

Brought to you by
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Grapevine



April, 2023

***If you represent an organization** and would like to write your own (short) description, that would be GREAT. If you offer opportunities for volunteering or citizen science, please **be sure to note that**.

What is the Grapevine?

The *Grapevine* is a free monthly e-newsletter intended to help inform North Bay Area educators about science and environmental education resources, events, opportunities, etc. To receive the *Grapevine*, just send an email asking to be added to the *Grapevine* email list to: mroa@sonic.net

Please share this information with whomever might be interested, and if you find out about something that should be shared among science and environmental educators, please let me know.

If you would like to have your event or other science or environmental education opportunity included in the Grapevine, send me an email with a short announcement that I can cut and paste. Send to: mroa@sonic.net Submissions are usually due on the fifth of the month. I plan to send the Grapevine the around the tenth of each month. (See Submission Due Date below.)

To unsubscribe, just send me an e-mail asking to be dropped from the Grapevine list.

Past issues of the Grapevine are being archived at the North Bay Science Discovery website at:

<https://www.northbayscience.org/grapevine>

Submissions Due:

Submissions for the next *Grapevine* are due **May 5**. The next issue will include events approximately through Sunday **June 18**.

Sharing...resources, information, opportunities

Stewards of the Coast and Redwoods...

New Docent Training rescheduled (again!) See 4/26 below

Pinniped Monitoring Volunteer Training,
Tuesday, April 11
8:30 am - 1:00 pm
Live training with Andrea Pecharich

[MORE INFO](#)

Sonoma Coast Wildflower Walk with Dr. Laura Morgan

Saturday, April 22, 2023

9:00 am - 12:00 pm

Sonoma Coast wildflower education. Breathtaking scenery!

[MORE INFO](#)

Armstrong Redwoods Docent Training

Wednesday, April 26, 2023

9:30 am - 1:30 pm

Become an Armstrong Redwoods Docent!

[MORE INFO](#)

Birding the Redwood Forest in May

Saturday, May 6, 2023

8:00 am - 10:00 am

Birdsong in Armstrong Redwoods!

[MORE INFO](#)

Learn to Read Animal Tracks and Signs

Friday, May 12, 2023

9:00 am - 12:00 pm

At Pomo Canyon Campground

[MORE INFO](#)

Islands in the Sky Wildflower Walk with Dr. Laura Morgan

Saturday, May 13, 2023

9:00 am - 12:00 pm

Meet in Duncans Mills!

[MORE INFO](#)

Birding the Redwood Forest - Mother's Day!

Sunday, May 14, 2023

8:00 am - 10:00 am

Birdsong in Armstrong Redwoods!

[MORE INFO](#)

Birding for Beginners - May

Saturday, May 27, 2023

8:30 am - 11:30 am

Birding for Beginners in beautiful Willow Creek!

[MORE INFO](#)

Discovery Day

The 2024 North Bay Science Discovery Day has been scheduled for Saturday, March 9. If you're interested in participating either as an exhibitor or visitor, please mark your calendar.

Visit the web site at northbayscience.org

From the Ca. Native Plant Society, Milo Baker Chapter:

California Native Plant Society, Milo Baker Chapter (Sonoma County)

General Speaker Series: Ongoing Journey Towards Equity

By Craig Anderson, Executive Director, Landpaths

Hybrid meeting, in person and on Zoom. (Link at Milobaker.cnps.org)

Tuesday, April 18, 2023 7:30 P.M. at the Luther Burbank Art and Garden Center,
2050 Yulupa Ave., Santa Rosa

Craig will present - using slides from his past and LandPaths' current lives - to discuss the journey that LandPaths has been on since August of 1997. LandPaths or "LAND PARTners THROUGH Stewardship" work this past 25 years has been working with community members across the beautiful geographic, socio economic and cultural diverse palette that comprises Sonoma County to reawaken a 'land ethic' that includes not only stewardship of wild lands, but of cultivating a feeling in all people that we belong to this place and have a responsibility to care for it.

TeenTech S.F.

2023 TeenTechSF STEM Inclusivity Forum "Tech for All: Breaking Barriers, Empowering Diversity"

Saturday, April 15, 9am-12pm

Calling all teens to the 2023 TeenTechSF STEM Inclusivity Forum! With our theme Tech for All, hear from speakers at Adobe, Bitwise, and Salesforce on breaking barriers in tech, and join our Networking Break to connect with organizations offering STEM internships, summer programs, and other resources for all teens interested in exploring tech. In person this year at Uptown Square Community Space (adjacent to 19th St Oakland BART station)!

Like all TeenTechSF events, this event is free and open to all teens, but space is limited. REGISTER TODAY at ttsf-summer-workshop-series.eventbrite.com!

Larkfield Community Garden Summer Camp

We at the Larkfield Community Garden are excited to be partnering with School Garden Network for summer camp 2023! We welcome campers ages 7-11 as well as junior educators ages 12-17. [Registration is open](#) now.

School Garden Network is offering four week-long sessions beginning June 26th. The first week will be at Larkfield Community Garden, while the remaining weeks will be at the Salmon Creek school garden in Occidental. Check out photos from last year's camp as well as weekly descriptions on SGN's [camp webpage](#). The [scholarship application link](#) can be found there as well.

Feel free to reach out to SGN's camp director, Emily Ruebl, at summercamp@schoolgardens.org with any questions you have regarding camp and registration. We hope to see your campers in the garden this summer!

School Garden Celebration...Crafts, plant starts, and more!

University Elementary at La Fiesta School Garden April 23 12-3pm

8511 Liman Way
Rohnert Park CA 94928

Crafts and activities for children and families, kids used clothing (free!) booth, garden starts for sale donated by Cottage Gardens, milkweed for sale grown by University Elementary students, hot dog lunch available for purchase, raffle with great items donated by our community. Funds raised support our garden program.

Facebook event link: <https://facebook.com/events/s/uelf-school-garden-celebration/199715012688664/>

High Schools: Announcing pre-registration for Forestry Challenge - Fall 2023

Santa Cruz - October 11 to 14 - Redwood Glen near Loma Mar

Shasta - September 27 to 30 - Mountain Meadows Camp east of Redding

El Dorado - October 25 to 28 - Leoni Meadows Camp south of Placerville
San Bernardino - November 8 to 11 and 15 to 18 – Hume SoCal near Lake Arrowhead

This Event is FREE!

Watch a one-minute [introductory video](#)!

The Forestry Challenge is an academic event for high school students in technical forestry and current forestry topics. Participants spend four days in the forest learning about the ecology and management of the forested landscapes that provide communities with water, recreational opportunities, wood products, and wildlife habitat. You can now complete [pre-registration](#) for any fall event in less than 5 minutes with our online form. For more about the program, visit the [Home](#) page of the Forestry Challenge website. Forms submitted before June 30 may qualify your group for a registration fee discount, and substitute teacher and transportation assistance are available on an as-needed basis. School groups (typically 4 to 10 students and a teacher chaperone) are welcome to attend any event that is the best fit for location, school schedule, and interest.

Are you interested in Geology? Check this out!

Field trip: Calcrete, Ancient Megafloods, Active Tectonics At a Geomorphic Triple Junction – Palouse, Scablands, Yakima Fold Belt Sept. 7-10, 2023

- 1.) REGISTER** - Registration Fee Includes Guidebook Please register ahead of conference.
Two options: - \$20 via PayPal to skyeccooley@gmail.com (GIS4Geomorphology.com) –
Personal check: Skye Cooley 33636 Bluebird Lane, Ronan, MT 59864
- 2.) LODGING** - Reserve Your Campsite Now at Potholes State Park
How to Make Reservations Online: <https://washington.goingtocamp.com> –
Potholes > Choose Arrival and Departure Dates > Choose Party Size > Choose Equipment > Search. -
Scroll down to map > Click on map polygon “Site 1-60” > Click on Calendar button on left. –
Choose sites and dates. –
Create login and pay with credit card.

Other Lodging Options

Moses Lake Hotels - I like the Wingate.

Othello Motels - Quality Inn is basic.

Where: Saddle Mountains area, central Washington

Lodging: Motels in Othello or Moses Lake and camping options

Leaders: Skye Cooley, Jim O’Connor, Bruce Bjornstad, Scott Burns, Lydia Staisch, Richard Waitt & others

Difficulty Level: Rough roads, hiking over uneven terrain, hot weather, beautiful vistas, cool rocks.

Geology Overview: The Saddle Mountains provide the backdrop for this year’s trip - spectacular scenery and challenging geology await us. The Saddle Mountains are located at a geomorphic triple junction, where sediments of the Channeled Scablands, Yakima Fold Belt, and Palouse Hills interfinger. Visually-stunning calcrete paleosols span all three domains. The Stage III-V calcretes, hundreds of thousands of years old, formed

in an alluvial lowland setting and on gently-sloping alluvial fans. They serve as a conspicuous marker unit that helps constrain the age of pre-Wisconsin scabland flooding, local tectonism, and dramatic topographic changes that occurred in the area over the past ~7 million years - from a broad, low-relief floodplain to the high-relief escarpment we see today. A central question remains: where were the ancestral Snake and Columbia Rivers in Plio-Pleistocene time? The trip will focus on the new outcrops and new insights on the interplay of tectonics, climate, and topography informed by field work completed in recent years. Little of what we will see and discuss is found in any guidebook. Join us for the adventure!

What's next? Look for a pre-registration email from Skye Cooley. Respond if you are interested in attending so we can plan trip logistics. Pre-registration will be required.

Registration instructions will be emailed to all of those responding to this call. This will be the one and only general call.

Tell a Friend: Feel free to forward this announcement to potentially interested colleagues.

Questions: skyecooley@gmail.com

Science Buzz Café

The HopMonk 'Abbey' & Gravenstein Grill Sebastopol, CA

Host, Daniel Osmer (daniel@economicbuzzcafe.com) 7PM • Come Early for Food & Drink •

RSVP \$7 • DOOR \$10

Stephen Pollaine originally scheduled for Thur. the 13th of April is NOW Monday the 24th of April, 2023.

