



# Mid-Atlantic Network

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## Water Quality Monitoring begins in all parks!

With the help of park staff, volunteers, Student Conservation Association (SCA) and Youth Conservation Corps (YCC) volunteers, as well as USGS and University of Virginia (UVA) partners, pilot testing for the water quality program has begun in every park throughout the network! Over 50 sites have been identified for monitoring water quality. This monitoring includes using in-situ water quality meters to obtain stream temperature, dissolved oxygen, pH, and specific conductance values as well as obtaining grab samples for laboratory analysis. Pilot testing will allow an opportunity to refine the sampling procedure as we move forward to finalize the water quality monitoring protocol.

Resource managers and staff from each park have greatly contributed to getting the program off the ground. Park staff provided knowledge of specific issues faced in the local watersheds that helped define sampling priorities, and now are actively engaged in monthly field data collection. In collaboration with UVA, park staff have learned new procedures to ensure accurate data is collected including instrumentation use (the joy of calibration), and field sampling. We are very grateful for their continued support which will ensure success of this long-term monitoring program.



N. Dammeyer provides training for YCC Volunteer on water quality sampling in RICH. Photo by M. Prowatzke.

To help this process along Nathan Dammeyer (see p. 4) has joined our team as a hydrologic technician. As issues arise with the emerging protocol Nathan will be available to assist park staff with troubleshooting equipment and incorporating suggestions for making the program more efficient and valuable to park needs. Nathan is working on generating a streamlined setup and field process.

This is an exciting time for water quality in the Mid-Atlantic Network. We have the opportunity to establish a pro-

gram that can address both the immediate concerns of park managers as well as establish a long-term baseline on changing aquatic conditions. The data and lessons we learn in this pilot phase will help define the long term program, and we expect to refine and adjust our approach with park input over the next few years.

For more information, please feel free to contact Nathan ([Nathan\\_Dammeyer@nps.gov](mailto:Nathan_Dammeyer@nps.gov)) and the protocol website: <http://science.nature.nps.gov/im/units/midn/ProtocolWaterQualityandQuantity.cfm>.



## Inside this issue:

- 1 Water Quality Monitoring begins
- 2 Weather and Climate
- 2 Data management notes
- 3 Vital Sign monitoring updates
- 4 People news

# Weather and Climate

Weather and climate are key drivers of terrestrial and aquatic ecosystems, affecting biotic as well as abiotic ecosystem characteristics and processes. Global and regional scale climatic patterns, trends, and variations are critical to the cycling of elements, nutrients, and minerals through the ecosystems and can deliver pollutants from regional and even global sources. These variations and trends influence the fundamental properties of ecologic systems such as soil-water relationships and plant-soil processes and their disturbance rates and intensity. Information obtained from meteorological monitoring will be useful to interpreting and understanding changes in species composition, community structure, water and soil chemistry, and related landscape processes.

The Mid-Atlantic Network is working with Pennsylvania State University to develop a series of annual reports on the weather of network parks. Most of the information presented is derived from



a variety of weather observing networks close to the parks. Reports group parks based on proximity and access to weather stations in common.

The first series of reports summarizing data from 2007 have now been completed and posted, with the 2008 reports to follow shortly. Draft versions of the 2009 reports will undergo initial review by park staff in the coming months. A monitoring protocol is currently under development and we expect a draft to be completed by the fall.

Reports will be available via the network website: <http://science.nature.nps.gov/im/units/midn/ProtocolWeatherandClimate.cfm>

Clouds over Fredericksburg National Cemetery. Photo by N. Bircher.

