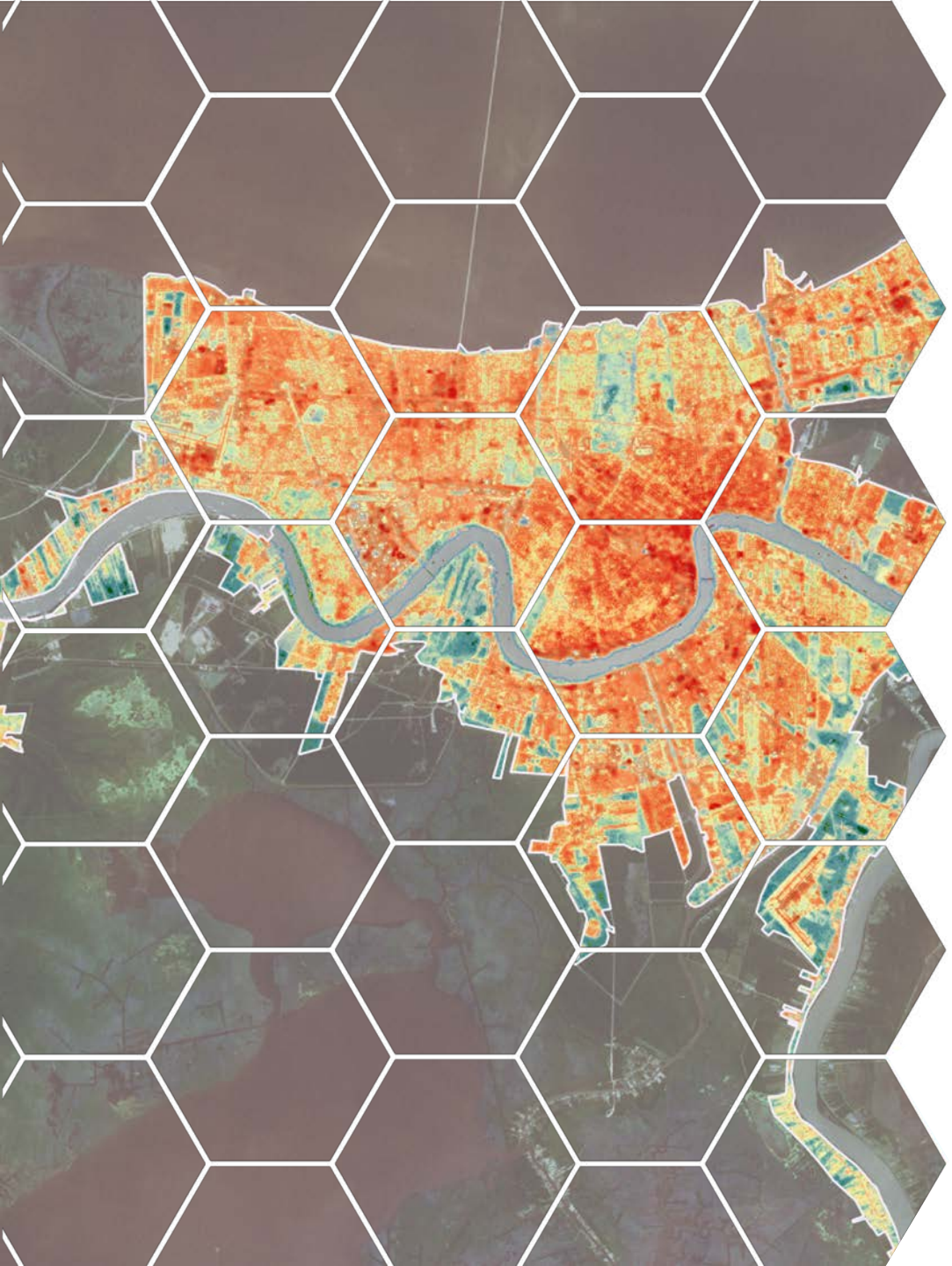


National Aeronautics and Space Administration

NASA

Applied Sciences' Capacity Building

DEVELOP

Applications of Earth Observations for Addressing Health & Air Quality Concerns

What is DEVELOP?

NASA DEVELOP

DEVELOP bridges the gap between NASA Earth Science and society,

building capacity in both its participants and end-user organizations to address environmental and public policy issues through interdisciplinary feasibility studies that apply the lens of NASA Earth observations to community concerns around the globe.

Disasters

Health & Air Quality

Energy

Agriculture & Food Security

Ecological Forecasting

Urban Development

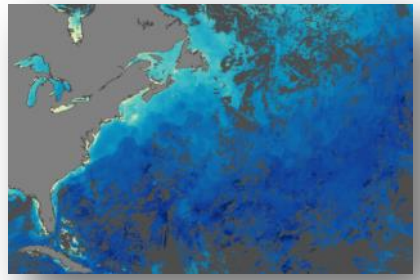
Water Resources

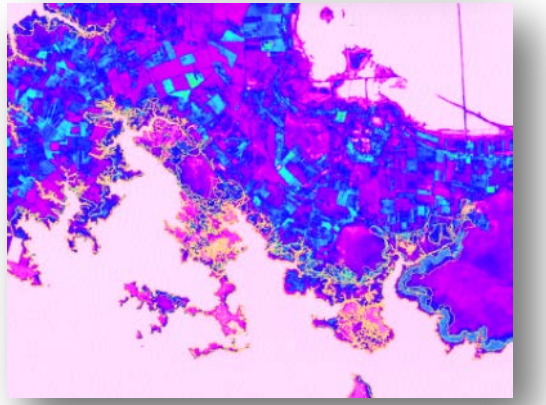
Transportation & Infrastructure

DEVELOP Project Characteristics

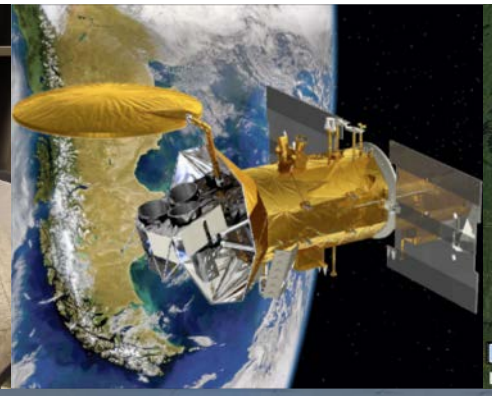
60-70 projects take place each year – at their core they share these characteristics:

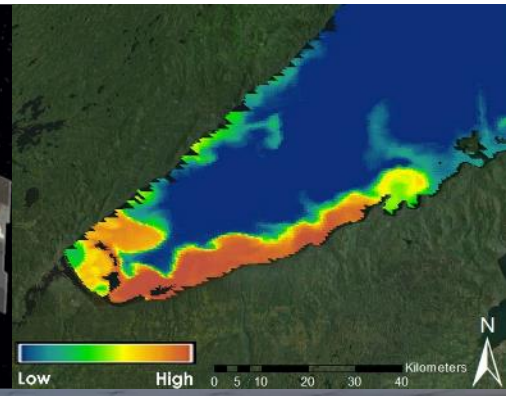
- Highlight the applications and capabilities of **NASA Earth observations**
- Address **community concerns** relating to decision-making for real-world environmental issues
- Partner with organizations who can benefit from using NASA Earth observations to **enhance decision-making** by providing decision support tools
- Align with at least one of the eight NASA Applied Sciences Program's thematic **Application Areas**
- Research is conducted by **interdisciplinary teams** under the scientific guidance of DEVELOP Science Advisors and Mentors from NASA and partner organizations
- Create a comprehensive set of **deliverables**





How Do DEVELOP Projects Work?



