

PEASDUSTER

Volume 53-2 Number P-1

Delta-Sierra Group Newsletter March April May June 2022

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Time's Up For Climate Change

Climate Extremes: What's Next?

Know What You Breathe

March 12, 2022 @10:30am-12 noon



Presentations:

Air Quality and Climate Change in San Joaquin County

Laura Carr, Air Pollution Specialist

California Air Resources Board

Ongoing Progress in Improving Air Quality in San Joaquin County

Jon Klassen, Director of Air Quality Science

San Joaquin Valley Air Pollution Control District

REGISTER

Or Use This Zoom Link

<https://us02web.zoom.us/meeting/register/tZMvfUgqqTMsG9W8dhgwYNjkTi5wnVjF2QzR>

John Muir's Grand Yosemite

Mike Wurtz

March 28, 2022 @ 7 pm via Zoom

Nineteenth-century naturalist John Muir made hundreds of drawings of Yosemite between 1869 and his death in 1914. Mike Wurtz, curator of the Muir collections at the University of the Pacific, will present some of Muir's drawings and tell Muir stories along with his own stories of finding Muir's drawing sites in Yosemite from his book, *John Muir's Grand Yosemite: Musings and Sketches*.



Internet Photo



Mike Wurtz is the Head of the University of the Pacific Holt-Atherton Special Collections and Archives. He oversees the use and preservation of the historical archives of nearly 500 collections such as the John Muir Papers, the George Moscone Collection, and Japanese American Internment during WWII collections. He holds Master's degrees in History and Library Science.

This is a link to the website where you can purchase his book:

<https://shop.yosemite.org/products/john-muir-s-grand-yosemite>

Sign On To This Special Zoom Meeting With This Link:

<https://us02web.zoom.us/j/88039856753?pwd=c2RoZDNQZkJMMW0zeUxKZGVUVXU4Zz09>

Please practice & promote the responsible use of ecosystems & resources.

Climate Extremes: What's Next?

Sea Level Rise

April 2, 2022 @10:30am-12 noon



Presentations:

Health of the Delta

Barbara Barrigan Parilla, Executive Director of Restore the Delta

Flood Risk Resilience:

Adapting to Climate Change in the Lower San Joaquin River Basin.

