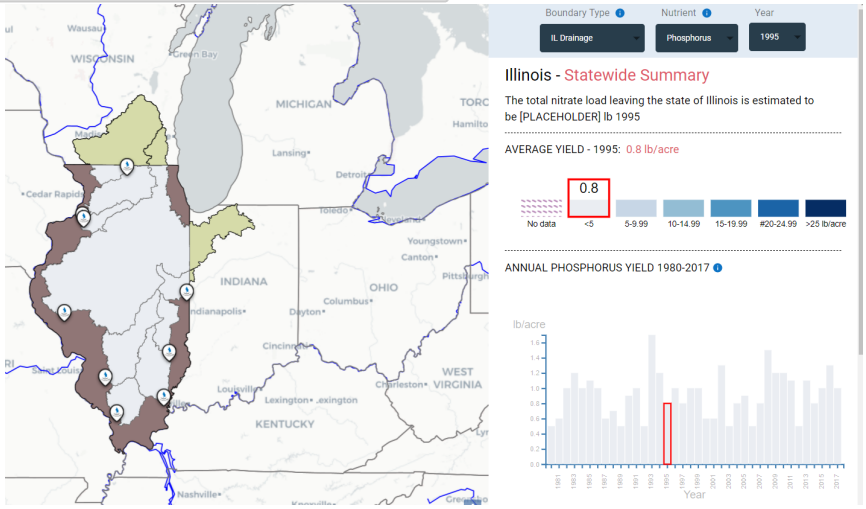
Phase V - Interface Updates and Modifications

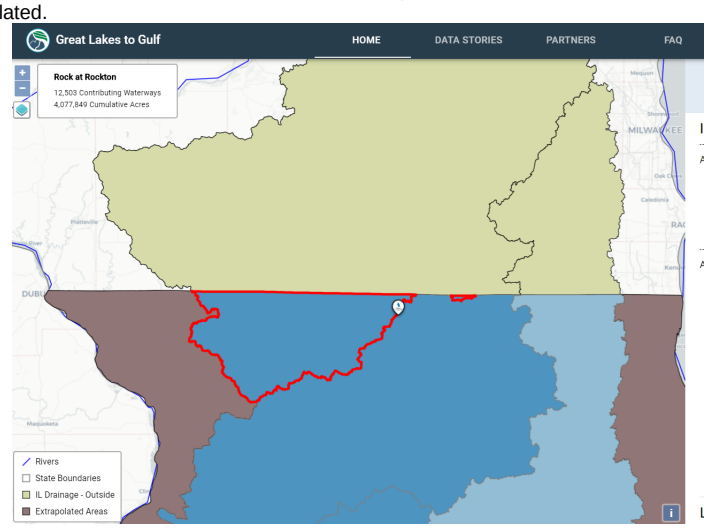
Collaborative area for discussing Bugs, Updates, and Modifications to Great Lakes to Gulf

Future ToDo:

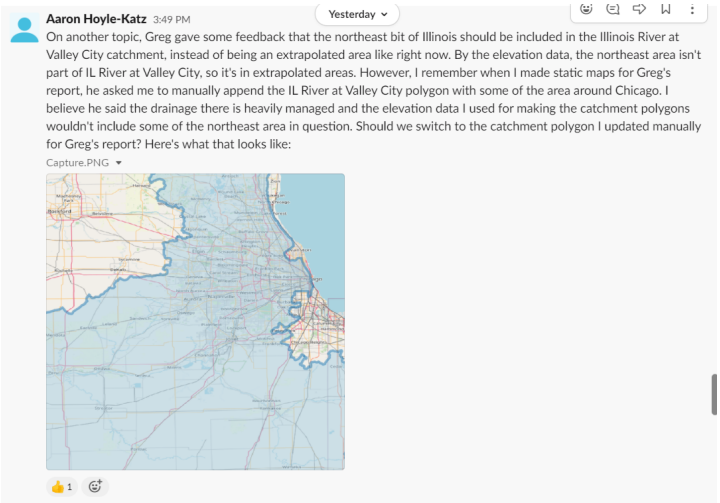
- [x] Talk to Greg about updated Visualizations: Hold off on this for a while on initiating anything with him - this is a more future goal
- [x] Shannon will archive this page for completed items
- [x] Incorporate suggestions from Walton Grantees webinar into this page

