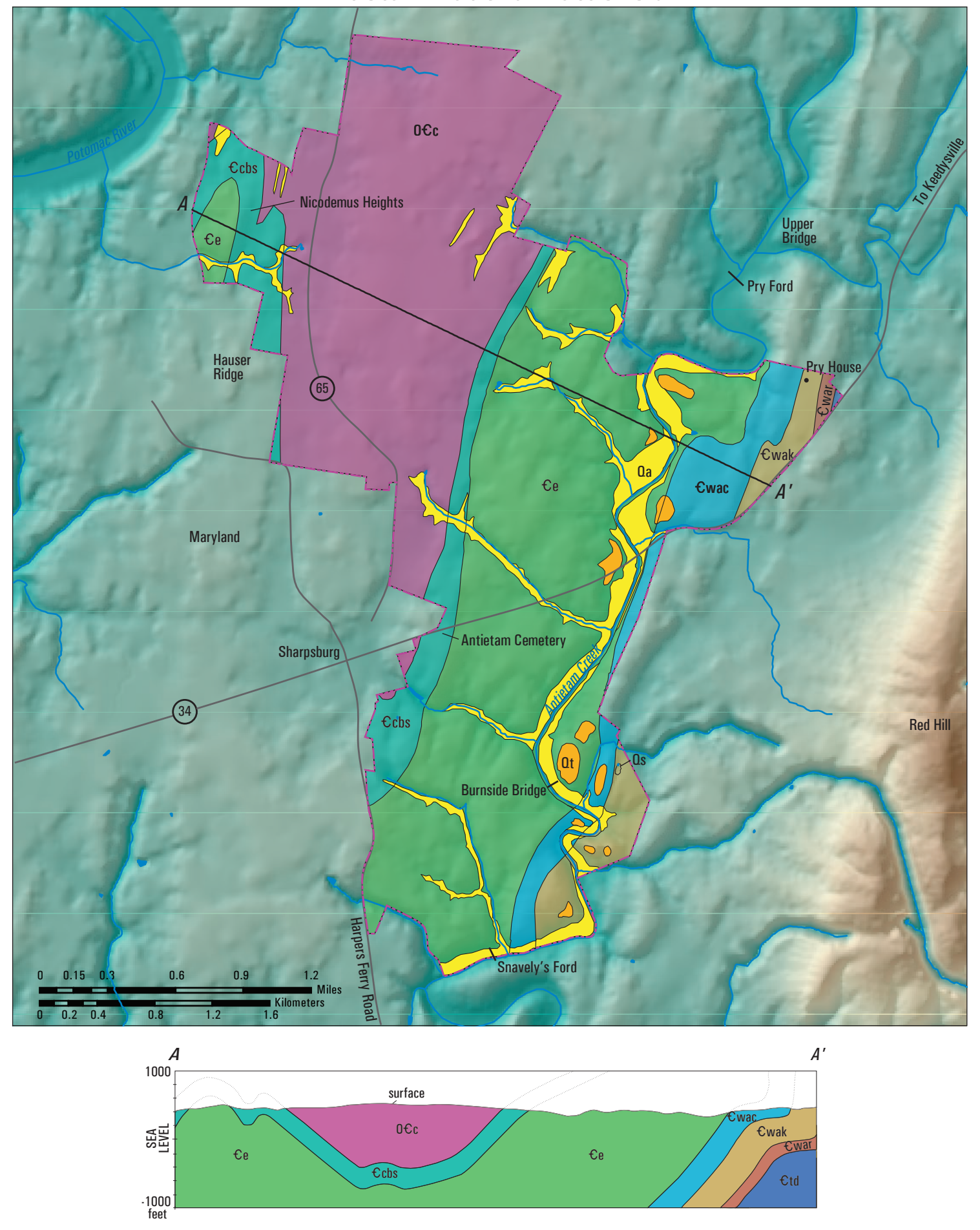
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

