March 19, 2025 Joint Methods & CI Working Group Call

Attendees: Chris Jones, Josie Hughes, Emma Mendelsohn, Caroline Owens, Jody Peters, Hassan Moustahfid, Brittany Barker, David Durden

1. Round of introductions - welcome to new people and those who haven't been able to join for awhile!
   a. Jody gave overview of what the working group has been working on specifically on the spatial forecast challenge
   b.

2. EFI2025 Conference Update; https://bit.ly/efi2025
   a. Registration is open. The early bird registration fee is extended to the April 14 deadline
   b. Spatial Forecasting Workshop - progress and next steps
      i. How are the GitHub Actions doing?
      ii. What is the status of the bounding boxes for additional sites to analyze
      iii. What are next steps needed for creating the tutorial?
      iv. Will Hammond thinks he has all the bugs worked out! Except need new tokens from Quinn/Carl - John emailed them, but not sure if
      v. Dave could run it successfully through the GitHub actions from target but couldn't run the spatial forecast, so wonder if there is an issue with the workflow to check if the yaml is working
      vi. Would be nice to get the login info to check the bucket. Carl sent the link to get there, but don't have the login to check it.
      vii. Think there are 2 buckets - one for targets and one for forecast submissions
         1. Could have put in the wrong credentials in both yaml files
      viii. Tutorial ideas - any discussion about that
         1. Have example forecasts that John and Will have created that the group will walk through during the tutorial
         2. Here are the Tutorial Resources that Jody found that others have used:
            a. Recording from the hands on tutorial for forecasting Beetle abundance, from March 4, 2025
            b. Download and view template code as an R script, Jupyter notebook, or Google Colab
            c. View original Beetle tutorial developed by Erick Sokol and others and used at ESA 2024
            d. Freya Olsson's challenge tutorial, which focuses on the aquatics theme: https://projects.ecoforecast.org/neon4cast-ci/use-in-course.html
            And the complimentary JOSE paper that provides a nice

overview of Freya's tutorial's learning objectives, components of the tutorial, etc.

  e. Other resources can be found at: https://projects.ecoforecast.org/neon4cast-ci/use-in-course.html and https://projects.ecoforecast.org/neon4cast-ci/learn-more.html

- Learn more about the NEON forecasting challenge

  ix. Checking about additional sites that Brittany was going to pull in
    1. Brittany's analysis was in ArcPro and is moving to R and run into issues.
    2. What is the best way to share the bounding box information for the new sites?
    3. Make a pull request
    4. There is a shp directory in the repo. Add the shapefiles for the fires into this folder. https://github.com/eco4cast/modis-lai-forecast/tree/main/shp
    5. Goal is to get it in the next week

3. Other considerations and resources shared during the call
    a. CI workshop general overview info: https://ecoforecast.org/community-developed-cyberinfrastructure-workshop/
    b. Specific follow-up information from the workshop: https://projects.ecoforecast.org/efi-ci-workshop-2024/
    c. Here is the link to the spatial challenge: https://github.com/eco4cast/modis-lai-forecast/
    d. Recording to the beetle tutorial recording: https://humboldt.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=c8e5c6ab-da8b-48f9-8dbc-b296018a0b95
    e. USGS River Chlorophyll A forecasting challenge overview https://ecoforecast.org/efi-usgs-river-chlorophyll-forecasting-challenge/
        i. River ChlA Forecasting Challenge site: https://projects.ecoforecast.org/usgsrc4cast-ci/
        ii. You can see the USGS ChlA workflow here: https://github.com/eco4cast/usgsrc4cast-ci
    f. CRPS score: Continuous Ranked Probability Score: https://projects.ecoforecast.org/neon4cast-docs/Evaluation.html
    g. Scalability vs portability. The workflow can be used across topics (as it has been done for the USGS ChlA example, the spatial forecast challenge, and a challenge created by the European EFI chapter for shrub recovery in Donana National Park), but there may be limitations with the storage/bucket space for high data needs