

A weekend in the Sierra: Astro 25 - Field Astronomy in the Calif Mtns - July 30 - Aug 1, 2021

1 unit summer course - camping under the stars!

- * Hike to a beautiful limestone underground creek near Dorrington, CA,
 - * See quasars and distant galaxies in a monster 17" Telescope
 - * Summer Milky Way explorations
 - * Plenty of micro-lectures on all things astronomy.
- Google "Cabrillo College Astro 25" for more.



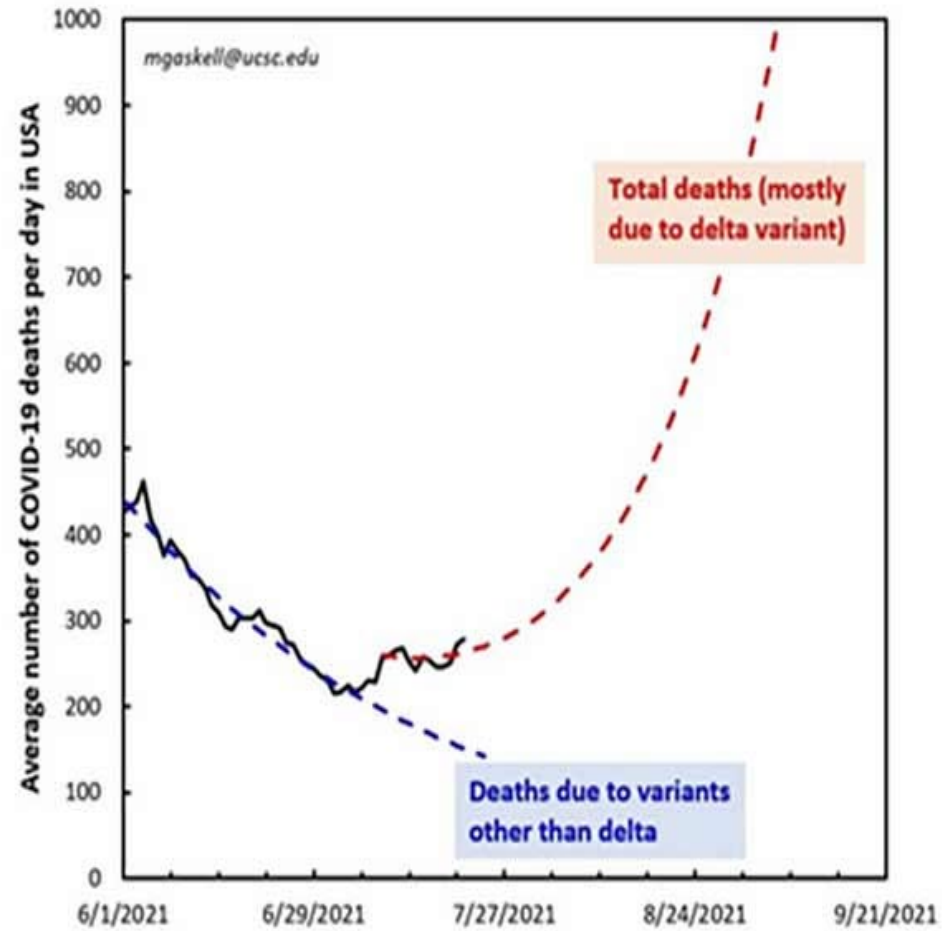
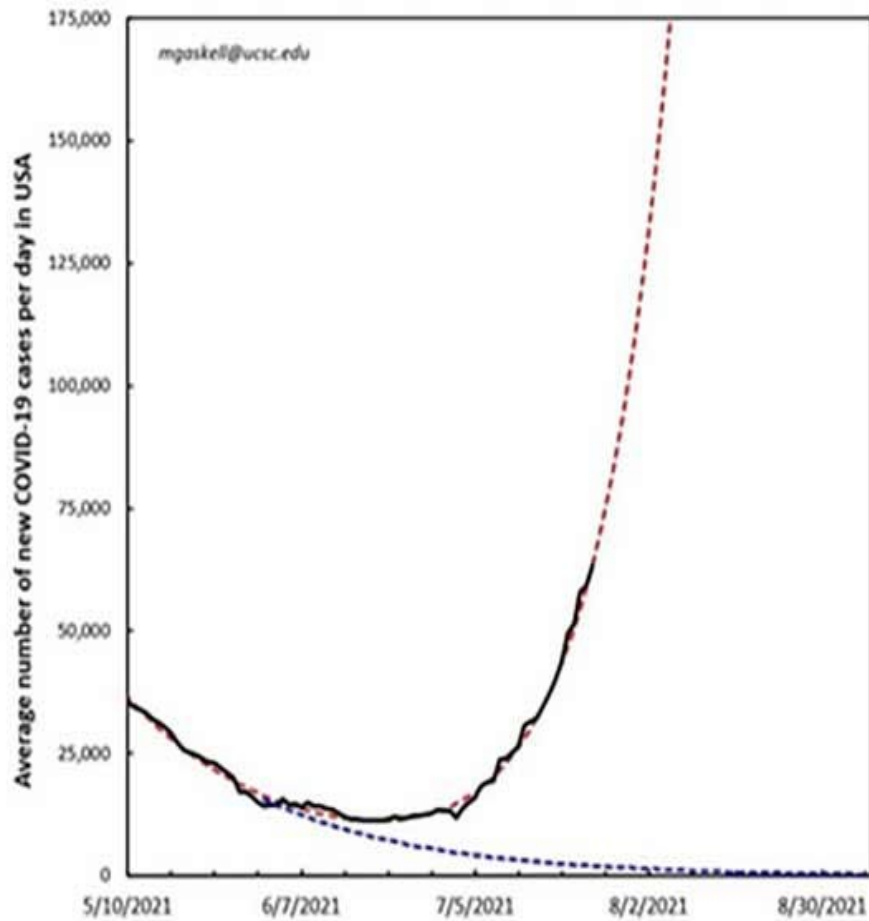
Our Destination: The Stanislaus River, near Hwy 4 below Dorrington, CA