Additional fixes and features, not necessarily critical to do before Webinar:

1. Phosphorus scale needs to be recalibrated because range is much different than nitrate (
   GLGVO-661 - Recalibrate phosphorus scale TO DO)
   a. 

2. In the Trend Sites view, need to replace Nitrate graphs with Phosphorus (Ted needs to get NCSA data) (
   GLGVO-659 - Replace Nitrate graphs with Phosphorus on Trend Watersheds view TO DO)
3. HUC-8 data needs to be examined and replaced. Correct data from Greg McIsaac is in this spreadsheet, and rather than yearly data, it is just two time periods.
4. Need to examine all the places where we use the terms nitrogen and nitrate and make them more specific- Total Nitrogen or Nitrate as N
5. Need to prominently display the year on the map (there has been some user confusion thinking we were looking at an aggretation of years on the map)
6. Also want to consider for the Illinois Drainage and Trend Sites sties how we will have an alternate visualization that looks at aggregations of years (for instance 1980-1996 and also 2013-2017. Or in WRTDS, how we indicate trends in certain decades or other time periods.
7. Need to examine the polygon for the Rock River at Rockton- there is some portion of the watershed that will have to be in the "extrapolated" color. (In the image, it's the highlighted red polygon.) This is extrapolated because it is in Illinois, but when using the Rock River at Rockton to subtract the Wisconsin Portion of the watershed, the portion in Illinois has to be "added back in" to the Rock River numbers, and hence is extrapolated.
   a. 

8. Need to manually add the Chicago watershed back into the Illinois River due to the historic reversal of the river and hydrologic changes.

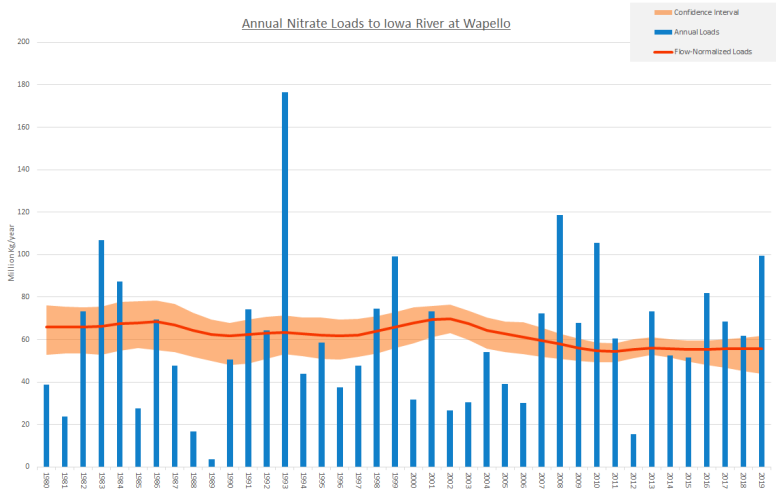
a. 

