

## AISAP Lesson 3: Submitting a Query

**Before starting:** Complete Lesson 2 so you are familiar with the workflow.

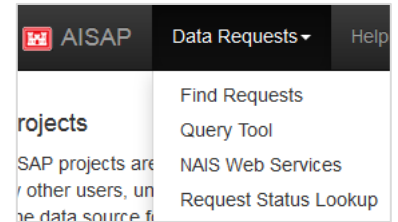
**Exercise goal:** Learn how to submit a query for AIS data to the U.S. Coast Guard archive.

**YOU SHOULD ONLY SUBMIT THIS TYPE OF REQUEST AFTER CHECKING THE AISAP LIBRARY TO SEE IF THE DATA YOU NEED IS ALREADY INSIDE THE LIBRARY/CACHE.** If you ever have any questions about 'how big of a query is too big' or you need a lot of data for a special project please email [patricia.k.dijoseph@usace.army.mil](mailto:patricia.k.dijoseph@usace.army.mil).

Ok, back to the exercise.

### Submitting a new query to the USCG archive

1. Log in to AISAP-USACE <https://ais-portal.usace.army.mil> or AISAP-Cloud [https://aisap.usacegis.us/aisap\\_portal/home.html](https://aisap.usacegis.us/aisap_portal/home.html)
2. On the top menu bar click on **Data Requests** and select **Query Tool**. This will take you to the query tool / data request page.



3. To process your request for AIS data, the USCG archive needs to know at least three things: When, where, and what sampling rate.
4. Select the timespan of your query  
Use a **start time**:  
2018-08-04T00:00:00  
and **end time**  
2018-08-05T00:00:00
5. To select the spatial extent of the query you can either enter in the coordinates of a rectangle, or select DRAW BOX.
  - a. AISAP-USACE: The USCG web services will return the track for any vessel that passed through the box for the entire duration of your query, not just when it was inside the box.
  - b. AISAP-Cloud: The web services will return vessel position reports only inside the box.
6. Zoom in on the map to the Paducah, KY area

A screenshot of the 'Query Tool' form in the AISAP application. The form is titled 'Query Tool' and contains the following fields and options:

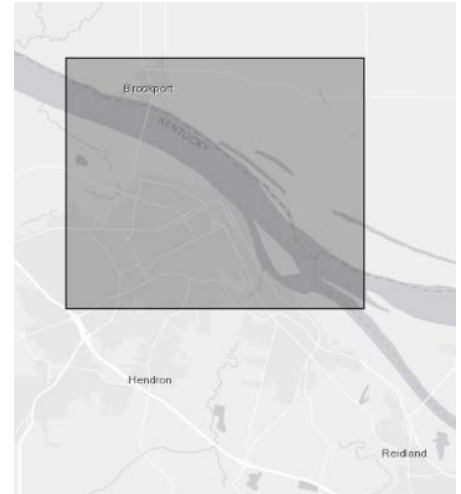
- Email:** marin.m.kress@usace.army.mil
- Start Time:** (empty text box)
- End Time:** (empty text box)
- Which Vessels?:**  All MMSIs  Selected MMSIs
- Draw a bounding box or enter the coordinates manually:** (with a 'Draw Box' button)
- Upper Left Lat:** (empty text box)
- Upper Left Lon:** (empty text box)
- Lower Right Lat:** (empty text box)
- Lower Right Lon:** (empty text box)
- Min Speed (knots):** 0
- Max Speed (knots):** 25
- Batch Size:** 1
- Sampling Rate:** (empty text box) with a dropdown menu set to 'seconds'
- Num Records/Vessel:** (empty text box)
- Request Description:** (empty text area)
- Include KML Track Lines?

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7. Draw your query request box on the Ohio River next to Paducah. →

**AISAP-USACE Note:** Although we draw a relatively small box, it will return the AIS results for any vessel that passed through this box during our time frame. It's like adding a tracer dye to any vessel that passed through our 'query area.' We will be able to see vessel tracks that are beyond the edges of this box, but within the selected time frame.