OPEN FILE REPORT SERIES
MAP 2005-1331, Version 1.0
Report accompanies map

Antietam National Battlefield



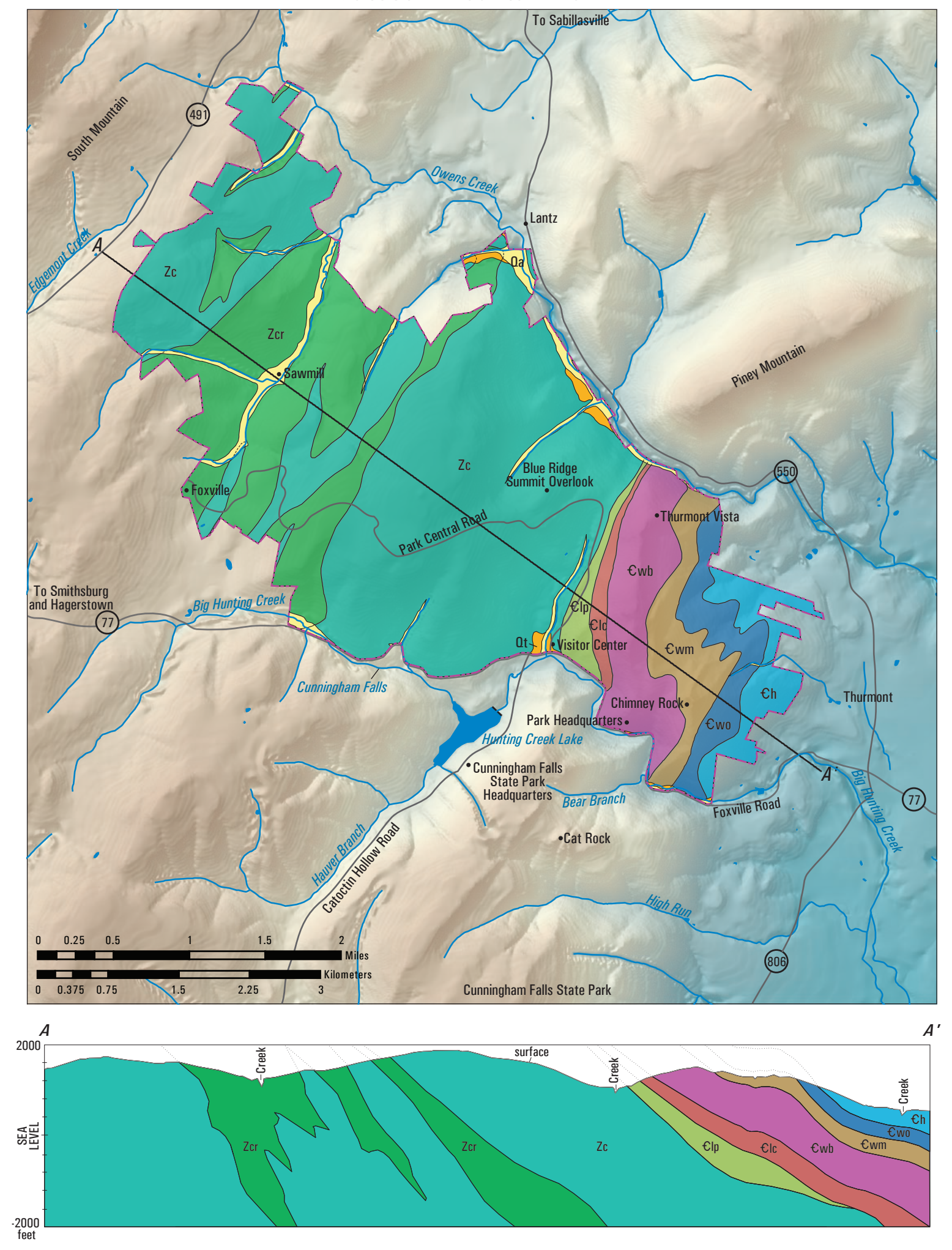
QUATERNARY SURFICIAL MATERIALS

Qa	Alluvium (Holocene)
Qs	Sinkhole (Holocene)
Qt	Terrace deposit, low level (Holocene and Pleistocene)

PALEOZOIC ROCKS

OꞒc	Conococheague Limestone (Lower Ordovician and Upper Cambrian)
Ꞓcbs	Big Spring Station Member (Upper Cambrian)
Ꞓe	Elbrook Limestone (Upper and Middle Cambrian)
	Waynesboro Formation (Lower Cambrian)
Ꞓwac	Chewsville Member
Ꞓwak	Cavetown Member
Ꞓwar	Red Run Member
	Tomstown Formation (Lower Cambrian)
Ꞓtd	Dargan Member

Catoctin Mountain Park



QUATERNARY SURFICIAL MATERIALS

Qa	Alluvium (Holocene)
Qt	Terrace deposit, low level (Holocene and Pleistocene)

