



WILDFIRE

WEATHER | WATER | WEEDS | WILDLIFE

#	Question	Answer(s)
1	Is the day being recorded?	Yes
2	would it be possible to get a copy of these slides for teaching purposes?	We ask that you contact speakers directly. We will provide email addresses after this meeting. We will make available a recording of this event.
3	For the fuel reduction acres (100,000 ac), how many acres were for treatments around communities-WUI? acres in chaparral away from communities? acres for thinning in forest areas?	Most of the fuel reduction in FY 19/20 were in WUI communities, but also some was from our forest health grants which are prescribed fire and more in forested areas.
4	What is allowed to grow under the canopy in the shaded fuelbreak and how intensive is the management of these areas?	live answered
5	What role does managing drinking water supply provided by snowpack play in wildfire management? Are there policy or funding efforts aimed at addressing this nexus?	They are really focused on restoring the native plants, which are naturally more fire resilient. For example, CAL FIRE worked with the Native Plants Society to design a network of Fuel Breaks around Colfax that restored native milkweed and is now both a fuel break and monarch butterfly habitat.

<p>6 As a member of APLD (landscape design) we are struggling with the defensible space around a home. Some guidelines are 5' of no plant material or mulch all the way to 30' of hardscape or gravel.</p> <p>For many residences, that higher number excludes any greenery or even wood fencing.</p> <p>My take is that we apply the various rules according to the area a particular residence is in. Is that a correct course?</p> <p>Another question I have: Have there been strong studies on burn rates of the variety of plant</p>	<p>This would be a great question for local experts in the management of defensible space who will be on our Day 3 Panel 2. In the meantime, defensiblespace.org has great guidelines and examples. And yes, your local municipality can share specific ordinances when it comes to design.</p> <p>Plant flammability studies are rare but have been undertaken. Plant flammability changes in different weather conditions which is why you will find guidelines emphasize spacing and pruning of plants vs. which plants are less flammable.</p>	<p>For Southern California, we tried to address this issue with www.defensiblespace.org (developed with participation from NPS, Fire agencies, environmental nonprofits, and UC ANR)</p>
<p>7 I surface temperature the only driver of VPD? What are other possible drivers?</p>	<p>It is the main driver. Decrease of surface humidity played a secondary role. In fact, there is no significant trends of decrease surface humidity since 1979, change of wind pattern indirectly contribute about 1/3 of the increase of VPD.</p>	
<p>8 what is the axis unit for housing density on the graph? (units per acre? etc?)</p>	<p>live answered</p>	<p>Should be housing units per hectare!</p>
<p>9 How to reconcile the results showed by Max Morritz and the general conception (or misconception???) that we should stop new development in the urban/wildlands interface?</p>	<p>I hope you agree this question is being answered.</p>	
<p>10 How do we restore chapparal? resources?</p>	<p>Hi Deborah, we will be talking much more about this at our next session -please join us Sept. 30th and be sure to let us know then if your question isn't answered.</p>	

<p>11 for Wallace M. Meyer III: do you have data to share on carbon sequestration levels per plant species? both invassive and native</p>	<p>we probably won't get to your question - but it sounds like you are steeped in fire research. I think you might want to write to him directly - wallace.meyer@pomona.edu</p>	<p>This paper is not species specific but does characterize the ability of chaparral to be significant carbon sink! https://www.researchgate.net/publication/227956918_Mature_semiarid_chaparral_ecosystems_can_be_a_significant_sink</p> <p>And this paper tht Wallace M. Meyer III coauthered on the impacts of invasive annuals on soil carbon may be of interest. https://onlinelibrary.wiley.com/doi/pdfdirect/10.1002/ece3.5104</p> <p>Finally, see the answer to Ronnie's question below where Dr. Meyer shared this paper: https://www.sciencedirect.com/science/article/abs/pii/S2352009417302225</p>
<p>12 LAFD VHFZ brush clearance guidelines are driving type conversion throughout LA, especially in our hillsides (very high fire zones). How can we share this information with them and make them stop making it all worse (more flammable & less biodiverse)? Thanks!</p>	<p>Hi Stephanie! If we don't get to your question, and we may not, I will make sure this gets into the Q&A at our final session Oct. 14th - and we will have a representative from LA County Fire</p>	<p>look at defensiblespace.org for guidelines on sustainable defensible soace on boht LA and Ventrura counties</p>
<p>13 What is included in the 940 t of carbon lost during type conversion. Does this include the loss in the fire itself or just the carbon sequestered in biomass and soil?</p>	<p>From Wallace: We were not comparing burned to unburned areas, just native to type converted areas. Here is the link to our paper: https://onlinelibrary.wiley.com/doi/full/10.1002/ece3.5104</p>	