APRIL 24th ABBEY Stephen Pollaine, PhD # 508 MONDAY 7PM

National Ignition Facility at Lawrence Livermore [Originally the 13th]

Creating Sun Power on Earth: Fusion Ignition 31 Years Lawrence Livermore National Lab

Steve Pollaine worked on laser fusion at Lawrence Livermore for 31 years and will discuss how fusion was achieved and the obstacles that remain before fusion can power the world. Or is fusion the energy of the future and always will be? Laser Fusion: Ignition and Breakeven Fusion power has the promise of powering the world with clean power that doesn't contribute to climate change or generate nuclear waste that must be stored for thousands of years. However, it's been an extreme technical challenge for the last half century. For the very first time, a fusion experiment at Lawrence Livermore National Laboratory has reached the breakeven point, producing more energy than went into it. What is the significance of this latest breakthrough? Most likely, fusion will come from efforts in the private sector. •

APRIL 27th Gravenstein GRILL Mary Barsony, PhD Astrophysicist # 509 THURSDAY 7PM

The James Webb SPACE Telescope (JWST)! First Images!

Dr. Barsony's research has focused on all aspects of star-formation via multi-wavelength studies of the closest star-forming regions to Earth. Through submillimeter observations in the early '90's in collaboration with colleagues from the U.K. and France, Dr. Barsony discovered the first true protostar – an object surrounded by infalling gas in the process of accumulating the mass it will have as a full-fledged star. Christmas Day 2021 saw the flawless launch of the James Webb Space Telescope, or JWST, to its home at a gravitationally stable point near the Moon.

Come see the Carina Nebula star-forming region, the gravitationally interacting galaxies of Stephan's Quintet, the planetary nebular end-of-life phase of Sun-like stars captured in the image of the Southern Ring Nebula, the spectrum of the exoplanetary atmosphere of Wasp 69-b, and the deepest and sharpest images of distant galaxies ever observed in the infrared through the gravitational lens of SMACS 0723!

Sebastopol Carbon Conversations

Empowering Local Climate Action

Campus Climate Connections: May 3

Climate education continues to evolve. Most schools are still trying to figure out how best to include Climate Change and Climate Action as part of the regular curriculum. Some continue to ignore it completely. At this session, we'll hear from local educators and students about actual Climate projects and activities emerging on local campuses. We'll also discuss ways to create space for students to study and develop projects on this important topic and how to connect with local groups working on Climate.

Noa Schwartz, a junior at **Analy High School** and founder of non-profit organization **Teach Climate and Redefine It (TCRI)**, will share about TCRI efforts to teach climate to younger students at area schools and other initiatives they have organized. Noa, and friends, will also share about a variety of climate connected activities that AHS school clubs and classes are engaged in this school year.

Dan Karbousky, an instructor at **Sonoma Academy**, will share about the **Idle Free School project** initiated at the school last year. The project started with a student group observing the routine practice of (gas) vehicles idling in front of the school while waiting to pick up students. Dan will share how they collected and analyzed data, crafted a policy and educational plan, and observations on implementation. Information for establishing an Idle Free School at your school will also be shared.

Nancy Metzger-Carter, Advisor for **Schools For Climate Action** and an instructor at **Sonoma Academy**, will participate in a panel discussion about how we create space for students to study and develop climate related projects on campus and during class time.

Audience: Community, Teachers, Students, Everyone.

Date: Wednesday May 3rd

Time: doors open at **630pm**. **Program starts at 7pm**.

Location: Sebastopol Grange. 6000 Sebastopol Ave, Hwy 12

Cost: FREE. Donations Welcome. **Registration is required**. See weblink below.

Sponsors: The Rahun Institute, Sebastopol Grange.

June 7 th 7pm Electric Vehicles and Charging Infrastructure

Register at www.rahus.org/scc

Climate Resilience in the North Bay - Teacher Workshop July 17-21

The Water and Energy Education Program at Sonoma Water is looking forward to what is expected to be another successful 5-day workshop for up to 25 middle and high school teachers in July. Teachers are invited to apply to attend a paid, 5-day workshop with local organizations working to address climate change in Sonoma County. Field trips will explore topics ranging from grassland restoration and land stewardship informed with Traditional Ecological Knowledge, to water resource security, changing ocean conditions, renewable energy and electrification, solutions-focused projects at school, and how to talk about climate change with students. Workshop dates are July 17-21, 2023, from 9:00 am to 5:00 pm. Each day includes an afternoon work block to develop lessons and curriculum. Facility tours and a hike above Bodega Bay are also included. For more information and to apply: www.sonomawater.org/workshops. **APPLICATION DEADLINE IS MAY 8th, 2023.**

Would you like your high school students to explore climate solutions that hold some hope for the future?

A group of retired educators (HS, CC, and four-year college level), working with the local Climate Center, have created some great materials for high school presentations. The 60-90 minute presentations involve an interactive PowerPoint followed by a dynamic small-group exercise in thinking about local solutions to climate issues. In Science classes, we emphasize the carbon cycle, sequestration, powering down, and civic engagement. We work to fit with state frameworks and your course goals.

Our own goals:

- support young people to have hope and to act
- increase the skilled involvement of local young people in local, state, national, and global advocacy on climate issues
- learn from young people their resources and experiences, and share our own

Please let us know if you'd like a visit! You can reply Contact Paula Fogarty admin@speakeasies.biz or Leah Halper lhalper@garlic.com

Forestry Institute for Teachers (FIT)

This professional development opportunity is one of the best that I've ever done. You'll learn a lot about forests, forestry, and forest conservation. You will also receive some great curriculum materials as well as "room" and meals. You can even receive a \$200 stipend for doing a curriculum project of your own design. The sessions usually fill up, so I recommend registering soon. Here's the basic info:

Introducing NEW location in EL DORADO County **Early Registration OPEN**

[Forestry Institute for Teachers \(FIT\)](#) is a week-long residence workshop for California educators.

Join natural resource professionals and credentialed educators to explore forest ecosystems and the impact they have on our communities. **40 hours of Academic Credit available!**

Participants receive:

- Hands on training in California Content Standards using [Project Learning Tree](#) and [Project WET](#) curriculum guides
- Skills and materials for action-oriented student and classroom projects
- Meals and lodging
- 3 Continuing Education Credits from UC Davis or CalPoly Humboldt
- \$200 curriculum project stipend

Contact forestryinstitute@gmail.com for more information

Tuolumne, June 25-July 1

Sierra Outdoor School, Sonora

Humboldt, July 9-15

Humboldt State University, Arcata

Shasta, July 16-22

Camp McCumber, Shingletown

El Dorado , July 23-29

Blodgett Forest, Georgetown

* Application includes room and board for the week.

[Apply Here](#)

From the Sonoma County Agriculture and Open Space District:

Public Outings and Youth Education RFP

Ag + Open Space invites you to respond to a Request for Proposals to support Ag + Open Space in increasing and enhancing its community engagement efforts by providing a diverse array of school field trips, interpretive hikes, tours, workshops, and other public outings on Ag + Open Space-conserved lands.

- The RFP is open now, and proposals must be received no later than **5:00 p.m. on April 13, 2023.**
- You can [review the RFP on our website](#), but all proposals must be submitted via the [County of Sonoma's Supplier Portal >>](#)

Bodega Marine Lab: Seminar series has restarted!

Science Uncorked returns for Winter-Spring 2023! Science Uncorked is an informal outreach seminar series for the public, hosted at the wine and food bar Gourmet au Bay in Bodega Bay. Since 2013 Science Uncorked has hosted over 100 public lectures featuring scientists from Bodega Marine Laboratory (BML), from UC Davis main campus, and from the greater North Bay Area science community, including non-profits and government agencies. Come for the science, stay for the wine. Or vice versa! See next page for schedule.

Happy Hour starts at 4pm, food is served until 6pm.

Admission is free.

Find us on Facebook for regular updates: www.facebook.com/ScienceUncorked, or email us at ScienceUncorked@gmail.com

Gourmet au Bay: 1412 Bay Flat Rd. Bodega Bay, CA 94923

Schedule:

- April 12th, 6pm - Sam Walkes - Follow the limpets: what we can learn about geographic range shifts from Giant Owl Limpets
- April 26th, 6pm - Levi Lewis - I know what you did last summer: using plasmas and lasers to illuminate the clandestine lives of fishes
- May 10th, 6pm - Manny Delgado - Climate change and mitigation: what's going on out here?
- May 24th, 6pm - Sara Boles - Advances in California abalone conservation and production aquaculture

Ca. Coastal Commission Contests:

Student Contest

Climate Video Challenge (May 31st)

Climate Video Challenge

For the Climate Video Challenge, California middle and high schoolers can submit a 3-minute video responding to the question, *What is your vision for a thriving future?* For details, including student brainstorming prompts, climate change resources, and all the rules and instructions, [click here](#). Submissions are open from now through May 31st, so teachers can include this project in their lesson plan whenever works best for them. Students can also enter independently.

From the SSU Center for Environmental Inquiry:

Join an “Environmentally Ready” community working to eradicate nature deficit disorder. Become an Osborn Naturalist with this flexible training program or join us for any of the Naturalist Ed events.

Climate and Sustainability Pledge:

Learn about what personal actions you can take on a daily basis that result in the greatest reduction in greenhouse gasses.

This pledge is the result of a one-year effort reviewing literature and speaking with leading scientists and regional practitioners. Whether you are ready for a little or a big change, there are options for you. Take the pledge and make a difference!

[Take the pledge here](#)

For Questions

Galbreath Preserve (Mendocino County)

Margot Rawlins, Galbreath Program Coordinator: rawlinsm@sonoma.edu

Osborn Preserve (Sonoma County)

Kerry Winingek, Outreach & Communications Lead: winingek@sonoma.edu

Naturalist Ed Series

Julie Wittmann, Nature Education Specialist: julie.wittmann@sonoma.edu

Some interesting reading:

In the April issue of **National Geographic** :

- The cover article is on “The Population Paradox – Are we nearing peak population?”
- “Patriarchy is Not Destiny” about societies, mostly in the past, not dominated by males
- “Living Large”, about long-lived animals (such as the Greenland shark that can live to almost 400 years)
- Great closeup photography of ants
- “Seasons out of Sync”, about the shifting of the seasons as the world warms

The April/May issue of **Smithsonian** includes articles on:

- Southern live oak trees
- The Juneau Icefield Research Program (geological research in Alaska)
- Converting farm waste into electricity
- Controlled burns for wildfire mitigation
- Monk seals

TED Talks: Science Worth Knowing:

New science-related talks are frequently posted.

check it out at <https://www.ted.com/topics/science>

Science in the News from Sigma Xi

(Sigma Xi is a science honor society. You can sign up to receive their **bi-weekly** science e-newsletter at: <https://www.sigmaxi.org/news/newsletters>

Some stories from recent newsletters include:

- Giant and tiny organisms comprise most of Earth’s biomass
- Medieval texts reveal details of volcanic eruptions
- Research reveals the science behind earworms
- Researchers develop eco-friendly composite that can be used in the automotive and construction industries
- COVID-19 nasal vaccine shows promise in hamsters
- Asthma diagnosis in US kids down by half during pandemic

Sci Tech Daily

Sci Tech Daily is a (you guessed it...) **daily** brief summary of current events in a variety of science fields, including general science, health, space, technology and others.

