AISAP Lesson 2: Site Orientation, Data Library, Organization
**Before Starting**: **You need an AISAP account with a username and password.**

Exercise Goal: Learn how to create a project, search the AISAP library for existing data, add data to a project, and filter your data to display only the results of interest.

Create a Project in AISAP

1. Log on to AISAP **https://ais-portal.usace.army.mil** or AISAP-Cloud **https://aisap.usacegis.us/aisap_portal/home.html**

2. The left side of the homepage will look like →

3. From the drop-down menu select My Projects, the screen will update.

4. Once in the My Projects folder you will see a drop down menu with a list of all your projects.

5. Click on the green button to create a new project.
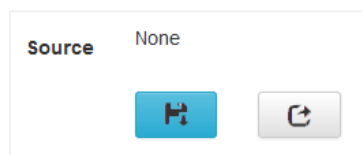
6. A **Project Details** section will appear.
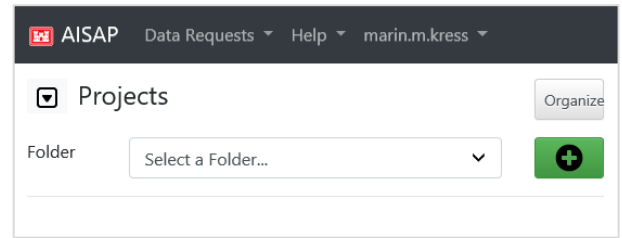
7. Under the **Project Details** section, edit the **Name** and **Notes** fields.

   For **Name**, type in AISAP Training

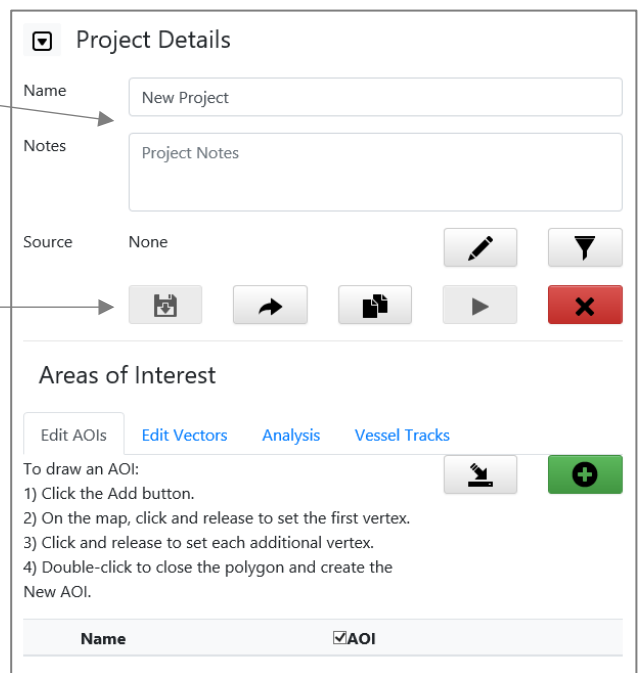   For **Notes**, type in today's date and any other info you want to add.

8. After you started typing the **SAVE** icon turned blue, this is a reminder to save your work!

9. After you finish typing, **click on the blue SAVE** icon to save the changes to your Project Details. You can edit these details again later if needed.
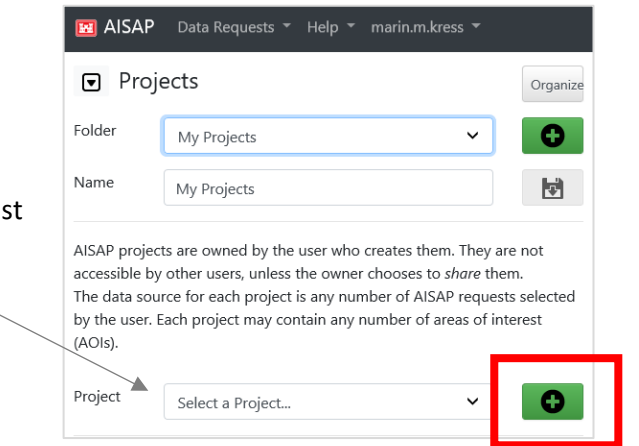
10. Congratulations! You've just created your first project. You will be able to create as many projects as you want in AISAP. Next we need to add data to the project, continue to Step 11 to find a data source.
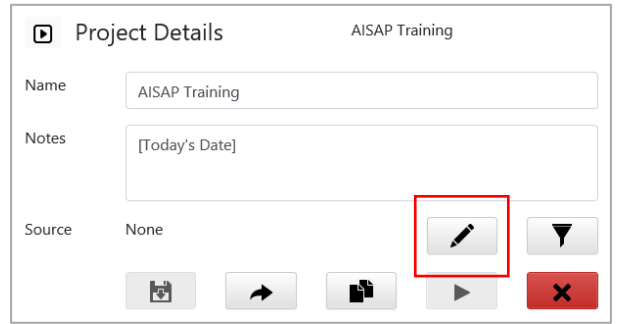
**Add data to your Project from the AISAP library**