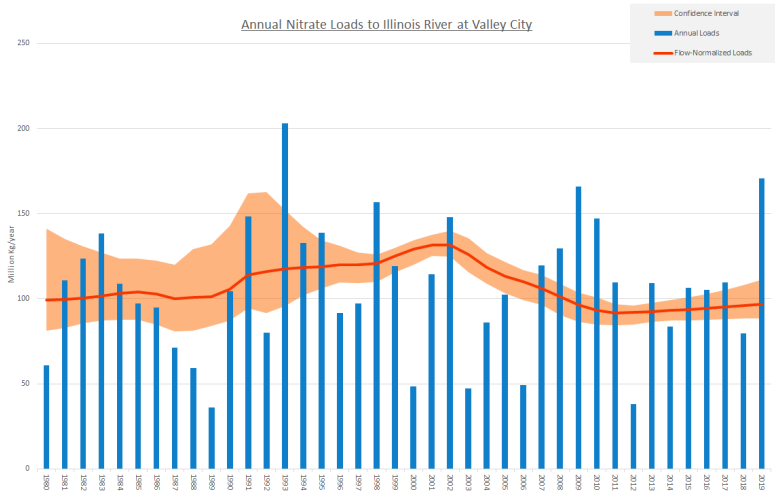
9. Need to work on exploratory Analysis page
    a. make sure all data present
    b. when there is only a minimal change, we'll want to indicate that as "no trend" or "weak trend" instead of up or down.
    c. need more documentation on the "trending up/down"
    d. threshold needs units
    e. Need to explain what time period our threshold is for.
10. Geostreaming app -
    a. associate discharge gauges with continuous monitoring sites and calculate loads
        i. overlay discharge onto the WQ data charts
    b. Need overlay of Mississippi River watershed on basemap
11. Need to figure out how to direct people to storyboards from specific spots on the site.
12. Clean up "search and download" page- specifically the search by area list.

Critical to do before Walton Grantees Webinar:

Not DONE

1. Do we have polygons for the "unmonitored area" in illinois for the Illinois Drainage view? ... I think it would be clearer if we displayed those polygons along with the existing catchments and had a legend that said "Load from this area extrapolated" Aaron Hoyle-Katz ... This is a lower priority at this point, but still important.
    a. **Comments:**
        i. We need to think about this. If the polygon shows, then users want to click and try to see the data. **Yes, what you say makes sense. What if we used an additional shading similar to "no data" shading, and have it say "area extrapolated to calculate statewide load"**
        ii. Yes, we have a polygon shows all the Illinois areas not covered by stations. This is the same polygon that we used in the "Tracking Trends with GLTG" storyboard, slide 2. -AHK
2. ~~Hoping to get the WRTDS output for this station and Valley City done today or this weekend so they can be implemented on the dashboard as an example of Sentinel Site.~~ WRTDS outputs for Illinois River Valley City and Iowa River Wapello are attached below. Annual "summary" should be the Annual Load. Data and example charts below. Phosphorus is not done yet, that will take some additional work, but can be added later.

3. 



Year	Load (Millionkg/y)	Flow Normalized Load (100Kg/y)	Flow Norm Flow Norm
1980	60.9	99.5	81.40625	140.9712
1981	110.7	99.7	82.86993	155.1597
1982	125.8	100.5	85.52506	150.8654
1983	138.5	101.7	87.28886	126.9872
1984	108.7	105.1	87.59425	125.5845
1985	97.1	105.8	87.54152	125.8035
1986	94.8	102.9	84.82855	122.4685
1987	71.4	100.1	80.90289	119.9871
1988	59.5	100.9	81.54715	129.0022
1989	58.2	101.2	84.10474	152.1075
1990	104.5	105.5	87.15054	142.8511
1991	148.4	115.8	94.21548	161.7752
1992	80.1	115.9	91.79945	162.8545
1993	203.2	117.4	95.55919	152.1588
1994	152.8	118.4	101.9801	142.1892
1995	138.9	118.9	105.8102	154.4175
1996	91.5	119.8	109.5559	151.0861
1997	97.5	120.1	109.1811	127.0884
1998	158.8	120.9	110.1515	125.9904
1999	119.1	125.1	115.8855	129.9208
2000	48.4	129	120.0842	134.2235
2001	114.5	131.7	125.1751	137.4412
2002	147.9	131.4	124.8775	139.8502
2003	47.4	125.8	115.5208	135.8408
2004	86	118.5	108.9897	126.8628
2005	102.2	115.5	105.2008	121.4442
2006	49.4	109.8	99.8808	116.9411
2007	119.5	105.9	96.25507	114.1091
2008	129.7	101.1	90.57412	108.7222
2009	188	96.8	86.59595	105.4602
2010	147.1	95.5	84.69254	100.8802
2011	109.4	91.7	84.28501	96.72041
2012	58.1	91.9	85.00298	96.19621
2013	109.1	92.5	86.51014	97.41202
2014	85.8	95.2	87.58099	99.1572
2015	108.5	95.8	87.51855	100.8655
2016	105	94.8	87.7117	102.8022
2017	109.5	95.5	87.94092	105.1841
2018	79.7	96.1	88.46778	108.0718
2019	170.7	96.9	88.51558	111.04

