

Three Minute Thesis Webinar: Citizen Science

November 8, 2019
1:00 – 2:00 (CST)

Hosted by
NOAA Central Region Collaboration Team



Agenda

- 1:00 Introduction and Overview
- 1:05 What is Citizen Science and NOAA Community of Practice
John McLaughlin (NOAA Education)
- Citizen Science: The Current State and Guidance - Laura Oremland (NOAA Fisheries)
- Learning Through Citizen Science Report
Kenne Dibner (National Academies of Sciences, Engineering, and Medicine)
- 1:15 Questions
- 1:20 CoCoRaHS - Noah Newman (Colorado State University)
- mPING - Kim Elmore (OAR Severe Storms Lab)
- GLOBE Program - Allison Leidner (NASA)
- 1:30 Questions
- 1:40 Salmon Ambassadors - Dan O'Keefe (Michigan Sea Grant)
- Taking the Pulse of Our Planet with Nature's Notebook
Jake Weltzin (U.S. Geological Survey)
- Stellar Watch - Burlyn Birkemeier (NOAA Fisheries)
- 1:50 Questions
- 2:00 Webinar concludes

What is Citizen Science?

John McLaughlin

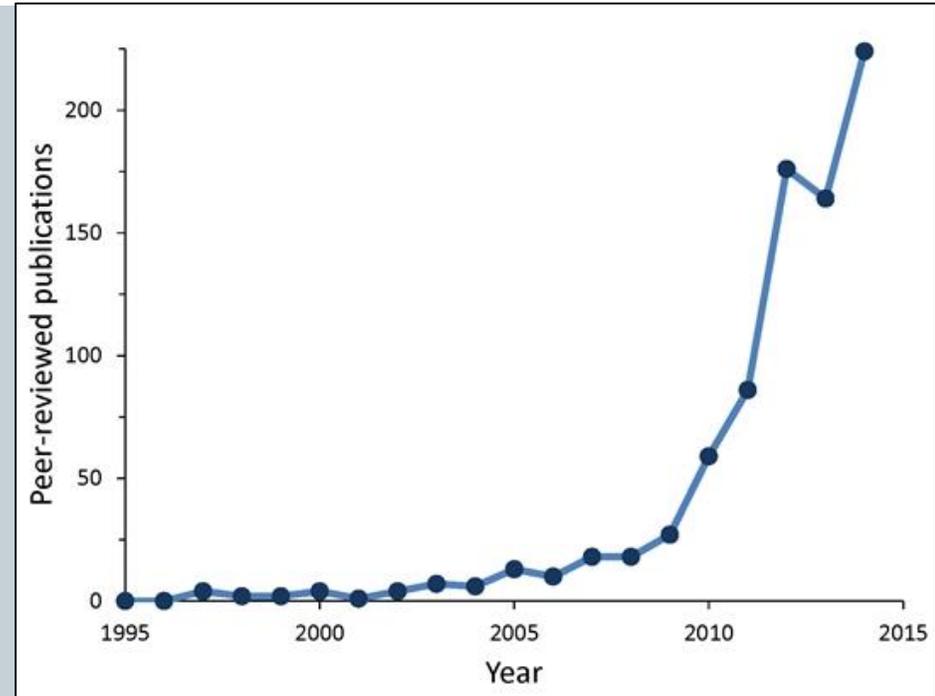
NOAA Office of Education

A form of open collaboration in which individuals or organizations participate voluntarily in the scientific process.

NOAA Citizen Science Community of Practice,



email john.mclaughlin@noaa.gov to join!



Search of the Web of Science for the keyword "citizen science"

McKinley et al (2015) Issues in Ecology 19.