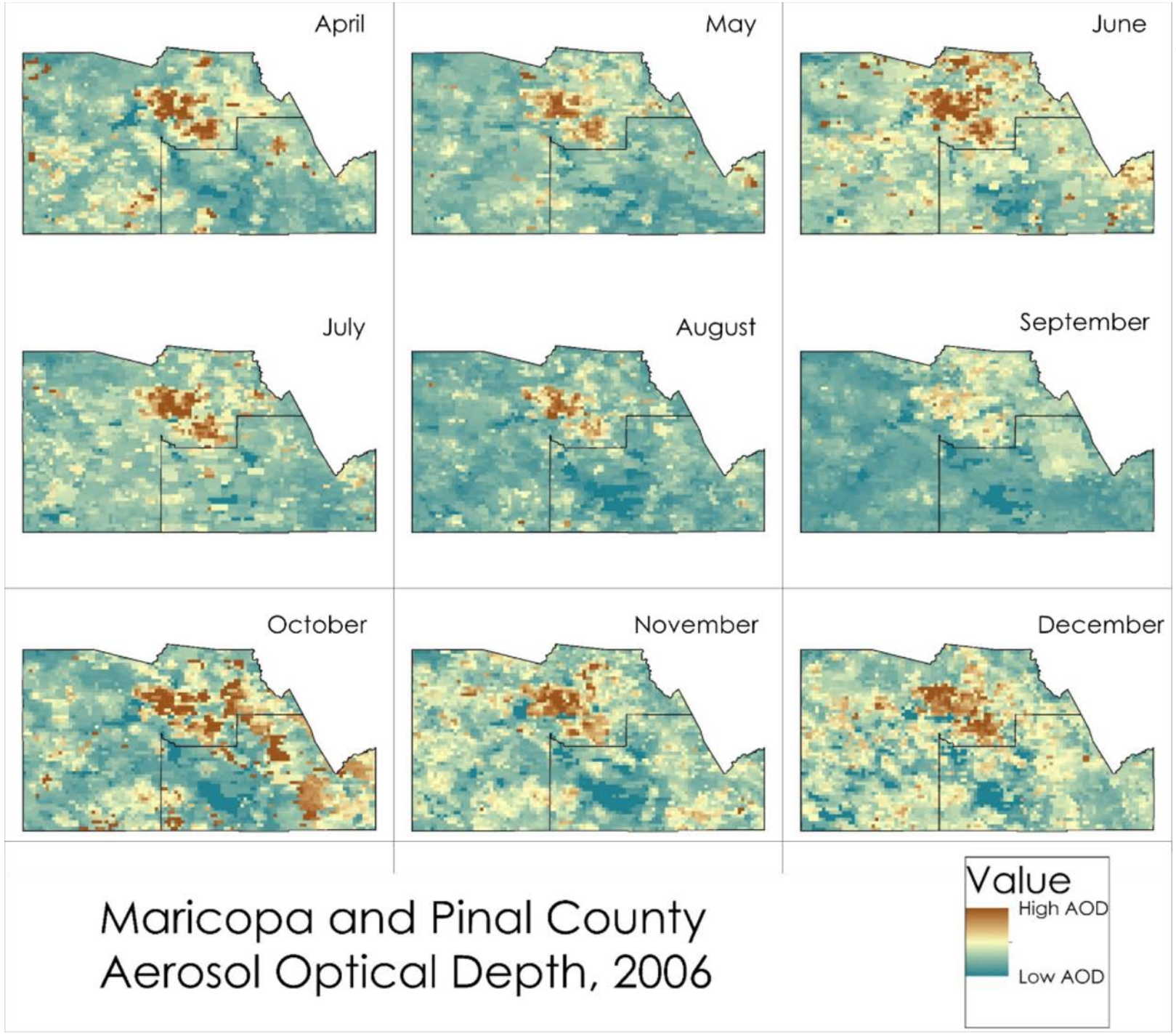


- DEVELOP teams collect project ideas
- DEVELOP works with the partner organization to draft a proposal
- Proposals are reviewed by DEVELOP's National Program Office and NASA Headquarters' Program Managers
- Approved projects are conducted within a 10-week term (spring, summer or fall)
- DEVELOP project teams hand off results and deliverables to partner
- Partners complete post-project partner form after the project, reporting use of project results

Air Quality

Locations:

- California
- Coastal US
- Maricopa County, AZ
- Texas
- Southeast US
- Appalachia
- Virginia
- US National Parks
- Gulf of Mexico

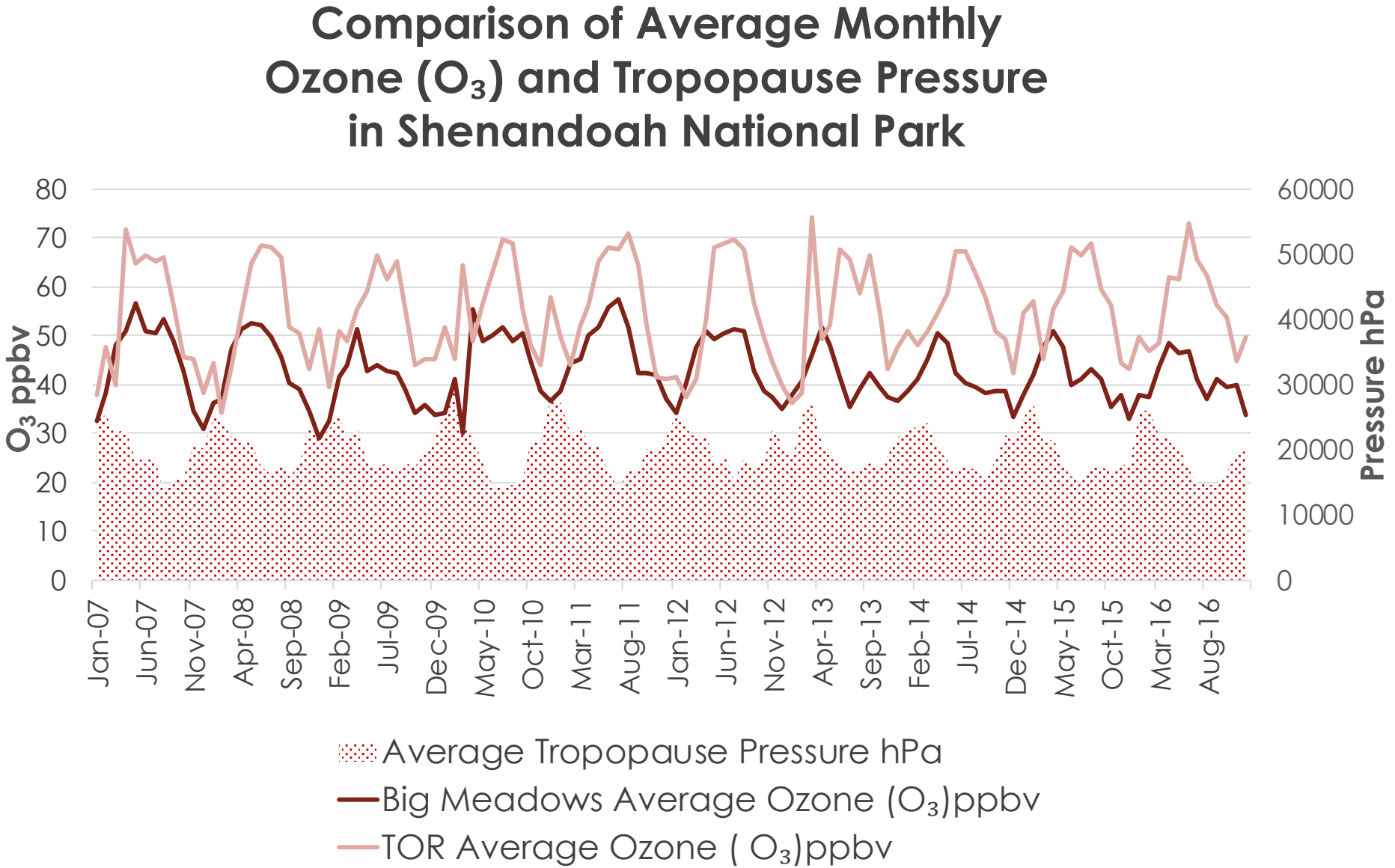


Maricopa and Pinal County
Aerosol Optical Depth, 2006

Air Quality

Partners:

- National Park Service
- US Environmental Protection Agency
- US Forest Service
- California Air Resources Board
- Virginia Department of Environmental Quality
- Maricopa County Public Health
- Bay Area Air Quality Management District
- Dominion
- University of South Alabama



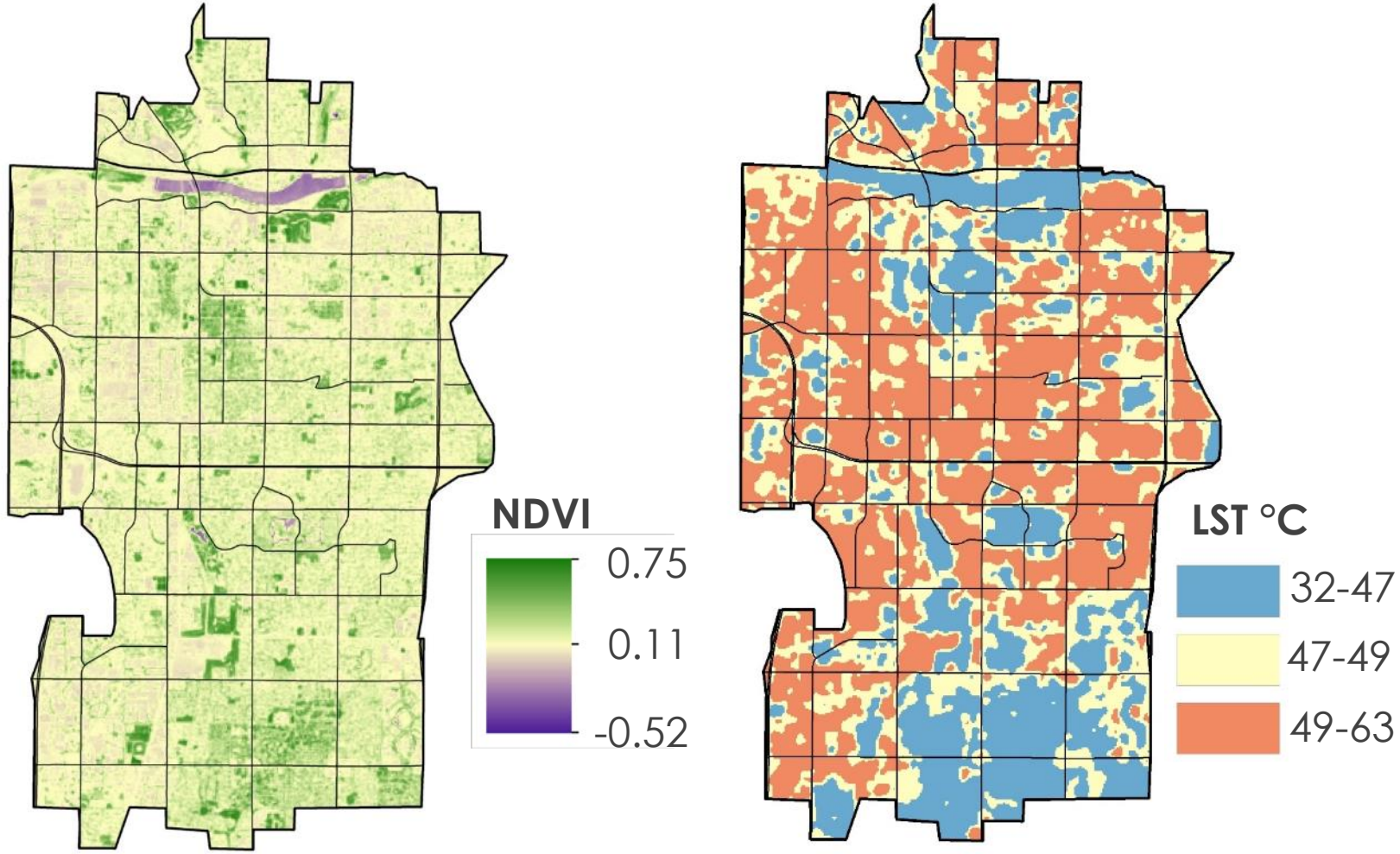
Urban Heat

Locations:

- California
- Coastal US
- Maricopa County, AZ
- Texas
- Southeast US
- Appalachia
- Virginia
- US National Parks
- Gulf of Mexico