PALEOZOIC ROCKS

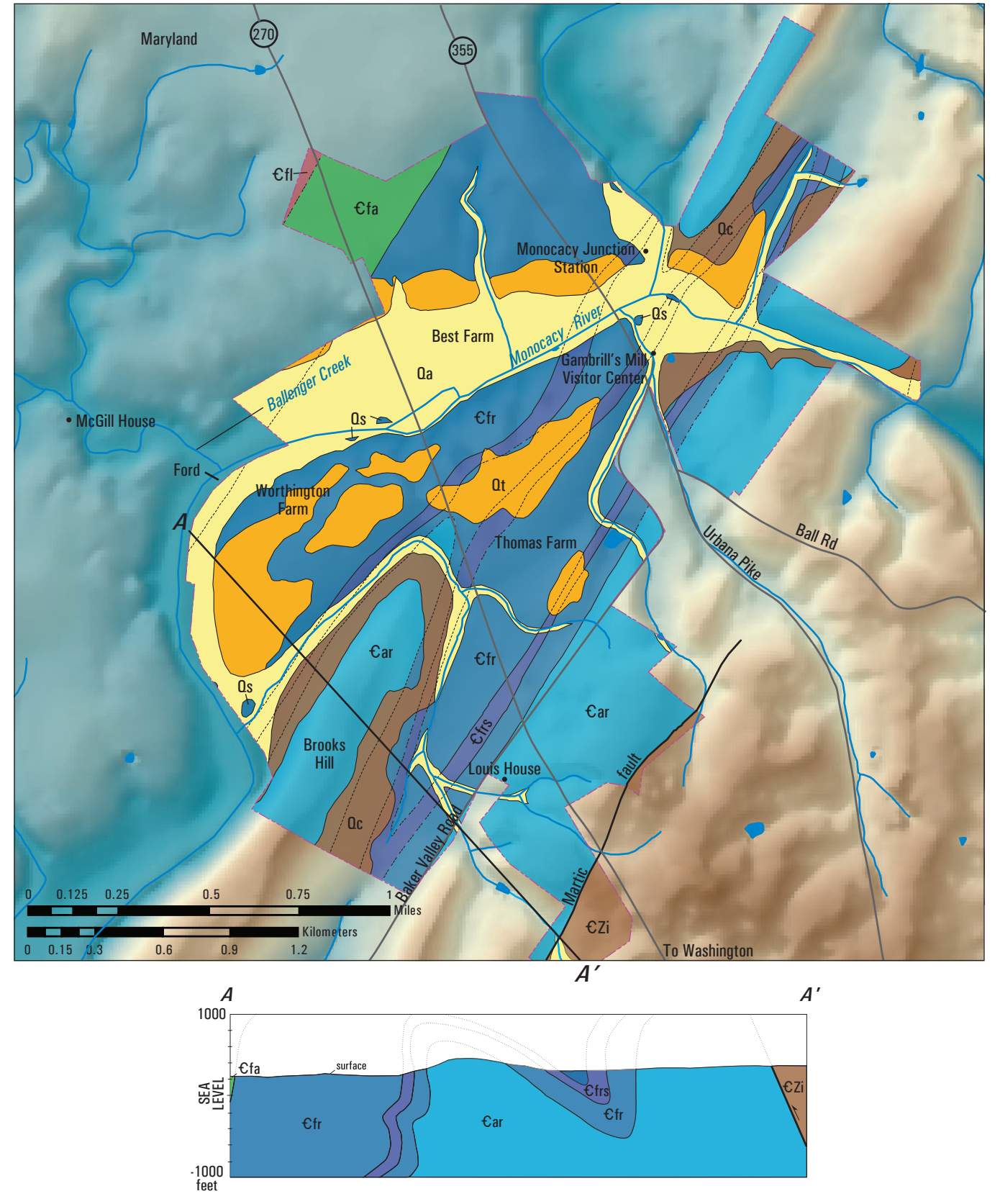
Chilhowee Group

Ꞓh	Harpers Formation (Lower Cambrian)
	Weverton Formation (Lower Cambrian)
Ꞓwo	Owens Creek Member
Ꞓwm	Maryland Heights Member
Ꞓwb	Buzzard Knob Member
	Loudoun Formation (Lower Cambrian)
Ꞓlc	Conglomerate
Ꞓlp	Phyllite

NEOPROTEROZOIC ROCKS

	Catoctin Formation (Ediacaran)
Zc	Metabasalt
Zcr	Metarhyolite

Monocacy National Battlefield



QUATERNARY SURFICIAL MATERIALS

Qa	Alluvium (Holocene)
Qs	Sinkhole (Holocene)
Qt	Terrace deposit, low level (Holocene and Pleistocene)
Qc	Colluvium (Holocene and Pleistocene)

