



Constructing a map with real-time data

Combine streams, flood status, and 72-Hour precipitation forecast

Real-time data is as current as the data source that is updating it, whether that data is being updated every second, minute, or hour, or daily. Real time is a concept that typically refers to the awareness of events at the same rate or at the same time as they unfold (without significant delay).

Your county government has asked you to construct a USA flood map that can be made available to the public to provide real-time data of the following:

- Streams
- Flood status
- National Weather Service precipitation forecast

Build skills in these areas

- Accessing the Landscape Layers in Esri's Living Atlas
- Constructing a map with several real-time services

What you need

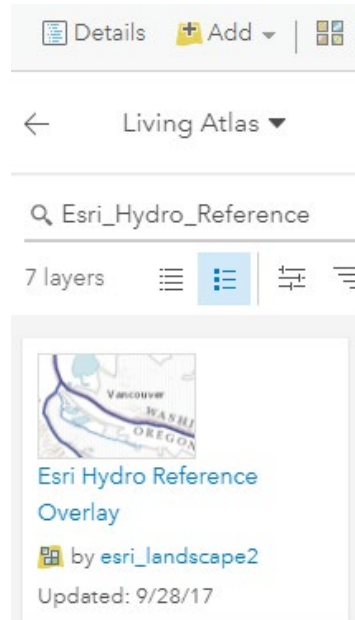
- Account required
- Estimated time: under 30 minutes



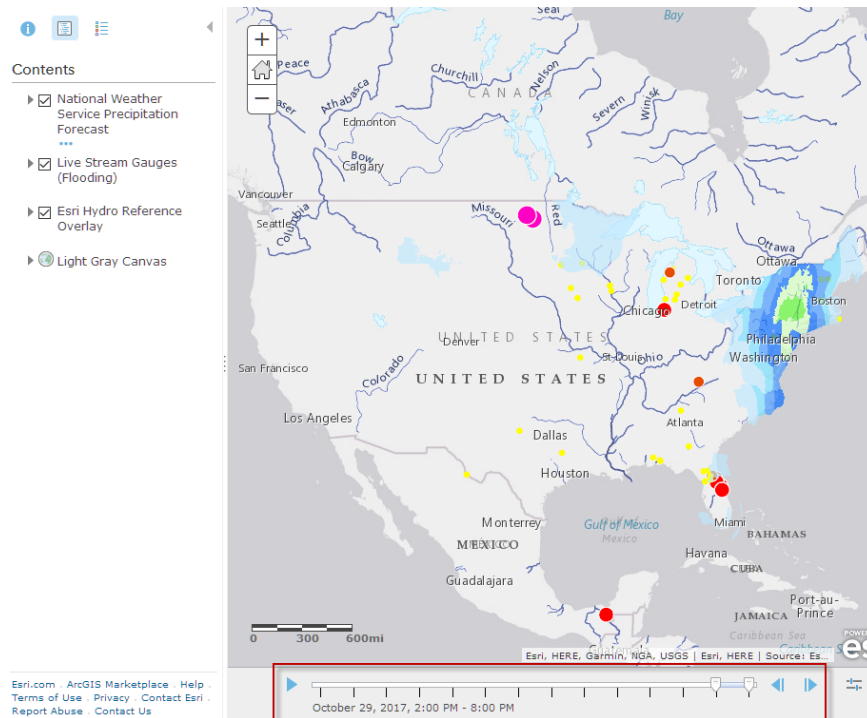
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1. Making a real-time map

1. Sign into your [ArcGIS Online organizational account](#).
2. Click Map.
3. Change the Basemap to Light Gray.
4. On the top menu go to Add>>Browse Living Atlas.
5. Type Esri Hydro Reference Overlay in the search pane.



6. Click the + to Add.
7. Click the back arrow to return to the Content Pane.
8. Click Show Contents of Map under Details.
9. On the top ribbon go to Add>>Browse Living Atlas.
10. Type Live Stream Gauges (Flooding) in the search pane.
11. Click the + to Add and return to the contents pane.
12. On the top ribbon go to Add>>Browse Living Atlas.
13. Type National Weather Service Precipitation Forecast.
14. Click the + to Add and return to the contents pane.



Notice at the bottom a time slider appears. The data is time enabled and shows the predicted values at six-hour intervals for the next three days

15. Press the play button in the time slider to watch the precipitation events over the next 72 hours.

Q: What areas of the United States are experiences the highest levels of precipitation?

16. Zoom in on the area experiencing the most precipitation.

17. In the contents pane, open the legend for the Live Stream Gauges layer.

Q: What do the different colors and sizes of stream gauge symbols mean?

18. Click Add and Search the Living Atlas for 2019 USA Population Density.

Q: Is there a populated area in the region of high precipitation?

19. Click around the map and read the pop-ups about population.

Q: What is the population density in areas with the highest population?

Q: Is the population density in areas at risk of flooding higher or lower than the average national population density?

20. Click on the stream gauges closest to the populated areas.

Q: Are they experiencing minor, moderate, or major flooding?

Q: What is the depth of the flood water?

21. Click on the graph in the stream gauge pop-up.

Q: What is the flood stage threshold for that stream gauge?

Q: What is the highest observed water depth for that gauge?

22. Write a summary of the flood situation and number of people at risk in your area of study.

Go further: Search the living atlas for more data layers about the landscape in your area of study to learn more about why certain places experience higher depths of flooding, or demographic data about at-risk populations such as the elderly or people with disabilities to determine where rescuers should prioritize their efforts.