Go to <https://scitechdaily.com/> **Among many others, the April 7 edition included:**

- Excess manganese discovered in California’s water
- Are your sleep habits putting you at risk for a stroke
- Ancient California fossil unlocks secrets of coffee and potato ancestors’ survival
- COVID, bird flu, monkeypox – a virologist explains the surge of virus outbreaks
- Absolute zero attainable?
- Obesity breakthrough: biologists discover how to counteract effects of high-fat diet

Science Humor:

From the December 11 Press Democrat comics section:

- What's the best way to communicate with a fish? (Drop them a line)
- Why don't sharks eat clown fish? (They taste funny)
- What kind of rod should you use to catch an electric eel? (A lightning rod)
- What part of a fish weighs the most? (The scales)

Live and Learn

(in which Mike shares something that he's recently learned.)

I began my teaching career in 1969. Paul Ehrlich had published *The Population Bomb* in 1968, the organization Zero Population Growth was getting started, and the Population Reference Bureau was beginning to gather and publish data on world population trends. I remember the 1974 headlines when the world's population reached 4 billion. And now we've doubled that, reaching a world population of 8 billion last year. While Ehrlich's dire predictions didn't materialize in the manner or time frame that he envisioned, it is obvious that the Earth can not support a continually increasing human population.

The April issue of National Geographic Magazine focuses on population. While I knew that the population growth rate was declining in many places, I didn't realize how rapidly Nigeria's population was growing. By 2050, the population of Nigeria is expected to reach 377 million people, making it the world's third most populous nation. That's more than the population of the U.S., and Nigeria is less than 1/10 the size of the U.S. Also, India is projected to overtake China as the most populous nation in the world. The times, they are a-changin'.

Hot (Cool?) Links:

Check out this video for an update on Big Basin State Park's progress after the 2020 fires:

https://www.cyark.org/tapestry/bbr-en?fbclid=IwAR32nweRbbAacBz6CEXYkBkBBbPUixBCr-SBXbb85P3IIWYGeT2h_7af-HiA

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Jobs:

Stewards of the Coast and Redwoods:

Volunteer Coordinator:

Reporting to Stewards' Program Manager, our Volunteer Coordinator assists in program delivery and is the primary point of contact for all volunteer inquiries. This is a customer service oriented position that requires patience and grace to serve our volunteers with a high degree of service and accountability. Our Volunteer Coordinator helps to onboard and train volunteers and also works closely with program coordinators (volunteers) to ensure new volunteers have an enjoyable and meaningful experience with Stewards.

More details at: <https://stewardscr.org/wp-content/uploads/2023/02/2023-Volunteer-Coordinator-Position.pdf>

To Apply: Please send a cover letter and resume to Stewards of the Coast and Redwoods at stewards@stewardscr.org with "Volunteer Coordinator" in the subject line. We will begin to review applications March 6th, 2023 and afterwards they will be accepted on a rolling basis. This position will be removed from our website when the position is filled. We urge you to apply ASAP.

Science and Environmental Education Organizations

These organizations offer science or environmental education opportunities and/or **volunteer** or **citizen/community science** opportunities.

If I know of **volunteer** or **citizen/community science opportunities**, I've indicated that, but some may have opportunities about which I don't know.

Check their web sites for more information.

American Cetacean Society

Description: As the name implies, the ACS works to protect cetaceans (whales, dolphins, porpoises), and also supports research.

Web site: The San Francisco Bay chapter's website is: <https://www.acs-sfbay.org/>

Aquarium of the Bay:

Aquarium of the Bay has returned to onsite programming for the 2022-2023 school year. K-12 schools can book either Aquarium-Teacher lead classroom programs (fee-based) or Self-Guided Tours (free).

Available Programs:

Kinder – Between the Tides: Learn about the animals that live in the tidepool and the adaptations they have in order to survive their ever-changing world.

1-3rd – Salmon!: Follow the salmon lifecycle from egg to the end and discover how human impacts affect its life journey.

3-5th -Sensational Sea Lions: Come learn about and observe the World-Famous Pier 39 sea lions. How did they get here, why they stay here, and above all, what makes them such amazing animals

6-8th – Kraken Lab: Come and participate in a squid dissection and learn the ins and outs of this unique animal

9-12th – 3D Printing Lab: This brief introduction to 3D printing will enable your students to learn not only some of the history behind it, but also help print plates that will be used to aid the non-visual community.

K-12th – VIP School Group Tour: This special tour of the building is held before the Aquarium opens and enables students to see the work that is often not seen by the public. This tour is limited to 25 participants and is not bookable on the website. Please email us for more information

K-12th – Self-Guided Tour: While this tour is booked on 20-minute intervals, the tour length is 1 hour. Your class will be able to go as fast or as slow as you would like which makes it perfect if you only have a limited amount of time.

Email education@bay.org for more information on any of these programs

Visit <https://www.aquariumofthebay.org/> and under the Education tab, you will be able to locate things like K-12 programs, teacher resources, eLearning modules, Plastic Free Campus, and Professional Learning Courses.

Aquarium Education Programs Webpage: [K-12 Programs – Aquarium of the Bay](#)

Audubon Canyon Ranch

Our Mission

Connecting nature, people and science in a rapidly changing world

Our Vision

Inspired and informed communities use scientific knowledge to build a resilient, sustainable society that respects the intrinsic value of our natural world.

They have several sites:

- Bouverie Preserve, Glen Ellen
- Cypress Grove Preserve, Marshall
- Martin Griffin Preserve, Stinson Beach
- Modini Preserve, Healdsburg

Volunteer Opportunities: <http://www.egret.org>

Audubon Society

(Madrone Audubon Society Chapter)

We promote public education, enjoyment, study and protection of the natural world, especially birds.

Check out the Madrone Audubon Society's schedule of walks and other events at: www.madroneaudubon.org

The *Madrone Leaves* newsletter has information about coming events and a variety of conservation issues.

Citizen Science Opportunities

Volunteer Opportunities

Bay Area Teen Science

This site posts opportunities for teens to get involved in science in a variety of ways. Although many of the postings are now outdated, they can still provide ideas and sites for teens to check back with later.

<http://bayareateenscience.org/>

Bay Nature

This locally produced (Berkeley) magazine has many interesting articles, great illustrations, and an event calendar. Check it out at: <https://baynature.org/>

Bird Rescue Center of Sonoma County

The center usually has an open house the first Saturday of the month.

They have an education program...You can arrange a visit to the Bird Rescue Center, or they can come to your school. Request by their online program request form

The Web site has added a “Virtual Resources” section. In it you can find links to many resources on birds, bird identification, and other interesting resources.

Volunteer Opportunities

Check out their web site at: <https://www.birdrescuecenter.org/>

Bodega Marine Lab

~~The BML offers public drop in tours **most Fridays** from 2:00 — 4:00 for groups of less than 10 people. Group tours can be scheduled for a minimal fee. call 707-875-2211.~~

They are closed to the public for now, but I expect that they will reopen some time this summer.

They also have a **webcam** focused on Horseshoe Cove

Web site: <http://bml.ucdavis.edu/>

Cal Academy NightLife lectures

The California Academy of Sciences is now open daily. They require times reservations.

Website: <https://www.calacademy.org>

California Coastal Commission

Mission: Protecting & Enhancing California's Coast

The Commission is committed to protecting and enhancing California's coast and ocean for present and future generations. It does so through careful planning and regulation of environmentally-sustainable development, rigorous use of science, strong public participation, education, and effective intergovernmental coordination.

Check out these resources from the California Coastal Commission:

[Environmental Education Events Calendar](#)

The California Environmental Education Interagency Network maintains a calendar of events and opportunities relating to environmental education. Find an event or submit yours to the calendar.

California Coastal Voices

A project-based learning guide and online toolkit for middle and high school teachers. Consisting of six units (or "projects") that introduce students to coastal conflicts, challenges, and scientific and policy issues, the emphasis is on problem solving and communication. This learning guide was designed to address California's Next Generation Science, Common Core, and History-Social Science standards. Download teacher resources and student activities and access slideshows, videos, articles, and much more.

Find Lots More [Educator Resources](#) online.

website: <https://www.coastal.ca.gov/publiced/pendx.html>

CA. Native Plant Society

The Milo Baker Chapter of the California Native Plant Society (CNPS), named after the famous Santa Rosa Botanist, is located in Northern California's beautiful Sonoma County. CNPS is a statewide organization whose goals are to increase understanding and appreciation of California's native plants, and to preserve them and their natural habitats for future generations. Membership is open to all.

Citizen Science Opportunities

Volunteer Opportunities

For information go to: <https://milobaker.cnps.org/>

California Naturalist Program

The UC California Naturalist Program is designed to introduce Californians to the wonders of our unique ecology and engage the public in study and stewardship of California's natural communities. The California Naturalist program uses a science curriculum, hands-on learning, problem-solving, [citizen science](#), and community service to instill a deep appreciation for the natural communities of the state and to inspire individuals to become stewards of their local resources.

The mission of the California Naturalist Program is to foster a diverse community of naturalists and promote stewardship of California's natural resources through education and service.

The California Naturalist Program promotes environmental literacy and **stewardship** through **discovery** and **action**. Many other states have similar naturalist programs, but this is the first statewide program in California. To [become a certified California Naturalist](#), participants need to enroll in a 40+ hour course with one of [our partner organizations](#).

We work with over 45 partner organizations that deliver the course and have certified a community of over 2800 Naturalists around the state who have, in turn, volunteered over 175,000 hours in service to nature in the areas of education and interpretation, stewardship, citizen science, and environmental program support. Courses combine classroom and field experience in science, problem-solving, communication training and community service. Students are taught by an instructor and team of experts who are affiliated with a local nature-based center or natural resource focused agency. Upon completing certification requirements, participants are eligible for four academic credits through [UC Davis Extension](#) for an additional nominal fee.