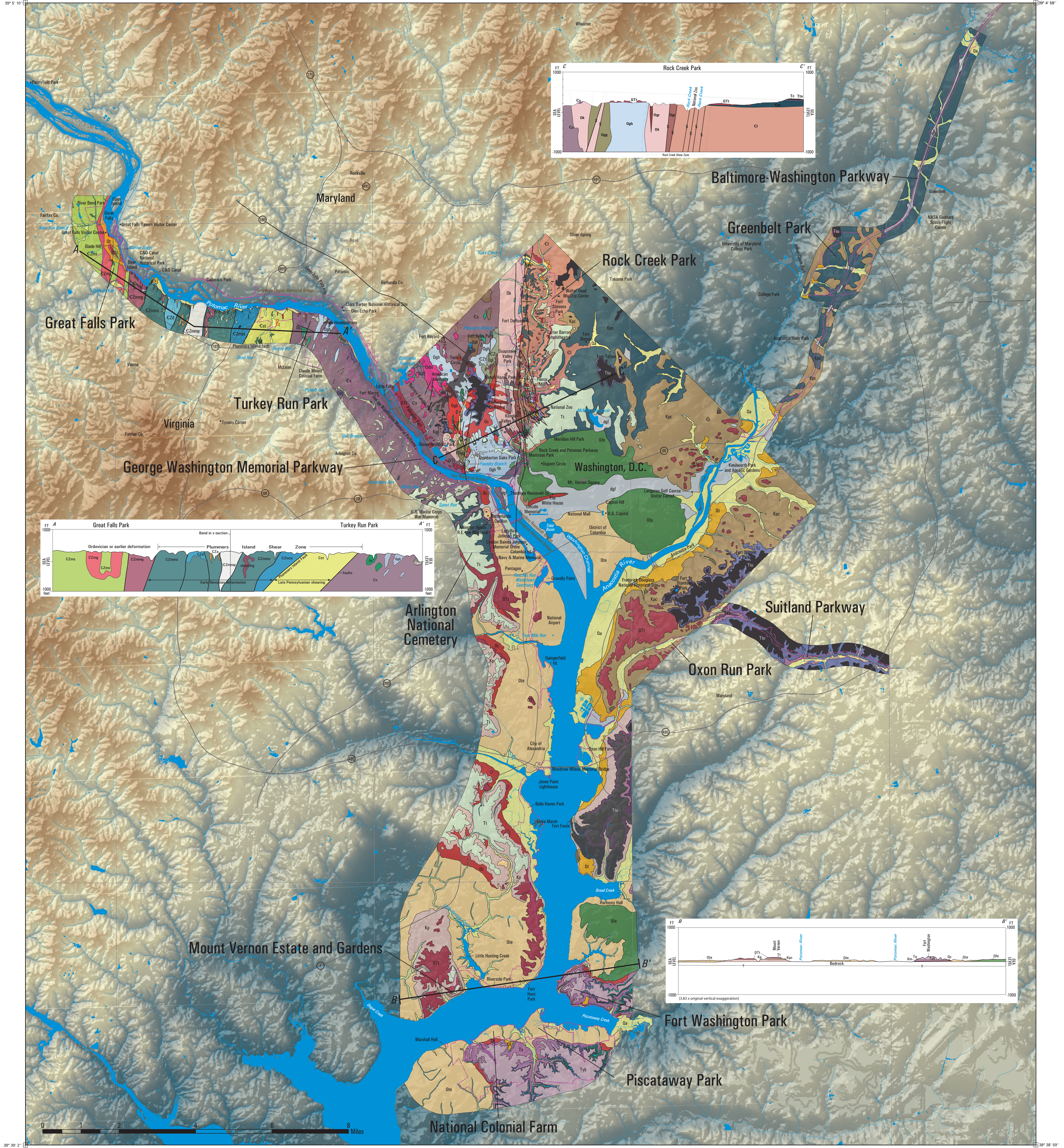
PALEOZOIC ROCKS

	Frederick Formation (Upper Cambrian)
Ꞓfl	Lime Kiln Member
Ꞓfa	Adamstown Member
Ꞓfr Ꞓfrs	Rocky Springs Station Member
Ꞓar	Araby Formation (Middle and Lower Cambrian)

PALEOZOIC AND NEOPROTEROZOIC ROCKS

ꞒZi	Ijamsville Phyllite (Lower Cambrian? and Neoproterozoic?)