<p>14 Wallace - how difficult (and effective) are sage scrub restoration efforts? Both after an initial burn, and later on after non-native grasses have taken over?</p>	<p>Chiming in as someone working on this topic. It can be quite effective if done properly, but it does take time and resources. Contact me for discussion — tlongcore@landiq.com</p>	<p>From Wallace: They are extremely difficult. Some plants resprout from nutrient stored in below ground components like roots. Other plants need to come back from seed. If sage scrub is going to come back will depend on ecological conditions. For example, it is difficult if there is a drought following a fire as many of the sprouting shrubs could die to lack of water. Also, other conditions like the level of N deposition impact competition between sage scrub shrubs and grasses. Many researchers are looking into this. I just had a recent paper come out looking at this Here is the link: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0254398</p>
<p>15 For Wallace Meyer with regard to carbon storage in the soil being greater for native sage scrub vs non-native grass is there evidence that microorganisms that help sequester carbon are adapted with native species?</p>	<p>From Wallace: There is a different microbial community in sage scrub and non-native grasslands. Here is a link to a paper that has links to other papers: https://www.sciencedirect.com/science/article/abs/pii/S2352009417302225. If you don't have access, e-mail me and I will send a pdf. These are the key players, but the functional role of the different assemblages is difficult for me to figure out</p>	
<p>16 Dr. Moritz talked about the importance of and opportunity to utilize land use planning and community development to increase the state's resiliency to wildfire. Do you have recommendations on how we deal with existing land use/communities especially those that are located in and adjacent to the Wildland Urban Interface (WUI)?</p>	<p>This is a really tough question. For individual homeowners, this publication can provide guidance about how to harden homes and modify landscapes. At the HOA level, though, even more can be done with landscaping guidelines.</p>	
<p>17 Max, what implications to your research do you see from Tom and Rong's findings?</p>	<p>Great question, I will try to transmit it to Max.</p>	

<p>18 can you add a little bit on the urban planning side how important it is not to denute your landscape in an effort to harden your home as that creates more exposure to ember casts to the home which is the most flammable thing on your property?</p>	<p>In our next panel we may not answer this question exactly, but we will be talking more about erosion. I hope to discuss this more at our final session Oct. 14th</p>	<p>yes, will be prepared to discuss ember flow and deposition relative to defensible space</p>
<p>19 It seems to me that in our region in Southern California, creation and management of fuel breaks provide an opening for non-native grasses and forbs to take over.</p>	<p>Absolutely true, and both the establishment and maintenance of these really needs to be complimented by weed prevention activities - and there needs to be funding included for these.</p>	
<p>20 What effects do the overlap between commutersheds and watersheds.</p> <p>Do post fire BAER projects have real impacts?</p>	<p>live answered</p>	
<p>21 Poorly worded.</p>	<p>live answered</p>	
<p>22 In agricultural studies, soil microorganisms appear to be critical in partnering with crops to better sequester carbon and build soils that can absorb much more water as well as transporting water more effectively to roots. Is this process studied in ecosystems in California especially chaparral?</p>	<p>Yes, there is quite a bit of research on mycorrhizal associations and California scrublands, as well as in deserts.</p>	<p>Do a search on coastal scrub restoration and mycorrhizae —> https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=mycorrhizae+coastal+scrub+restoration&btnG=</p>
<p>23 I am signed up, thank you!</p>	<p>live answered</p>	
<p>24 Many of the negative effects of climate change to natural and urban environments (and human health!) will be cumulative, synergistic, or antagonistic. How does this aspect add complexity to predictions of climate-driven changes to wildfire probability and strength in the next 1-2 decades?</p>	<p>added to my list of questions to ask, thanks!</p>	
<p>25 Thank you so much information</p>	<p>live answered</p>	
<p>26 I remember reading last year something about the increase of toxic pollutants (I want to say benzene, but I might be wrong) in drinking water due to wildfire melting PVC pipes underground. Is any agency looking into this issue, perhaps by introducing regulations to remove/replace PVC pipes?</p>	<p>we'll make sure you get a chance to have more interaction with our speaker.s</p>	