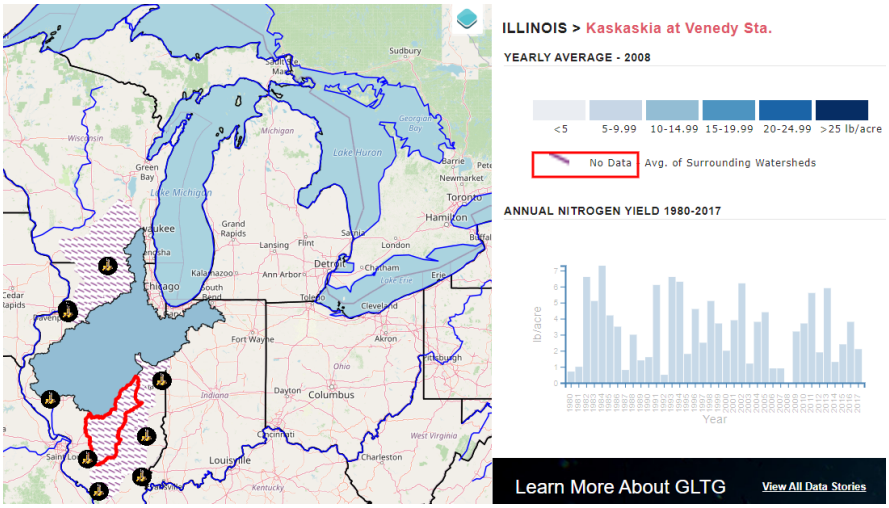
4. Hey Aaron Hoyle-Katzcan you take a look at the polygon for Iowa River at Wapello? It looks a little weird on the east side, especially compared to the one here https://nrtwq.usgs.gov/mississippi_loads/#/site/05465500
    a. Whoops, that was definitely generated with bad data. Updated geojson here: https://uofi.box.com/s/z71ft0cb1qah556624nd6cxqu60f2y2r

WIP:

In-review:

DONE:

1. when you follow link to the geostreaming app, there is no way to get back to the landing page / dashboard page from the geostream app.
    - Already implemented. I will be deploied. We will inform you when it will be deploy
2. on dashboard page, need to get rid of the "no data - avg of surrounding watersheds" thing under the legend. (Kaveh Karimi Asli)
    - **Comments:**
        - Ted Kratschmer we actually have a situation with no data. and I think that it needs the information about no data as shown below:



- Ted Kratschmer Could you give us why do you want to remove this? or any other suggestion?

- **Proposed action:**
  - Remove "avg of surrounding watersheds" and still leave "No data" for the year which doesn't have data. (**I agree. That makes sense -TK**)
  - Update "no data" icon
  - **Is it possible to make the image for the "no data" legend clearer? It's hard to tell that it's a pattern. Yes. we are working on it. (This looks great *-TK)***
  - **Suggested design:**