Parks in the District of Columbia and Potomac River Corridor



Geology mapped from 2001-2004
Mapping based on 1:24,000-scale Digital Line Graph basemap data.
Projection: Universal Transverse Mercator, zone 18N
Datum: North American Datum 1983

EXPLANATION

‐·‐·‐	Park boundary
——	Contact (dotted where concealed)
——	Fault

QUATERNARY AND CENOZOIC SURFICIAL MATERIALS

dgf	Disturbed ground and artificial fill
Qa	Alluvium (Holocene)
Qt	Terrace deposit, low level (Holocene and Pleistocene)
Qc	Colluvium (Holocene and Pleistocene)
Qd	Debris (Holocene and Pleistocene)
Ql	Landslide (Holocene and Pleistocene)
Qte	Low-level fluvial and estuarine deposits (Pleistocene)
Qfe	Upper-level fluvial and estuarine deposits (Pleistocene)
QTt	Terrace deposits, upper level (Pleistocene and Tertiary)

CENOZOIC AND CRETACEOUS COASTAL PLAIN DEPOSITS

Tt	Terrace deposits (Tertiary)
Ttu	Highest level upland terrace deposits (Tertiary)
Tyb	Yorktown Formation (Pliocene) and Bacons Castle Formation (upper Pliocene)
Tc	Calvert Formation (middle Miocene)
Tn	Nanjemoy Formation (lower Eocene)
Tm	Marlboro Clay (lower Eocene and upper Paleocene)
Ta	Aquia Formation (upper Paleocene)
TKb	Brightseat Formation and Monmouth Group, undivided (lower Paleocene and Upper Cretaceous)
Km	Monmouth Formation (Upper Cretaceous)
Ks	Severn Formation (Upper Cretaceous)
Kp	Potomac Formation (Lower Cretaceous)
Kpc	Clay-dominated lithofacies
Kps	Sand-dominated lithofacies

PALEOZOIC ROCKS

Pzq	Vein quartz bodies (Paleozoic)
Dl	Lamprophyre dike (Late Devonian)
Op	Pegmatite (Ordovician)
Oc	Clarendon Granite (Middle Ordovician)
Ok	Kensington Tonalite (Middle Ordovician)
Ogl	Granite (Ordovician?)
	Dalecarlia Intrusive Suite (Early and Middle Ordovician)
Odm	Biotite monzogranite and lesser granodiorite
Odt	Muscovite trondhjemite
Ob	Bear Island Granodiorite (Early Ordovician?)