Some CalNat programs are offering online or hybrid programs. See below.

Citizen Science Opportunities

Visit the Web site at: <http://calnat.ucanr.edu>

Center for Climate Protection

has a high school program called eco2school. Check it out at: <http://www.eco2school.org>

Children’s Museum of Sonoma County

<http://www.cmosc.org/>

Mission

The Children’s Museum of Sonoma County inspires curiosity and creativity through joyful, transformative experiences.

About Us

The Children’s Museum of Sonoma County (CMOSC) was founded in 2005. Rooted in current early childhood research, CMOSC engages children in joyful discovery experiences that develop foundational skills, create lasting memories, and spark a lifelong love of learning.

Designed for children and their caregivers, the Children’s Museum’s experiential exhibits emphasize hands-on engagement and learning through play with a focus on art, nature, and science.

The Children’s Museum proudly supports the work of parents, caregivers, and educators in raising happy, healthy, and strong children. Since opening its doors in 2014, it has become a valuable cultural resource and destination for Sonoma County.

website: <https://www.cmosc.org/>

Clean River Alliance

The mission of the Clean River Alliance is to remove trash from the Russian River watershed and to educate citizens about the problem of trash in our waters by creating more public clean-up events.

Volunteer Opportunities

<https://russianriver.com/business-directory/clean-river-alliance/#:~:text=The%20mission%20of%20the%20Clean,more%20public%20clean%20Dup%20events.>

The Climate Center

The Climate Center's work is guided by 3 core principles. All of our climate-safe policies and programs must be based on the latest science, help secure a [Just Transition](#) for fossil fuel workers, and prioritize [Climate Justice](#) for frontline communities. These principles inform our [Climate-Safe California campaign](#).

www.theclimatecenter.org

Coastside Land Trust

THE COASTSIDE LAND TRUST IS DEDICATED TO THE PRESERVATION, PROTECTION AND ENHANCEMENT OF THE OPEN SPACE ENVIRONMENT, INCLUDING THE NATURAL, SCENIC, RECREATIONAL, CULTURAL, HISTORICAL, AND AGRICULTURAL RESOURCES OF HALF MOON BAY AND THE SAN MATEO COUNTY COAST FOR PRESENT AND FUTURE GENERATIONS

The Coastside Land Trust, in Halfmoon Bay, sponsors webinars that may be of interest to you.

Their Web site is www.coastsidelandtrust.org

Coastwalk California

Mission

To ensure the right of all people to reach and responsibly enjoy the California coast. We are a California-wide non-profit volunteer driven organization that advocates for public access to our coast via the California Coastal Trail and offers educational & fun Coastal Trail guided hiking and camping adventures.

Vision

A well-stewarded California coast, highly prized as an irreplaceable commons, open for responsible use to all.

www.coastwalk.org phone: 707-829-6689

Community Resources for Science

CRS helps teachers build on that enthusiasm and bring meaningful science learning experiences to life in their classrooms. Children have a natural curiosity and a craving to learn. CRS works to nurture that learning by connecting classroom teachers with scientists, museums, enrichment providers, and professional development programs in order to bring more science learning experiences to students. CRS also helps individuals and organizations involved in science education to work together and become stronger partners for teachers and schools.

We have compiled some resources for teachers that we thought might be useful as we face school closures and move to more online learning opportunities while we practice "social distancing" in the wake of the spread of COVID-19.

<https://www.crs-science.org/>

Community Soil Foundation

Student-Grown Farm Stand

Community Soil Foundation's mission is to cultivate the wellness of Sonoma County communities by offering land-based education, creating access to organic produce, and regenerating habitat and natural resources. We invite you to come to the Larkfield Community Garden & Learning Center every Wednesday afternoon for your weekly supply of nutritious, organic produce. All fruits, veggies, and flowers are grown by Mark West students and community volunteers using biodynamic and sustainable methods, with proceeds helping fund the garden. All sales are by donation. Look for our Farm Stand at 450 Noonan Ranch Lane and check out other happenings at www.communitysoil.org.

Volunteer Opportunities

CREEC

The California Regional Environmental Education Community (CREEC) Network is a program of the California Department of Education. The CREEC Network fosters regional partnerships throughout the state of California to promote environmental education and environmental literacy by providing teachers with access to high quality professional learning opportunities and education resources.

Along with statewide sponsors and partners, each of the 11 California CREEC Regions provides professional learning opportunities and resources to educators as well as foster communications among schools and organizations interested in supporting the environmental literacy of California's teachers and students. More information on the CDE's CREEC Network program is posted on the [CDE website](#).

Different areas of the state have different CREEC Regions. For information about events in your region, go to: www.creec.org, and select "regions" at the top

Daily Acts

Who We Are

We are a holistic education nonprofit that takes a heart-centered approach to inspiring transformative actions that create connected, equitable, and climate resilient communities. We believe in the power of our daily actions to reconnect people to self, community, and place, which helps to heal our society and planet.

Our Mission is to inspire transformative action that creates connected, equitable climate resilient communities.

Our Vision is to create healthy, just and sustainable communities built upon the daily actions of many people.

Volunteer Opportunities

<https://dailyacts.org/>

East Bay Regional Park District

The East Bay Regional Park District is a system of beautiful parklands and trails in Alameda and Contra Costa counties to the east of San Francisco. The system comprises nearly 125,000 acres in 73 parks, including over

1,250 miles of trails and 55 miles of shoreline. We acquire, manage, and preserve natural and cultural resources for all to enjoy now and into the future. Our parks are ideal for healthful recreation and environmental education. We invite you to enjoy hiking, biking, picnicking, horseback riding, camping, fishing, boating, golfing, and nature study in our parks. [General Brochure](#) [PDF]

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

Education and the Environment Initiative

Who We Are

The California Education and the Environment Initiative is a program of CalRecycle's Office of Education and the Environment (OEE). Our mission is to foster environmental literacy among all California students as part of a high-quality K-12 education. Environmental literacy builds critical thinking and analytic skills that prepare students to make informed decisions about issues affecting our world, and readies them for college and career success.

Our key environmental literacy implementation partners include the California Department of Education's [California Regional Environmental Education Community Network](#) and [Ten Strands](#), a nonprofit organization that supports environment-based learning

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

Environmental Forum of Marin

At Environmental Forum of Marin (EFM), we're all about education for action. Our founders started by protecting Marin's natural beauty and wild shorelines.

Web Site: <https://marinefm.org/>

Exploratorium

The Exploratorium isn't just a museum; it's an ongoing exploration of science, art, and human perception. Explore our vast [collection of online experiences](#) to feed your curiosity and [education resources](#) supporting online teaching and learning. [Subscribe to our weekly newsletter](#) and get fresh learning resources and virtual programming delivered to your inbox.

<https://www.exploratorium.edu/>

Forestry Challenge

The Forestry Challenge is an academic event for high school students in technical forestry and current forestry topics. Since its inception in 2003, the program has grown from one event to five, a complete buildout of the program in California.

Participants spend four days in the forest learning about the ecology and management of the forested landscapes that provide communities with water, recreational opportunities, wood products, and wildlife habitat. Youth benefit by better understanding the relationship of the forested environment to their community, by exposure to natural resource management as a potential career option, and by undertaking a rigorous critical thinking exercise which is timely and addresses current forestry topics such as wildfire, insects, and forest health.

Watch a one-minute [introductory video!](#)

<http://forestrychallenge.org>

Friends of Five Creeks

All-volunteer Friends of Five Creeks works hands-on for clean water, healthy watersheds, and natural areas that welcome both wildlife and people, from Berkeley to Richmond on the urbanized east side of San Francisco Bay.

Volunteer Opportunities

<http://www.fivecreeks.org/>

Friends of the Petaluma River

WHO WE ARE

In 2005 Friends of the Petaluma River was formed to connect our community with the wonders of the Petaluma Watershed. While much of our work is focused on conservation and education surrounding this sensitive habitat, we also believe that celebration plays a large role in our mission. Through events at the River Heritage Center, family programming around the Watershed and access opportunities for the public we bring our Watershed to life.

Our Mission

Our mission is to celebrate the Petaluma Watershed through education and stewardship; because every great River needs a true Friend.

Our Goals: Access, Education, and Conservation

- To pursue outreach and educational activities that will nurture enthusiasm and commitment in the watershed for long term sustainable stewardship.
- To monitor conditions and engage in activities that will reduce or prevent pollution and lessen other harmful impacts on the River and its wetlands.
- To foster a River Heritage Center as a community resource. A place to archive information, host events, administer programs, and coordinate river related activities.
- To promote access to the Petaluma River and Marsh for all community members to experience the beauty of this resource for themselves

Are you incorporating environmental education into your classroom?

*Or would you like help developing and implementing a project about the Petaluma Watershed?
Let the Watershed Classroom support you!*

Volunteer Opportunities

For more information visit us at www.watershedclassroom.org

For information about Watershed Classroom or Friends of the Petaluma River, go to: <http://friendsofthepetalumariver.org/>

Green Schoolyards America

Green Schoolyards America seeks to transform asphalt-covered school grounds into park-like green spaces that improve children's well-being, learning, and play while contributing to the ecological health and resilience of our cities. We are working to change the norm for school ground design, use, and management so that all children will have access to the natural world in the places they already visit on a daily basis.

Our programs support the living school ground movement, build relationships that help it succeed, and work to embed this perspective in our existing institutions and policy and regulatory frameworks.

<http://www.greenschoolyards.org/>

Headwaters Science Institute

The Headwaters Science Institute provides science and environmental education through student-driven research. It is headquartered in Soda Springs. They offer some high school programs for which they charge, butr also provide some free online learning opportunities.

<https://headwatersscienceinstitute.org/>

IGNITE (Inspiring Girls Now In Technology Education)

IGNITE is an organization focusing on achieving gender equity in STEM fields.

www.igniteworldwide.org

iNaturalist :

iNaturalist is a citizen science project and online social network of naturalists, citizen scientists, and biologists built on the concept of mapping and sharing observations of biodiversity across the globe.

No matter where in the world you are, **iNaturalist** brings people together. Whether you have a PhD or just love the outdoors, **iNaturalist** will bring you closer to nature and many fellow naturalists.