11. Look for the **PENCIL icon**, when you hover over it with your mouse it says 'Edit data source'.

12. **Click on the Edit/Pencil** icon.

    A new screen will appear with the title **Find Previous Requests**.

13. In the top of screen click on the **Base Map** drop-down menu, and select 'gray', this will make it easier to see the areas where data already exists.
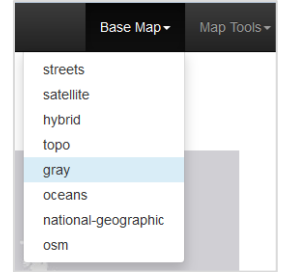
14. There are multipe ways to search through the AISAP library of previous data requests, for example:

    ■ Draw a polygon around the around the area of interest, and be generous. Because of the way data requests work you can often use a request that doesn't exactly overlap your study area.

    ■ Leave all fields blank and click on the **Retrieve Data** button. This will show all the previous requests, BUT it will take a few minutes to load because the library is getting quite large.

    Tip: Piggybacking on previous work by using requests already in the library saves you time!
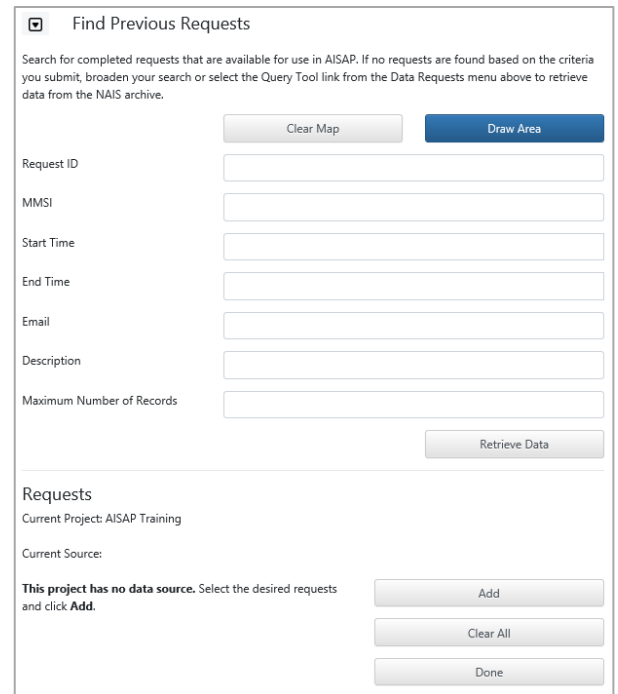
15. Example of the AISAP-USACE library (left) and the AISAP-Cloud library (right). The AISAP-USACE library has a longer history, and many boxes have multiple years of requests 'stacked' on top of each other.
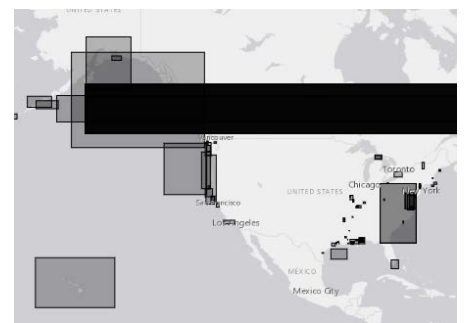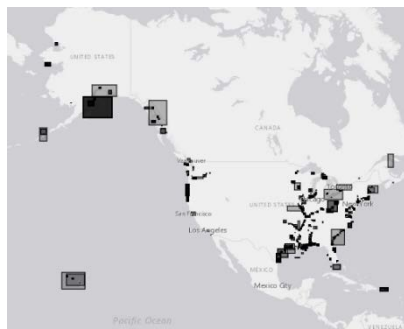
16. For this exercsie please click on **Draw Area**, then draw a large polygon with St. Louis in the middle, stretching from Peoria in the north to Paducah in the south. (Double click the mouse to close your polygon.
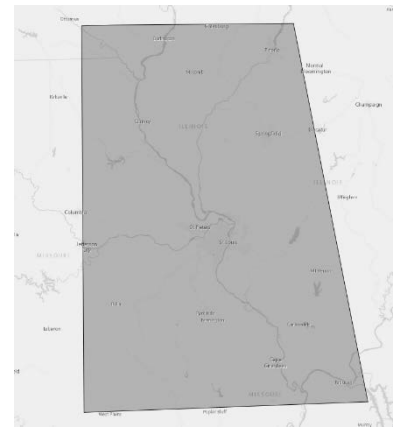
17. Click on **Retrieve Data**.