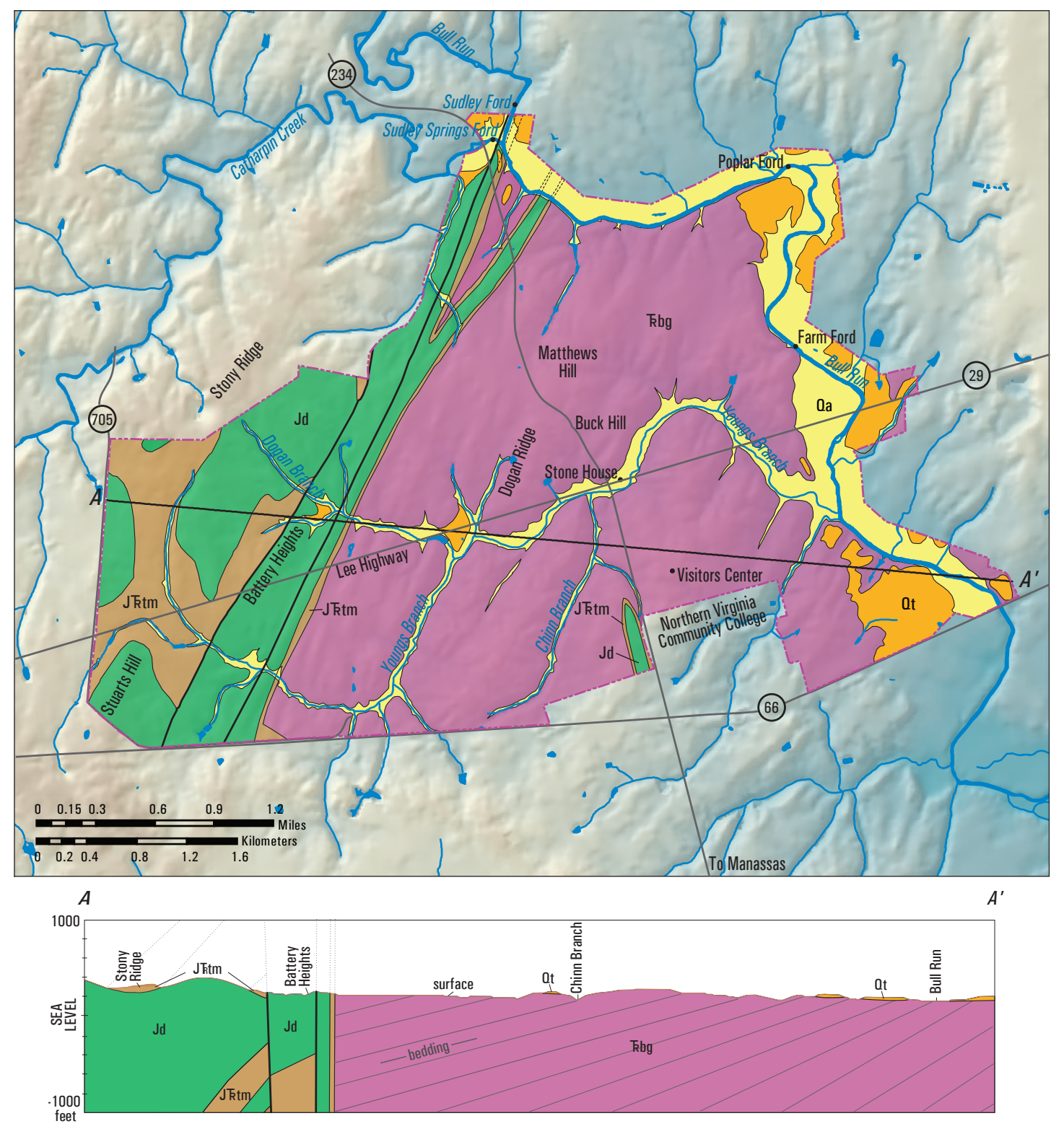
PALEOZOIC ROCKS

	Georgetown Intrusive Suite (Early Ordovician)
Ogh	Biotite-hornblende tonalite
Ogg	Quartz gabbro
Ogb	Biotite tonalite
Ogr	Garnetiferous biotite-hornblende tonalite
Ogus	Soapstone and talc schist
Ogu	Ultramafic rocks
Ogp	Pyroxenite
	Sykesville Formation (Lower Cambrian)
Ꞓs	Diamictite
Ꞓst	Diamictite tectonite
Ꞓsg	Metagraywacke and schist
Ꞓsp	Chlorite-sericite phyllonite
Ꞓl	Laurel Formation (Lower Cambrian)

PALEOZOIC AND NEOPROTEROZOIC ROCKS

ꞒZd	Diamictite (Lower Cambrian and (or) Neoproterozoic)
	Mather Gorge Formation (Lower Cambrian and (or) Neoproterozoic)
ꞒZms	Schist
ꞒZmg	Metagraywacke
ꞒZmm	Migmatite
ꞒZmmg	Migmatitic metagraywacke
ꞒZmms	Migmatitic schist
ꞒZmmp	Migmatitic phyllonite
ꞒZmss	Sheared migmatitic schist and migmatitic phyllonite
	Metavolcanic and meta-igneous rocks of uncertain origin (Lower Cambrian and Neoproterozoic)
ꞒZu	Ultramafic rocks
ꞒZa	Amphibolite
ꞒZg	Metagabbro and metapyroxenite
ꞒZt	Soapstone, talc schist, and actinolite schist