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

Laguna De Santa Rosa Foundation

Founded in 1989, the Laguna Foundation is a place-based organization focused on the Laguna de Santa Rosa and the surrounding wetland communities. **We are a 501(c)3 non-profit with the mission to restore and conserve the Laguna de Santa Rosa, and to inspire public appreciation of this Wetland of International Importance.**

For details on Laguna Environmental Center events, go to their Web site and check out the Public Education section.

!

Volunteer Opportunities

<http://www.lagunadesantarosa.org>

LandPaths Outings and Events

LandPath's mission is to foster a love of the land in Sonoma County by creating ways for people to experience the beauty, understand the value, and assist in healing the land in their local communities.

Volunteer Opportunities

Lawrence (Hall of Science) at Home:

Welcome to The Lawrence at Home! On this site we will be sharing fun things for you to do at home or outdoors. Kids and families can look forward to exploring, investigating, discovering and inventing through DIY projects, meeting animal friends, science demonstrations and shows, astronomy and nature walks - PLUS, ways for parents to connect with each other and us.

(Includes live streaming programs (schedule posted), videos, science apps and activities, and a section on the science of COVID-19.)

<https://www.lawrencehallofscience.org/lawrence-at-home>

Marin County Parks Department

The Marin County Parks Department offers a variety of opportunities, including volunteer days and naturalist outings. They often partner with the nonprofit One Tam.

Volunteer Opportunities

Check them out at: <http://www.marincountyparks.org/depts/pk/calendar>.

Marin Municipal Water District

The Marin Municipal Water District sometimes has volunteer and citizen science opportunities.

Citizen Science Opportunities

Volunteer Opportunities

volunteerprogram@marinwater.org.

Marin Treks

Marin Treks Natural History Museum offers after school science classes, field trips, and classroom visits to elementary schools and preschools, as well as full and half-day camps during school vacation periods.

<http://www.marintreks.com/index.html>

Marine Mammal Center (Marin County)

The Marine Mammal Center is a wonderful field trip destination for schools and organized community groups such as scouts, camps, and after-school programs. They have a variety of classes available in their lab, have a “Sea to School” program with programs for all grade levels available to come to your school or site, an “Ocean Ambassadors” program for middle schoolers, information on marine mammals, and a variety of other resources.

Join them on the 2nd and 4th Sundays of each month for Marine Science Sunday - a FREE engaging ocean-inspired classroom series from our education experts. These interactive classroom programs are great for all!

Volunteer Opportunities

Go to <http://www.marinemammalcenter.org/> or phone 415-289-7325

NAAEE

(North American Association for Environmental Education):

NAAEE works to accelerate environmental literacy and civic engagement through the power of education.

<https://naaee.org/our-work/programs/covid-19-resources-tips-and-support>

EE News:

The NAAEE's monthly EE News includes articles or links to articles on environmental education topics. It also includes listings of Professional Development opportunities, Grants and Contests, and Resources for Students and Educators

<https://webmail.sonic.net/? task=mail& caps=pdf%3D1%2Cflash%3D0%2Ctiff%3D0%2Cwebp%3D1& uid=23501& mbox=INBOX& safe=1& action=show>

NOAA

What can NOAA do for you? NOAA Needs Your Input!

NOAA wants to know what type of STEM multimedia and distance learning educators would like to use with students, and for their own professional development.

National Marine Sanctuaries Webinar Series

The National Marine Sanctuary Webinar Series provides educators with educational and scientific expertise, resources and training to support ocean and climate literacy in the classroom. This series targets formal and informal educators that are engaging students (elementary through college) in formal classroom settings, as well as members of the community in informal educational venues (e.g. after school programs, science centers, aquariums, etc.).

Past Webinars are archived and can be accessed from the site.

<https://sanctuaries.noaa.gov/education/teachers/webinar-series.html>

Novato Space Station Museum

Prior to COVID-19, the museum was open most Thursdays-Sundays, and often offered “telescope nights” and daytime solar telescope viewing.

Volunteer Opportunities

Go to <http://www.thespacestationca.org/> to find out about the Novato Space Station Museum and the events that they offer, including:

Occidental Arts and Ecology Center

Sometimes offers courses and events, especially in gardening and permaculture

Go to <https://oaec.org/events/>

OneTam

One Tam is a group that works to protect and enhance the Mount Tamalpias area. See also [Marin County Parks Department](#).

Citizen Science Opportunities

Volunteer Opportunities

For more information, go to: <http://www.onetam.org/>

The Petaluma Wetlands Alliance

OUR MISSION

In addition to preserving habitats, with particular emphasis on birds and overall biodiversity, the Petaluma Wetlands Alliance also works with the schools, governments, environmental organizations, and our community. We educate the public about the ecology, wildlife, and the value of wetlands. The PWA is dedicated to the stewardship, restoration, and expansion of publicly accessible wetlands and associated wildlife habitats. We are active in Shollenberger Park, Alman Marsh, and the Ellis Creek Wetlands.

Citizen Science Opportunities

Volunteer Opportunities

Find out more about PWA at <https://petalumawetlands.org/>

Pepperwood Preserve

Pepperwood's mission is to inspire conservation through science.

Pepperwood's 3,200 acre preserve serves as a refuge for over 900 species of plants and animals. We are leaders in ecosystem-climate research, producing critical science to help guide our region's natural resource management and conservation planning. Pepperwood also offers environmental education opportunities for all ages to cultivate an ethic of conservation in our North Bay region.

Citizen Science Opportunities

Volunteer Opportunities

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

Planet Bee Foundation

Planet Bee Foundation is a 501(c)(3) environmental education nonprofit currently offering [virtual E-STEM lessons](#) centered around bees at **NO OR VERY LOW COST** in response to the pandemic. We have virtual live lessons with certified teachers or interactive asynchronous video lessons. We served over **20,000 students** around the country in 2020. [Watch our trailer on YouTube.](#)

Our comprehensive distance-learning program can be tailored to the needs of your classroom curriculum with differentiated activities that align with the **NGSS and the Common Core.**

99% of our virtual lessons have been provided at no cost in our dedication to social justice. Our pricing (if any) and sliding scale are listed [here](#).

Volunteer Opportunities

Please feel free to reach out with questions to programs@planetbee.org.

Point Reyes National Seashore

Point Reyes National Seashore Association's *Science at the Seashore* field trip program for school groups.

Join Us for Hands-On Discovery in Point Reyes!

Students have the opportunity to experience the excitement of discovery in natural habitat, improve science skills, increase awareness and inspire stewardship of our environment. Field trips are held in the restored Giacomini Wetlands, surrounding watershed creeks, or Point Reyes bays and beaches. Study equipment and waterproof footwear are provided; Minimum group size is 10 students; Some activities are season, tide, and group-size dependent; A fee is requested, but scholarships are available!

Hands-on activities include: Aquatic macroinvertebrate sampling, Wildlife tracking, Terrestrial invertebrate sampling, Water quality testing, Fish sampling, Bird surveys, Wetland plant studies, Soil and sediment studies, Habitat restoration, Creek profiling and hydrology, Sandy Beach Mole Crab Monitoring (LiMPETS), Marine debris surveys, Drakes Estero paleo geology and biology.

For information: www.ptreyes.org

Project Learning Tree

Project Learning Tree has developed some new curriculum resources that are available online. Check out the Winter Newsletter at: http://ucanr.edu/sites/PLT_UCCE/

The Branch is Project Learning Tree's e-newsletter. The March issue includes an article on "10 hands-on Science Projects to Teach About Pollution." Check it out at:

https://www.plt.org/educator-tips/science-projects-pollution/?utm_medium=email&utm_source=sharpspring&sslid=MzU2MbE0NrKOMLM0BAA&sseid=M7QwNbUwNzc0MgYA&jobid=d392442b-e64c-44f0-bdc5-cd1ea040889c

Project WET

(Water Education for Teachers)

The Winter California Project WET Gazette is 'live' on the [Water Education Foundation website](http://www.watereducation.org). Go to:

<https://www.watereducation.org/california-project-wet-gazette>

Redwood Region Ornithological Society

Redwood Region Ornithological Society was organized in 1962 to encourage the study and conservation of birds, other wildlife, and their natural habitat.

<http://www.rros.org/>

(Russian) Riverkeepers

Our Mission: to Inspire the Community to Protect the Russian River Forever.

Russian Riverkeeper has been fighting since 1993 to ensure a thriving river system and your rights to fishable, swimmable and drinkable waters.

Unfortunately, clean water is under new attacks from a rapidly warming climate, big agriculture and our government. Now, more than ever, your river needs vigilant enforcement of environmental laws and the care and commitment of people like you.

Volunteer Opportunities

<https://russianriverkeeper.org/>

Russian River Watershed Association

The Russian River Watershed Association (RRWA) is a coalition of eleven cities, counties and special districts in the Russian River watershed that have come together to coordinate regional programs for clean water, habitat restoration, and watershed enhancement. RRWA was formed in 2003 to create opportunities for our member agencies to expand their stewardship role in the watershed.

Download an [RRWA Brochure](#)

Volunteer Opportunities

Please visit www.rrwatershed.org to stay up-to-date on any upcoming environmentally friendly events and workshops around the watershed during the year.

San Francisco Bay Model Events:

For information on opportunities available at the Bay Model in Sausalito, including an events calendar, go to:

<http://www.spn.usace.army.mil/Missions/Recreation/BayModelVisitorCenter/StudentExploration.aspx>

City of Santa Rosa

The Park-A-Month Volunteer Program gives people the opportunity to help improve and clean parks in Santa Rosa.

Volunteer Opportunities

<https://srcity.org/1028/Park-A-Month-Program>

Science Buzz Café

The Science Buzz Café is dedicated to the night science tradition. It is for professional scientists who do it for the money and for the amateurs who do it for love. for info: <http://www.sciencebuzzcafe.org/>

BRINGING SCIENCE & CURIOSITY BACK INTO CULTURE ...

www.sciencebuzzcafe.org (707) 292-5281 daniel@sciencebuzzcafe.org

School Garden Network

MISSION

School Garden Network grows healthy students, families, schools, and communities through garden-based education.

<https://www.schoolgardens.org>

Shape of Life

Shape of Life offers classroom media and resources depicting the evolution of the animal kingdom on planet earth. Explore animal adaptation, animations, and behaviors along with the amazing scientists who bring their stories to life. Discover a rich selection of NGSS materials including lesson plans, readings, illustrations and activities that inspire a deeper dive into animal phyla. Shape of Life content is FREE to students and educators all over the world.

