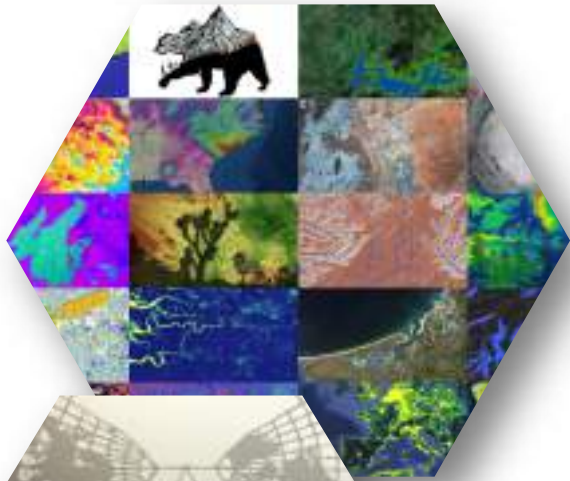




NASA DEVELOP Program

- ▶ Bridges the gap between NASA Earth science & society
- ▶ Addresses environmental and public policy issues around the globe
- ▶ Conducts 10-week long interdisciplinary feasibility studies during 3 terms per year
- ▶ Builds capacity to use Earth observations in both participants (students, recent grads & transitioning career professionals) and partner organizations
- ▶ 11 Nodes throughout the US



Community Concerns

- ▶ Extreme high water events in 2017 caused flood damage along the Lake Ontario coast that negatively impacted public health, economic growth, and the environment
- ▶ Many cities and towns could not accommodate floodwater inundation during the peak of the events
- ▶ Local communities and management require further assessment of flood extent and impacts to determine high-risk areas



Image Source: City of Toronto

Project Partners

- ▶ City of Niagara Falls, Department of Planning and Economic Development
- ▶ City of Toronto, Office of Emergency Management
- ▶ City of Mississauga, Community Services Department, Environment Division
- ▶ Great Lakes and St. Lawrence Cities Initiative
- ▶ Credit Valley Conservation
- ▶ Toronto & Region Conservation Authority

Objectives

- ▶ **Determine** the feasibility of using satellite remote sensing techniques for urban flood conditions monitoring
- ▶ **Create** flood extent maps that display the extent of high water levels
- ▶ **Demonstrate** how specific environmental parameters that contribute to flooding can be measured using satellite remote sensing