First: Preliminaries

- The Delta-variant CoVid is spreading rapidly through the unvax'd population. New care is required
- I've gotten permission to offer this as a parallel on-line only, and also field class for the vaccinated.
- Doctors are saying that if you are unvaccinated you are very likely to contract the disease, sooner than you think. You don't need droplets, just airborne virus is enough. It spreads within seconds in a room.
- I want to do everything I can to encourage unvax'd students to take this course ON-LINE Only

Co-Vid-Delta - nasty



This is the first time we've tried to use this campground in the summer.

- Past trips have been in October, after peak season.
- Low staffing has meant this campground is 'first come/first serve'. I don't know how easy it will be to get any campsites
- Worse case, we have to disperse camp along a trail on the far side of the river and use the day-use area for cooking and astronomy

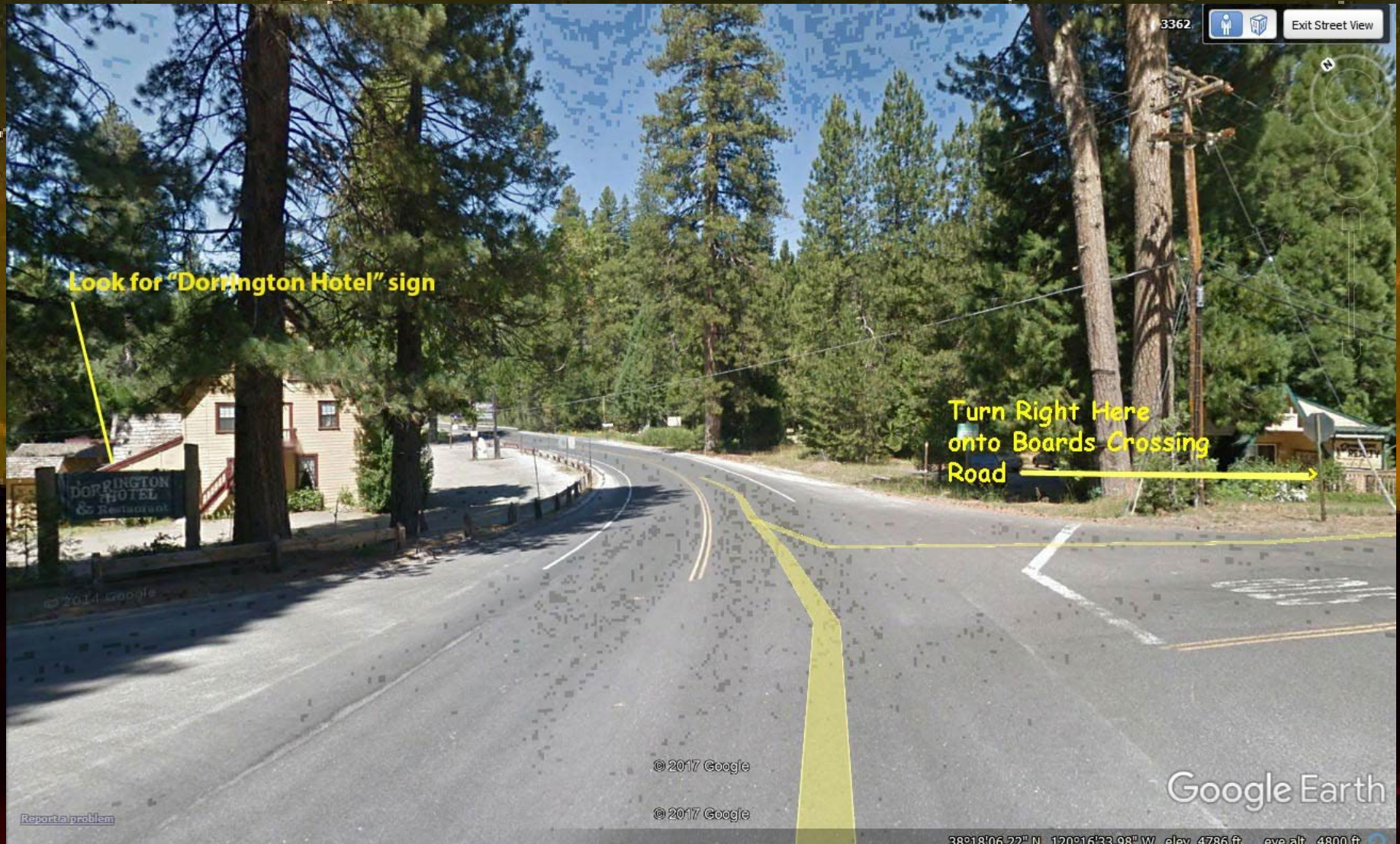
I have Volunteers, Vax'd, To Help with telescopes and getting their early to get at least 4 sites for us

