



Engaging Learners in Citizen Science

Data Exploration:

***A Focus on Climate-Related
Citizen Science Initiatives***

Team Reflection

With your team, discuss: *What did you learn from the citizen science data collection experience?*



- Consider this question from the perspective of yourself as a learner and as a teacher



What happens to the data?



The screenshot shows a video player interface for a PBS Kids video. At the top, there is a yellow banner with a blue button labeled 'PARENTS >', an orange button labeled 'NOW PLAYING', and text that reads 'SciGirls: CUBs website and what happens to the data (2:17)' with a link to 'Goals: Science More info'. Below the banner is a browser window displaying the 'Celebrate Urban Birds' website. The website has a logo for 'PBS KIDS The All Close To Birds!' and a navigation menu with links for 'HOME', 'ABOUT', 'GET STARTED', 'LEARN', 'COMMUNITY', 'EXPLORE', and 'YOUR DATA'. The main content area is titled 'Explore Data - Species Sightings' and features a map of North America with yellow dots representing sightings. Above the map is a row of small thumbnail images. The video player controls at the bottom include a 'GAMES' button, a left arrow, a 'PAUSE II' button, a right arrow, and volume and closed captions icons. A progress bar shows the video is at 1:29.

Video: <http://pbskids.org/scigirls/videos/nature-nurture> (select: CUBs website and what happens to the data)

Exploring the larger dataset

- Go to the *Celebrate Urban Birds* data dashboard (on iPad or on your laptop)

Our key question:
What stories are the data telling?

Check Out Observations



My Checklists
See your checklists by date



View Data
See sightings by all participants



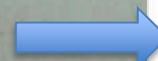
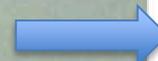
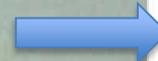
View Map
See all sightings on an interactive map



Participant Sites
See all participant bird watching areas



Get the Kit!
Obtain the Celebrate Urban Birds kit!



What stories are the data telling about real-world science topics?



Examining changes over time:

- *A climate change example:* According to National Audubon Society's *Birds and Climate Change* report (2014), citizen science data suggest there have already been changes in the ranges, migratory patterns, and abundance of bird species that correlate with changes in climate conditions. This can help scientists predict how such trends may continue in the future.

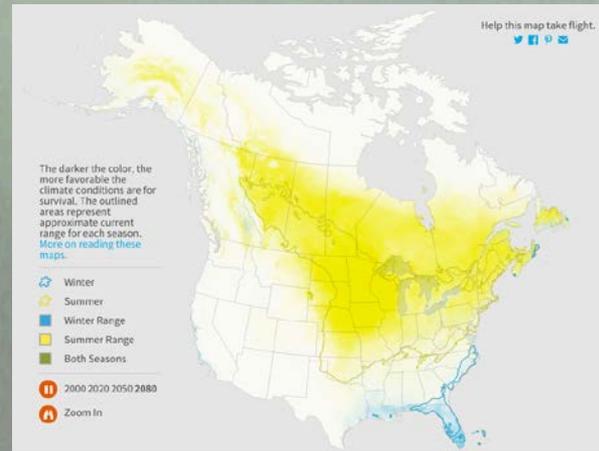


What stories are the data telling about real-world science topics?



Examining changes over geographic space

- *Example:* Based on citizen science data collected over a broad geographic area, scientists can create models that predict where species' ranges may shift in the future given changes already being observed



<http://climate.audubon.org/birds/balori/baltimore-oriole>

How could citizen science help you engage your students with data related to the topics in your science curriculum?



Your task:

- On your own or with a partner who teaches at your grade level, take a guided tour (posted online) of a citizen science project that connects with a science topic taught at your grade level. You will have ~15 minutes.

How could citizen science help you engage your students with data related to the topics in your science curriculum?

Citizen science project	Journey North (observing butterfly migration)	Project BudBurst (observing seasons and plants)	CoCoRaHS (observing precipitation)
Possible 1 st grade Topics	<ul style="list-style-type: none"> Environmental issues 	<ul style="list-style-type: none"> Environmental issues Diversity of life 	<ul style="list-style-type: none"> Water cycle Interactions between atmosphere and hydrosphere
Possible 2 nd grade topics	<ul style="list-style-type: none"> Environmental issues Ecology 	<ul style="list-style-type: none"> Environmental issues 	<ul style="list-style-type: none"> Interactions between atmosphere and hydrosphere
Possible 3 rd grade topics	<ul style="list-style-type: none"> Seasons Environmental issues 	<ul style="list-style-type: none"> Seasons Environmental issues 	<ul style="list-style-type: none"> Water cycle
Possible 4 th grade topics	<ul style="list-style-type: none"> Ecology 	<ul style="list-style-type: none"> Slow changes, rapid changes Celestial bodies, celestial patterns 	<ul style="list-style-type: none"> Water cycle
Possible 5 th grade topics		<ul style="list-style-type: none"> Slow changes, rapid changes Celestial bodies, celestial patterns Classification 	<ul style="list-style-type: none"> Water cycle