded with siltstone and shale (member of Manassas Sandstone).

Trmr — Conglomerate (Triassic) — crudely bedded quartz and schist pebbles in a sandstone and shale matrix (member of Manassas Sandstone).

Precambrian

Pzs — Schist (Late Proterozoic) — about 550- to 650-million-year-old, shiny dark green to gray, foliated metamorphic rock containing mica, chlorite, feldspar, and quartz; commonly cut by quartz veins (Peters Creek Schist).

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