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

Sierra Club

The Sonoma Group of the Sierra Club meets Monday evenings at the Environmental Center, 55A Ridgway, Santa Rosa. The Conservation Committee meets at 5:30; the Executive Committee meets at 6:30. The public is welcome to attend. The chapter is also looking for volunteers, including outings leaders to lead hikes on a regular basis around the area. We are looking for volunteers throughout the chapter, including outings leaders.

<http://www.sierraclub.org/redwood/get-involved>

Volunteer Opportunities

Also see the Sierra Club's Green Life:

<https://www.sierraclub.org/sierra/green-life>

Slide Ranch (Marin County)

The mission of Slide Ranch (on the Marin Coast in Muir Beach) is to connect children to nature. We cultivate healthy bodies and minds and foster future generations of environmental stewards. By farming, cooking, caring for animals and exploring wilderness and the coast, we teach people of all ages to see the connection between their own health, a healthy food system and a healthy environment.

Go to: <http://slideranch.org/>

Sonoma Birding

Mission Statement – Sonoma Birding ∞ Sonoma Nature was founded in 2004 in Sonoma Valley, CA. as a volunteer “citizen science” based conservation organization that establishes sustainable bird and nature related festivals, activities, and programs for all ages, through a variety of partnerships in Northern California and throughout the United States and Canada.

Citizen Science Opportunities

Volunteer Opportunities

For information, go to www.sonomabirding.com

Sonoma Co. Agriculture & Open Space Preservation District

The District partners with several environmental and outdoor education organizations. For more information, go to the District Web site (<https://www.sonomaopenspace.org/>) and select Education and Outreach in the Get Involved tab.

Some of the programs are:

- FARMS Leadership (with Sonoma Resource Conservation District)
- Learning Laguna (with the Laguna Foundation)
- In Our Own Back Yard (with LandPaths)
- Teaching Environmental and Agricultural Memories (with Gold Ridge Resource Conservatin District)
- Wildlife Defenders (with Sonoma Ecology Center)

Sonoma County Astronomical Society

The Sonoma County Astronomical Society is an amateur astronomy club. They have telescope viewing programs and a variety of public outreach programs.

<https://www.go-astronomy.com/astronomy-club.php?ID=479>

Sonoma County Library

The Sonoma County Library often has programs that are science related. Select the Events tab at:

<https://sonomalibrary.org/>

Under that tab they have a “calendar” and a “list” choice. I find the list easier to use.

Note that you can also search by **location** or by the *title* of the program.

Upcoming events include such things as the following, most of which occur at different branches throughout the month.

- presentations by Sonoma County Master Gardeners
- Lego Club
- Hour of Code (Maker Studio)
- Build Club
- gardening for kids

Sonoma County Office of Education Science Ed. Offerings

SCOE occasionally science-related classes for teachers on their Web site (www.scoe.org):

Sonoma County Regional Parks

The Sonoma County Regional Parks offer a wide variety of activities, many of which are science or nature-related. Go to: <http://parks.sonomacounty.ca.gov> and scroll down to “Upcoming Events”.

Some activities are purely recreational, some provide opportunities for community service, and all are educational!

Environmental Discovery Center Drop-in: Every Wednesday-Sunday

Volunteer Opportunities

Sonoma County Water Agency

They have a redesigned Web site and increased resource listings. go to:

<https://www.sonomawater.org/education>

Sonoma Ecology Center and Sugarloaf Ridge State Park's Team Sugarloaf

Sonoma Ecology Center works to address challenges related to water supply and quality, open space, rural character, biodiversity, energy, climate change, and a better quality of life for all residents. Since 1990, we've worked to increase appreciation and stewardship of Sonoma Valley's natural heritage and create measurable benefits in areas of land, water, climate change and biodiversity.

Vision

We envision a future where people, land, water, and wildlife thrive.

Mission

Our mission is to work with our community to identify and lead actions that achieve and sustain ecological health in Sonoma Valley.

Robert Ferguson Observatory:

Robert Ferguson Observatory is continually looking for new docents and volunteers of all ages to help bring the universe to the public. The Observatory is run by the Valley of the Moon Observatory Association, a 501(3)(c) non-profit, and has offered outreach-based astronomy and science programs to the public for almost 25 years. RFO is almost all-volunteer run and typically serves about 9,000 visitors annually. The observatory is located in Sugarloaf Ridge State Park and houses a 40-inch reflector telescope, the largest telescope in Northern California that is accessible to the public; a robotic 20-inch research-grade, "CCD" telescope; and an 8", two-meter long refractor telescope. Prior experience or knowledge in astronomy is not necessary. Please go to rfo.org, click on "Volunteer" and fill out the volunteer application form online to get on the list for our next docent orientation and training! Questions? Contact Stephanie Derammelaere at 707-333-1331 or at sd@rfo.org.

Volunteer Opportunities

Sonoma Land Trust

The Sonoma Land Trust offers a variety of educational outings and volunteer opportunities for the public on protected lands. Check them out at: <https://sonomalandtrust.org> (select the "Explore" tab for the calendar)

Volunteer Opportunities

Citizen Science Opportunities

Sonoma/Petaluma State Historic Parks

While the Sonoma/Petaluma area state Parks primarily focus on history, they do have some science/environmental events and offerings such as twilight nature hikes.

For info, go to www.sonomaparks.org

Sonoma State University:

The **Sonoma State University School of Science and Technology** has a periodic online newsletter that gives news about the school and includes a link to the various department public speakers and events.

The link for the **speakers/colloquia** is: <http://www.sonoma.edu/scitech/pls/>.

SSU Center for Environmental Inquiry:

The Center's mission is to create an engaged and environmentally ready society, one where everyone has the skills to find solutions to the challenges facing the earth.

With the complex issues before us, such as climate change, overuse of resources, and declining biodiversity, we need to be awake, prepared and engaged. We need to know how to work across sectors and find innovative ways forward.

There is good evidence that we are not ready. Intuitive understanding of ecosystem processes is at an all-time low, and many professionals entering the workforce are not prepared to problem-solve or aware of the impact of ecosystems on economy and culture.

Citizen Science Opportunities

Volunteer Opportunities

<https://cei.sonoma.edu/>

- Full calendar of events: cei.sonoma.edu/calendar
- Recordings of past events: cei.sonoma.edu/calendar/past

Stewards of the Coast and Redwoods

Docent and Community Education Program

The Stewards of the Coast and Redwoods is the “Cooperating Association” that provides interpretive services for Armstrong Redwoods State Reserve and the Sonoma Coast State Park. Check their website for more information about these great opportunities for you and your students, **or call 707-869-9177**

Citizen Science Opportunities

Volunteer Opportunities

General Volunteers in Parks Orientation: August 28

www.stewardscr.org

Teen Tech San Francisco

Our mission is to inspire and empower the next generation of tech innovators. TeenTechSF is an interactive tech community for teens to innovate, collaborate, and create. Run by and for teens, all our events are free.

Since launching, TeenTechSF has connected 1,600+ teens on five continents with more than 100 tech leaders from Apple to Zynga offering presentations and workshops on design thinking, coding, app creation, robotics, 3-D printing, entrepreneurship, professional networking, tech careers, and global tech trends.

Like the [TeenTechSF Facebook page](#) for the latest news & events.

See the [TeenTechSF@MarchFor Science video](#) and [TeenTechSF March For Science Facebook recap/photos](#).

website: <https://teentechsf.org/#teentechsf>

Water Education Foundation

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

Wildcare

Wildcare is a (primarily) Marin County organization dedicated to the care and protection of wildlife. They have a variety of programs for teachers and volunteers.

Volunteer Opportunities

Check out Wildcare at: www.discoverwildcare.org

Wildlands Conservancy/Jenner Headlands Preserve Events

Relatively few people know about the Jenner Headlands Reserve on the Sonoma Coast. It is a beautiful place, and they provide some great opportunities.

Volunteer Opportunities

http://www.wildlandsconservancy.org/preserve_jenner.html

RESOURCES:

Bay Area Teen Science

this site posts opportunities for teens to get involved in science in a variety of ways. Although many of the postings are now outdated, they can still provide ideas and sites for teens to check back with later.

<http://bayareateenscience.org/>

Bay Model Visitor Center

The San Francisco Bay Model, in Sausalito, is a scale model of the San Francisco Bay. It is used for scientific research and modeling, and is also available for school tours. They also offer a variety of events and programs. Go to:

<http://www.spn.usace.army.mil/Missions/Recreation/BayModelVisitorCenter.aspx>

Brain Pop

Subscription based lessons on a wide variety of topics. <https://www.brainpop.com/>

California Academy of Sciences

The CalAcademy has a variety of programs that would be of interest to youth who are interested in science. They include

- Teen Science Night Digital Learning Tech Teens
- Careers in Science Intern Program
- Teen Advocates for Science Communication (volunteer program)
- Teen Think Tank Science Action Club

Find out more at: <https://www.calacademy.org/youth-programs>

CA Department of Fish and Wildlife Hatchery Education Program

The Hatchery Education Program offered by California Department of Fish and Wildlife's has opened their Fall enrollment period. Apply now for a free one hour session of multimedia learning about fish, watersheds & more! Dynamic activities illustrate key concepts and encourage critical thinking with subject matter aligned with learning standards specific to grade level. The application for Fish Academy, a guided activity based learning day at Don Clausen Fish Hatchery at Warm Springs Dam in early 2017, is also available now. Contact Sastra McGinley at sastra.mcginley@wildlife.ca.gov or (707) 280-3084 or visit www.wildlife.ca.gov/Regions/3/HEP

CA. Department of Parks and Recreation

The California Department of Parks and Recreation has several “Guides for Educators” available that may be of interest to *Grapevine* subscribers. These include resources for teaching about both historic parks and natural parks. Some are available for downloading, including some that I (Mike Roa) wrote. I can provide workshops/staff development on those that I wrote. You might be interested in taking a look at:

[The Conifer Connection: A Resource for Learning and Teaching about Coniferous Forests and Watersheds](#)

[A Guide to the Side of the Sea: A Teacher's Guide for Field Trips to Rocky Intertidal Areas](#)

[Redwood Ed: A Guide to the Coast Redwoods for Teachers and Learners](#)

} I wrote these three.