Chris Elias, Executive Director for the San Joaquin Area Flood Control Agency

REGISTER

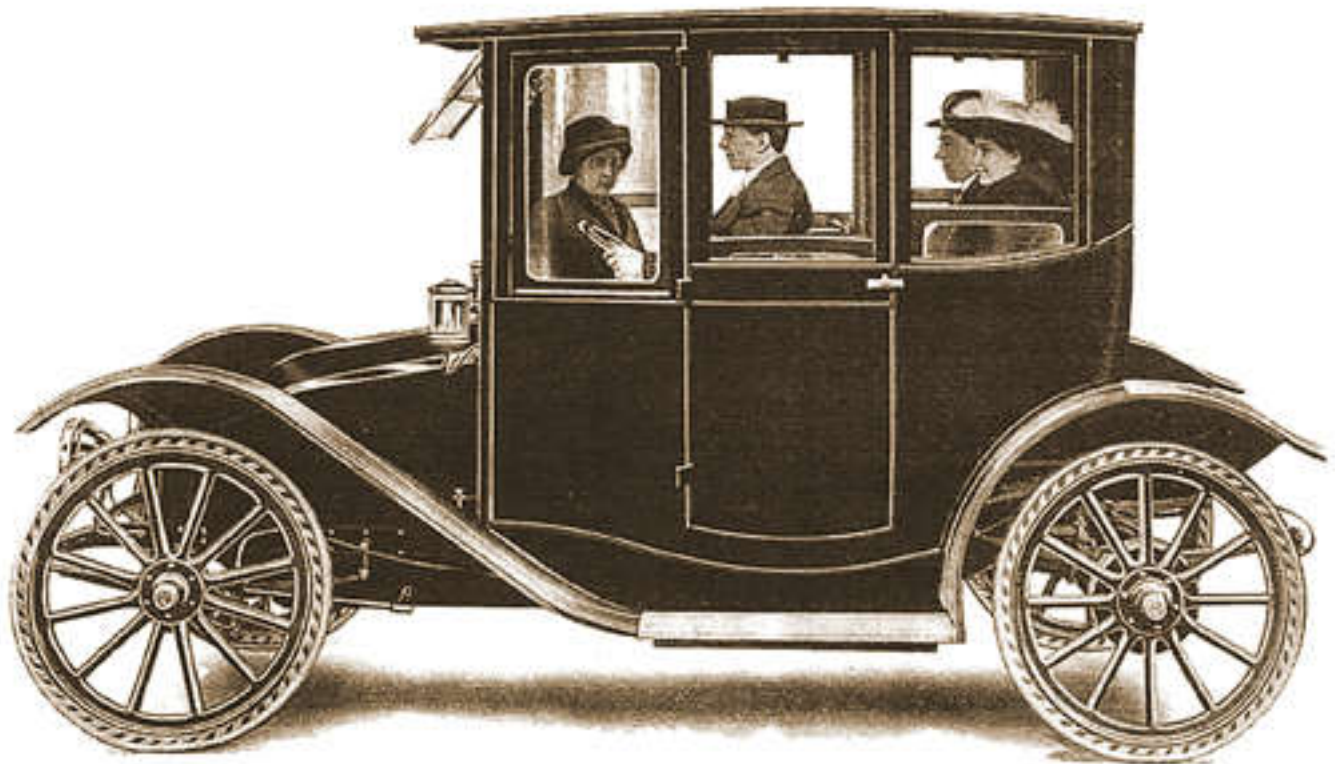
Or Use This Zoom Link

https://us02web.zoom.us/meeting/register/tZ0pf-CsrD8uHtyYSLGlxX-8_KdTm6_bQneB

Electric Vehicle Event

Saturday, April 9, 2022 @1:00 - 4:00 pm

Bass Pro Parking Lot
960 Perimeter Drive, Manteca, CA



Plug-In Electric Vehicles on display include Audi e-tron, Chevrolet Bolt, Chrysler Pacifica (plug-in) Hybrid, Dannar 4.00 Mobile Power Station, Ford Mustang Mach-E, Hyundai IONIQ Electric, Hyundai IONIQ 5 and more.

Rides in Plug-In Electric Car include Audi e-tron GT, Ford Mustang Mach-E, Hyundai Kona Electric, MINI Electric, Tesla Model 3, Tesla Model S, Tesla Model Y, Tesla Roadster, Volkswagen e-Golf, Volkswagen ID.4, and maybe more.

Delta-Sierra Group will have a table at this event and we promise not to sell you a car. But just in case, what color do you like? Please drop by and say hello.

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EARTH DAY 2022**City of Tracy's Annual Earth Day Event
Saturday April 23 9:00 am to 1:00 pm**

The City of Tracy's event will be held downtown at 9th and Central, adjacent to the Farmer's Market. This event will promote environmental education and awareness in a fun community atmosphere. It will focus on local green educational opportunities that align with sustainable practices for a healthy and productive future. Delta-Sierra Group will have a table at this event, so please stop by and have a chat with one of our volunteers.

**Stockton's Earth Day Festival
Sunday, April 24 10 am to 4 pm**

This Earth Day event takes place at Victory Park behind the Haggin Museum on Pershing Avenue, between Argonne Drive and Picardy Drive. This year's theme is "For the Earth – Do This, Not That". In addition, there will be a March for Science around the park @ 10 am. We think this will be a great day to be outdoors in the park.

