National Capital Region Inventory & Monitoring Network

National Park Service
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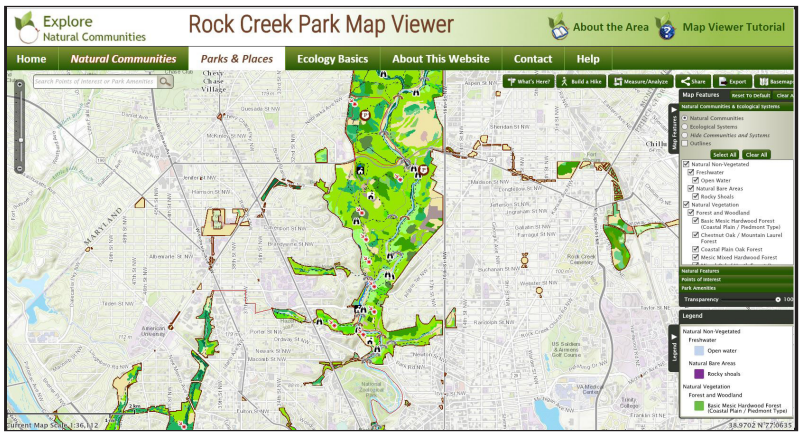
Map Viewers, Visualizers, and Tools

If you like maps or want to look at the distribution of natural phenomena on the landscape, it's been a great couple of years. The NPS has created several new resources ranging from map viewers that let the public learn about forest plant communities (Explore Natural Communities) to internal map services for park planning efforts (Park Atlas). There is also a visualizer for looking at forest vegetation data from Inventory & Monitoring in NCR (NCRN Forest Vegetation Visualizer) and a viewer for national-level landscape dynamics like landcover and forest morphology, and for Census data on population and housing (NPScape).



Explore Natural Communities is an online, place-based field guide to natural communities that also offers this interactive map. The Map Viewer offers tools for building custom hikes and planning which natural features to see along the way. Other tools can "analyze-an-area" to generate reports on natural features in the landscape. Currently highlighting the natural communities of Rock Creek Park, the site aims to explain how to "read" the natural landscape, whether to effectively manage natural areas or to enrich a park visit. Site creators will host a roll out event for the website in April 2015 featuring a hike in Rock Creek Park with NPS officials.

Ideally all map tools and viewers would "talk" to one another and be mutually compatible. However, each was created with a particular purpose and audience in mind and each uses different data sources. Though that doesn't mean they're all separate. NPMap provides a basemap called Park Tiles that links several systems together.

NPMap's Park Tiles is *the* NPS-approved basemap for use on NPS webpages (i.e. for the public). It contains official park boundaries, and map icons that match NPS graphic identity standards. It is also designed to produce maps that meet all federal accessibility standards and are responsive to mobile users (a growing segment of NPS web visitors).

NPMap is the platform for the NPS homepage "Find a Park" tool and for the NCRN Forest Vegetation Visualizer. And data from the NCR vegetation map inventory (featured on Explore Natural Communities) is slated to be added into an NPMap format as well. So these viewers, visualizers, and tools are a bit more connected than it might initially appear.

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Coming to Your Park this Spring... *Check the "NCRN I&M Activity" google calendar for details.*

Fieldwork scheduled for March, April, and May	ANTI*	CATO	CHOH	GWMP	HAFE	MANA	MONO	NACE	PRWI	ROCR	WOTR
I&M Amphibian Monitoring (starting March)			X			X				X	
I&M Forest Bird Monitoring (starting May)	X	X	X	X	X	X	X	X	X	X	X
I&M Forest Vegetation Monitoring (starting May)	X	X	X	X	X	X	X	X	X	X	X
I&M Water Monitoring (quarterly)	X	X		X	X	X	X	X	X	X	X
I&M Water Monitoring (continuous)		X				X			X	X	X

