
Wasit Wulamu, PhD, Assistant Professor
Center for Sustainability at Saint Louis University
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awulamu@slu.edu
Agenda

• What does remote sensing measure?
• Geographic Information System
• Unmanned Aerial System
• Case studies
Geospatial Methods

GIS (Geographic Information Systems)

RS (Remote Sensing)

GPS (Global Positioning System)

Source: Google.com
What is remote sensing?

Remote sensing using passive sensor system

Remote sensing using active sensor system
Saint Louis

In 1904, 3rd largest city in US, hosted summer Olympics
Abandoned urban infrastructure
Urban area change from 1970 -2010

Green space change from 1970 - 2010

Population change from 1970 - 2010

Population change from 1970 - 2010

Population change from 1970 -2010

Vacant Housing Units from 1970 - 2010

Redefining remote sensing

https://www.planet.com

https://wikipedia.org
What is an Unmanned Aerial System (UAS)?

- What are they called:
  - Unmanned Aircraft System (UAS) (FAA and Congress)
  - Unmanned Aerial Vehicle (UAV)
  - Remotely Piloted Aircraft Systems (RPAS) (ICAO and Air Force)
  - Drones
Emerging technology
Grass roots efforts to UAS
Case studies

DRONES FOR URBAN AGRICULTURE
RGB imaging
Robots and Drones at Saint Louis Science Center
Saint Louis Science Center Grow Exhibit (Sep.22, 2016)

Thermal

T(C)

63.36

-9.63
St. Louis Science Center Data collection
3D Map of the Science Center
Thank you