3. Please replace the boundary type info box text on the Dashboard with the attachment Dashboard boundary type info box Dashboard Boundary type info box.docx (Kaveh Karimi Asli)
4. **BUG:** in the watershed boundary view, there is no way to de-select the watershed polygon to go back to a main view (Kaveh Karimi Asli)
   a. We need to display station icon
   b. It's resolved in the new version. You can deselect the watershed by clicking on it again.
5. On IL drainage dashboard, replace "Overall Summary" with "Statewide Summary" ; Also replace "Yearly Average - 2017" with "Average Yield - 2017" (Diego Calderon ~~GLGVO-628~~ - update terms in landing page DONE)
6. **BUG:** Dashboard, showing IL drainage boundary type: from beginning state, when you click on a watershed, the little popup box opens and shows contributing waterways and acres, but it does not give the name of the watershed. After you click a station icon, it does show the name, but when you click on a different watershed, the box moves, but the information does not change. Only after clicking another station does the information in the box change. (Already fixed in the new version).
7. Add catchment polygon for 1) Iowa River at Wapello and 2) Illinois River at Valley City (Valley City is already in use in the Illinois Dashboard.) (Diego Calderon ~~GLGVO-629~~ - Add catchment polygons DONE)
8. We need to add a link (citation) to McIsaac's report where the data comes from on the HUC-8 dashboard view https://www2.illinois.gov/epa/topics/water-quality/watershed-management/excess-nutrients/Documents/NLRS_SCIENCE_ASSESSMENT_UPDATE_2019%20v7_FINAL%20VERSION_web.pdf ... **I think having something under the graph on the right hand side would work fine. (Aaraj Habib** ~~GLGVO-630~~ - Add citation to the HUC-8 dashboard DONE **)**
9. Move variable dropdowns on the home page to the sidebar
   ~~GLGVO-631~~ - Move variable dropdowns on the home page to the sidebar DONE (Kaveh Karimi Asli)
10. Update partners and FAQ pages ~~GLGVO-635~~ - Update partners and faq pages DONE (Kaveh Karimi Asli)
11. Fix popup bugs and fix disappearing markers (Kaveh Karimi Asli): ~~GLGVO-634~~ - Update polygon info container DONE
    a. Also need a way to get back to the Illinois "state-wide" or "overall summary" nutrient yield chart after clicking into a watershed while on the Illinois Drainage screen
       i. **Comments:**
          1. Ted Kratschmer currently, if you click the station again, it will go back to "overall summary" (**ok- It seemed like the other day that was not happening, but maybe I missed it -TK**)
       ii. **Bug:** when turn off the selection of watershed, the popup should be disappeared.

12. Rename "watershed boundary" to "Trend Watersheds" under Boundary Types (Diego Calderon)

    ~~GLGVO-637~~ - rename watershed boundary DONE

13. Need to have better explanation of the Avg. Annual Nutrient yield graph (Ted Kratschmerto provide information) (See below) (Kaveh Karimi Asli)

    ~~GLGVO-640~~ - Add better explanation of the Avg. Annual Nutrient yield graph DONE

    a. "Yield is a measure of nutrients lost per unit area. This measure is useful because it removes the influence of watershed size in a measurement so that different size watersheds may be compared."

14. **BUG:** in the Watershed boundary view, the title on the right says "Illinois" Please change to the state where the station is (Kaveh Karimi Asli)

    ~~GLGVO-638~~ - Add gulf data DONE

15. In the watershed boundary view before clicking a station, the "illinois overall summary" graph and chart are displayed. Need to either remove those until something is clicked on, or perhaps show the graph for the total load to the Gulf of Mexico (data can be found in the nitrate load tab of this worksheet. "Tons" is the main bar, and the confidence interval bounds are TONS_L95 and TONS_U95. Annual Load to Gulf of Mexico.csv (Kaveh Karimi Asli) ~~GLGVO-638~~ - Add gulf data DONE

    a. **Comments:**
        i. Team needs to discuss this matter
        ii. Confluence Page Loads to gulf of mexico for watershed dashboard