Manassas National Battlefield



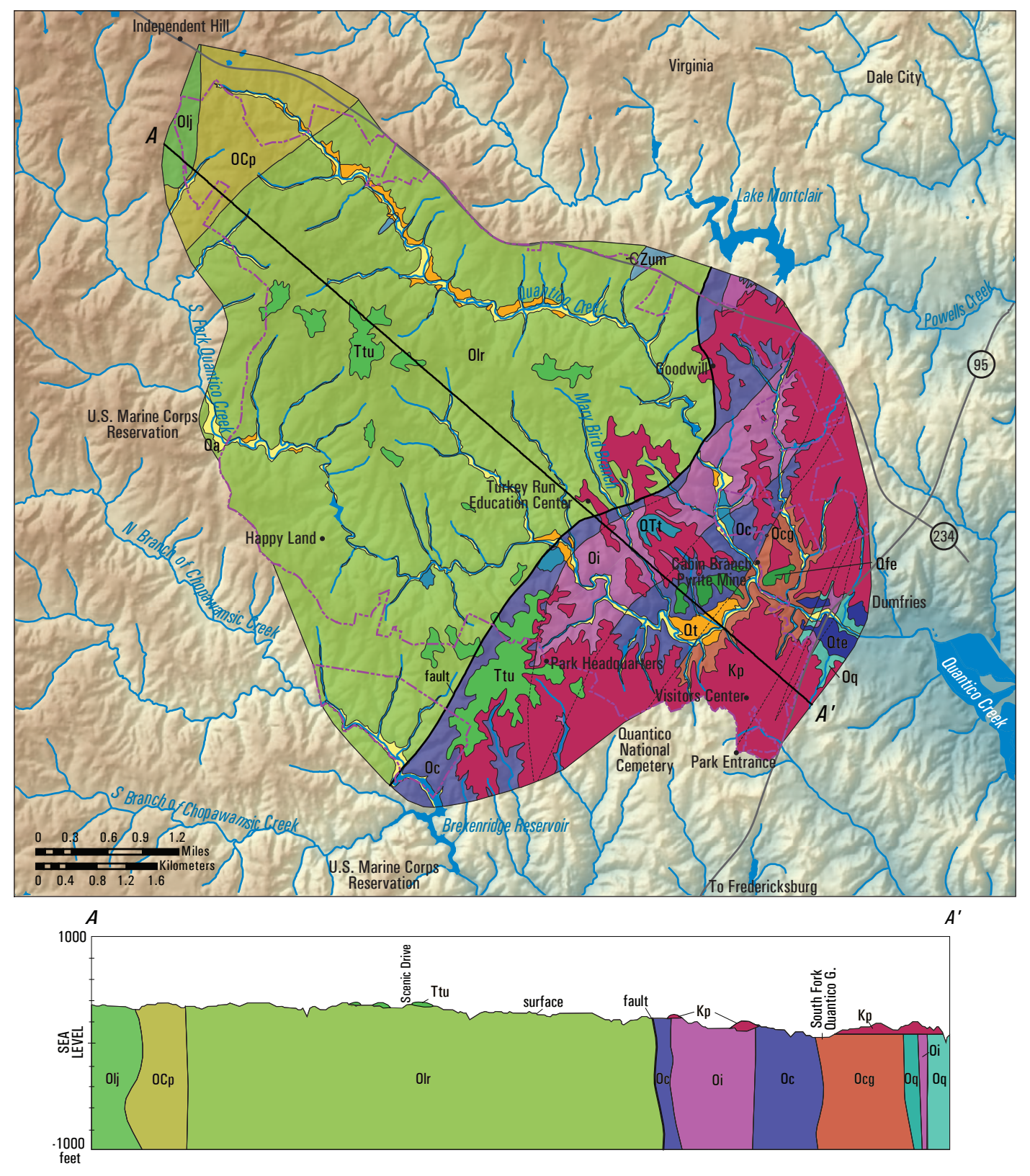
QUATERNARY SURFICIAL MATERIALS

Qa	Alluvium (Holocene)
Qt	Terrace deposit, low level (Holocene and Pleistocene)

EARLY MESOZOIC ROCKS

Jd	Diabase dikes and sills (Early Jurassic and Late Triassic)
JꞦtm	Thermally metamorphosed rocks (Lower Jurassic and Upper Triassic)
	Chatham Group
Ꞧbg	Groveton Member of the Bull Run Formation (Upper Triassic)

Prince William Forest Park



QUATERNARY SURFICIAL MATERIALS

Qa	Alluvium (Holocene)
Qt	Terrace deposit, low level (Holocene and Pleistocene)
QTt	Terrace deposit, high level (Pleistocene)

CENOZOIC AND CRETACEOUS COASTAL PLAIN DEPOSITS

	Fluvial and estuarine deposits (Pleistocene)
Qte	Lower level
Qfe	Upper level
Ttu	Upper level upland terrace deposits (Miocene)
Kp	Potomac Formation (Upper and Lower Cretaceous)

PALEOZOIC ROCKS

Oi	Felsic igneous rocks (Silurian)
Oq	Quantico Formation (Upper Ordovician)
Olr	Lunga Reservoir Formation (Ordovician)
	Chopawamsic Formation (Upper Ordovician)
Ocw	Metavolcanic and metasedimentary rocks
Ocg	Breccia and metabasalt
Olj	Lake Jackson pluton (Middle Ordovician)
OꞒp	Phyllite (Ordovician and (or) Cambrian)