18. AISAP-USACE results are at left, AISAP-Cloud results on the far right. →→

    You see the request polygon and each of the data request boxes. Areas with overlapping requests look darker.
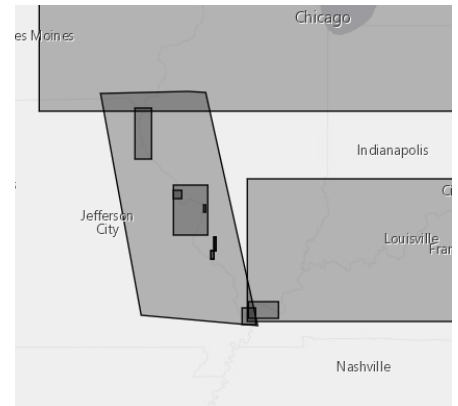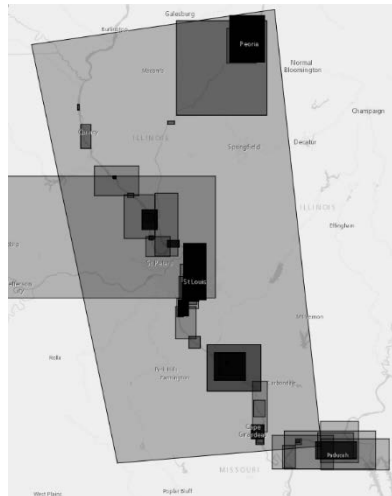
19. Click on any one of the black boxes near St. Louis to see the data request that covered that spatial area. Example →

    The popup box includes the **Request ID #** at the top, requestor email, start/end date, coordinates, and whatever **Request Description** the user included.
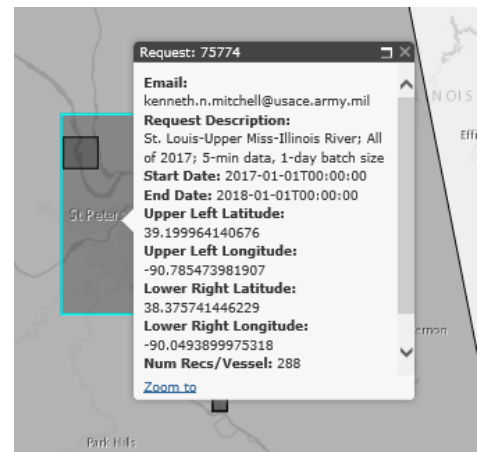
20. **QUESTION**: Can you find out who requested data in one of these boxes?_____
21. What were the dates covered in that request? _____
22. Is there any information about AIS signal sampling rate (ping rate) used in the Request Description field? _____

23. Are there any overlapping requests for this location? _____

24. Let's pull up a specific request that was submitted previously by entering its Request ID. Click on Clear Map.
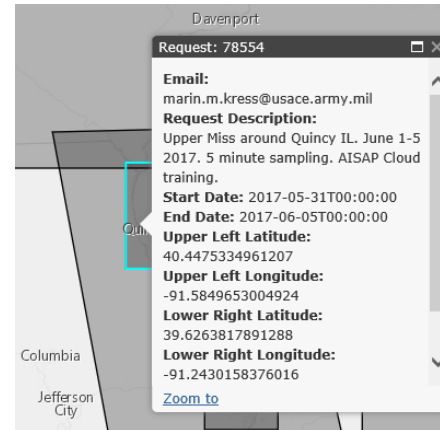
In the AISAP-Usace site use request 105476, on the AISAP-Cloud site use 78554. These should be similar requests that cover the **St. Louis-Upper Miss-Illinois River June 1-5 2017, with 5-min sampling rate**.