Land Surface Temperature (LST) in Tempe, AZ

July 2018

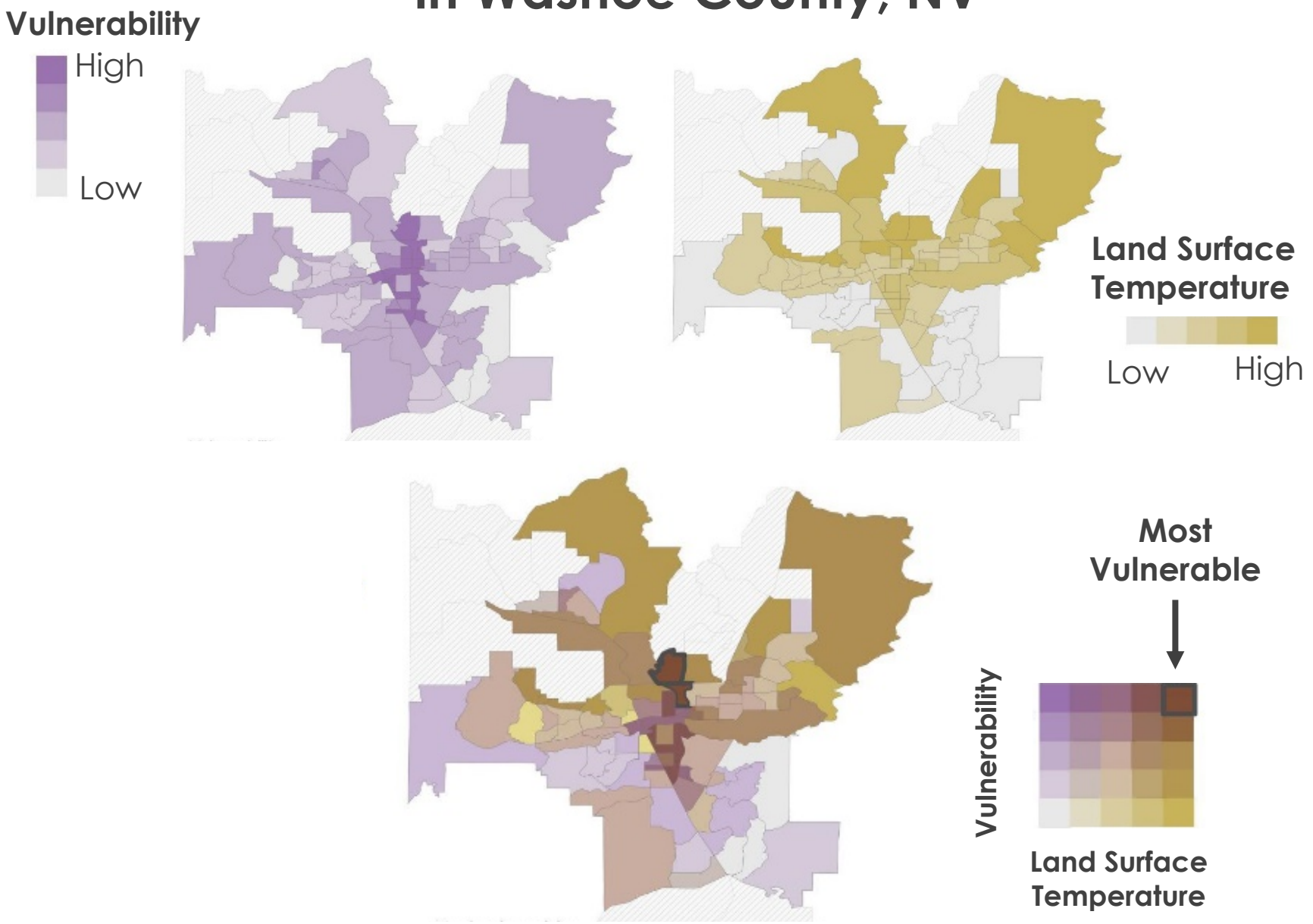


Urban Heat

Partners:

- City of Phoenix, AZ
- City of Tempe, AZ
- City of Las Cruces Sustainability Program, NM
- Groundwork Richmond, CA
- Washoe County Health District, NV
- Town of Ajax, ON
- Great Lakes and St. Lawrence Cities Initiative
- Louisiana Public Health Initiative
- Arizona State University