<p>27 How does snow interact with severley burnt soil? Like areas in the Sierras</p>	<p>I think the big concern would be how water infiltration is deminished by catastrophic fire, and thus snow melt could run off the soil surface instead of infiltrating into soil and more slowly moving through the hydrologic cycle. This could contribute to more catastrophic runoff instead of the more gradual delivery of melting snow that our reservoirs are desinged for.</p>	
<p>28 How does the information that Mr. O'Geen presented apply to chaparral and coastal scrub vegetation?</p>	<p>Hi Carol, I don't have an answer but we might want to ask a more SoCal based soil person - maybe Marty?</p>	
<p>29 Thank you Toby. My research on post-fire hydrophobic soils indicated that hydrophobic properties could extend downwards several centimeters into the soil, and this phenomenon could last for several years post-fires.</p>	<p>live answered</p>	<p>Yes the hydrophobic conditions are typically not at the surface. It exists below the soil surface usually within 10 cm. The duration and degree of water replency is variable depending on veg. type, fire severity, water content, soil type and probably more.</p>
<p>30 2 part question - there have been stories around the lack of maintenance in the montecito debris basins, and that much of this infrastructure is approaching it's lifespan. could you comment on any plans to update these debris basins?</p>	<p>Unfortunately, probably not, as we don't have a representative from SB County Watershed Management here with us today.</p>	<p>Thank you. Yes, was wondering if there are similar investigations in LA County. Specifically there is a huge economic and carbon footprint embedded in the maintenance, cleaning, and trucking of debris throughought the San Gabriel Valley - between the basing, spreading fields, and landfills. Wondering if there is any research being done to think through these processes more sustainably. Thanks again.</p>
<p>31 Part 2 - Smaller communities are impacted quite significantly by post fire debris flows. In Monrovia, for example, K-Rails are deployed throughout portions of the city for 5-6 years which, while protecting homes from potential debris/mud flows, creates significant hardships on those communities. Wondering if there are any plans in the works for to rethink these strategies in a more sustainable manner? I know it's all tough, just wondering.....</p>	<p>Hi Greg, I am not sure that this answers your question from the community perspective, but we prepared this post-fire sustianable management strategic plan with an eye towards ecological and climate sustainability - http://schabitatrestoration.org/projects/fire-and-flow</p>	<p>Thanks!!</p>