NASA Satellites & Sensors

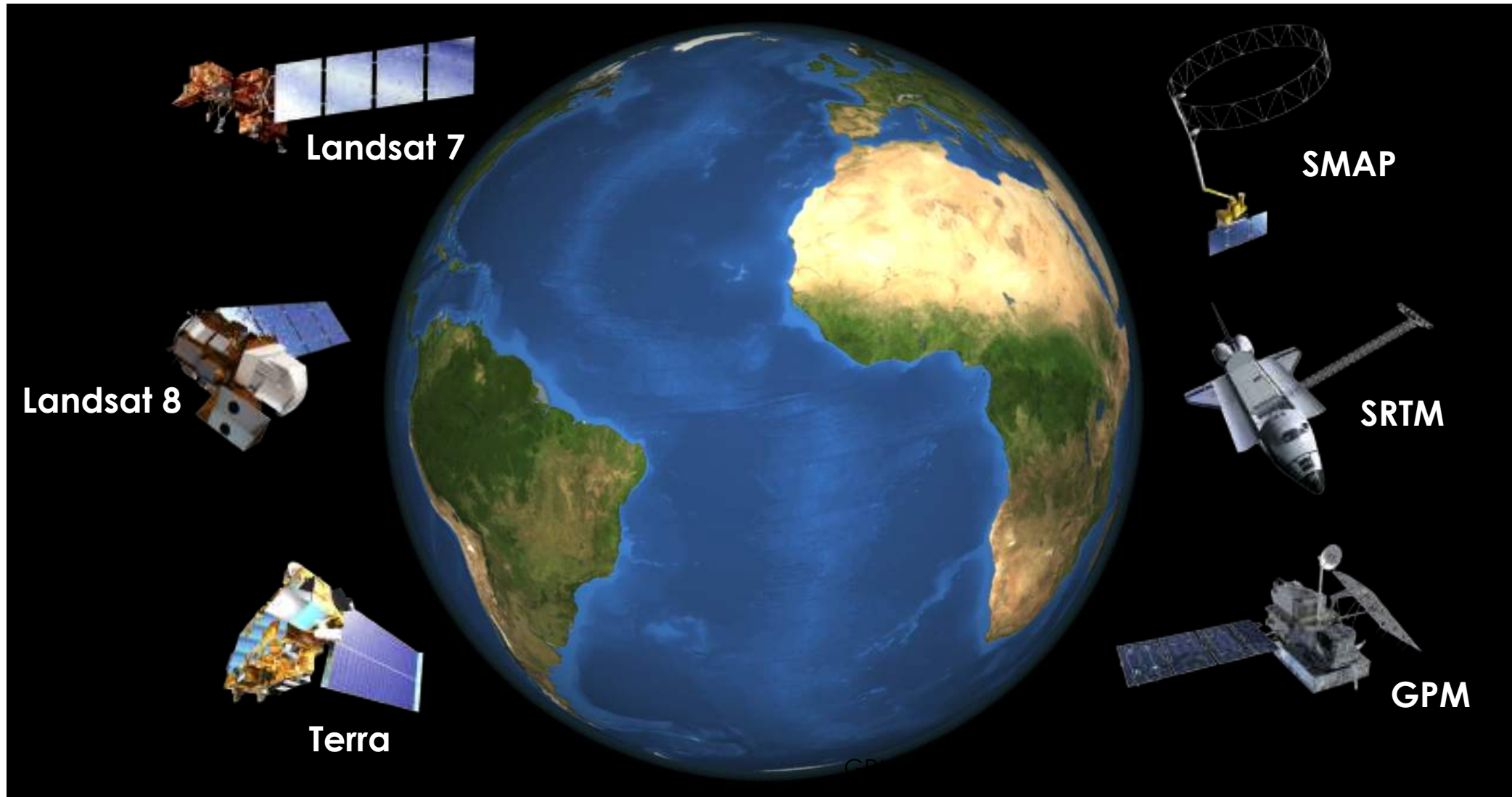
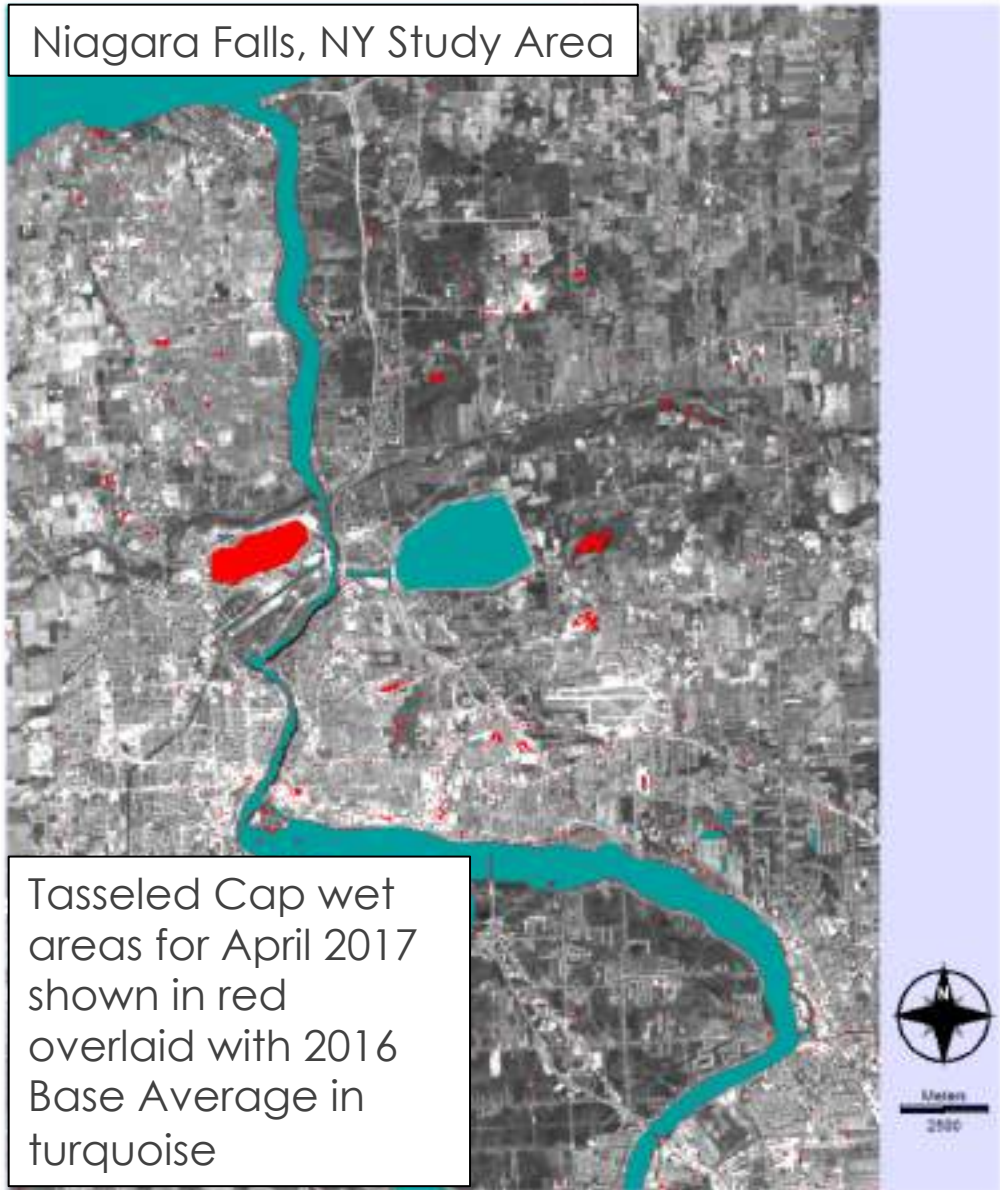


Image Source: NASA Scientific Visualization Studio

Flood Extent Maps

Niagara Falls, NY Study Area



Greater Toronto Area, ON Study Area