The official Earth Day is Friday April 22, but we celebrate it on more convenient days. Also we use the word "celebrate" to define Earth Day, but why and what exactly, are we celebrating after 52 years? In our little corner of the planet here in San Joaquin County we celebrate that we have been spared the direct, harsh impact of climate change. That includes the fires, draught, tornadoes, floods, sea level rise, and may include volcanic eruptions, tsunamis and sinkholes caused by drawdown of our aquifers or explosions of methane gas occurring due to warming of the Arctic tundra. There are many more reasons not necessarily related to climate change.

NOTE

Delta-Sierra Group will not hold a Zoom meeting Monday, April 25.

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**Biomass Incineration
Presented by Daniel Barad
Monday May 23 @ 7 pm via Zoom**



Daniel Barad joined the Sierra Club California staff in June 2017 to work on forest biomass policy and ways to ensure that forest biomass burning in California doesn't expand and create new pollution while displacing renewable energy. He is now a policy advocate for issues relating to biomass incineration, forests, wildfires, transportation, and electricity.

Daniel also leads our Tracking the Dirty Dollars Project, which researches and presents in a readable format the campaign contributions to legislators and the governor from oil and gas interests. He graduated in December 2016 from Gonzaga University Spokane, Washington with a degree in political science and environmental studies.

Click on the link below to join:

<https://us02web.zoom.us/j/82774910950?pwd=aHFTQzhBeld3SmN4WU9UdHBKcWQ3dz09>

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FROM THE EDITOR

Contrary to popular belief, I am a human species and recently I allowed myself to be involved in discussing politics by email: who's right, who's wrong; who has facts, who doesn't; what history tells us, what it doesn't; what we should've could've would've done if only we could've should've would've done something, but slowly I realized this was such a trivial exercise in futility and that I had once again been sucked into the black hole of nonsense and negativity. A real war is taking place which we can watch on television showing people dying or escaping to an unknown future - if they are lucky, buildings crumbling and all the while it is still winter, the pandemic is still visible and it appears we have passed the tipping point for our worst enemy: Climate Change.



The latest Intergovernmental Panel on Climate Change report, released 28 February 2022 stated, "Human-induced climate change is causing dangerous and widespread disruption in nature and affecting the lives of billions of people around the world, despite efforts to reduce the risks. People and ecosystems least able to cope are being hardest hit." You can review the IPCC press release here:

<https://www.ipcc.ch/report/ar6/wg2/resources/press/press-release>

The problem with climate change is we are not taking it seriously enough. We have always expected science and technology will solve the problem of keeping the planet's temperature below an increase of 1.5 degrees Celsius and not reaching a fatal 2 degrees Celsius.

I refer you to a letter by written by Richard Fahlman of the Tla'amin Nation, British Columbia published in the March 2022 issue of Scientific American "University of Victoria professor Andrew Weaver recently commented that limiting warming to 1.5 degrees Celsius is now impossible. Weaver, whose Ph.D. is in applied mathematics, has numerous accomplishments, including more than 200 published scientific works and a period as leader of the provincial Green Party in British Columbia. But most pertinent to his comment is that he was a lead author in several of the IPCC's past assessment reports. He was thus somewhat surprised that he was publicly rebuked by those offended by his assertion. He clarified that his intention was not to advocate abandonment of the goal of limiting warming as much as possible. Rather it was to recognize that we have passed a point where, if we were to fix levels of greenhouse gases today, we would still see average global temperatures rise by more than 1.5 degrees C."

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I have to agree with the writer of the letter when he says, “My observation has been somewhat lulled by the nature of scientific statements. That is, science is cautious; science does not practice hyperbole even when it may be necessary from a social perspective. All the projections of climate change I have seen appear to be underestimates of the severity of this accelerating crisis. It may be more in the interest of the greater good to speak plainly.”

The good news is we have the solutions. The bad news is those solutions will not be ready soon enough. Several scholarly studies state if we plant a trillion trees right now today, they will not grow in time to benefit our planet.