16. On the Illinois Drainage page, we need to have under the Overall Summary, a box that says "The total nitrate load leaving the state of Illinois is estimated to be xxxx lb 2019" or whatever year, updated by year as the user explores different years in the graphs. We need can get that information from the graphs on page 10 & 11. (Aaron Hoyle-Katz may have this, or perhaps he can get it from McIsaac) https://www2.illinois.gov/epa/topics/water-quality/watershed-management/excess-nutrients/Documents/NLRS_SCIENCE_ASSESSMENT_UPDATE_2019%20v7_FINAL%20VERSION_web.pdf ... on the "Illinois Drainage" page we should also add an Annual Load graph along with the Annual Yield (Kaveh Karimi Asli) ~~GLGVO-641~~ - Add overall nitrate load text for IL drainage DONE

    - **Comments:**
        - Ted Kratschmer is "Illinois drainage page" a dashboard with "IL drainage" boundary type? or story board? **I meant Illinois Drainage boundary type. I'm proposing we add text above the yield chart. Also need to add a chart above the yield chart that shows the statewide load, which is that data from the document linked above. -TK**
    - **Data is attached here. In the TP and Nitrate-N tabs, we'll use column M for the statewide load estimate, in Million kg per year. Kaveh Karimi Asli**

    illinois Major ri...mcissac 2017.xlsx

17. ~~GLGVO-645~~ - add mcisaac report in faq DONE (Diego Calderon)

18. The watershed boundary polygon in Minnesota says station USGS 05418720 ... This is the station name for a different station (Maquoteka river in Iowa). I'm unsure what the actual station number is. ~~Something on the Minnesota River... Mankota?~~ (~~Kaveh Karimi Asli~~)

    ~~GLGVO-642~~ - Fix station USGS_05418720 name DONE

    a. **Comments:**
        i. Ted Kratschmer who knows this info? Does Aaron know? Aaron Hoyle-Katz do you know what the catchment on the "Watershed Boundary" represents? the one in Minnesota that shows up.
            1. MI 0035 is the station number, I believe this mislabel will be fixed soon. -AHK
            2. The station "pretty name" is the Minnesota River at Fort Snelling. The data is collected by the Metropolitan Council. I will not be able to do a WRTDS output for this in time for the meeting.

19. ~~GLGVO-643~~ - Add legend to nitrate flow chart DONE (Kaveh Karimi Asli)

20. ~~GLGVO-644~~ - Fix the interaction issue with Rock at Rockton's boundary DONE (Kaveh Karimi Asli)

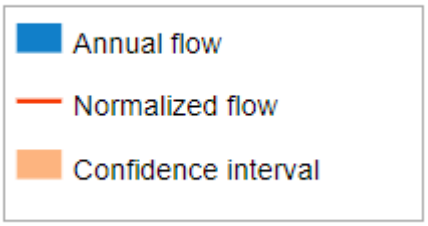
21. ~~GLGVO-648~~ - Add layer legend to the map DONE (Kaveh Karimi Asli)

22. Change favicon ~~GLGVO-649~~ - change favicon DONE

23. ~~GLGVO-647~~ - Add new contextual layer for unmonitored areas DONE (Kaveh Karimi Asli)

24. ~~GLGVO-650~~ - Only show unmonitored and outside areas for IL drainage and HUC8 DONE (Kaveh Karimi Asli)

25. ~~GLGVO-646~~ - Use fixed extents for the boundaries DONE (Aaraj Habib)
26. On HUC8 view, please remove "IL Drainage - Outside" (~~GLGVO-660~~ - Remove "IL Drainage - Outside" layer from HUC8 view DONE)
27. From Ted Kratschmer:



    a. Kaveh Karimi Asli Can you please update the legend here?
        i. It needs to be :
            1. Annual Load (blue)
            2. Flow Normalized Load (red)
            3. 95% Confidence Interval - Flow Normalized Load (orange)
        ii. Also, the name of the chart should be "Annual Nitrate Load" instead of "annual nitrate flow"
28. I'd like to see the rivers in the catchments (at least the major ones) (~~GLGVO-658~~ - Bring the river layer to the front and above the boundary layers DONE)