

Supporting our Partners to Advance Science, Inform Decisions, and Communicate and Connect

Advance Science

"Phenology is one of the key indicators of the biological impacts of climate change. USA-NPN data are vitally important benchmarks with which we can evaluate these impacts. **There is no other comparable data set in North America.**" – Andrew Richardson, Regents' Professor, Northern Arizona University

"**Our study would not be possible without the extensive data provided by USA-NPN.** USA-NPN can continue to inform us about how environmental change is impacting timing of phenological events." – Daijiang Li, Postdoctoral Researcher, University of Florida

"The large sample size, wealth of information on various phenophases, and broad geographic coverage of the United States make USA-NPN data **particularly useful for modeling exercises** and for gaining an **improved mechanistic understanding of plant phenology.**" – Luke Zachmann, Senior Scientist, Conservation Science Partners

"*Nature's Notebook* data is essential to our research because it not only provides us with **high-quality phenological information**, but also provides **highly trustworthy data** that can be used to vet the accuracy of other phenological data where accuracy was previously unknown." – Isaac Park, Postdoctoral Researcher, University of California, Santa Barbara

"I never would have been able to collect **high-quality data** across this large region without the USA-NPN's *Nature's Notebook* platform." – Erynn Maynard-Bean, Postdoctoral Researcher, Penn State

"There is **no other comparable dataset** for plant phenology in North America" – Shawn Taylor, USDA-ARS

Inform Decisions

"USA-NPN has made our pest phenology forecasting and pest management programs **more accurate** on a national level, which **decreases pesticide use, exposure, and environmental impacts.**" – Dan Herms, Vice President of Research and Development, The Davey Tree Expert Company

"USA-NPN products have been extremely helpful in my work. Finding **reliable GDD information** was a challenge prior to finding USA-NPN tools." – Patrick Anderson, Arborologist, Rainbow Treecare Scientific Advancements

"[The USA-NPN's Pheno Forecasts] are a **great example of a professionally developed decision support system** for assisting in pest management decisions." – Leonard Coop, Entomologist, Oregon State University

"The localized nature of our rainstorms during monsoon make it difficult for us to predict when and where [invasive] buffelgrass will green up, and likewise brown down. Improving our knowledge of when it is green will allow us to be more efficient and effective when we plan and when we apply herbicide. **Better greenness maps will make sure that our scarce dollars are used to their maximum benefit.**" – Perry Grissom, Restoration Ecologist, Saguaro National Park

"We present USA-NPN phenology data to about 20 parks per year, for a total of about 80 parks or maybe 1600 people. **It's really helped us make sense of and interpret changes** like 'the average temperature has increased 2.2 degrees' - nobody understands what a 2 degree change in temperature means, but they totally get it when you say first leaf is about 10 days earlier." – John Gross, Ecologist, Climate Change Response Program, National Park Service

"*Nature's Notebook* has been a turning point in our management of the invasive *Verbesina*. **The tool helped us to get ahead of the game** by understanding this species' phenology throughout the year and integrating it into the timing of control treatments." – Wieteke Holthuijzen, Kupu Americorps Intern at Midway Atoll National Wildlife Refuge

"The USA-NPN's application is **just the tool we were looking for** to expand these efforts [to predict mayfly emergence] over a broad spatial scale by encouraging the public to participate as citizen-scientists in observing, recording, and appreciating the significance of this annual, natural spectacle." – Mark Steingraeber, Fish Biologist, La Crosse Fish and Wildlife Conservation Office, USFWS

Communicate and Connect

"**The maps and spring indices help us put the season and its progression into historical context.**" – Jason Samenow, Weather Editor, The Washington Post

"It's been incredibly helpful to have a **direct, credible source** to go to for these stories. My editor has been impressed and **it's added significance to my reporting.** It's an invaluable resource." – Elliot Williams, Staff Writer, DCist

"Our organization is thrilled to participate in this phenology program. The data we are collecting will not only **help understand trends and management implications** at McDowell Sonoran Preserve but will also inform resource management across the Sonoran Desert. Many thanks to USA-NPN for its incredible support!" – Tiffany Sprague, Field Institute Manager, McDowell Sonoran Conservancy

"We feel so fortunate to be part of a group that **engages citizens with their local environment.** CPP [California Phenology Project] Stebbins participants are learning about phenology, they are becoming connected with the UC Natural Reserve System, and they are truly invested in the health and well-being of Stebbins Cold Canyon as a place. It's powerful to see high schoolers through retirees excited about the first Toyon berries or concerned about the outcome of the recent fires." – Rachel Wigginton, Graduate student, University of California, Davis

"Working with the National Phenology Network was a rewarding experience and a great way to **engage volunteer scientists in interesting research.**" – Andrew Elmore, Associate Professor, University of Maryland Center for Environmental Science