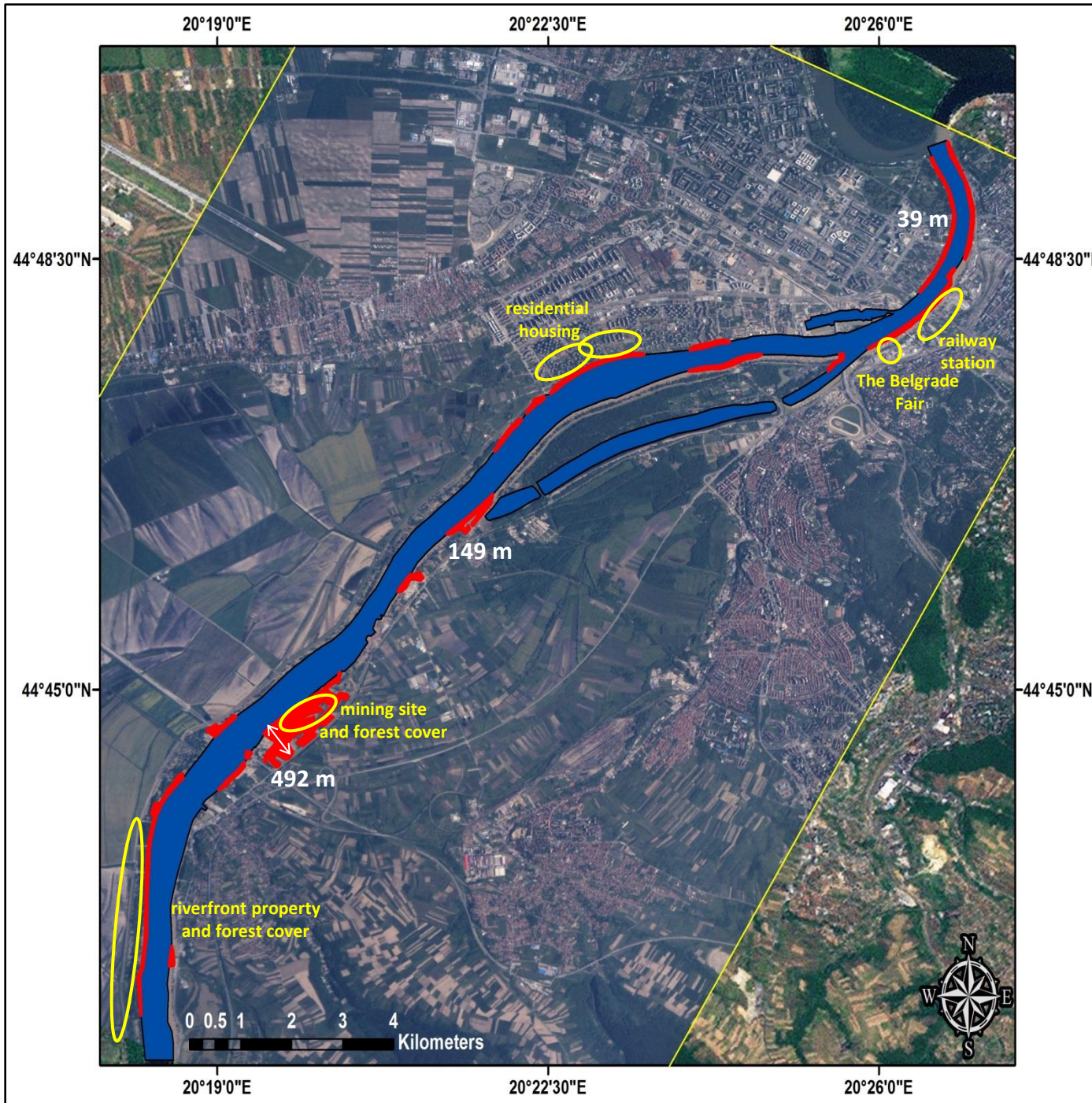




Belgrade – SERBIA Flood – 05/22/2014 Inundation map



Cartographic Information

Scale – 1:71,416 Resolution - 4.5 m
Coordinate System: WCS WGS 1984

Legend

- Inundation Extent
- Normal Sava River Bank Level
- i-cubed 15m eSAT imagery
- ISERV Image 5/22/14

Map Information

Starting in May 2014, Serbia's capital city, Belgrade began to prepare for an imminent flood following extensive rain in the Balkans. There were at least 17 casualties in Serbia alone, with another 600,000 affected. UN officials declared this the heaviest rain event in 120 years. ISERV captured an image which shows areas of inundation along the banks in the capital city and into the south. This map, if provided in a timely manner, may be used to assist first responders or to provide general information regarding estimated impact.

Estimated Impacts	
Flooded Area (km ²)	2.5
Population (inhabitants)	26,500

Science & Application

The ISERV image was flat field corrected and georeferenced using i-cubed 15m eSAT imagery (est. image offset 30 m) prior to analysis. A pre-event river bank extent was then digitized using ArcMap 10.0. Lastly, areas of inundation were digitized using the ISERV image captured 7 days after the initial event. Near the center of Belgrade there are a few elongated areas of overflow roughly 35 m wide which affected boat docks and a park. The worst extent of inundation lies southwest of the city center where the river reached almost 500 m out from its normal extent into forest cover and potentially a mining site. Other notable places in Belgrade and inundation sites are also annotated throughout the image using information provided by Google Earth. It should be noted the analysis does not show inundation depth, only lateral extent of flooding.

Data Sources/Map Production

- Pre-event imagery: i-cubed 15m eSAT imagery
- Post-event imagery: ISS SERVIR Environmental Research and Visualization System (ISERV) (acquired on 5/22/14 06:23:05 GMT, minimal cloud coverage)
- Population data: Oak Ridge National Laboratory Landscan 2012
- Map produced on 6/6/14 by Tony Cole. (tony.a.cole@nasa.gov)