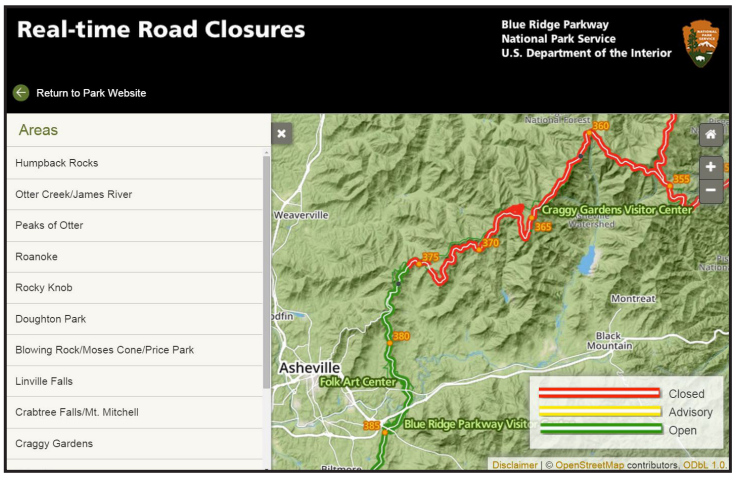
*Park acronyms on page 3

Map Viewers, Visualizers, and Tools

Map Resource	URL	Audi-ence	Data	Description & Features
ArcGIS online (AGOL) and Portal for ArcGIS (Portal)	AGOL: https://nps.maps.arcgis.com/home/ Portal: http://gisportal.nps.gov/arcgis/home/	AGOL: Public Portal: NPS	AGOL is a platform for using, creating, and sharing web maps, applications, and other geographic information with the public or within NPS. Portal is simply an NPS-only version of AGOL that only runs inside the NPS network.	Use, create, save, and share web maps; create and host web mapping applications from pre-defined templates; share links to GIS data, maps, and applications; and search for GIS content within NPS
Explore Natural Communities: Map Viewer	http://www.explorenaturalcommunities.org/	Public & NPS	Forest community type data and descriptions from the NCR vegetation map inventory. (Currently highlighting Rock Creek Park, with plans to someday include all parks.)	Interactive map allows users to build a custom hike, show points of interest, and analyze an area. Overall website is a place-based field guide to natural vegetation communities.
NCRN Forest Vegetation Visualizer	http://science.nature.nps.gov/im/units/ncrn/monitor/forest/index.cfm	Public	NCRN I&M's forest vegetation monitoring data (trees, shrubs, vines, herbs) from 2006 till present.	Interactive map and graphs of abundance or density of species. Tabular data or park species lists for download.
NPMap	http://www.nps.gov/npmap/	NPS	Official park boundaries, transportation networks, points of interest, and visitor services infrastructure. [NPMap is *the* approved platform for maps used on the NPS website]	NPMap mapping tools and the Park Tiles basemap can be used to create and maintain park maps for print or interactive web use. NPMap adheres to NPS graphic identity and accesibility requirements. It also includes official park boundaries and creates mobile-responsive maps. Updates to Park Tiles basemap are automatic for all maps.
NPScape Viewer	http://science.nature.nps.gov/im/monitor/npscape/viewer/	NPS	Forest morphology, roads, landcover, landscape pattern, & land conservation status (National Land Cover Database). Population level & housing density (Census Bureau).	A landscape dynamics monitoring project for natural resource management, planning, and interpretation.
Park Atlas	http://insideparkatlas.nps.gov/Gallery/	NPS	Natural resources, cultural resources, existing conditions, visitor use, facilities and concessions, and property ownership from park and regional sources.	Designed to support park planning efforts (i.e. foundation documents).
Vegetation Inventory Map Viewer	http://science.nature.nps.gov/im/inventory/veg/mapviewer/mapviewer.html	NPS	Vegetation map inventory for 270 national parks as it becomes available. (NCR data is not yet available except for Rock Creek.)	Displays vegetation map inventory data by park. Base layers and overlay layers can be modified by users. Users can also query content of inventory products, print maps, and download data sets directly from IRMA.

This season, the NCR Exotic Plant Management Team (EPMT) is testing a mobile app connected to the ArcGIS Portal platform. The app will allow the team to more seamlessly integrate geographic data with written field observations, photographs, and treatment data.

Special thanks in researching this article go to Cynthia Wanschura and Mark Frey.



Right: An example of NPMap tools and the Park Tiles basemap in use. This interactive public map shows real-time road closures for the Blue Ridge Parkway (http://www.nps.gov/maps/blri/road-closures/).

Spring Wildflower Walks

Please join NCRN I&M Botanist Elizabeth Matthews for a wildflower walk this spring! Two hikes will explore wildflowers and other spring plants at C&O Canal's Ferry Hill and along the North Valley Trail at Prince William Forest Park. Space is limited so please RSVP early by NPS email.

C&O Canal Ferry Hill
April 21 (Tuesday), 10am-1pm
Meet at the Ferry Hill mansion parking area, across the river from Shepherdstown, WV. Please RSVP by April 17.

Prince William Forest Park North Valley Trail
May 7 (Thursday), 10am-2pm
Depart from the parking lot D at 10am. We'll follow Pyrite Mine Road to the North Valley Trail, where we will head north towards Lake One Road. Please RSVP by May 4.

Photo: NPS/Lehman

Hopefully, the walk at Prince William will feature pink lady's slipper (*Cypripedium acaule*).