We could replace all coal, oil and gas power plants with nuclear fission power plants as the interim solution starting right now, but they take 10 years or more to build, license and commission. Nuclear fusion power plants are just a shout away provided you are listening in 2035.*

*The Joint European Torus fusion reactor, a collaborative project of the European Union and the United Kingdom produced a five-second fusion reaction this February. Equipment prevented a longer reaction, but a proposed new fusion reactor is expected to be online by 2035 and it will extend that time to one hour which is still experimental. Fusion energy is attractive because it does not release greenhouse gases.

MARCH MONTH ALL OVER AGAIN

Our Peatduster Newsletter Volume 53-1 issued in January covered events for March, but as March approached, a couple of new climate change events became available as Zoom meetings co-sponsored by the League of Women Voters and Delta-Sierra Group. So we added March announcements again to our spring edition.

pH

You probably know that like the Ritter scale for earthquakes, pH is a logarithmic scale to the Base 10. Mono Lake has pH of about 10 and is very alkaline or basic while those crystal clear lakes in upstate New York back in the 1960's had a pH of about 4 making them very acidic. In fact the Catskill and Adirondack Mountains were particularly hard hit. Soils were becoming too acidic to maintain healthy forests with noticeable tree die-offs at higher elevations.

The ocean used to have a pH of 8.2 which is fairly close to the neutral point of 7.0 and meaning it is a little bit basic. It is now at 8.1. If you are a glass half full person, you would say it is slightly less basic. However, being a glass half empty person, it is more acidic. Actually it is 25.8 percent more acidic!

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This helps explain the die off coral in the Great Barrier Reef off the coast of Australia. ! (Note: You can find a calculator online to help compute the log of 8.1 and 8.2, then go from there.)

When carbon dioxide reacts with water, carbonic acid is formed, from which hydrogen ions dissociate, increasing the acidity of the system. Therefore, in addition to any greenhouse effect, anthropogenic climate change (carbon dioxide emissions defined by the human impact on Earth's climate) to the atmosphere can increase the acidity of the atmosphere and precipitation.

The ocean covers about 70% of Earth's surface. So, it's not surprising that it plays a large part in Earth's environment. As Earth warms, water in the ocean soaks up energy (heat) and distributes it more evenly across the planet. The ocean also absorbs carbon dioxide from Earth's atmosphere. The additional heat and carbon dioxide in the ocean can change the environment for the many plants and animals that live there.

GO FLY A KITE

This is great news. Known as "sea dragons" or "tidal kites", a pair of sleek, winged machines are in fact high-tech tidal turbines, generating electricity from the power of the ocean. They are located in dark waters of the Faroe Islands in the North Atlantic. The 17 inhabited Faroe Islands are an autonomous territory of Denmark. Located halfway between Shetland and Iceland, they are home to just over 50,000 people.

The two kites have 16-foot wingspans and absorb energy from the running tide. They are tethered to the fjord seabed by 120-foot cables. Their movement is generated by the lift exerted by the water flow - just as a plane flies by the force of air flowing over its wings. They move underwater in a figure-of-eight pattern, absorbing energy from the running tide. The moving "flight path" allows the kite to sweep a larger area at a speed several times greater than that of the underwater current. This, in turn, enables the machines to amplify the amount of energy generated by the water alone.





This kite is towed to narrows of the Vestmanna Fjord.

An on-board computer steers the kite into the prevailing current, then idles it at slack tide, maintaining a constant depth in the water column. If there were several kites working at once, the machines would be spaced far enough apart to avoid collisions.

The electricity is sent via the tethering cables to electrical cables on the seabed, and then to an onshore control station near the coastal town of Vestmanna. Each kite can produce enough electricity to power approximately 50 to 70 homes.

The technology has been developed by Swedish engineering firm Minesto, founded back in 2007 as a spin-off from the country's plane manufacturer, Saab. The two kites in the Faroe Islands have been contributing energy to Faroe's electricity company SEV (Streymoy, Eysturoy and Vágur), and the islands' national grid, on an experimental basis over the past year.