Learn about U.S. federal government efforts and resources at CitizenScience.gov

Citizen Science: The Current State and Guidance

Legislation

- Crowdsourcing & Citizen Science Act
- Provides guidance, no mandate

White House (OSTP)

- 1st Report (June 2019)
- 86 activities by 14 depts, agencies
- 13% NOAA

NOAA

- Science Advisory Board 2018 report
- Leadership
- NOAA Admin Order on R&D



“By encouraging everyday Americans to engage in scientific research, our citizen science authorities benefit communities and the country as a whole, as well as advance our science and technology enterprise. This report highlights the Trump Administration’s commitment to unleash Federal resources, strengthen partnerships inside and outside of government, and encourage citizens to tackle great scientific challenges.”

Kelvin Droegemeier, Director, OSTP

Learning Through Citizen Science: Key Messages

- There is clear evidence that people can learn from participating in citizen science.
- Learning in citizen science is not automatic, and is unlikely to happen unless intentionally planned for.
- Learning is enhanced by evidence-based strategies of design and implementation.
- Attending to learning advances scientific and community outcomes.
- Designing for equity enhances learning.

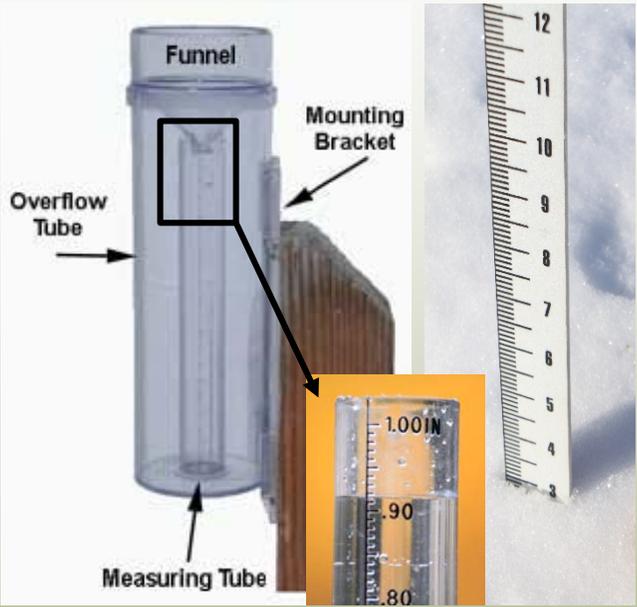
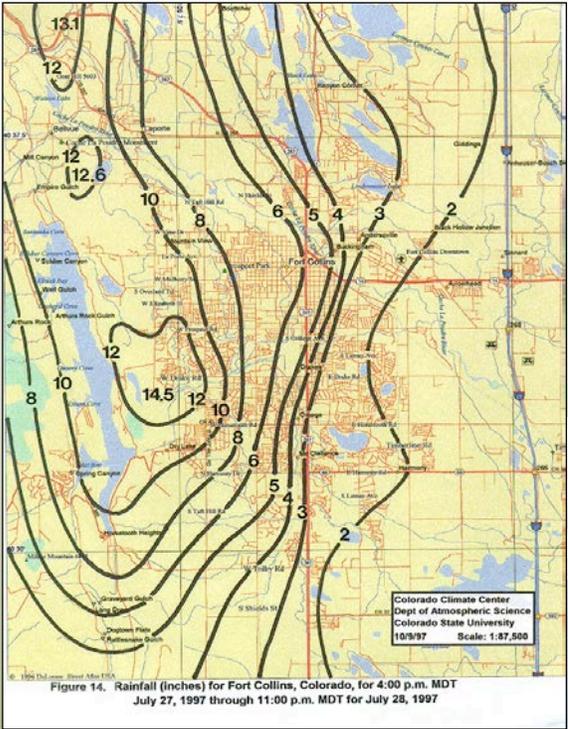
Questions?