**AISAP-Cloud users,** draw your box to cover upriver from Cave-in-Rock IL and downriver to Wickliffe KY.



8. The third piece of info AISAP needs is the **Sampling Rate** (aka 'ping rate').

**Our advice is to select for a 5 minute sampling rate.**

**A 5 minute sampling rate gives good vessel track line detail, but keeps the query size manageable.**

If you are doing something special like an accident investigation you can select a sampling rate as frequent as 2-3 seconds.

Min Speed (knots)	0
Max Speed (knots)	25
Batch Size	1
Sampling Rate	5 minutes
Num Records/Vessel	288
Request Description	Ohio River, Paducah KY. 4-5Aug 2018. 5min sampling
<input type="checkbox"/> Include KML Track Lines?	
⚡ Submit Request	
Vessels in Area Now	
Vessels in Area: Use Dates, Speed	

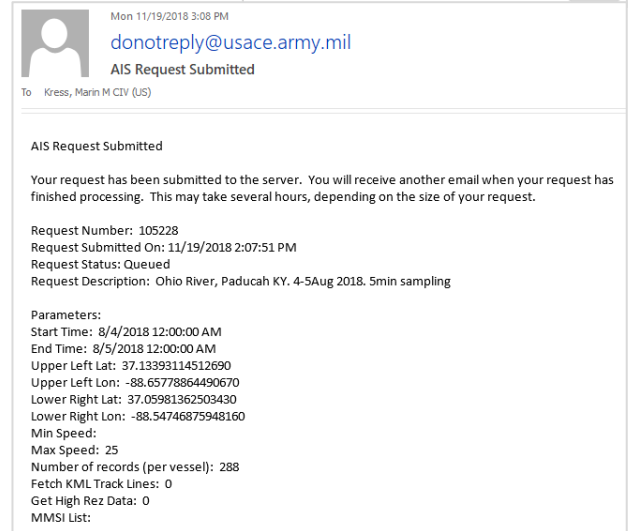
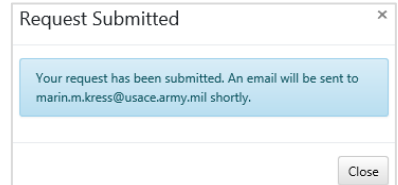
9. The **Request Description** box is the key to all of this work because it makes the request searchable. Include a few words about LOCATION, SAMPLING RATE, and DATES for your request. Please include a location name like "Ohio River at Paducah KY". This request description will be viewable, and searchable, by any AISAP user through the **Find Requests** function. *Your future self will thank you for filling out this field, and so will Marin.*
10. Under the **Request Description** field, don't check the box that says 'Include KML Track Lines?' -- These are used for animating vessel tracks in google earth. Checking this box will increase the time it takes to retrieve data.

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- If you are satisfied with your query settings of time span, location, and sampling rate click on the **Submit Request** button. A pop-up window will confirm the submission →  
*If the Submit Request button is unclickable review your request settings to make check for errors or omissions.*
- In a few minutes you should get an auto-generated email telling you that your request has been submitted. (The USACE and the Cloud sites have slightly different email formatting.) →

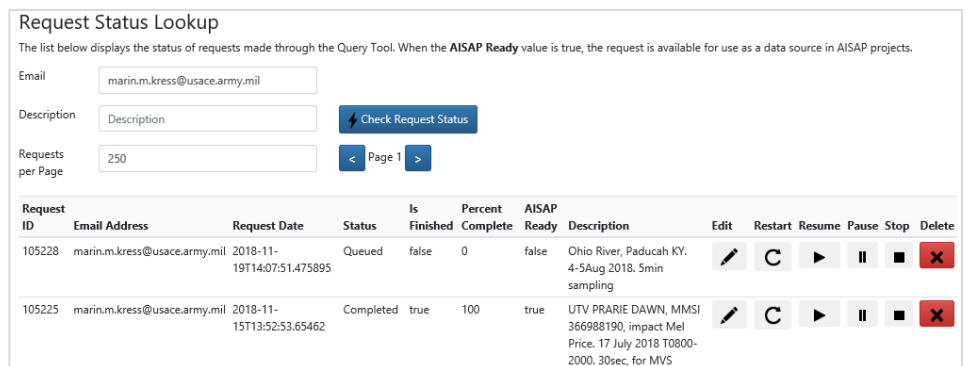
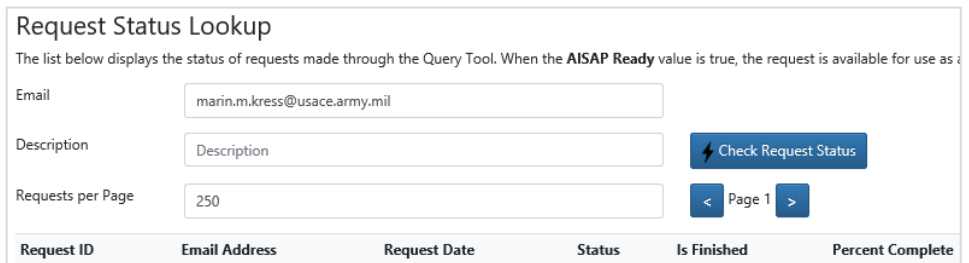
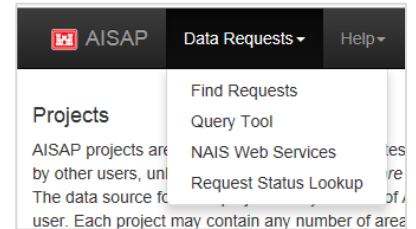
*Note that your request may take several hours to process, depending on the size of the request.*