[A Teacher's Guide to Sonoma State Historic Park](#)

[Allensworth: A Piece of the World, A Teacher's Guide with Student Lessons and Resources](#)

[California State Capitol Museum School Packet \(Teacher Version\) \(Student Version\)](#)

[Governor's Mansion State Historic Park Teacher's Guide](#)

[Indian Grinding Rock State Historic Park and Chaw'se Regional Indian Museum School Tour Information](#)

[Tijuana Estuary High School Teacher's Guide](#)

Check them out at: https://www.parks.ca.gov/?page_id=25535

Climate Change Educational Materials from the U.S. E.P.A.

Find [climate education teaching tools](http://go.usa.gov/3AVx9) (<http://go.usa.gov/3AVx9>) and introduce your class to a [A Student's Guide to Climate Change](http://go.usa.gov/3AV3G). (<http://go.usa.gov/3AV3G>)

Environmental Protection Agency Resources

The U.S. E.P.A. has a variety of resources that you may find useful. Check them out at:
usaepa@service.govdelivery.com

U.S. E.P.A.

Activity Book for Elementary Age Students

How do you describe to students what the EPA does?

Use our newest activity book for elementary age students to help introduce them to EPA. Kids can learn about the different ways the EPA works to protect our environment and our health. It's a simple, straightforward guide suitable for children of all ages.

[Download the PDF. \(https://go.usa.gov/xn946\)](https://go.usa.gov/xn946)

Find more downloadable and hardcopy resources at the [National Service Center for Environmental Publications. \(https://www.epa.gov/nscep\)](https://www.epa.gov/nscep)

Evolution Videos

Shape of Life offers FREE classroom videos depicting the evolution of the animal kingdom on planet earth. Students and educators from all over the world explore animal adaptation, animations, and behaviors along with the amazing scientists who bring their stories to life. We also offer a rich selection of NGSS materials including lesson plans, readings, illustrations and activities that inspire a deeper dive into the phyla that explain so much of our existence.

<http://www.shapeoflife.org/>

Geothermal Education Resources

The Geothermal Education Office, in Tiburon, has a wealth of teacher resources on geothermal energy, including slide shows, videos, classroom materials, maps, lists of web sites, and more. go to: <http://geothermaleducation.org/> or contact them at: 24hrcleanpower@gmail.com

Headlands Institute/Naturebridge...Sausalito

A variety of environmental science opportunities for grades K-12 are available at the Headlands Institute. They also have professional development workshops for teachers (formal and non-formal), and a variety of classroom resources. Go to: <http://www.naturebridge.org/golden-gate>

iNaturalist

iNaturalist is a Web site that allows **citizen scientists (like you and your students!)** to post pictures and information about plants, animals, and other science that they see in their yards and travels. It is a GREAT site for your students to not only explore but to contribute to. Go to: www.iNaturalist.org

An example of the use of iNaturalist at the Jenner Wildlands Preserve can be seen at:

http://www.inaturalist.org/projects/jenner-headlands-preserve-inaturalist-notebook?utm_source=Jenner+Headlands+Community+Meeting+2015&utm_campaign=JHP+Analytics&utm_medium=email

and another example can be found at: www.protecthabitat.com

Resources from the Marin Co U.C. Cooperative Extension Service

The Marin County U.C. Cooperative Extension Service has teaching materials on a variety of topics, including sudden oak death, trees/forestry, stewardship, agriculture, and more.. Go to:

http://cemar.in.ucanr.edu/Programs/Custom_Program816/Environmental_education_resources/

Marin Co. Resource Links:

The County of Marin has compiled a list of environmental education resource links for adults and for kids. Go to: <http://www.marincounty.org/depts/pw/divisions/mcstoppp/archive/resources-for-schools>

Marin Master Gardeners Dig It. Grow it. Eat it. A workshop

A one-day workshop on edible plants and nutrition for third and fourth graders, led by UC Marin Master Gardeners and held at the Marin Art and Garden Center. Students will learn to identify edible plant parts and about how plants grow, including the science of pollination and propagation.

- **Station 1 - Edible Plant Parts**
- **Station 2 - How Plants Grow**
- **Station 3 - Plant Seed Science**
- **Station 4 - Plant Propagation**
- **Station 5 - Get in the Dirt**
- **Station 6 - Plant Pollination**

If you are interested in this program, please contact UC Marin Master Gardeners Help Desk.
Email: HelpDesk@MarinMG.org, or call: (415) 473 – 4204

Marin – Sonoma Mosquito Abatement District

Free Science Presentations

The Marin/Sonoma Mosquito & Vector Control District offers free presentations about vectors (mosquitoes, yellowjackets and ticks) to any school in Marin and Sonoma Counties. The presentations focus on the biology of vectors and how students can protect themselves from these critters. Visit <http://bitly.com/educationdept> for more information, or contact Eric Engh at erice@msmosquito.com to be added to our scheduling list.

Mystery Science (a.k.a. Mystery Doug)

Lessons based on searching for answers to questions on a variety of topics.
Schools or teachers can try out some of these lessons for free. Fee for unlimited access.

www.mysteryscience.com

Ocean Currents Radio Program

The first Monday of every month Cordell Bank National Marine Sanctuary produces a live radio program on Community Radio for West Marin called Ocean Currents. Hear from ocean experts as you learn about the importance of a healthy ocean.

Broadcast live in the West Marin listening radius and live online at www.kwmmr.org, 1-2 pm. The shows are all archived on the Cordell Bank sanctuary [website here](#), or you can subscribe to the podcast.

Looking for a good resource online to get ocean wildlife photos for educational use?

Check out the [National Marine Sanctuaries online media library](#)

Download photos and video footage for free for educational use and check out the marine sanctuaries online encyclopedia. There are 4 National Marine Sanctuaries in CA. Do you know which ones are closest to you?

NOAA Resources for you

The folks at the Cordell Bank National Marine Sanctuary and the National Oceanographic and Atmospheric Administration (NOAA) have a variety of resources and opportunities available. Check the opportunities out at <http://cordellbank.noaa.gov>

Planet Bee Foundation

[Planet Bee Foundation](#) is a Bay Area nonprofit dedicated to creating a green-minded generation through environmental stewardship, using the lens of the struggling honey bee to teach the power of individual action. We have expanded our offering of hands-on educational programs, each of which can be individually tailored to fit a school's needs, wants, and location. Every lesson is in line with Next Generation Science Standards and grounded in the philosophy of E-STEM learning. We are now taking sign-ups for the 2018-19 school year! Our calendar fills up quickly, so check out our website at planetbee.org and sign up now!

Planet Bee now offers one-day and year-long programs. The [school program overview page](#) on our website lays out each program offering, their alignment with E-STEM and NGSS, and our updated pricing structure. Need-based discounts and sponsorships are available.

All of our programs are developmentally appropriate and designed to address all learning styles. Most programs involve observation of (contained) live bees, games, hands-on activities, and plenty of room for inquiry, creativity, exploration, and discussion. We focus on conservation techniques and environmentalism in every program.

One-day workshops include: [Humble Honey Bee](#), [Bee-ometry](#), [Native Bees of California](#), [Wanna-Bee an Engineer?](#), [Hive Dive Live](#)

Year-long programs include: [ZomBee Watch](#), [Adopt-A-Hive](#), [Wanna-Bee an Engineer?](#), [Honey Bee Series](#), [Native Bee Series](#), [All Bees Series](#)

We have also added a new format for [High School Programs!](#)

Please email our Program Director, Sarah Thorson, at programs@planetbee.org if you have any questions, or sign up for programs via the online registration forms on our website, www.planetbee.org. Together we can change the world - one bee and one student at a time!

Point Blue (Point Reyes Bird Observatory)

At Point Blue, our mission is to advance the conservation of birds, other wildlife, and ecosystems through science, partnerships, and outreach. Our 140 scientists work to reduce the impacts of habitat loss, climate change, and other environmental threats while promoting nature-based solutions for wildlife and people, on land and at sea.

In addition to the scientific work done by the folks at Point Blue, they have a variety of educational programs. Go to: <http://www.pointblue.org/>

Sonoma County Wildlife Rescue

Presentations

We love to give educational presentations to groups of all ages! We make each presentation to match your group's unique needs. We can talk on a variety of subjects, including ecology, wildlife rehabilitation, and cohabiting peacefully with wildlife. Presentations may include Powerpoint, skits, games, or specimens.

Tours

Each presentation at SCWR includes a tour of our Educational Wildlife Community. Our community is comprised of non-releasable wildlife in natural enclosures. Animals include mountain lions, coyotes, raccoons, and many more!

If you would like to sign up for one of our presentations, please call (707) 992-0274 or email us at education@scwildliferescue.org.

Web site: <http://www.scwildliferescue.org/presentation-at-scwr.html>

For information, contact Linnaea Furling at: education@scwildliferescue.org or 707-992-0274

Sonoma Resource Conservation District:

Education

LandSmart Education® creates connections and inspires conservation through a series of engaging educational opportunities for community members of all ages. Youth programs offer innovative hands on learning experiences at local farms. A distinctive public outings series highlights local protected agricultural properties and the importance of conservation as a tool in working landscapes in partnership with local landowners. Our annual workshops are designed to deliver cutting edge information and resources about land management techniques available through RCD and partner programs with topics including water management and conservation, fish and wildlife habitat enhancement, erosion control, soil health, and carbon sequestration.

Education programming includes:

- FARMS Leadership Program- high school youth
- TEAM Program field trips- elementary school students
- Agricultural Heritage Series- for members of the public
- LandSmart Workshops- designed for landowners and managers

The California Academy of Sciences, the Exploratorium, and other organizations periodically offer free “Teen Science Night” events. Partners include Space and Science Museum, de Young Museum, Oakland Zoo, San Francisco Zoo, Marine Mammal Center, NASA and others. Do (or have your students do) an Internet search for “Teen Science Night” for upcoming events.

Teen Tech San Francisco

Our mission is to inspire and empower the next generation of tech innovators.

TeenTechSF is an interactive tech community for teens to innovate, collaborate, and create.

Run by and for teens, all our events are free.

Since launching, TeenTechSF has connected 1,600+ teens on five continents with more than 100 tech leaders from Apple to Zynga offering presentations and workshops on design thinking, coding, app creation, robotics, 3-D printing, entrepreneurship, professional networking, tech careers, and global tech trends.

Like the [TeenTechSF Facebook page](#) for the latest news & events.

See the [TeenTechSF@MarchFor Science video](#) and [TeenTechSF March For Science Facebook recap/photos](#).