What is Citizen Science and NOAA Community of Practice
John McLaughlin (NOAA Education)

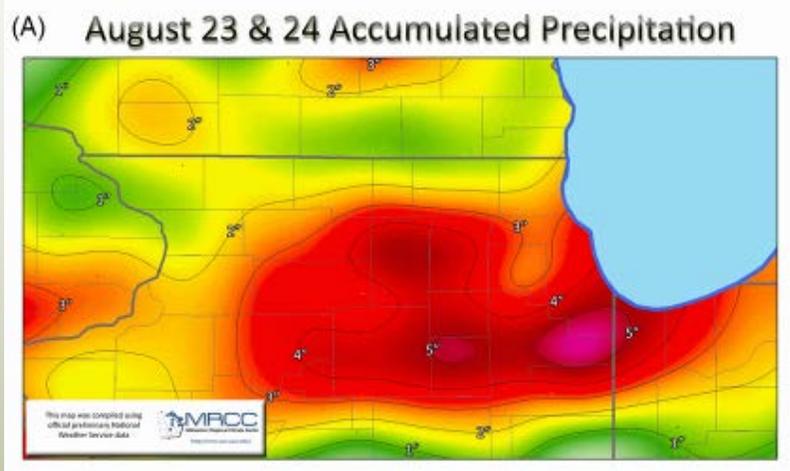
Citizen Science: The Current State and Guidance
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Learning Through Citizen Science Report
Kenne Dibner (National Academies)

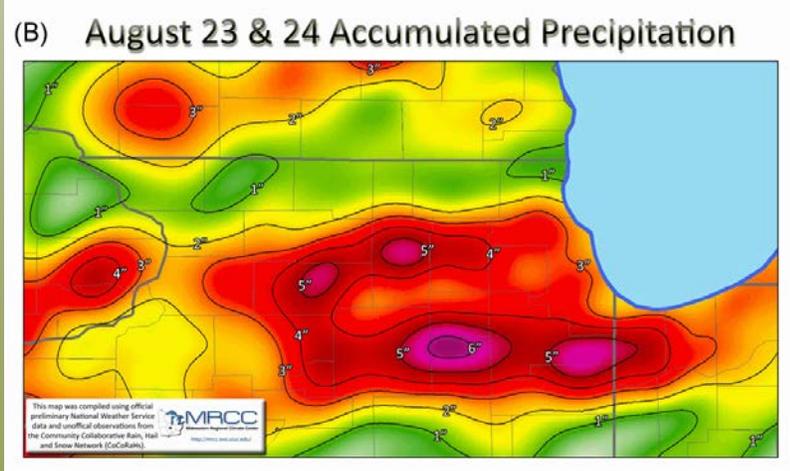
Community Collaborative Rain, Hail and Snow Network



Without CoCoRaHS data



With CoCoRaHS data



By Meteorological Phenomena can be identified Near the Ground – mPING

So far, mPING has collected 2,000,000 observations describing present weather, such as precipitation type, fog, since 19 Dec 2012. But there's much more as to