**But what if my email isn't working for some reason?  
... How do I know if my request was submitted?**



### Checking on the status of your data request

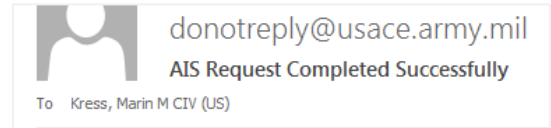
- Check on the status of your request by going to the **Data Requests** drop-down menu and select **Request Status Lookup**.
- A new tab will open in your browser. →
- Your email address should auto-populate in the **Email** field. Click on the **Check Request Status** button.
- AISAP will return a list of current and previous requests, even ones that were empty.
- You can also *check on the requests of any other registered user* by entering their email address and clicking on the **Check Request Status** button.



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Try checking the request status of another AISAP user. Can you understand their data request based on the **Description** field?

17. AISAP will send an auto-generated email once your data request has been retrieved from the USCG archive.



18. For this exercise, **create a new project named “AISAP Training- Paducah Aug 4 2018”**. Then you can *either* wait for your request to finish processing and add the data to your new project, *or* you can add data to your project for from the AISAP library, using request ID 105228 AISAP-USACE site or AISAP-Cloud Request ID 78289.

19. Once you have added your data to your project the next step will be to draw an AOI, a very large AOI.

### Drawing an AOI larger than your request area to see more extensive vessel tracks

20. On the **Edit AOIs** tab, draw a new AOI than spans from Cave-in-Rock IL on the Ohio River down to Wickliffe KY after the confluence with the Mississippi, don't forget to **name it** and **save it** (click the blue save icon).

The screenshot shows the 'Areas of Interest' (AOI) creation interface. On the left, there are tabs for 'Edit AOIs', 'Edit Vectors', 'Analysis', and 'Vessel Tracks'. Below the tabs, there are instructions: 'To draw an AOI: 1) Click the Add button. 2) On the map, click and release to set the first vertex. 3) Click and release to set each additional vertex. 4) Double-click to close the polygon and create the New AOI.' There are icons for 'Add' (a green plus sign) and 'Save' (a blue magnifying glass). Below the instructions, there is a table with columns 'Name' and 'AOI'. The name 'Wickliffe to Cave-in-Rock' is entered in the 'Name' field, and the 'AOI' checkbox is checked. There are also icons for 'Save', 'Edit', 'Copy', and 'Delete'. On the right, a map shows a large grey polygon drawn around Paducah, Kentucky, extending from Cave-in-Rock, Illinois to Wickliffe, Kentucky. The map also shows 'Mt Vernon' and 'Carbondale'.

This AOI is MUCH larger than the request area, because AISAP will identify every vessel that passed through the small request area around Paducah at some point in the timespan, then AISAP will return the vessel position reports for those vessels for the entire timespan you request – even if the vessels went outside of the request area. This is useful if you want to show how far a vessel may travel from one local port area, or how ports are connected by vessel traffic.

