Exploring LIDAR Point Clouds in ArcGIS Online – Some examples in CT

https://connecticut.maps.arcgis.com/apps/webappviewer3d/index.html?id=cfa4f1ebbd8a483e9094c65c708224a4
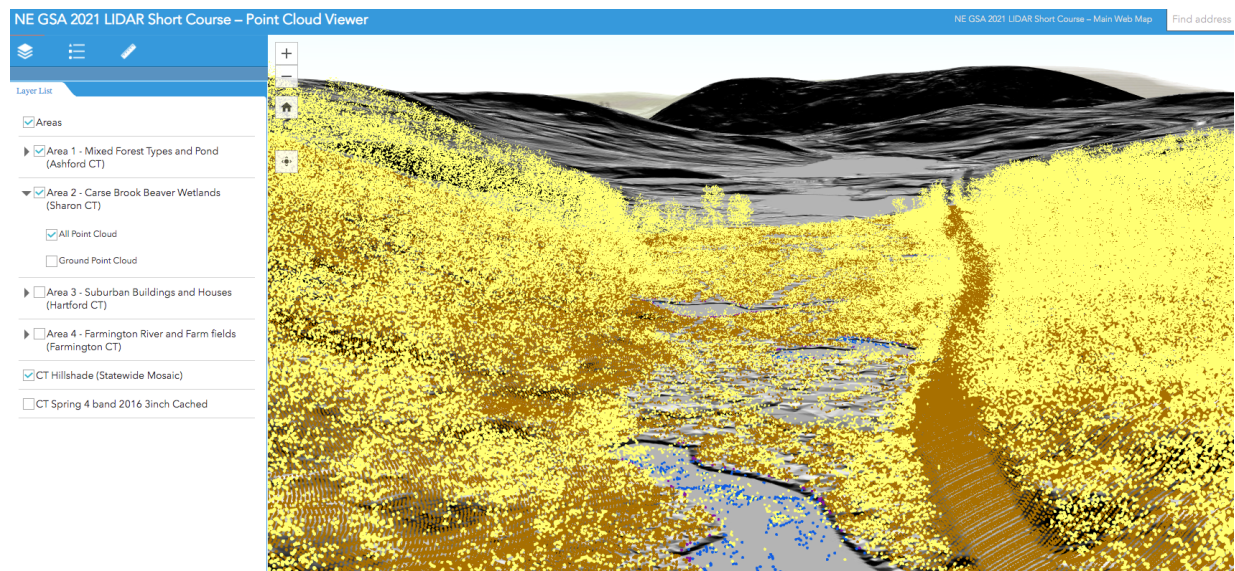
About the Interface:

- The layers tab (⬙) lets you turn layers on and off.
- The Legend Tab (☰) gives you legend information for what is turned on visible in the current extent.
- Click on the home icon (⌂) under the zoom in/out buttons at any point to reset things to full extent.
- To zoom into a Focus area, expand each focus area layer to see two point cloud types (ALL points vs just GROUND points) and click ⤢ next to one of the point sub-layers.
- Hit the ✛ button to toggle between 2D pan and zoom mode and 3D perspective manipulation mode, which is active when the icon is switched to ⬥ .
- Reloading the page will reset things to full extent AND default layer settings.
- Hit the ◈ button to reorient the current extent to north up.
- Use the measure tab (✎) to perform on screen measurement. For example, select 'Distance', then New Measurement, and then click anywhere in the map to start a measurement. After clicking on the end point, you will see the measurement length. Simply click New Measurement to erase the active measurement and begin a new one.

About the Data Layers:

- LAS Data is from the 2016 Connecticut Statewide LiDAR dataset campaign (QL2)
  - Downloaded from CT ECO https://cteco.uconn.edu/data/download/flight2016/index.htm
  - Two representations of the point cloud shown per focus area:
    - ALL points, 4 classifications (GROUND, UNCLASSIFIED, WATER, and RAIL)
    - Just GROUND points

- CT LiDAR Hillshade NW
  - Shown in 3D perspective based on 2016 LiDAR DEM values
  - Source: Capitol Region Council of Governments. (2016). *2016 CT Statewide LiDAR*, Retrieved from CT ECO (http://cteco.uconn.edu/map_services.htm)
- CT 2016 Orthophotography
  - Shown in 3D perspective based on 2016 LiDAR DEM values
  - Source: Capitol Region Council of Governments. (2016). Capitol Region Council of Governments. (2016). *2016 Aerial imagery*. Retrieved from CT ECO (http://cteco.uconn.edu/map_services.htm)

Find and Download LAS Data:
- Download Classified Point Cloud data (.las, .laz) or use online interfaces to create and export DEM files
- CT 2016 LiDAR: https://cteco.uconn.edu/data/download/flight2016/index.htm
- NOAA Digital Coast, many datasets: https://coast.noaa.gov/dataviewer/#/lidar/search/
- Open Topography, many datasets: https://portal.opentopography.org/datasets

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Drone photo of Carse Brook (Area 2), similar prospective as the top image from the ArcGIS Online Point Cloud Viewer: