

GEO AquaWatch Webinar - Meeting

Google Earth Engine

January 10, 2023 · 9:41 AM · ID: 125559229

Chat

Merrie Neely sent a chat · 10:01 AM

Hello Everyone and Welcome. We are recording today's webinar and it will be available on our website in about 3 hours

Merrie Neely sent a chat · 10:03 AM

You can post your questions here for presenters to answer during the webinar and also unmute and ask you question when we pause between presenters. We will also have time at the end of the presentations during a moderated discussion led by Kelly Luis.

Merrie Neely sent a chat · 10:04 AM

Today's webinar recording (as well as past webinars) will be available later today here: <https://www.geoaquawatch.org/geo-aquawatch-webinar-series/>

Merrie Neely sent a chat · 10:06 AM

This seminar may run to the 90 minute mark for duration, because we have 3 speakers.

Steve Greb sent a chat · 10:07 AM

Please mute your microphones.

Nate Merrill (USEPA) sent a chat · 10:16 AM

<https://github.com/gee-community/geo-aquawatch-water-quality/tree/main/WQ%20algorithms/SOLID/SOLID%20with%20EE%20>

Merrie Neely sent a chat · 10:16 AM

Nate - do you have any particular expertise you are seeking to add to the group?

Merrie Neely sent a chat · 10:17 AM

Perhaps knowing that might elicit volunteers to contribute.

Nate Merrill (USEPA) sent a chat · 10:17 AM

Yah if anyone is a wiz at tensorflow/keras models hosted on Google Cloud. So experience running eified models or other ways to cloud compute that might work

Nate Merrill (USEPA) sent a chat · 10:17 AM

thats right where the active workis

Nate Merrill (USEPA) sent a chat · 10:18 AM

I have an eye on the front end too, so experience on UI for this type of thing

Nate Merrill (USEPA) sent a chat · 10:18 AM

will be a need

Merrie Neely sent a chat · 10:20 AM

Thank you for clarifying.

Matthew Floyd sent a chat · 10:26 AM

Where can I get access to the JavaScript API version?

Nate Merrill (USEPA) sent a chat · 10:28 AM

I plan to upload some verification scripts I have worked on in EE to the github too

Courtney Di Vittorio sent a chat · 10:30 AM

Thank you Ben! Do you know if GEE intends to host the standardized reflectance products at some point?

Merrie Neely sent a chat · 10:30 AM

Kelly do you need the sharing controls?

Matthew Floyd sent a chat · 10:30 AM

Sorry, yes thats what i meant :) thanks

James Nyaga sent a chat · 10:31 AM

For Ben. what were the limitations in applying your algorithm on image collections?

Benjamin Page sent a chat · 10:31 AM

Courtney, GEE will only ingest products that are available currently LP-DAAC and Copernicus archives

Emma Tebbs sent a chat · 10:31 AM

Really interesting. Are the atmospheric correction methods you implemented suitable for all aoptical water types. for example would they work in very turbid waters?

Nate Merrill (USEPA) sent a chat · 10:31 AM

We tried to help us get Google to put ACOLITE -ed products up, but they demurred given the way it was built and the fact it was a moving target in development

Benjamin Page sent a chat · 10:32 AM

Those products are currently provisional / work in progress

Benjamin Page sent a chat · 10:32 AM

James, memory limitations. Need to experiment around your target area to get an idea.

Benjamin Page sent a chat · 10:33 AM

Emma, yes. Here is more info:

<https://www.sciencedirect.com/science/article/pii/S0034425719303037>

Courtney Di Vittorio sent a chat · 10:33 AM

Thank you

Nate Merrill (USEPA) sent a chat · 10:33 AM

you can set the tile size and wait longer if you run into some of those memory limitations. Also export functions in EE lets to use more memory

Emma Tebbs sent a chat · 10:34 AM

Thanks!

James Nyaga sent a chat · 10:34 AM

Thank you.

Merrie Neely sent a chat · 10:34 AM

Just a reminder: Today's webinar recording (as well as past webinars) will be available later today here: <https://www.geoaquawatch.org/geo-aquawatch-webinar-series/>

Merrie Neely sent a chat · 10:43 AM

Many compliments to our three Early Career Water Quality speakers during today's webinar. GEO AquaWatch just launched an Early Career Society for anyone who self-identifies as a Water Quality Professional anywhere in the world. It meets monthly and is always welcoming new members to engage in activities led by, and for, Early Career professionals. To join email Mbneely@geoaquawatch.org

Merrie Neely sent a chat · 10:45 AM

You may unmute for participation in the discussion. Or you can contribute here: <https://tinyurl.com/geeGeoaquawatch>

Nate Merrill (USEPA) sent a chat · 10:45 AM

<https://tinyurl.com/geeGeoaquawatch>

Nate Merrill (USEPA) sent a chat · 10:45 AM

merrie is quicker than me

Shelly Tomlinson sent a chat · 10:46 AM

For someone completely new to GEE. Are there any plans from this group on a training session on how to get started in using it for water quality applications

Nate Merrill (USEPA) sent a chat · 10:46 AM

no plans yet, but at least for me seeing scripts to follow is step 1. Writing tutorial with it would be even better

Merrie Neely sent a chat · 10:48 AM

Shelly - we benefitted from the Google Earth Engine Team training. It is a week long for the intro (they also have an advanced). It is a commitment, but what you really need to get involved.

Merrie Neely sent a chat · 10:48 AM

Ok - thank you Nate!

Shelly Tomlinson sent a chat · 10:48 AM

Great, thanks MB. Can you post a link to the beginner class you took?

Merrie Neely sent a chat · 10:50 AM

Yes I will take a look for that.

Spyros Christofilakos (DLR) sent a chat · 10:50 AM

Speaking of scripts and tutorials I would recommend this GEE online book with a plethora of examples and scripts : <https://www.eefabook.org/>

Spyros Christofilakos (DLR) sent a chat · 10:50 AM

Great presentations all, I will definitely stay in contact

Merrie Neely sent a chat · 10:50 AM

BTW this chatlog will be available as well as the video

Merrie Neely sent a chat · 10:53 AM

Agree. The GEE tutorials are nice in that they give you the code, the expectation at the end of the code and things to look at for where you code glitches or processing steps might have hungup if you did not get the expected result.

Merrie Neely sent a chat · 10:53 AM

Kelly - 2 more questioners Emma

Merrie Neely sent a chat · 10:54 AM

and Chui

Nate Merrill (USEPA) sent a chat · 10:54 AM

<https://www.earthengine.app/>

James Nyaga sent a chat · 10:57 AM

You can also weave in python and javascript frameworks into GEE.

James Nyaga sent a chat · 10:57 AM

like Django

Merrie Neely sent a chat · 10:58 AM

I am capturing responses related to Questions 3 and 4.

Benjamin Page sent a chat · 10:58 AM

<https://benjaminpage8.users.earthengine.app/view/conuswaterclarity> here is a simple app example

Merrie Neely sent a chat · 10:58 AM

We are going to 30 minutes after the hour for this webinar

Merrie Neely sent a chat · 11:01 AM

Yes I think they also apply some corrections before uploading into GEE.

Merrie Neely sent a chat · 11:01 AM

for example Sentinel 2 has a correction factor applied.

Merrie Neely sent a chat · 11:04 AM

Reprocessed data is 'better quality' - if that is what you are getting at. It will result in different outcomes, if consistency is the concern.

Rabia sent a chat · 11:06 AM

Don't know if the question is directly related.. but I saw salt and pepper effect in Sentinel-2 image at 20m resolution while generating map for the whole lake. Is that a common problem for mapping lakes at high latitude? Do researchers resample at 60m for the maps or use any smoothing filter?

Rabia sent a chat · 11:07 AM

Also does your code for atmospheric correction include glint correction?

Chui Zeng sent a chat · 11:07 AM

thank you Merrie, this is great discussion group!

Benjamin Page sent a chat · 11:08 AM

Rabia, what correction were you using at the time? Or was it just RGB TOA? Yes, I have a

simplified glint correction included but commented out. You will have to uncomment it in order for it to be implemented.

Merrie Neely sent a chat · 11:08 AM

Chui - please consider joining GEO AquaWatch (and/or also the Early Career Society if applicable to you).

Rabia sent a chat · 11:10 AM

I am using C2RCC in SNAP and using random forest for water quality parameter prediction.

Rabia sent a chat · 11:10 AM

I agree with Abhishek regarding downloading Sentinel-2 for previous years....

Rabia sent a chat · 11:10 AM

random*

Nate Merrill (USEPA) sent a chat · 11:10 AM

Rabia, tune in and share on the github!

Nate Merrill (USEPA) sent a chat · 11:11 AM

Im interested in that approach too

Nate Merrill (USEPA) sent a chat · 11:11 AM

especially for local applications

Merrie Neely sent a chat · 11:14 AM

My audio went out temporarily. Sorry about that.

Merrie Neely sent a chat · 11:14 AM

Hopefully we captured all of that answer from Nate.

Daniela Gurlin sent a chat · 11:21 AM

The app sounds the most useful to me.

Abhishek Kumar sent a chat · 11:22 AM

I agree..app would be most useful for water resource managers

Merrie Neely sent a chat · 11:22 AM

I just want to let everyone know about our next Webinar on January 26, 2023 at this same time. It will be presented by Sam Batzli, University of Wisconsin and will be a demonstration of the Real Earth Portal.

Paula sent a chat · 11:23 AM

thank you so much

Nate Merrill (USEPA) sent a chat · 11:24 AM

Thank you all for tuning in!

Merrie Neely sent a chat · 11:25 AM

Excellent presentations Ben, Kelly and Nate!

Benjamin Page sent a chat · 11:25 AM

Thanks, everyone. Again, feel free to reach out. Nice to see some familiar names.

Merrie Neely sent a chat · 11:25 AM

Thanks for your work! We hope you'll keep it up!

Kelly Luis sent a chat · 11:25 AM

Thank you for the great discussion! Appreciate everyone for being here.

Kersti Kangro sent a chat · 11:25 AM

Thank you, has been interesting!

Abhishek Kumar sent a chat · 11:26 AM

Thank you so much for presenting the progress on MAIN Ben and Kelly! and great discussion! Thank you!

Lorena Pinheiro-Silva sent a chat · 11:26 AM

Thank you for the great discussion!!!

Abhishek Kumar sent a chat · 11:26 AM

Thank you so much!