Wanted: Eastern Hemlocks, Dead or Alive

NCR's Eastern hemlock trees (*Tsuga canadensis*) are increasingly uncommon. Attacks from both hemlock woolly adelgid (*Adelges tsugae*) and elongate hemlock scale (*Fiorinia externa*) have had devastating effects yet some trees still survive.

To document stands of both living and dead hemlocks, this summer NCRN I&M will host two interns from University of Maryland, Baltimore County, to inventory eastern hemlocks throughout the NCR. It is hoped that this inventory can document surviving stands and their condition, as well as dead stands and what plant species may be moving in to replace them.

Geographic data from the hemlock inventory data will include boundaries of hemlock stands since hemlocks are more likely to occur in stands than as individually isolated trees (like American chestnuts, inventoried in 2014).

Please contact I&M Botanist Elizabeth Matthews (by NPS email) to share areas of interest that you would like surveyed or with any questions. Eastern hemlock inventory work will take place from June to August 2015.

Photo: NPS/Paradis

Eastern hemlocks on a streambank at Catoctin Mountain Park in 2007. Eastern hemlocks are usually restricted to steep terrain on north facing slopes adjacent to streams. It is one of the most threatened species of conifers in our region due to impacts from insect pests and climate change.

Forest Regeneration for 2014 is Poor

Tree seedlings and small saplings are in short supply these days. That's according the latest analysis of 2014 tree data from NCRN forest monitoring and published in a new resource brief: https://science.nature.nps.gov/im/units/ncrn/assets/docs/RBs/NCRN_ForestRegeneration_2014.pdf.

NCRN used the Stocking Index to look at forest regeneration. The index, used in all of NCR's Environmental Assessments and Impact Statements for deer management, is a Forest Service formula for quantifying if enough tree seedlings and saplings are present for regeneration.

Park Acronyms

ANTI = Antietam National Battlefield
CATO = Catoctin Mountain Park
CHOH = Chesapeake & Ohio Canal National Historical Park
GWMP = George Washington Memorial Parkway
HAFE = Harpers Ferry National Historical Park
MANA = Manassas National Battlefield Park
MONO = Monocacy National Battlefield
NACE = National Capital Parks - East
NAMA = National Mall and Memorial Parks
PRWI = Prince William Forest Park
ROCR = Rock Creek Park
WOTR = Wolf Trap National Park for the Performing Arts

Prince William & Catoctin Address Climate Change Online!

Prince William Forest Park and Catoctin are the first National Capital Region parks to directly address climate change on their websites!

While all NCR parks are working to reduce their carbon footprint, address climate change effects on park resources, and include climate change in interpretive messaging, these parks are now addressing climate change directly online. The new pages are nested under Learn About the Park> Nature > Environmental Factors > Climate Change. The Prince William webpages cover park-specific issues for visitors like climate change effects on biking, fishing, camping, and hiking, as well as effects on cabin camps, and park streams and forests. Both parks provide links to content from the NPS Climate Change Response Program on national-level actions and answers (http://www.nps.gov/subjects/climatechange/index.htm).

The new webpages are the result of a collaboration between park staff and climate change communication interns from the Urban Ecology Research Learning Alliance (UERLA) and George Mason University. Similar pages are in the works for the National Mall and Memorial Parks. The interns who have also helped NCR parks with the Climate Friendly Parks program, created toolkits for interpreters, and park microsites for phenology, will work on at least two park climate change communication projects in 2015. To learn more contact Diane Pavek by NPS email or at 202-339-8309.

CATO: http://www.nps.gov/cato/learn/nature/climate-change-catoctin.htm

PRWI: http://www.nps.gov/prwi/learn/nature/climate-change-prince-william.htm

An excerpt from one of the new climate change webpages for Prince William Forest Park.

Calendar

MARCH

29-April 3. George Wright Society Conference. Oakland, CA. http://www.georgewright.org/gws2015.

APRIL

16. Natural Resources Advisory Team (NAT) Meeting. GWMP- Turkey Run.

21. NCRN Wildflower Walk. Ferry Hill, CHOH. 10 am - 1pm. RSVP to Elizabeth Matthews by NPS email.

MAY

7. NCRN Wildflower Walk. North Valley Trail, PRWI. 10am - 2pm. RSVP to Elizabeth Matthews by NPS email.

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NCRN Natural Resource Quarterly offers updates on the status of park natural resources and Inventory and Monitoring (I&M) "vital signs" for the NPS National Capital Region Network (NCRN).

Questions or comments? Contact Megan Nortrup by NPS email or at 202-339-8314