

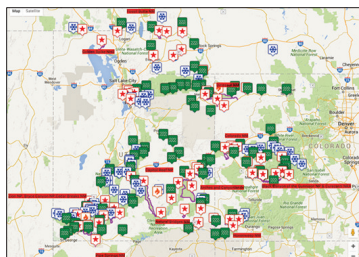


Natural Resource Monitoring at Golden Spike National Historic Site

The Northern Colorado Plateau Network

In 16 parks across four western states, the [Northern Colorado Plateau Network](#) (NCPN) is dedicated to providing National Park Service (NPS) managers with the information they need to make sound, science-based decisions. By conducting long-term monitoring of key indicators of ecological integrity, or “vital signs,” we help inform managers about the health of park resources and provide early detection of potential problems. In this way, we support the NPS mission of preserving the resources of America’s most special and treasured places for future generations. This brief describes recent NCPN activities at [Golden Spike National Historic Site](#).

Climate



NCPN weather stations.

The NCPN recently moved its [climate](#) monitoring toward interactive, user-defined data presentation. Network staff are working with developers of [The Climate Analyzer](#), an interactive website that allows users to create custom graphs and tables from historical and current weather-station data that update every 24 hours. Parameters include temperature and precipitation, snowfall and snowpack, and stream flow and water temperature. In July 2014, an NCPN version of [The Climate Analyzer](#) was launched, with data now available for each network park. In addition, “Climate

dashboards” for Dinosaur NM and the Southeast Utah Group parks (Arches NP, Canyonlands NP, Hovenweep NM, and Natural Bridges NM) present current conditions, forecasts, and recent data for numerous weather stations in one easy-to-access location. The dashboards also present the current condition of drought severity in the region through a link to the U.S. Drought Monitor. Additional NCPN dashboards are in development, and the page will continue to be refined as we receive feedback from users. More information can be found in our [2015 climate monitoring brief](#).

Invasive Exotic Plants



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Rush skeletonweed.

In 2014, nine priority [invasive exotic plant](#) (IEP) species were detected on monitoring routes that covered all major roads, trails, and riparian areas at Golden Spike NHS. Three additional non-priority species were recorded only in quadrats. Priority species that were on the list in all years increased substantially from 2012, and were present in their highest levels detected during any monitoring from 2008 to 2014. However, 82% of the patches detected were present in small, localized invasions that have a good chance of being successfully controlled through management

actions. Rush skeletonweed (*Chondrilla juncea*), Scotch thistle (*Onopordum acanthium*), and field bindweed (*Convolvulus arvensis*) were the most prevalent species, representing 82% of all invasions found. It is unclear why IEPs substantially increased, but precipitation in 2012 tended to be below average, while precipitation in 2014 was above average. The network will return to Golden Spike NHS for a fifth year of monitoring in 2016. Reports for all years are available at <http://go.nps.gov/ncpnIEPreports>.

New Species



Little-pod false flax.

NCPN staff continues to update the park species lists as new species are discovered. Our invasive exotic plant monitoring crew recently documented three new, non-native vascular plants at Golden Spike NHS: broadleaf pepperwort (*Lepidium latifolium*), little-pod false flax (*Camelina microcarpa*), and rush skeletonweed (*Chondrilla juncea*). Broadleaf pepperwort is currently on the State of Utah noxious weed list. Introduced from Eurasia, this species is widespread in the U.S. and is usually found in riparian and palustrine (wetland)

habitats. Little-pod false flax is a non-native species that can be invasive. It is native to Asia, and is typically found along roadsides and in other disturbed areas. Rush skeletonweed is not currently on the Utah noxious weed list, but the state is considering adding it. It is on the noxious weed lists of several adjacent states. This species is native to Europe, and is commonly found along roadsides and in fields and other disturbed areas. Users can generate customized species lists for any network park at <http://go.nps.gov/NCPNspecies>.

Archiving Project



The Western Archeological and Conservation Center.

In fiscal year 2014, the NCPN obtained funding for professional archiving services through an existing agreement between the NPS Intermountain Region Museum Services Program and the University of Arizona School of Information Resources and Library Science. The archiving services include preparation of records for archiving, cataloging of all materials, the creation of finding aids, and physical storage of all records at the Western Archeological and Conservation Center (WACC)

in Tucson, Arizona. The WACC facility provides temperature and humidity-controlled storage conditions and a professional archives staff. As a result of this effort, all final products for the Golden Spike National Historic Site vegetation mapping project have been archived. This will help ensure the long-term preservation of these important records, as well as compliance with NPS rules, regulations, and policies related to archiving and records management.

Land Surface Phenology

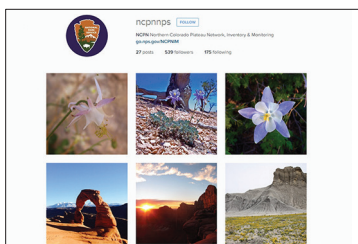


MODIS image of Earth, with an opening in cloud cover over the Colorado Plateau.

The NCPN is working with cooperators at Pennsylvania State University and Northern Arizona University to develop software that automates processing of MODIS (moderate resolution imaging spectrometer) satellite imagery. The greenness of Earth's surface, as measured by the MODIS satellite, provides a way to [track soil moisture and](#)

[vegetation condition](#) across large spatial scales in remote areas at 16-day intervals. These satellite data are being used to interpret climate effects on vegetation in NCPN parks. The data are being analyzed in conjunction with data from NCPN uplands monitoring to determine if observations from space match what we see on the ground.

Social Media



The NCPN is using Instagram to reach a younger demographic.

The NCPN uses social media to reach broader audiences than are available to us via our NPS website. In 2015, posts on the network's [Facebook page](#) had more than 200,000 views. We use Facebook to promote network activities, publications, and parks; participate in agency-level social media efforts; and share links to stories about science in the national parks. The page has more than 2,500

followers, and an average reach of about 1,800 each week. In November 2015, we expanded our social media presence to Instagram (@ncpnps) and quickly became the most-followed Inventory & Monitoring network on that platform. Using [Instagram](#) allows us to reach a younger audience than Facebook, where less than 7% of our audience falls into the 13–24 age demographic.

Additional Efforts

In addition to the projects described in this brief, the NCPN also monitors [landscape dynamics](#) and

[water quality](#) at Golden Spike National Historic Site.

For more information

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