SENATE BILL 1383

Back home, there is something you get to do. Starting January 2022 California implemented existing requirements of Senate Bill 1383. Probably the greatest challenge with SB 1383 was the need to provide an adequate press release. Both Republic Services in Stockton and Waste Management Inc. now calling itself "WM" have already sent out their flyer informing you that you have to put your banana, orange, potato and onion peels along with eggshells and coffee grounds in your yard and garden bin. In fact it is much more than those few items. This includes food scraps like old meat and fish heads and even your greasy cardboard pizza box. In Lodi as with many cities, the pickup is every two weeks. This certainly will bring a new aroma to Hot August Nights. Thankfully, our Chair Margo Praus reminded me I can put my fish heads in the freezer until collection day.



Why should we do this? The lady next door, a school teacher, told me it will still create the same amount of methane greenhouse gas, but she is misinformed.

It is time to repair the damage. Passed in 2016, SB 1383 mandated turning food and yard waste into compost or biogas, with a goal of cutting landfill disposal by 50 percent, from 2014 levels by the end of 2020 and 75 percent by 2025. When (or if) fully implemented, SB 1383 would redirect 26.8 million tons of organics from landfills by 2025, according to CalRecycle. It would reduce the state's greenhouse gas emissions by at least 4 million metric tons per year by 2030 and yield an additional 5.5 million tons of soil-enhancing compost a year. One National Public Radio report said the methane gas alone is equivalent to taking a million (moving) cars off the road. California had 14,201,400 registered cars and trucks in 2020 and considering not all of them are on the road at the same time, the reduction is significant.

We know that landfills bury themselves as more material is piled on top of the previous layer. This makes the pile anaerobic, thus the lack of oxygen creates the perfect environment for producing methane. So how might our WM company deal with composting?

WM whose headquarters are in Houston, Texas, will add commercial composting facilities throughout their service areas. This is where organics are screened and large items or non-organics are removed. Then commercial-grade chippers, grinders, and mixers further refine the mix into leftover bits that are manageable for microbes to naturally break everything down.

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Most cities will choose the compost option over creating a biogas facility. Our job is to educate the public about methane emissions from landfill vs composting.

Methane (CH₄) has a Global Warming Potential 28-36 times greater than carbon dioxide (CO₂). Landfill gas emissions are made up of about 50% CH₄ and 50% CO₂. But aerobic compost gas emissions are mainly CO₂. So keep in mind we are *reducing* the impact of the off-gassing of methane, not totally eliminating it; and we still have to deal with CO₂.

This brings us to another benefit for composting. Unlike carbon dioxide which stays in the atmosphere 300 to 1000 years, methane enjoys only 12 years or so. (National Public Radio has incorrectly announced it stays in the atmosphere as long as carbon dioxide.) Yet, with its mighty warming potential, methane is set to cause an inevitable non-reversible tipping point sooner than carbon dioxide. It buys us a little time.

These facilities sometimes use “in-vessel” techniques to mechanically turn or mix organic material in a silo according to one Internet source. The advantage is they can monitor and control temperature, moisture, and airflow to encourage bacterial activity. The heat involved kills dangerous bacteria as well. Aerated static pile and windrow composting are other common techniques used.

Penalties for not complying with this part of the law were set to start this January and include fines between \$500 and \$10,000 dollars a day depending on the violation. Come on, when the bill was passed on September 17, 2014, there was no pandemic, the drought was not expected, and we hadn't experienced all those horrific fires. Fining cities, companies or citizens is reverse osmosis. However, don't be surprised; you can expect our rates to increase due to the California mandate. Consumption, convenience and waste has always been our middle name since the 1950's and it has been either pay now or pay later. We are simply paying later, possibly too late.



