# KANSASVIEW 2020 - 2021

KANSASVIEW 2020- 2021 ACTIVITIES

In GY20 KansasView created three online tools to visualize and explore remote sensing data and remote sensing derived products for GIS and non-GIS users alike for use in education, outreach, research, and conservation efforts.

In GY20 KansasView developed an ArcGIS Online (AGOL) Dashboard for the Potential Wetland Area (PWA) database to make the data publicly available to visualize and explore (upper right). Development of a statewide wetland database utilized LiDAR data and was a collaborative effort among multiple state and federal agencies, including KansasView.

KansasView also developed an AGOL web mapping application to provide users the ability to explore and visualize the National Science Foundation's National Earth Observation Network (NEON) Airborne Observation Platform (AOP) remote sensing data collected at the KU Field Station (KUFS) along with Sentinel-2, Landsat 8, and aerial image services (mid right). KansasView previously supported processing of tiled NEON AOP data to create data mosaics that were then made available through the online tool.

Lastly, KansasView developed the Sentinel GreenReport application leveraging Google Earth Engine to measure and monitor vegetation across the United States. There are four maps created from the Sentinel-2 archive. 1) Greenness Map-represents NDVI, which is a surrogate for photosynthetically active plant biomass, for a user-defined composite period; Difference Map 1-compares NDVI to the previous composite period within the same year to illustrate recent vegetation change; Difference Map 2-compares NDVI to same period from the previous year to examine year-over-year vegetation change; Difference Map 3-compares current NDVI to the average NDVI from previous years to examine vegetation change relative to the recent average. These maps can be used for a wide range of applications such as crop monitoring and disaster assessment (lower right).
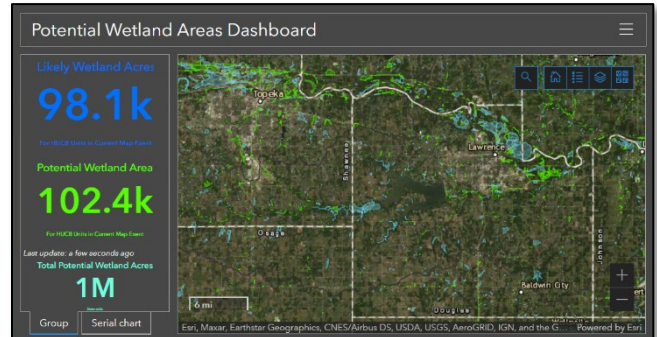
The dashboard shows the mapping of potential and likely wetlands along with a dynamic summary of spatial extents of each class. https://ku.maps.arcgis.com/apps/dashboards/168959bac666442 fb155b50ffa813064
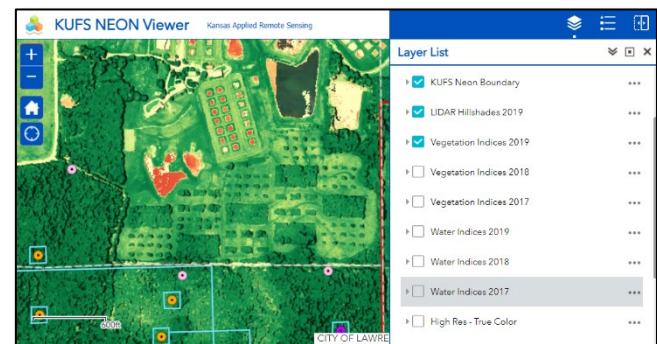
The Viewer shows the 2019 LIDAR Hillshade draped over a one of NEON's vegetation indices for the experimental plots at the KUFS. https://ku.maps.arcgis.com/apps/webappviewer/index.html?id= 65508da0ffcc461abfba22fa7b54cda7
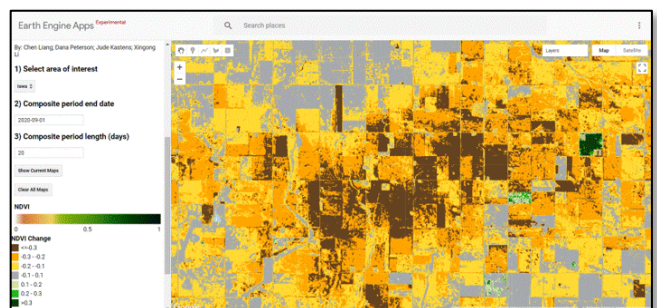
Difference Map 3 shows the hardest hit crops in brown and orange from the Derecho Windstorm on Aug. 11,2020, in Iowa. https://water2019.users.earthengine.app/view/greenmapkbsupd ated

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BENEFITS TO KANSAS

KansasView maintains connections with Kansas stakeholders and consortium members for potential collaborations in outreach, education, and research.

KansasView is represented at the GIS Policy Board, a consortium for promoting geospatial technology, acquiring critical geospatial datasets, and funding database development that support the mission and objectives of the Kansas Water Office. Over the years, many of these agencies have provided joint funding for projects partially funded by AmericaView.

KansasView awards mini scholarships to students at partner institutions to support remote sensing related education and research activities. In GY20, KansasView awarded 24 mini-scholarships to Haskell students to support education in remote sensing and geographic information systems.

KansasView participated in the annual Ecoystems of Kansas Summer Institute to educate Kansas biology and environmental science teachers on resources to integrate remote sensing and GIS into their classrooms.
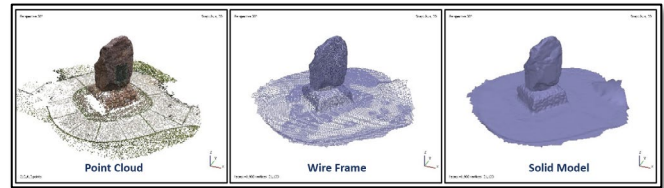
Students from Haskell Indian Nations University learned to process UAS imagery to generate a 3D model for an external project to advocate to move "Big Red Rock" back to indigenous land.

One of eight ESRI Story Maps developed by students who received mini scholarships from KansasView. This Story Map describes the importance of the Haskell wetland. https://www.arcgis.com/apps/Cascade/index.html?appid=ee0c38733 a5a4298ab32e0120f693b1d

KANSASVIEW CONSORTIUM MEMBERSHIP

Federal consortium members identified above do not receive funding from AmericaView.

http://www.ksview.org