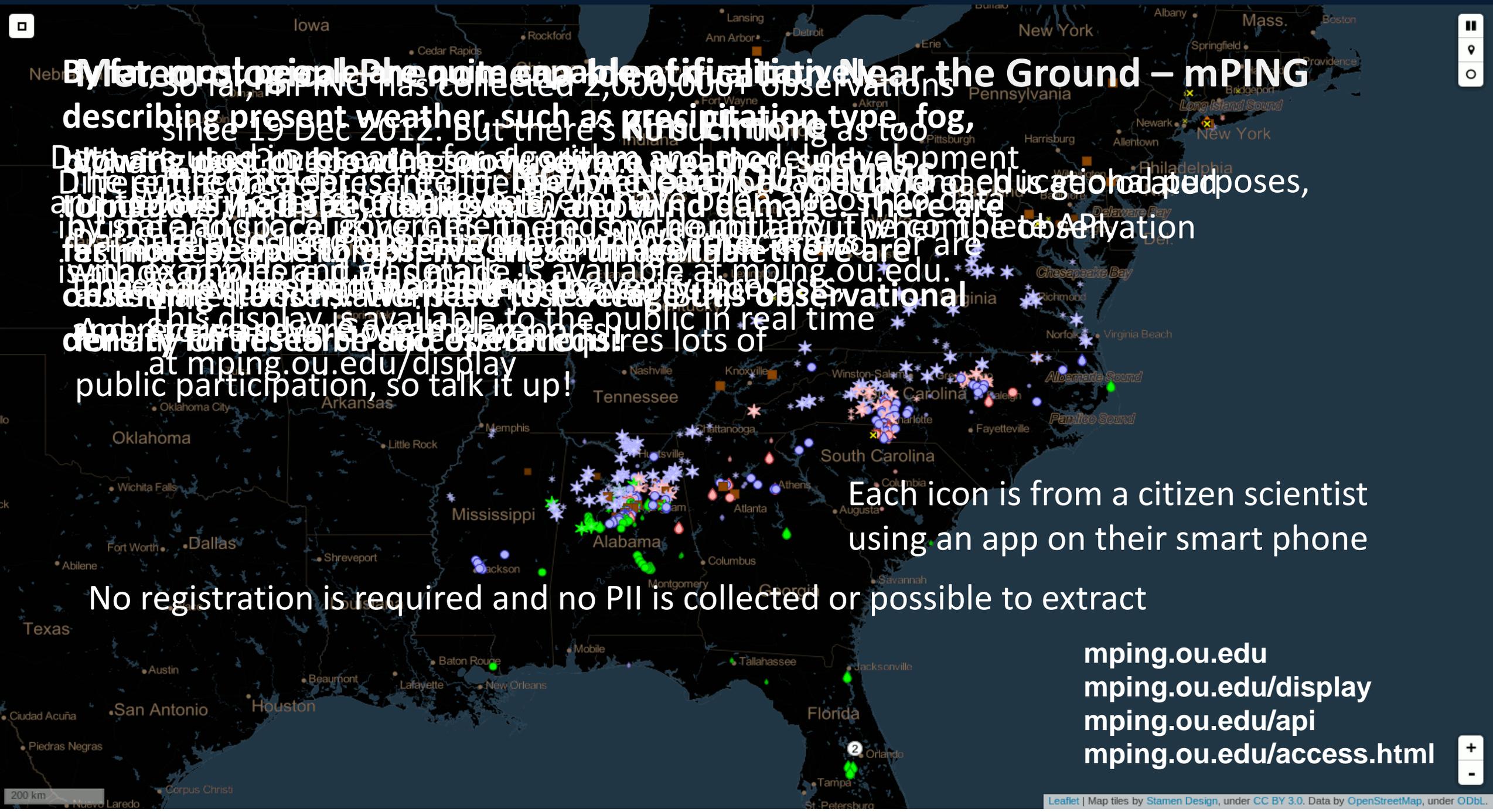
data, which is being used for research and the development of weather forecasting models. The data is also used for educational purposes, and to help identify hazardous weather and wind damage. There are many state and local government agencies that have not had the ability to collect this data. This data is available at mping.ou.edu.

This display is available to the public in real time and is a great resource for researchers. It requires lots of public participation, so talk it up! at mping.ou.edu/display

Each icon is from a citizen scientist using an app on their smart phone

No registration is required and no PII is collected or possible to extract

- mping.ou.edu
- mping.ou.edu/display
- mping.ou.edu/api
- mping.ou.edu/access.html





THE GLOBE PROGRAM

A Worldwide Science and Education Program

What is GLOBE?

The Global Learning and Observations
to Benefit the Environment Program

<http://www.globe.gov>



GLOBE by the Numbers

122 Countries

35,914 Schools

37,746 Teachers

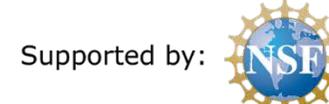
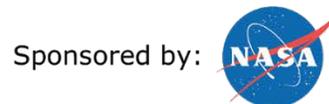
161,814 GLOBE Observers

173,488,034 Measurements

1,748,850 Measurements this month



- An *international science and education program* that brings together students, teachers, scientists and the public to contribute meaningfully to our understanding of the Earth and global environment. GLOBE turns 25 next year!
- Students participate by collecting data using protocols developed by scientist in one of four areas: atmosphere; biosphere, hydrosphere, and soil (pedosphere)
- Citizen scientists participate by collecting land cover, cloud, mosquito, and tree height data via the GLOBE Observer app
- Students and citizens produce meaningful, standardized science-grade data that can be used in support of their own and/or research by professional scientists worldwide



Questions?