PALEOZOIC AND NEOPROTEROZOIC ROCKS

ꞒZum	Mafic and ultramafic rocks (Cambrian and (or) Neoproterozoic)

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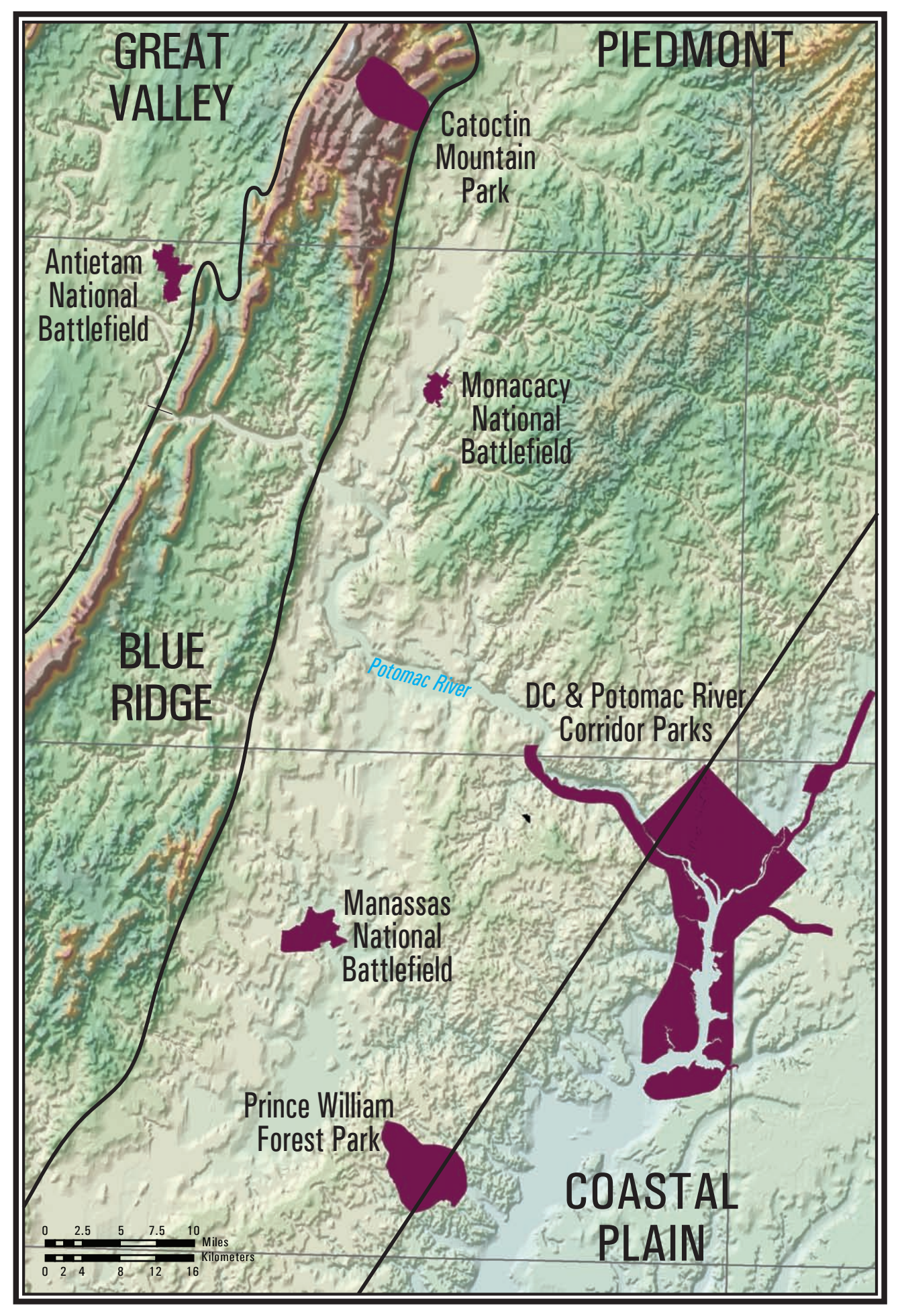
GREAT VALLEY
PIEDMONT
Catoctin Mountain Park
Antietam National Battlefield
Monocacy National Battlefield
BLUE RIDGE
DC & Potomac River Corridor Parks
Manassas National Battlefield
Prince William Forest Park
COASTAL PLAIN

GEOLOGIC MAP OF THE NATIONAL PARKS IN THE NATIONAL CAPITAL REGION, WASHINGTON, D.C., VIRGINIA, MARYLAND, AND WEST VIRGINIA

By

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2006

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