



KANSAS VIEW REMOTE SENSING ACTIVITIES 2014 - 2015



KANSAS FLOOD DASHBOARD



This project leverages the NASA Flood Dashboard development by incorporating modeled data to create a comprehensive decision support system for flood disaster response in Kansas. The above map represents a range of flood scenarios that can be quickly calibrated to represent an actual flood to support response needs. (Montgomery Co., KS)

Researchers at the NASA Goddard Space Flight Center have developed a decision support system that provides a web-based tool to support flood disaster response and recovery with satellite data. This decision support tool, called the Flood Dashboard, continues to be supported by NASA and is being implemented in an increasing number of areas, including southern Africa, Central America, the Caribbean, and Southeast Asia.

Over the past three years KansasView has developed and maintained an ongoing collaboration with partners from the NASA's Goddard Space Flight Center. Much of the focus of this collaboration has been to explore ways of integrating remotely sensed data (satellite imagery) and other event-specific inputs with modeled inundation libraries to produce expedited and improved inundation map products to support flood disaster response. The culmination of this effort is a cooperative effort between NASA and Kansas to bring two forward-thinking technologies together, the NASA Flood Dashboard and the modeled flood libraries produced at KU. This activity serves as an example for integration of observed satellite and in-situ data with modeled flood libraries.

HUMANITARIAN CROWDSOURCED MAPPING

In cooperation with ShelterBox, the Kansas Division of Emergency Management, and the US State Department, KansasView coordinated a humanitarian mapping event as part of Humanitarian Games event held in Kansas City in 2014. This MapGive Mapathon focused on key areas in West Africa that were affected by the Ebola outbreak. MapGive is an initiative coordinated through the US State Department's Humanitarian Information Unit (HIU). It leverages the United States Government's NextView license agreement with commercial satellite imagery suppliers to provide and use high-resolution imagery through a Humanitarian OpenStreetMap Team (H.O.T.) interface, available to volunteer mappers globally. It facilitates obtaining critical information that can be traced from the imagery (roads, building, streams, etc.). These data are then uploaded to the free and open source global OpenStreetMap (OSM) database.

The success of this and other similar activities by KansasView and other AmericaView (AV) stateviews cascades to a similar effort with the US Agency for International Development's (USAID) and USGS Volcano Disaster Assistance Program (VDAP), which establishes priority areas for volcano disaster preparedness and resilience. AV stateviews collaboratively augment needed support during disasters. Remote sensing data, like Landsat, is used in conjunction with crowdsourced data to rapidly produce damage maps and impact assessments.



These photos show the turnout from a 2014 event. The skills gained during this and other Mapathons can be applied to local data during future disaster events within the State. The mobile Public Information / Geographic Information vehicle pictured on the right is deployed by the Kansas Division of Emergency Management during disasters within the state, and is deployed for other regional events as needed. KDEMs participation at two mapping events offered a unique opportunity for students and members of the public to tour and utilize this unique GIS asset.

KansasView is a member of the AmericaView Consortium, a nationally coordinated network of academic, agency, non-profit, and industry partners and cooperators that share the vision of promoting and supporting the use of remote sensing data and technology within each state.



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BENEFITS TO KANSAS

Kansas Flood Dashboard

- Supports the needs of emergency response
- Leverages existing modeled flood data
- Leverages NASA technologies
- Can incorporate Landsat data during disasters
- Can incorporate data from the International Charter
- Can incorporate crowdsourced data

Humanitarian Crowdsourced Mapping

- Builds skills in students and public that can be applied locally
- Promotes a sense of global citizenship
- Introduces remote sensing and GIS to nontraditional participants
- Builds confidence in broad use of OSM data
- Promotes the generation and use of free and open data



This January 1, 2016 Landsat 7 satellite image of Midwest flooding illustrates that flooding can occur outside of the more typically flood-prone months of spring and summer, with wide area impacts. <http://eros.usgs.gov/>

KANSASVIEW CONSORTIUM MEMBERSHIP

KansasView consortium membership is strengthened by involvement in a number of collaborative efforts throughout the year that facilitate the sharing of information and resources of KansasView. Regular interactions with the Kansas GIS Policy Board, whose members are appointed by the Governor to represent Federal, state, and local stakeholders from across Kansas, offers an effective way to share expertise on the use of range of remote sensing data for a variety of applications, including lidar, historical aerial photography, and satellite imagery.

The State of Kansas Data Access and Support Center (DASC), the state's geospatial data clearinghouse, is also a key consortium member and data development and distribution partner on projects. By collaborating with DASC the longevity of the distribution of archived data can be ensured.

KansasView also participates in activities of the Kansas Hazard Mitigation Team (KHMT), which is coordinated through the Kansas Division of Emergency Management from the Adjutant General's Department. Activities of the KHMT include making periodic updates to the Kansas Hazard Mitigation Plan and providing input on Federal Emergency Management Agency's Hazard Mitigation Grant Program funds.

Support of educational partnerships is also a key part of KansasView activities. In November of every year the GIS Day activities at the University of Kansas are supported through sponsorship, logistical support, and through a remote sensing booth at the career fair. There is also support for the teaching of introductory remote sensing courses at the Haskell Indian Nations University. Opportunities to inspire K-12 students are actively sought and yield very positive feedback from students and teachers alike.



Federal partners mentioned in any text above do not receive funding from AmericaView.

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