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Executive Committee

Please use the following email address to contact any members of your Executive Committee or volunteers. In the subject line please include the name of the person or persons you wish to contact.

dsg-news@comcast.net

Chair & Program Chair: Margo Praus

Vice Chair: Paul Plathe

Membership Chair: Open

Treasurer & Chapter Delegate: Richard Abood

Secretary: Open

Conservation & Outings Chair, Chapter Delegate Alternate:
Mary Elizabeth

Committee Member: Knute Momberg

Non-Voting Volunteer Positions:

Website: Mary Elizabeth

Newsletter Editor: Robert Evans

Friends of the Calaveras: Jim Marsh

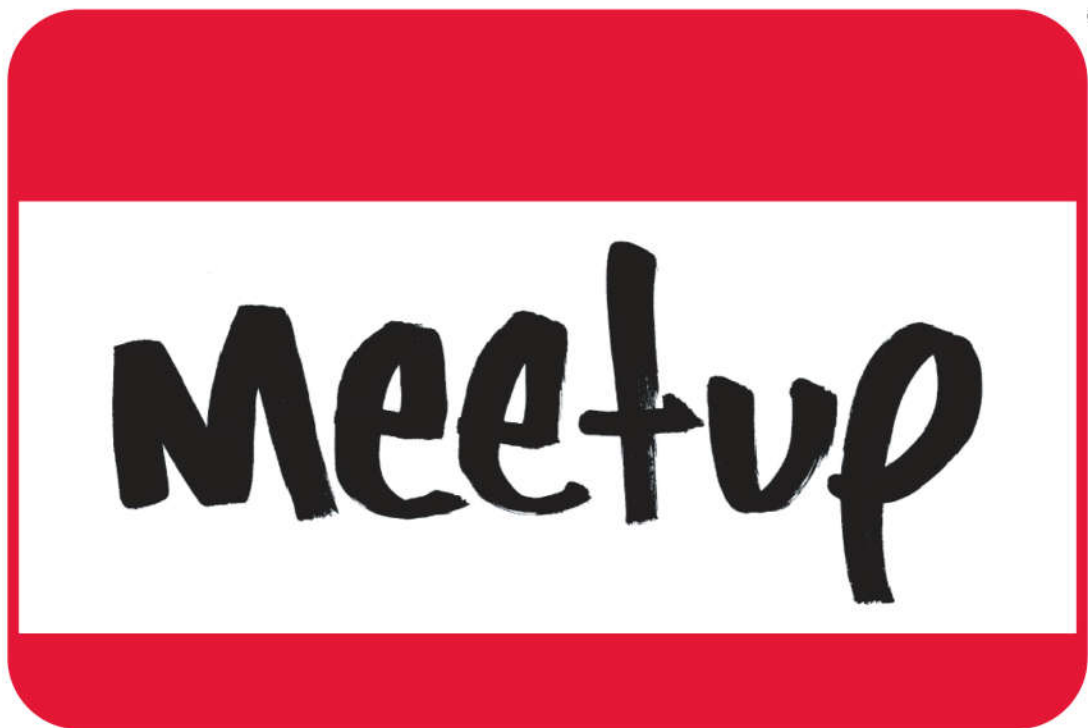
SJVAPCD-C -Ned Lebia

The expiration of Executive Committee member terms are as follows: Margo and the Secretary position terms expire December 2022. Knute and Dick terms expire December 2023. Paul and Mary terms expire December 2024. (The Chair, Vice Chair and Chapter Delegates must be Executive Committee member.)

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Stockton, Modesto & Sonora Sierra Club Groups
Find us at this active link:

<https://www.meetup.com/S-M-S-SierraClub/members/28813452/>



We have been in operation since October 2011 and now have 2263 members.



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**SIERRA
CLUB**
FOUNDED 1892

DELTA-SIERRA GROUP
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THE LAST PAGE

Pzzzt
Please mail or
forward a copy
of the Peatdster
to your friends.



"You may only be one person and you may not be able to do everything, but you can still do something. The time to act is now and we all need to do our bit towards helping the environment and leading more sustainable lives."

Sagarika Sriram

Explore, enjoy and protect the planet