<p>32 Can we get a copy of the document Jeremy Lancaster has mentioned? This sounds incredibly helpful</p>	<p>Melina, you can find the Flood After Fire Toolkit here: http://www.readyforwildfire.org/wp-content/uploads/Flood-After-Fire_California-Toolkit_September-2020-2.pdf</p>	<p>More resources suggested by our speakers can be found here: https://www.watershedhealth.org/wildfire-101</p>
<p>33 Thanks so much.</p>	<p>Thanks for joining us.</p>	
<p>34 Hello I have a question for Dawn Petschauer. My research is about mitigating the impact of wildfire on water quality using green infrastructure (I am also going to present during poster session) and you said that the study about the fire effects study funded by safe clean water program will “model” the post fire water quality. So I am wondering if you are planning to do field studies ? If so, do you have a specific area (specific stream, or river?) in LA region ? or is it mainly computer modelling ?</p>	<p>Hi Onja. I very much want to talk to you about this. I may have to leave before the end of the poster session but please write to me at sldrill@ucanr.edu</p>	<p>Hi Onja, great presentation, and I'm glad that the information that I provided was helpful and segued into the work that you are doing. The areal extent of our study will be inclusive of the Watershed Management Area (WMA) of our Upper LA River Participating Agencies (19, from Calabasas, south to downtown, and out to the start of the San Gabriel/Rio Hondo area. Our modeling effort will use historic, shared, and new data collected through our study along with climate change scenarios to model and predict fire impacts on water quality now, and in the future. Our lead modeler--Brianna Datti--was unable to attend today, but she and I would be more than happy to discuss in further detail on our modeling intentions, and how we may be able to collaborate in our efforts moving forward. Feel free to reach out to me to discuss offline at dawn.petschauer@lacity.org</p> <p>Best, ~Dawn</p>
<p>35 Were any areas with tamarisk sampled?</p>	<p>Hi Rebecca, if you are still here, can you clarify which presentation/sampling program you were asking about? Maybe we can answer this next time.</p>	
<p>36 For those who do evacuate, is there help for those who do not have a place to go?</p>	<p>Typically in a state of emergency shelters are opened, with additional support for housing brought in by FEMA/OES.</p>	

<p>37 Onja: i can see your idea of biofilter in combination to our current debris basins. not only for pollution filtration but also to increase the small water cycles, and avoid the large scale storm "dump events" we are experiencing more and more. I hope your research can influence our infrastructure planning. Thank you for this!</p>	<p>I hope so ! Thank you so much! Please feel free to email me if you have any questions ! davidsononja@g.ucla.edu</p>
<p>38 From Sabrina Drill:</p>	
<p>39 For Diana - "I am looking for tribal contacts involved with/interested in burning in Southern California - are there tribal representatives in your Santa Ana Group?"</p>	<p>From Diana: Here are a few of the resources I mentioned during my presentation: Resilient Watersheds and Fire Management factsheet : https://www.lgc.org/wordpress/wp-content/uploads/2021/04/Watershed-Fire-Management-factsheet.pdf</p> <p>Gov's Forest and Fire Action Plan: https://www.fire.ca.gov/media/ps4p2vck/californiawildfireandforestresilienceactionplan.pdf</p> <p>Karuk Tribe Study: https://karuktribeclimatechangeprojects.com/good-fire/</p> <p>Santa Ana Watershed Forest First Program https://sawpa.org/task-forces/forest-first/</p> <p>La Jolla started efforts to develop the "Southern California Fire and Fuels Training Cadre" with the Forest Service, Bureau of Land Management, other Tribes, CAL FIRE, State Parks, local government, and NGOs. The group would not only provide training and prescribed burning experience, but also help to resume cultural burning.</p>
<p>40 For Jeremy from Sabrina Drill: Are you familiar with the Santa Monica Mtns CWPP?</p>	<p>live answered</p>
<p>41 what about your work makes you (realistically) hopeful despite these challenges presented today?</p>	
<p>42 Onja- what are early implications/recommendations that can be made from your research?</p>	
<p>43 Using "pet fire brigades" sounds like a great idea. But what about using it in synch with planting more native plant species?</p>	<p>live answered</p>

44 As a landscape architect I really appreciate Jeremy's holistic approach using design. How can we think more about designing fuel breaks or wildfire risk reduction zones in the WUI as zones that recharge storm water or slow the flow, create native habitat that is maintained in a fire wise way and provides recreational amenities for communities?

Great question Ronnie. And if it doesn't get answered here. Please do bring this question to our panels on September 30 where we will have several vegetation experts.

45 Jeremy, good to see our paths and focus continue to align. great presentation today. Looking forward to connecting with you soon.

in our research with RDCSMM, Calfire, RIOS et al we have a map that provides information on fire, ecology, and much more for the Los Angeles and Ventura county regions (we intend to continue to build this further as so much info continues to be available) please take a look:

<https://defensiblespace.org/location/> also the community organization section is very informative

<https://defensiblespace.org/community/community-risk/>