- The best astronomy sites are along a small ridge on your right as you drive up the campground interior road.
- We want the site next to the bathroom up top, on the right, and the 2 extra sites along the ridge below that, and also the site next to the road/parking area. But if any are taken, we'll try to get others.

Rules:

- I will take your forehead temperature upon arrival (yes, I know that procedure is judged medically of little use, but that's the rule given)
- You're to wear masks when around others.
- I've been vaccinated and am OK, as are my volunteers Kirk, JP, and Karl
- I'm not allowed, this time, to cok for you – only for my volunteers
- You need to transport yourself to the campsite

As you're driving up Hwy 4 and Arrive in Dorrington, here's your turnoff



Sourgrass/ Waka-Lu-Hep Yo are one long campground... We're midway



I'll be Driving a Cabrillo Van. Look for it!
JP will be in a Van also, and Kirk will
have a Black Prius



The River below our campsites



Friday Night

- I will informally lecture to you on stars, star formation, stellar evolution, binary stars,
- We'll talk about supernovae, neutron stars, black holes
- Meanwhile JP will man the 17" scope and I the 8" scope, and Karl the big binoculars and we'll study the variety of stars and star formation regions along the Summer Milky Way

Saturday:

- Fix your breakfasts, we'll have a leisurely start to Saturday. I'll fix breakfast for my volunteers (I'm so sorry! I love cooking for my students – but cannot in the CoVid era I'm told. You must bring your own meals
- Fires: NO CAMPFIRES!
- Cooking can only be done in camp site official cooking spots (the grill, cleared space. Not out deep in the trees

Saturday Day

- Micro-lectures on planetary science and climate.
- We'll study (enjoy!) a creek which carves itself right through the limestone ridge it's up against.
- We might (probably not) try to get into California Cavern. It may not be open given CoVid-delta \$22/person for the tour

Saturday Limestone

- There are two spots where the creek cuts through the limestone caverns and both are very interesting places to study, enjoy the cool water, listen to more lectures, and go swimming
- We'll talk about how these caverns have been used to ascertain ancient climate changes

“Natural Bridge” from the sunny side



Natural Bridge: Our first Saturday Destination



Looks scary, but my lab asst and I swam from one side to the other last trip



Me, and Becky (my Lab Asst) getting ready to swim through the cave





Observing under the stars: Some Hot Chocolate





Karl, panning
for gold
(didn't find
any)

Sunday morning, lecture on the sun







After the Class

- I'll have a take-home final exam.
- I'll have a couple of other on-line Canvas Exams
- These, and your participation, form your grade
- On-Line: That will be hurriedly developed this coming week! It's brand new. I do have material from past on-line, so it'll happen.

Exams Planned

- A Canvas exam on Oumuamua – our first interstellar visitor! Totally fascinating
- A short exam on the climate change aspects, which we'll touch on during our caverns explorations since they're relevant
- And also because more scientists are migrating to this sharply important field as we continue to do ~nothing towards dealing with it

The On-Line Version

- Your Choice: To take this course on-line, or in-field
- But again I am STRONGLY discouraging any unvaxed students from taking this course in-field. It endangers others.
- The On-Line version will have some existing and some to be made on-line asynch lectures.
- “Asynch” meaning you do not have to be logged into to Zoom at the time given, to still take them for credit.