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## A word from your local friendly network data manager

### NRINFO/IRMA

The Integration of Resource Management Applications (IRMA) team is in the process of transitioning legacy applications (e.g. NatureBib, NPSpecies, and Data Store) into the Natural Resource Information Portal (NRInfo), a “one-stop shopping” site for NPS natural resource information. Currently NRInfo provides certified species lists from NPSpecies and references from NatureBib and NPS Data Store. On May 24, 2010, the Natural Resource Program Center disabled all data entry and editing capabilities in NatureBib and NPS Data Store and migrated all legacy data to the new application. As of June 4, records can be created, viewed, edited, and deleted via the Reference Application on NRInfo. Currently the new application is only available to NPS intranet users and contractors. A public interface is expected to be

released in 2011. NRInfo can be accessed at: <http://nrinfo.nps.gov/>. More information about IRMA and NRInfo is available at [http://www1.nrintra.nps.gov/nrpc\\_soa/](http://www1.nrintra.nps.gov/nrpc_soa/) and <http://science.nature.nps.gov/im/datamgmt/IRMA.cfm>.

### NPSCAPE

Early this year, each of the parks in MIDN received a thumb drive containing data products from the NPSCAPE project. NPSCAPE is a landscape dynamics monitoring project, led by Bill Monahan at the

Natural Resource Program Center in Fort Collins, CO, which delivers data on six landscape measures: population, housing, roads, land cover, pattern, and conservation status. A new NPSCAPE intranet site is available at <http://www1.nrintra.nps.gov/im/monitor/npscape/> which provides updated fact sheets, SOPs, and links to documents and other data. Data products are also available on NRInfo.



Forest vegetation monitoring. Photo by J. Comiskey

# Status of the MIDN Vital Sign Monitoring

## AIR QUALITY

The EPA announced it would reconsider the 2008 primary National Ambient Air Quality Standard (NAAQS) for ozone, to ensure it is scientifically sound and protective of human health. EPA is now proposing a primary standard between 0.060 and 0.070 ppm measured over 8 hours. A final decision is expected by August 2010: [http://www.nature.nps.gov/air/Pubs/newsletters/TheMonitor\\_Spring2010.pdf](http://www.nature.nps.gov/air/Pubs/newsletters/TheMonitor_Spring2010.pdf)

## AQUATIC MACROINVERTEBRATES

The second year of monitoring was conducted by the Appalachian Aquatic Consultants in March, 2010, across the network. The group is currently updating the protocol for Shenandoah NP and will subsequently produce a draft protocol for the network. Our plan is to continue sampling network parks on an annual basis.

## BREEDING BIRDS

MIDN has released the 2009 Bird Monitoring Volunteer Newsletter ([http://science.nature.nps.gov/im/units/midn/reports/MIDN\\_2009\\_Bird\\_Volunteer\\_Newsletter\\_web.pdf](http://science.nature.nps.gov/im/units/midn/reports/MIDN_2009_Bird_Volunteer_Newsletter_web.pdf)) summarizing results from last year's pilot data collected at Booker T. Washington NM, Fredericksburg and Spotsylvania NMP, and Valley Forge NHP. A full report including point and park level ecological integrity scores for forest and grassland habitats is expected to be completed by August of this year. Data collected last year may be viewed through the



Green Heron (*Butorides virescens*). Photo by N. Bircher.

USGS Bird Point Count Database. Currently, we are in our second year of pilot testing and have expanded the program to Appomattox Court House NHP and Richmond NBP. For 2011, we hope to have nearly all network parks up and running.

## FOREST VEGETATION

The network is preparing for the fourth year implementing Forest Vegetation Monitoring plots in network parks. The team is again shared with the Northeast Temperate

Network and is led by Andrew Vincello who is joined by John Martin, Dana Spon-tak, and Jesse Wheeler. A week of training was conducted at Marsh-Billings-Rockefeller National Historical Park. Currently the crew are on their way to Acadia NP and will be sampling MIDN parks in August and September. We expect to establish about 80 plots before the season is complete.

## WATER QUALITY AND QUANTITY

As outlined on page 1, the monitoring has begun in earnest in all network parks. We are extremely grateful to park staff that have agreed to assist with sample collection. Pilot testing will continue for the next two years before the protocol is finalized.

