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**We need you!**

**Become a citizen scientist AND Learn to Make Maps**

**Is our climate changing? What is Phenology? Are you interested in mapping and GIS?**

Phenology is nature's calendar. Changes in events like flowering and bird migrations are among the most sensitive biological responses to climate change. Across the world, many spring events are occurring earlier—and fall events are happening later—than they did in the past. You can become a citizen scientist through observation and collecting.

Phenology is a key component to life: birds time their nesting so that eggs hatch when insects are available to feed nestlings. In turn, insect emergence is often synchronized with leafing out in their host plants. For many people, allergy season starts when particular flowers bloom—earlier flowering means earlier allergies. Farmers and gardeners need to know when to plant to avoid frosts, and they need to know the schedule of plant and insect development to decide when to apply fertilizers and pesticides. Many interactions in nature depend on timing. In fact, phenology affects nearly all aspects of the environment, including the abundance, distribution, and diversity of organisms, ecosystem services, food webs, and the global cycles of water and carbon.

**We invite you to join us! (Learn about phenology, making observation and collecting data.)**

As a community we will observe a set of local species throughout the spring and make some local maps that will be on display during the summer at fairs. We will be using ArcGIS software to create maps and we will be offering training throughout the summer in MA & RI.

**What Species:**

Trees:

Red Maple

Sugar Maple

White Oak

Larch

Flowering Cherry

Bushes:

Lilac

Rhododendron

Plants:

Daffodil

violet

Animals:

Hummingbird

Striped bass

Your Choice

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### Daffodil Days

We are going to map the march of Spring using daffodil blossoms.

You will observe and let us know when you notice daffodils to be in bloom in your area.

For safety we are going to map by town. Data sets will be e-mailed to ma4hset@gmail.com

### SAMPLE

Name	E-mail	Town/State	Week of	Within 20ft Y/N	Sun Exposure N S E W	Notes	Picture (Optional)

**What is bloom?** - A bloom is indicated as the bud breaking open so you can see the petal and cup defined.

Bloom on Left – bud starting to open on Right.



For more information or to become active members of the USA National Phenology Network visit their website.



<https://www.usanpn.org/>