CoCoRaHS

Noah Newman (Colorado State University)

mPING

Kim Elmore (OAR Severe Storms Lab)

GLOBE Program

Allison Leidner (NASA)

Salmon Ambassadors

Dan O'Keefe, Michigan Sea Grant

- Leveraged USFWS mass marking
- Developed with Michigan DNR
- Input from sport fishing groups

Keys to Success:

- Simple data collection
- Clear instructions
- Share results!

198

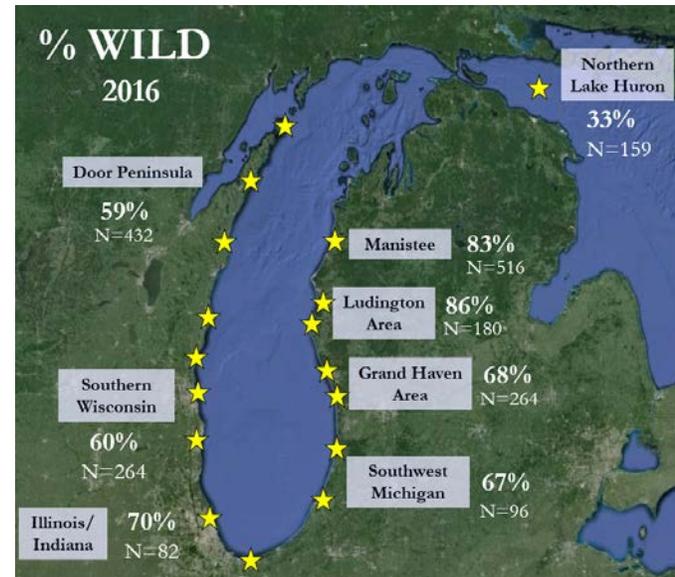
Volunteers Registered

260

Surveys Returned

10,500

Chinook Salmon Recorded in Complete Data Sets



HELP YOUR SALMON FISHERY!

SALMON AMBASSADORS
Angler Science Project

Clipped adipose fin

By 2014, all hatchery-reared king salmon will have an adipose fin clip. Anglers can now recognize stocked vs. wild salmon at a glance.

It's as simple as 1, 2, 3...

FOR EVERY KING SALMON (CHINOOK) CAUGHT:

- 1 Measure the length
- 2 Check for fin clip
- 3 Record catch info

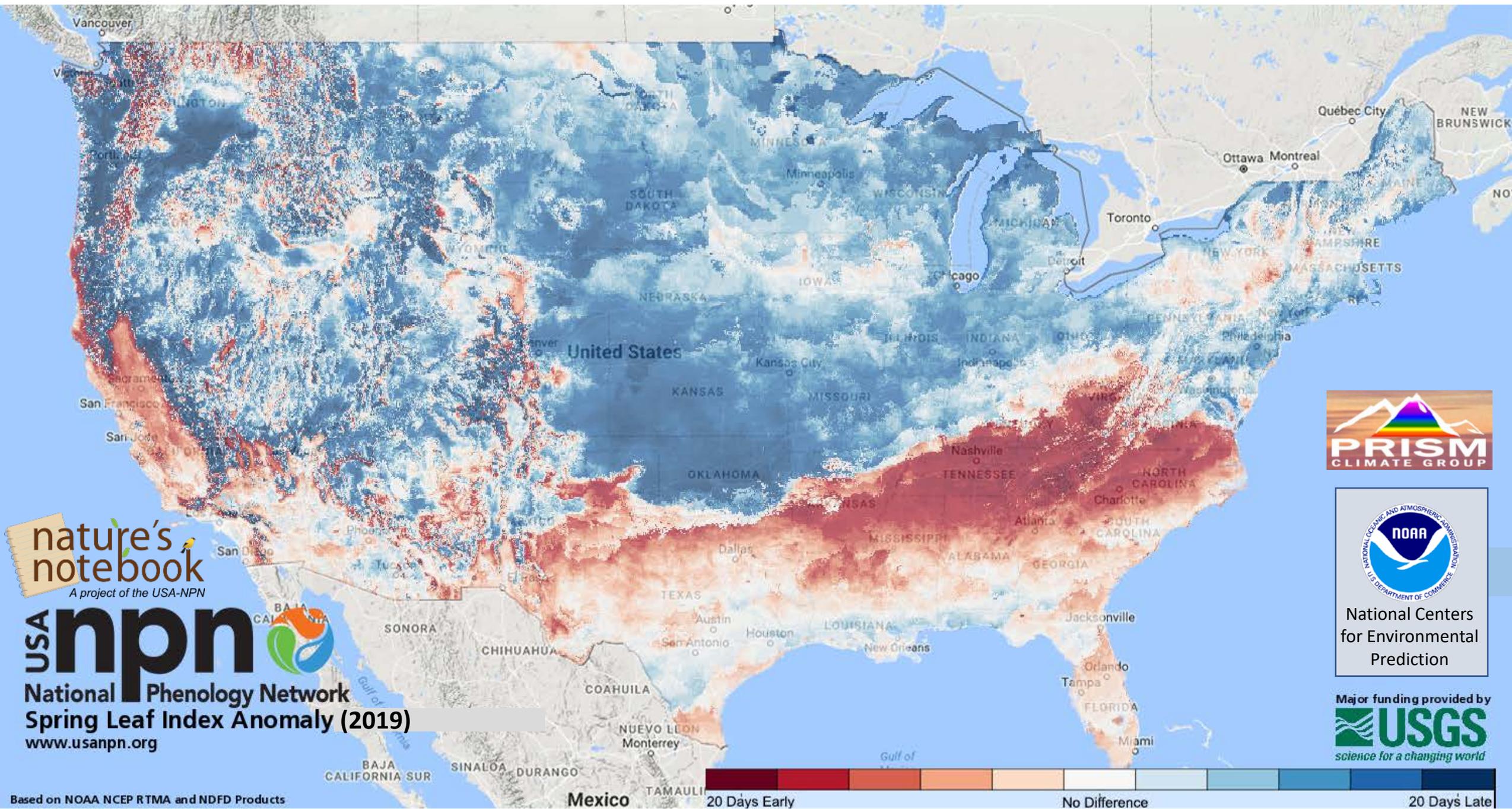
Your input will help answer important questions:

- When and where are stocked fish being caught?
- When and where are wild fish being caught?
- Have stocking cuts influenced your port/river?

SIGN UP TODAY
RECRUIT YOUR FRIENDS

Contact: Dan O'Keefe
Michigan Sea Grant
Office Phone: (616) 994-4572
e-mail: okeefed@msu.edu