In an effort to obtain quantitative information on changing temperature of high gradient streams, MIDN has assisted Shenandoah NP staff with the deployment of temperature data loggers in approximately 20 streams across the park. At Staunton River, several loggers were deployed along an elevational gradient.

## WEATHER AND CLIMATE

By the end of the summer we expect to have three sets of annual reports completed on the weather conditions of network parks from 2007 to 2009. A draft protocol will be completed in the fall and undergo external peer review.



Vegetation monitoring training at Marsh-Billings-Rockefeller NHP. Photo by J. Comiskey



SHEN fish crew deploy temperature loggers in the Rapidan River. Photo by T. Downey

# All the way from Texas!

The most recent addition to the MIDN staff, Nathan Dammeyer, came onboard in late May 2010 as the new hydrologic technician for the network. Nathan joined us by way of Texas where he recently completed a M.S. program at Texas State University-San Marcos in Aquatic Resources. Nathan's thesis work investigated the movement patterns of the fountain darter, an endangered

fish found only in headwater reaches of two spring-dominated central Texas streams.

Nathan has worked for the National Park Service in several capacities at Big Bend and Sequoia/Kings Canyon National Parks and more recently with the U.S. Fish and Wildlife Service at the San Marcos National Fish Hatchery and Technology Center.

Nathan enjoys pretty much any outdoor activity and is especially excited about the canoeing and backpacking opportunities available in the Mid-Atlantic region.

Nathan can be contacted by email at: [Nathan\\_Dammeyer@nps.gov](mailto:Nathan_Dammeyer@nps.gov) or by phone at: 202-380-8370

**N. Dammeyer running Hot Springs rapid on in the Lower Canyons of the Rio Grande. Photo by H. Dammeyer**



Cover photo credits: Whip-poor-will (*Caprimulgus vociferus*) eggs (SHEN) in top banner and Spicebush Swallowtail (*Papilio troilus*) caterpillar (SHEN) in bottom banner by N. Dammeyer

## New to the Northeast Region

We are very happy to welcome Peter Sharpe to the NPS as coordinator of the Northeast Natural Resource Condition Assessment (NRCA) Program. Pete is duty-stationed at Fredericksburg and Spotsylvania NMP, collocated with the Mid-Atlantic Network. With funds from the NPS Water Resources Division and cooperating with university partners, the NRCA Program is preparing

natural resource condition assessment reports for all of the Region's park units with significant natural resources. This program of evaluating the existing condition of park natural resources, including an assessment of threats, will be ongoing for several years.

Pete has committed much of his career to coastal wetland plant ecology and has a broad background with experiences in non-tidal wetlands, bats, fish and benthic surveys, and terrestrial plant surveys. Pete received his Ph.D. from the University of Maryland in Marine, Estuarine and Environmental Science, and holds a MS in Environmental Pollution Control from Penn State University. Prior to joining us,

**P. sharpe collecting field data at the Nanticoke River, Maryland.**



### Mid-Atlantic Network

[science.nature.nps.gov/im/units/midn/](http://science.nature.nps.gov/im/units/midn/)

### Shenandoah National Park Natural Resource Inventory and Monitoring

[www.nps.gov/shen/naturescience/](http://www.nps.gov/shen/naturescience/)

### National Inventory & Monitoring Program

[science.nature.nps.gov/im](http://science.nature.nps.gov/im)

### National Park Service

[www.nps.gov](http://www.nps.gov)

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Pete was in Catalonia, Spain, conducting research to assess coastal marsh accretion and subsidence dynamics in the Ebro River Delta. Pete is a welcome addition to our NER natural resource and science staff.

Pete can be reached at: [peter\\_sharpe@nps.gov](mailto:peter_sharpe@nps.gov) (202-380-8054)

## Mark Your Calenders

April 5-7, 2011

MIDN 3-Year  
Review!

More information  
coming soon.