21. Proceed to the **Analysis** tab.

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22. Tell AISAP to process your week of data by clicking the **Play icon button** highlighted in yellow.

23. When the AOI has finished processing you will get an email notification.

24. Click the Check Status button (two round arrows) to refresh the screen.



*[If the processing is taking too long, switch to Ex4 and then return to this one]*

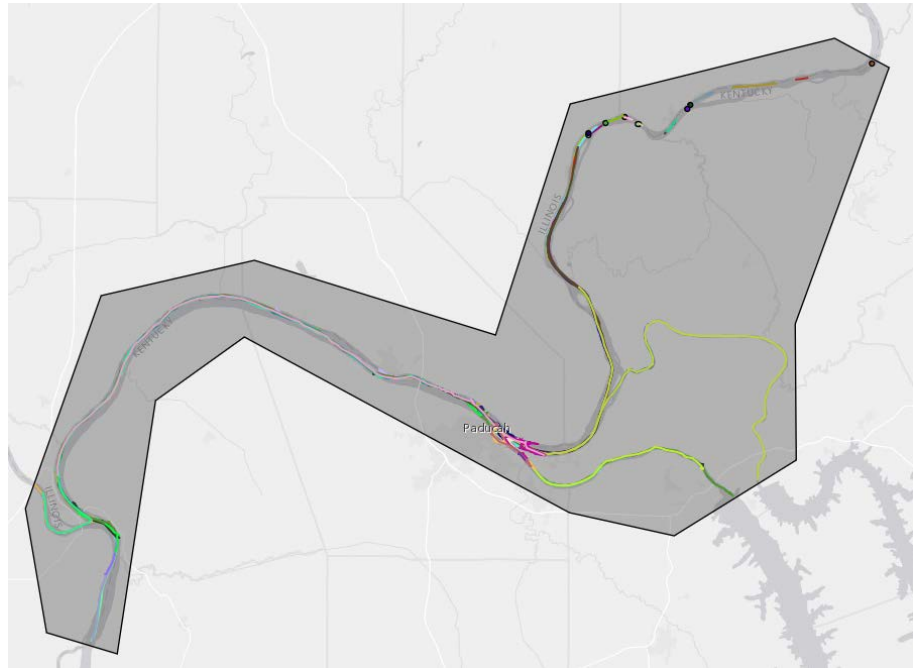
25. Return to the **Analysis** tab of your Project.

26. Click on the **Flag icon**, and select **Show All Transits**.

27. Do you get vessel tracks that look like this? →

28. Our data query area was only around Paducah, why do we get vessel tracks that go so much farther up/down river?

29. To turn off the AOI outline, but keep the vessel tracks displayed, go to the **Edit AOIs** tab, and uncheck the box in the blue bar that says **AOI**.



30. Click on the different vessel track lines to explore the information associated with different vessel tracks.

31. **QUESTION:** Zoom in around Cave-in-Rock, click on the vessel track lines. What vessel made those tracks? \_\_\_\_\_ Why might there be gaps? \_\_\_\_\_



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32. **QUESTION:** What was the vessel that went furthest upriver in your AOI? \_\_\_\_\_ What was the MMSI? \_\_\_\_\_

33. **QUESTION:** How many unique vessels were in your AOI in this time? \_\_\_\_\_ (hint: use the *Summary Statistics* option)

How many of those vessel were tugs? \_\_\_\_\_  
(Hint: *Summary Statistics – Data tab*)

34. **Bonus thought question:** If you are interested only in vessels that went to a certain terminal within a port, but you also want to see how far they ranged after they left that port what would be the most efficient way to query that data through the AISAP-USACE site?

35. **Bonus activity:** Zoom in around the town of Wickliffe KY, at the downstream end of your AOI. Using the **Map Tools** menu, **Vessel Track Settings**, change your vessel tracks to display by **Vessel Type**. What kind of vessels went in/out of Wickliffe? Click on a red trackline to see vessel information. Do you think the ST SIMON vessel (MMSI 367750340) is really a WIG (Wing-In-Ground) vessel type? Search for the vessel on the internet. What does this tell you about potential errors when using AIS message information?

36. **Super bonus activity:** Look in the AISAP library, what other existing data requests might have data for the Paducah area in 2017 or 2016?

**End of Exercise.**