www.miseagrant.umich.edu/news/sw



nature's notebook
A project of the USA-NPN

USA nnpn

National Phenology Network
Spring Leaf Index Anomaly (2019)
www.usanpn.org



Based on NOAA NCEP RTMA and NDFD Products

20 Days Early No Difference 20 Days Late



Steller Watch ✓

STELLER WATCH

Alaska Fisheries Science Center

A REVIEW

10,000
VOLUNTEERS

FROM **100**
COUNTRIES

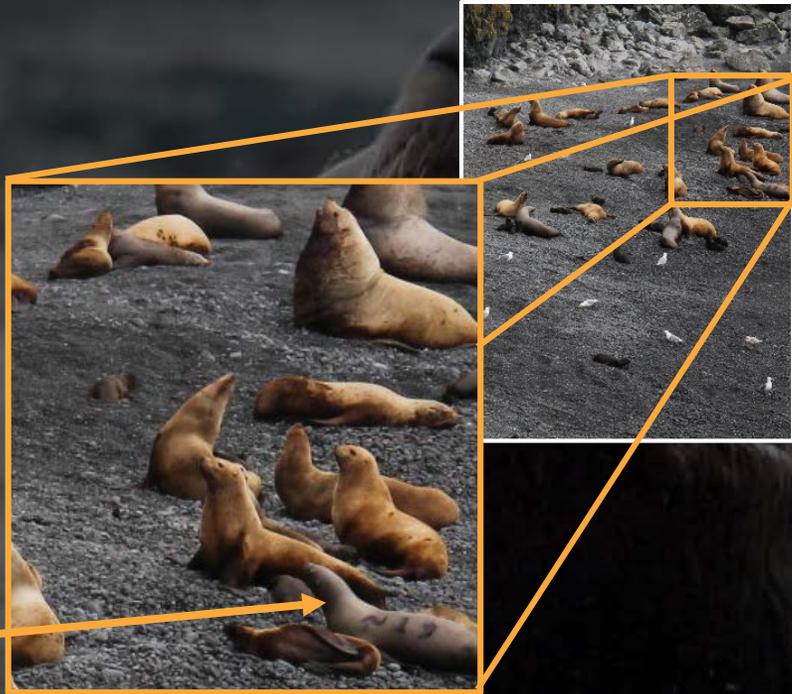
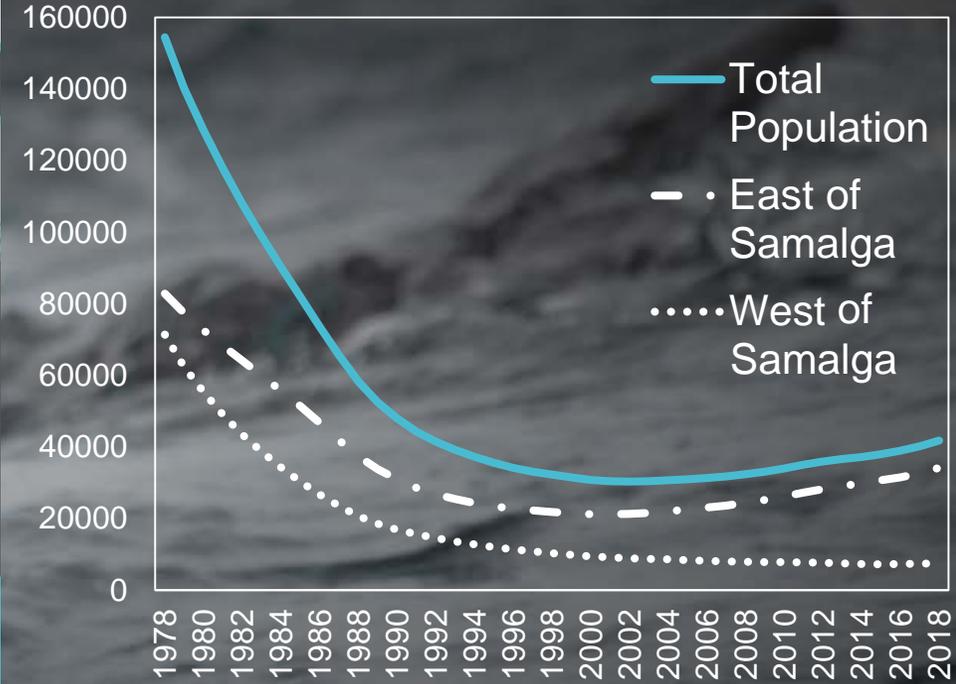
3
MILLION
CLASSIFICATIONS

170,000
IMAGES COMPLETED

AFSC
SAVED
300
HOURS

7%
IMAGES WITH
MARKED SEA
LIONS

ABOUT CLASSIFY TALK COLLECT RECENTS LAB



Zooniverse.org/projects/sweenkl/steller-watch



Questions?

Salmon Ambassadors

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Taking the Pulse of Our Planet with Nature's Notebook

Jake Weltzin (U.S. Geological Survey)

Steller Watch

Burlyn Birkemeier (NOAA Fisheries)

Thank You!

Please take a moment to provide your feedback at the conclusion of the webinar.

Your input is valuable to informing future events.