This Week in California History...

is a new site for learning about California history, including California's science and environmental history. ThisWeekinCaliforniaHistory.com is a digital playground for California history and geography. It posts what happened in California over 500 years a week at a time; from natural history to LGBT milestones and including science events like 19th century patents by women in California. The site is free, non-commercial and full of interesting content.

U.S. Forest Service:

You may now order FREE sets of scientist cards from our web site! The cards feature Forest Service scientists and are a great way to introduce students to different science careers. To view the variety of cards we have, please visit <http://www.naturalinquirer.org/scientists-v-92.html>. We also have 2 lesson plans to accompany the cards. These lesson plans are available as pdf files on the web page listed above and the direct links are: <http://www.naturalinquirer.org/UserFiles/File/FinalScientistsCardSeriesLessonPlan.pdf> and [http://www.naturalinquirer.org/UserFiles/File/CardLessonPlans_StealingBundles\(1\).pdf](http://www.naturalinquirer.org/UserFiles/File/CardLessonPlans_StealingBundles(1).pdf).

To order your free sets of cards today, please visit <http://www.naturalinquirer.org/Scientist-Card-Ordering-Page-v-155.html>.

Wet Gazette

The Water Education Foundation and California Project WET have changed the format for their Web site for water education resources. This excellent source for water education resources includes:

- Trending: What's Happening Now in California Water
- Water Topics: News, Events, and Information by Topic
- Aquaforia: What News You Need to Know
- Aquapedia: An Online Water Encyclopedia
- A Quicklink section giving upcoming events, and resources for purchase

For the spring issue of the Project WET Gazette, go to:

[http://www.watereducation.org/publication/spring-2018-california-project-wet-gazette?utm_campaign=Welcome%20to%20Spring%2C%20California%20Project%20WET%20Alumni%21&utm_medium=email&utm_source=bundle and blast](http://www.watereducation.org/publication/spring-2018-california-project-wet-gazette?utm_campaign=Welcome%20to%20Spring%2C%20California%20Project%20WET%20Alumni%21&utm_medium=email&utm_source=bundle%20and%20blast)

For everyone seeking workshops, we have a variety for you to choose from this summer and a few already posted for the fall at the Foundation's website at [workshops](#) and [Special Workshops and Events](#). We also have lots of non-school related 'Events' for those who just want to get away!

Wildcare/Terwilliger Nature Education Programs

The Wildcare's Terwilliger Nature Education Programs offer a wide range of environmental education opportunities for K-12 classrooms, including:

-Live Wildlife Ambassador Program: Three wildlife ambassadors will visit your classroom for an unforgettable presentation. Possible wildlife visitors include a Northern Spotted Owl, Virginia Opossum, California Desert Tortoise, Red Tailed Hawk, Gopher Snake and many more!

-Nature Hikes: Guided discovery hikes are offered at four locations (Spring Lake, Miwok Meadows, Ring Mountain, Muir Woods)

-Nature Van: Students will explore touchable taxidermy, bones and biofacts in this interactive presentation at your site. Choose from a variety of topics including California Wildlife, Birds of a Feather, Marvelous Mammals, Redwood Giants, Wild Wetlands, Ocean Adventures and Going Green.

-Center Tours: Meet our non-releasable rescued wildlife ambassadors in a guided tour around our outdoor courtyard and museum. Each tour includes a special animal encounter with one of our wildlife ambassadors.

Each classroom automatically qualifies for a scholarship that matches the percentage of the student body enrolled in the Free and Reduced Meal Program.

For more information or for additional teacher resources, visit <http://www.wildcarebayarea.org/education> or email tory@wildcarebayarea.org

WATER WEBSITES OF INTEREST

Visit the USA

Here you will find lots of great information and tips on visiting and traveling in the USA. No two trips are alike, so you will find information in this section for a variety of trip types. Whether you prefer staying in a resort or camping under the stars, the site includes details travelers need to be safe and happy a trip. Being prepared early and knowing what to expect will help reduce traveler stress and be more able to enjoy the unexpected events of travel. This website has done a lot of the 'Wet Vacation' research on states for students – and each state description often includes links to state travel sites that highlight regions within the state, such as the California travel website below.

Visit California

If you know which part of California is of interest but you still need some guidance, click on "Map," and then explore one of the 12 geographical regions of the state. We've organized our content—including videos, a printed visitor's guide and even [travel tips](#)—with an eye toward helping find what you want quickly and easily. Searching this site is simple: If you already know what you're looking for, type the keywords into our search bar at the top of the page. The "hamburger" menu in the top right corner of the page is another great resource—it has links to articles and other content organized around interests.

National Park Service: Plan Your Visit

Are you ready? Whether you want to explore local places or plan a vacation, you'll [find a park](#) to suit your interests! The National Park Service preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations. This is a wonderful website to pair with or expand on 'Discover the Waters of Our National Parks' (p: 495) or [the California version of the activity!](#)

U.S.G.S. – The National Map

As one of the cornerstones of the [U.S. Geological Survey's National Geospatial Program](#), The National Map is a collaborative effort among the USGS and other Federal, State, and local partners to improve and deliver topographic information for the Nation. It has uses ranging from recreation to scientific analysis to emergency response. The National Map Viewer is the one-stop destination for downloading map data and products. It uses easy to navigate foundational base maps and makes it simple to download products such as the US Topo.

U.S. Climate Data

The purpose of the U.S. Climate Data is to inform people about the climate in the United States. This website was developed by Your Weather Service. The website includes monthly and daily data for temperature, precipitation, snowfall and sunshine for multiple locations in every state. The monthly data also includes a climograph of the average precipitation, maximum and minimum temperature by month for each location that can be opened separately in its own page to copy. Each location also includes Google map link to see where it is located and a link to the current weather forecast at that location. The page also links to [climate.eu](#) where one can find monthly data for countries in Europe and Africa.

NOAA: U.S. Climate Atlas

These maps use daily observations of temperature and precipitation from over 10,000 stations in the U.S. based on new methodologies to quality control the daily data, summarize the daily data into monthly values and the creation of maps to visualize the information. There are maps for minimum temperature, maximum temperature, and precipitation. There are two

types of data that can be displayed; maps for a particular month and year from 1895 to present, or climatology maps. The climatology maps represent average values from 1981 to 2010. These are also known as the “1981-2010 Normals”.

NOAA: [Defining Climate Normals](#)

You’re looking forward to taking a much-deserved vacation in four months, and you want to visit a U.S. city you’ve never been to before. So, how do you decide where to go? Perhaps you’ll consider places where you can expect your ideal temperatures. But, at four months out, your trusted weather forecast probably won’t be much help in finding locations that meet your temperature criteria. Fortunately, our scientists have calculated the “normal” temperatures you can expect to see each month at locations across the United States. We call them [Climate Normals](#), and we compute a new installment every decade.

ESRI: [Severe Weather Public Information Map](#)

Manage your severe weather response with live feeds and sensor data. This map features live feed layers for Severe Weather across the United States and Canada and displays the predicted ice accumulation for the next 72 hours across the Continental United States. Data are updated hourly from the National Digital Forecast Database produced by the National Weather Service.

NOAA: [Climate Data Primer](#)

Heading out for a walk on a chilly spring morning, you notice misty clouds on the hills in the distance. You’re feeling eager for summer to arrive, but the hillsides are just beginning to green up after the end of winter. You wonder, “Is it cooler than usual this spring? I think I’m usually wearing shorts by this time of year.” Thinking about the weather, you recognize what you’re really concerned about is if it will rain on your barbecue this weekend.

NOAA: [Historical Climate Summaries – New Version](#)

The Regional Climate Centers (RCC) deliver climate services at national, regional and state levels working with NOAA partners. The Regional Climate Center data interface is being updated, but you can already start using the new version. Click ‘OK’ on the note about the page not loading Google Maps correctly, then choose one of the two ways to use the map as described below the map. Click on any data point that appears to get more data than you probably want! This website includes the ‘30-year normals’ used in the U.S. Climate Data locations, the maps in the U.S. Climate Atlas – AND you can get all the raw data available for the life of each gauge on the RCC map!

NOAA: [Comparative Climatic Data](#)

The Comparative Climatic Data tables of meteorological elements outline the climate conditions at major U.S. weather observing stations, Puerto Rico, and the Pacific Islands. The stations list is alphabetically by state. The table arrangement is so a single table of the same element allows the user to compare the values for different locations. Some elements will not be in the table for weather stations that do not regularly report that element. This site also allows users to [view data and graphs of temperature and precipitation Climate Normals](#) for over 9,800 stations across the United States.

US EPA: [Climate Change Indicators: Weather and Climate](#)

Rising global average temperature is associated with widespread changes in weather patterns. Scientific studies indicate that extreme weather events such as heat waves and large storms are likely to become more frequent or more intense with human-induced climate change. This chapter focuses on observed changes in temperature, precipitation, storms, floods, and droughts.

Real World Learning Objects: [Using Excel to Create a Climograph](#)

A climograph is a chart commonly used to graphically display both annual temperature (highs, lows, and averages) and precipitation information for a city or region. Meteorologists and climatologists use climatograms to understand the general climate of a region. They are also frequently included in travel books and tourism brochures so interested visitors can select the “best” time of year to visit a certain location. This website walks one through [how to use a spreadsheet program to create a climograph](#), and then use and analyze the graph to make a recommend times of the year to visit their area of study.

GardenZeus: [California Climate Zones](#)

The same weather and climate factors that may affect vacation plans also come into play when planning what to plant in your garden. GardenZeus California Climate Zones were developed by taking into account many factors including seasonal climate, temperature averages, elevation, frequency of frosts and precipitation. The website includes a wonderful synopsis of the prevailing weather and climate in each of their California climate zones, which upon clicking on shows a list of garden plants recommended for the region.

Desert research Institute: [Stories in the Snow](#)

DRI is pioneering an exciting and unique approach to the science of snow. The Stories in the Snow project engages community members as citizen scientists in real data collection and research throughout the Sierra Nevada. Every snowflake is unique, and the shape of freshly-fallen crystals can tell us about real-time atmospheric conditions. Using smartphone technology, you can help track the path a snowflake has taken through the atmosphere!

[California Project WET Supplemental Materials Page](#)

Remember to check this Water Education Foundation web page to find California specific supplements and other materials for use with Project WET activities, including other activities tied to weather and climate such as the California version of *'Discover the Waters of Our National Parks,' 'Snow and Tell' or 'Back to the Future.'*