

The St. Louis Sites

Formerly Utilized Sites Remedial Action Program • Winter 2016

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St. Louis Formerly Utilized Sites Remedial Action Program Activities

Coldwater Creek Floodplain Investigations

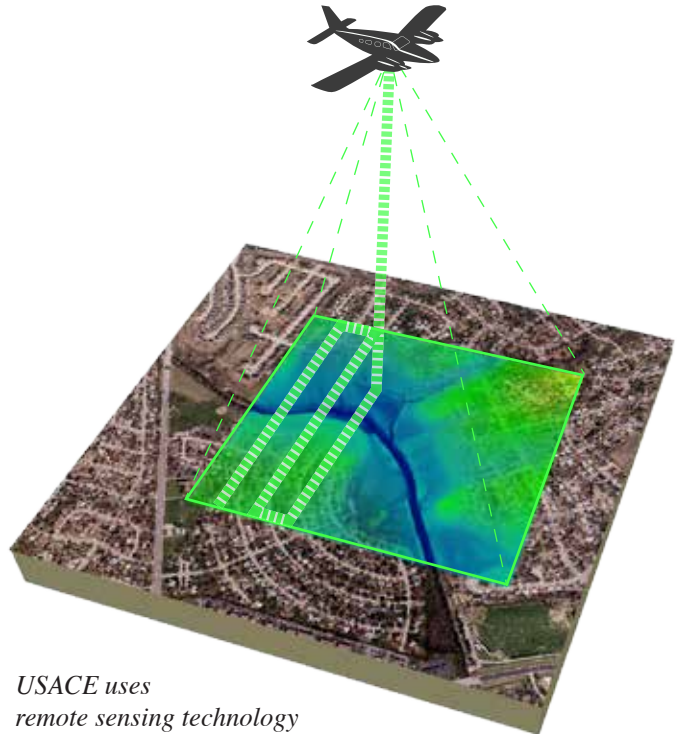
The U.S. Army Corps of Engineers (USACE) uses floodplain knowledge and geospatial mapping techniques to help guide Coldwater Creek (CWC) investigations. Investigations begin with map making and proceed with soil and sediment sampling and analysis.

Floodplains are low-lying areas along a river or stream and subject to flooding. Flood experts predict the frequency that a stream will reach a particular level. For example, a “10-year floodplain” represents an area with a 10 percent chance of flooding in any year. A 100-year floodplain represents an area with a 1 percent chance of flooding in any year.

USACE knew that floodplain maps would be valuable in planning investigations of CWC and its corridor. USACE evaluated floodplain maps from the Federal Emergency Management Agency and also used locally developed CWC data from Metropolitan St. Louis Sewer District and USACE studies. FUSRAP geographic information system (GIS) specialists used this data to estimate 10- and 25-year floodplains.

In order to develop floodplain maps, USACE uses advanced technology tools to test, confirm, and modify their existing maps. For example, FUSRAP GIS specialists create three-dimensional models based on elevation data. Accurate topographic data of the CWC floodplain is collected by a remote sensing technology called Light Detection and Ranging (LIDAR).

LIDAR uses a laser beamed to a surface area that is reflected back to the LIDAR sensor. This technology uses a GPS (global positioning system) receiver to record



USACE uses remote sensing technology to create complex, high resolution maps of Coldwater Creek.

three-dimensional data about the earth's surface. GIS specialists produce complex, high resolution maps called digital elevation models using LIDAR data. These models give USACE an understanding of the contour of CWC's floodplain and its surroundings.

Scientists reviewed existing laboratory results from hundreds of previously sampled locations along CWC and adjacent properties. They looked at the radiological findings of these sampling results and compared them to the floodplain maps. The analysis revealed that radiological contamination attributable to flooding did not extend beyond the 10-year floodplain. Therefore, the 10-year floodplain has since been used as the starting point for radiological investigations along CWC.

If investigation results in an area warrant, USACE will continue investigation beyond the 10-year floodplain until the limits of contamination are appropriately determined.

Upcoming Events

Information Releases: Summer Newsletter - 2016

This newsletter is issued twice a year.

Upcoming Meetings: St. Louis Oversight Committee Meeting, Xxxxxx, Xxxxxx XX, 2016, 6:00 - 8:00 p.m. at the Hazelwood Civic Center.



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