AISAP-USACE →
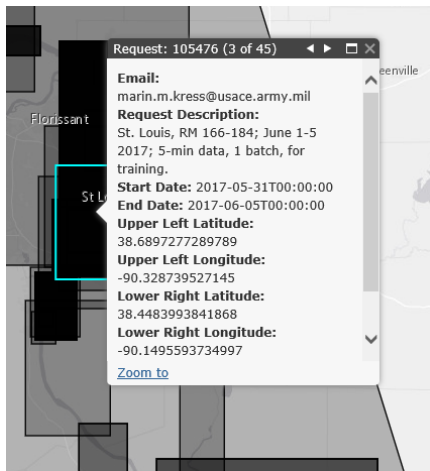
AISAP-Cloud→

25. Type the appropriate **Request ID** into the Request ID box, then click **Retrieve Data** button in the bottom right section**.**

26. Your screen will update, now the map will show only the area of this request and the one grey box associated with this request number.

27. Scroll down on the left side of the screen to see the list of requests returned. There should be only one result, which matches the Request ID you told AISAP to retrieve.

28. **Check the box** next to this request ID

29. Click the **Add** button.   You will be taken back to your Project screen.

30. Under the **Project Details** section, find the word **SOURCE**. The number next to it is the data you just added. You can add multiple data sources to your project.

31. Congratulations! You now know how to create a project and add data from the AISAP library to your project.
32. You've got data in your project, now what? Tell AISAP the spatial extent, or area of interest (AOI), and the time subset we want to analyze.

Draw an Area of Interest for your AISAP Project

33. To draw an AOI, look in the bottom left quadrant of your screen under the section **Areas of Interest**. There are tabs: Edit AOIs, Edit Vectors, Analysis, Vessel Tracks.

34. Make sure you are in the **Edit AOIs** tab, then click on the **green plus button** at right.

35. Click on the map to set the vertices of your polygon. It does not have to be a square! Close your polygon by double clicking.

36. For this exercise let's pretend you are interesting in seeing how vessels move above the city of Quincy. Draw a your AOI from Quincy upriver a ways, your final polygon should look something like this →
If you don't like your AOI polygon click the red X-box to delete it and draw a new one.

37. Name your polygon "Quincy-1 day" because I intend to filter this area for only 1 day's worth of data. You can create multiple AOIs within any project, and you can change AOI later.

38. Save your AOI by clicking the blue floppy disc **SAVE** icon.

39. Click on the **Analysis** tab.

    You should see a screen like the example at right →

    The yellow highlighting means that you have an AOI but *AISAP has not yet processed the data for that specific AOI.*
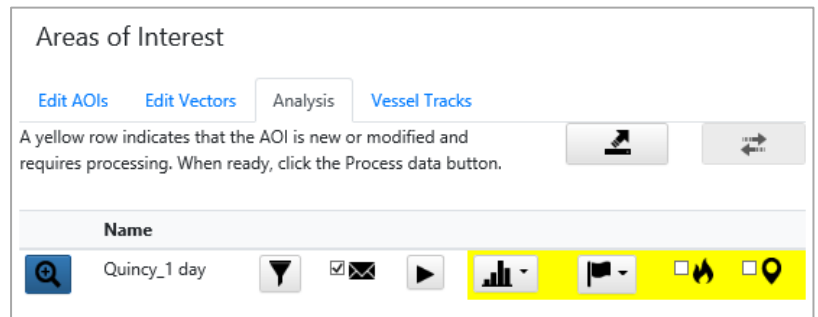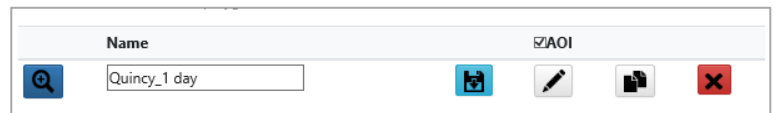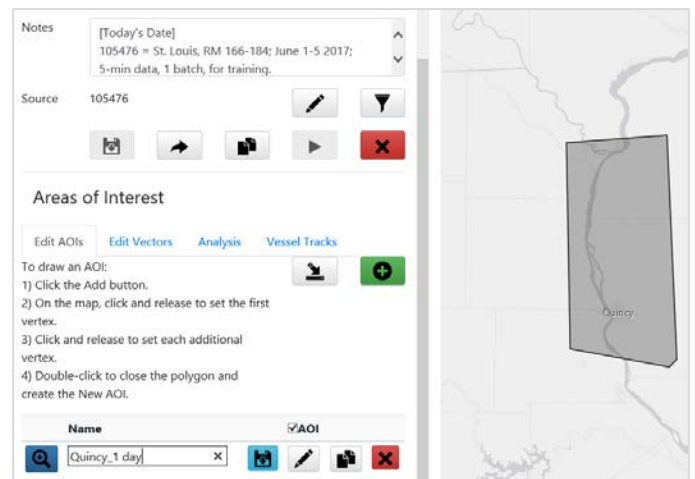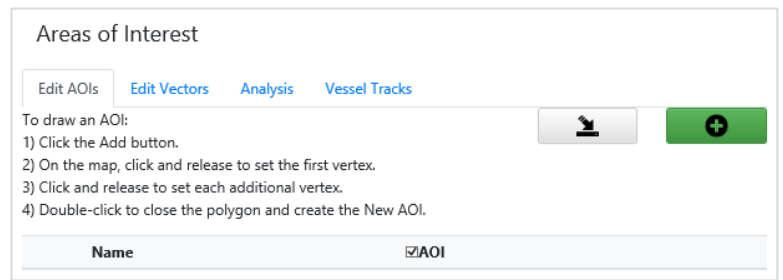
For this exercise we only want 1 day of data out of the entire requested timespan. We need to tell AISAP which day we want to look at (filter), otherwise it would process the entire length of data included in this data request. For data requests that only span a few days this would be quick, but some data requests span a whole year and processing those would take a few hours. If you need an entire year of data for a project please talk to the instructor so they can put in a special data request for you.

Filter your data within an AOI – to get more precise results

40. To filter the data, click on the **FUNNEL** icon
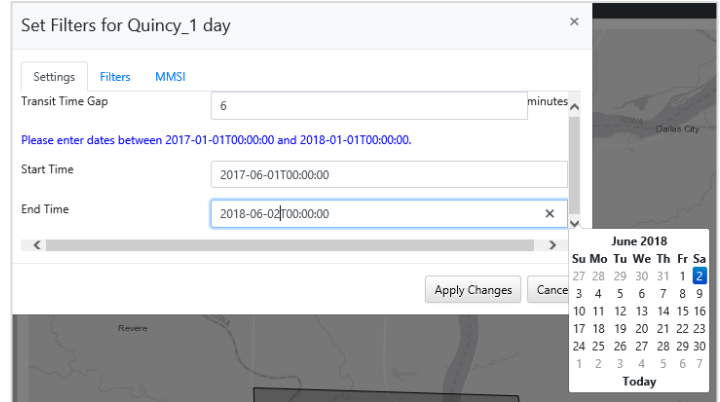
41. A popup window will appear. →

    There are three tabs: Settings, Filters, MMSI

42. Set the **Start Time** field to 2017-06-01T00:00:00, change the **End Time** field to 2017-06-02T00:00:00. You can either use the popup calendar on the bottom right or type directly into the time fields.

43. Click on **Apply Changes** button.

44. If you are satisfied with your AOI shape, and your time filters you are ready, you're ready to tell AISAP to get to work!

45. Click on the **PLAY** button to tell AISAP to process this data in preparation for your analysis. →
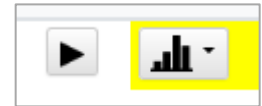
    AISAP should send you an email when this AOI is finished processing (function being tested).
   Shorter time requests in smaller AOIs will process faster!

46. While AISAP is processing your data for an AOI the line will turn gray. →
   During this time you can work in other AOIs or in other projects.
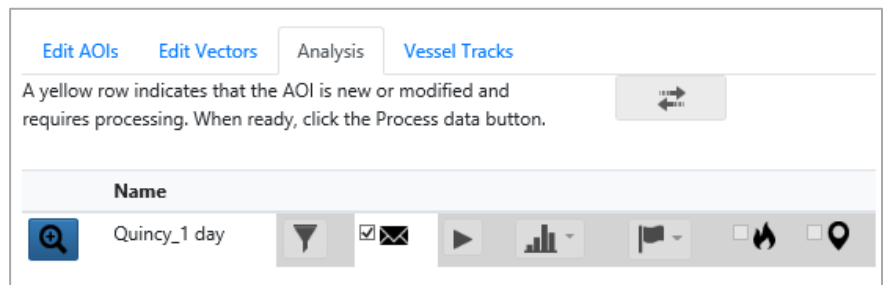
47. You should receive an auto-generated email from AISAP when your AOI has finished processing. However, depending on the speed of email services your AOI might be finished before the email actually arrives.

48. To refresh the AISAP page, click on the double circular arrow icon next to the Analysis tab. If the AOI changes from gray to white, it has finished processing. →
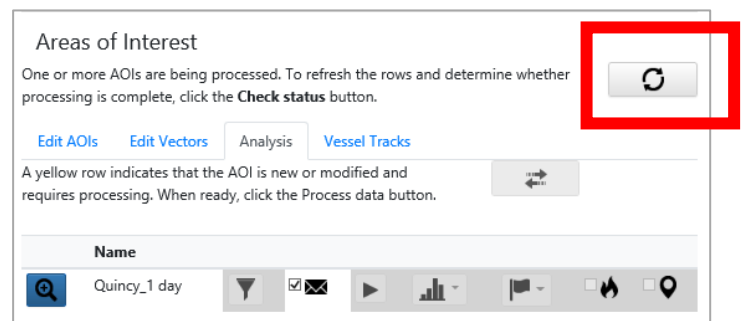
49. Your screen with the processed AOI should look like the image below.
    Click on the **Analysis** tab and you will see that your AOI is no longer highlighted with yellow or grey.
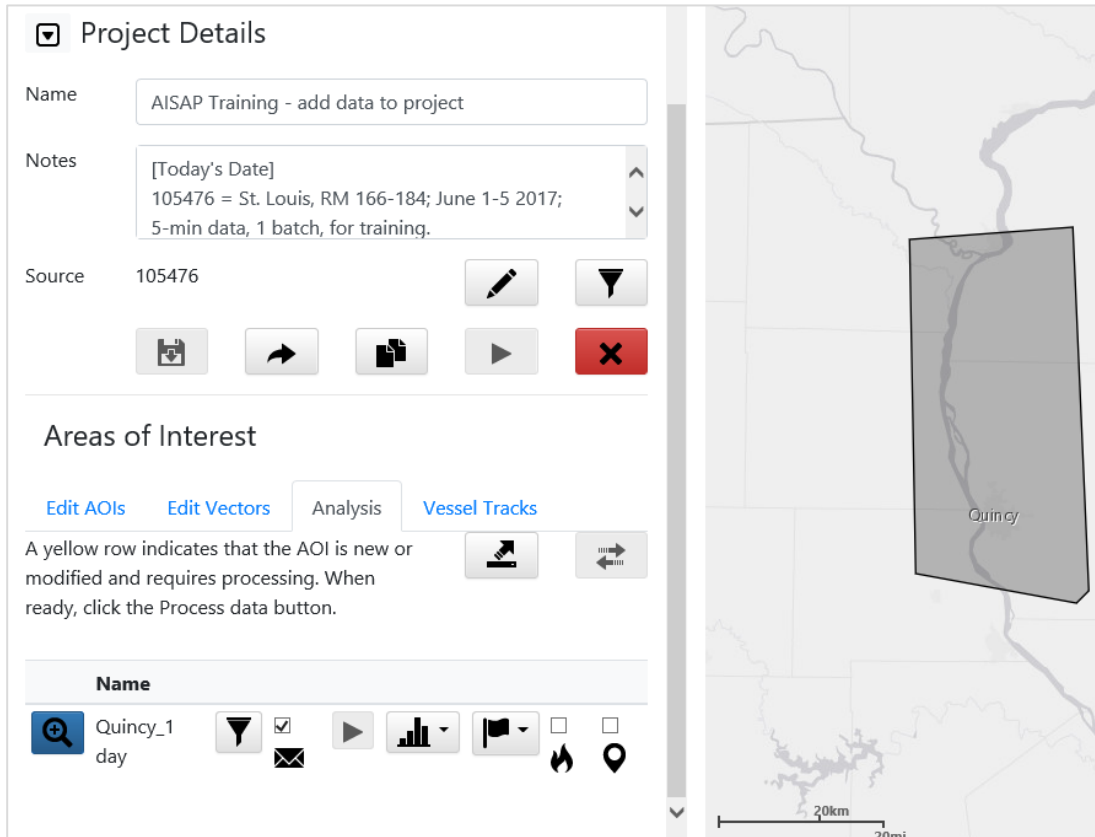
50. Congratulations! You now know how to:
    - create a project
    - add data from the AISAP library to your project
    - create an AOI within a project
    - filter data within an AOI to isolate a time subset from the larger dataset.

End of Exercise.

In the next exercise we will start analyzing the data and making visualizations.