Social & Heat Vulnerability in Washoe County, NV

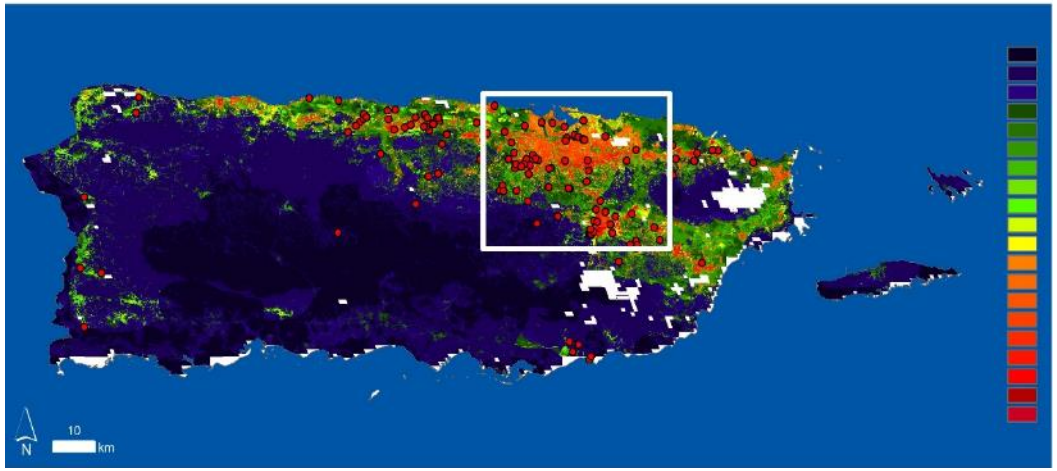


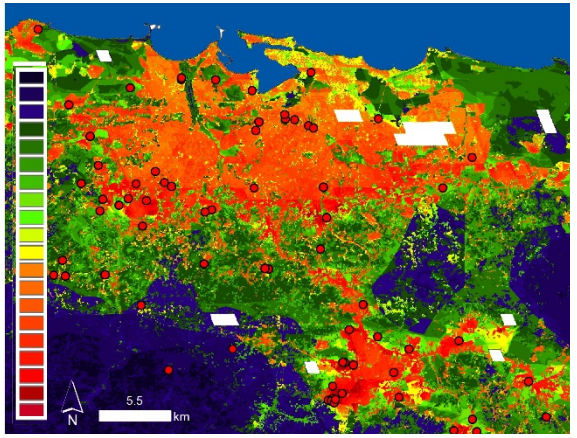
Disease

Locations:

- Western Europe
- East Africa
- Zanzibar
- Alabama
- Sudan
- Brazil
- Middle East
- Puerto Rico
- Southwest US
- Alto Orinoco

Dengue Risk in Puerto Rico





September 2009

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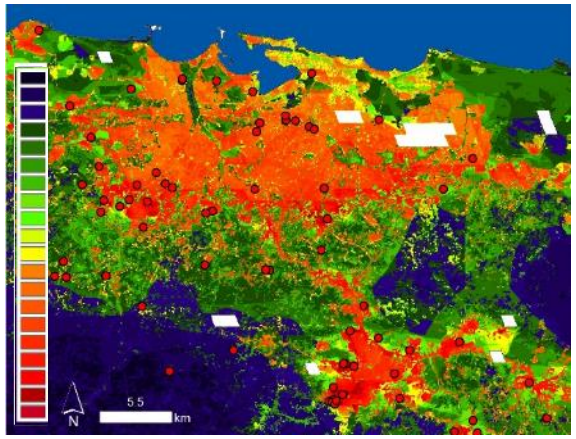
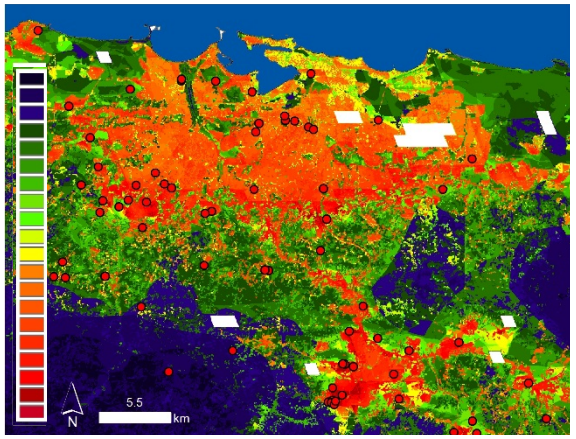
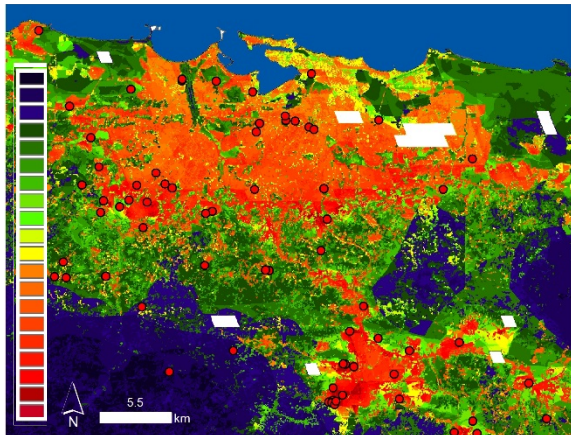


September 2010



September 2011



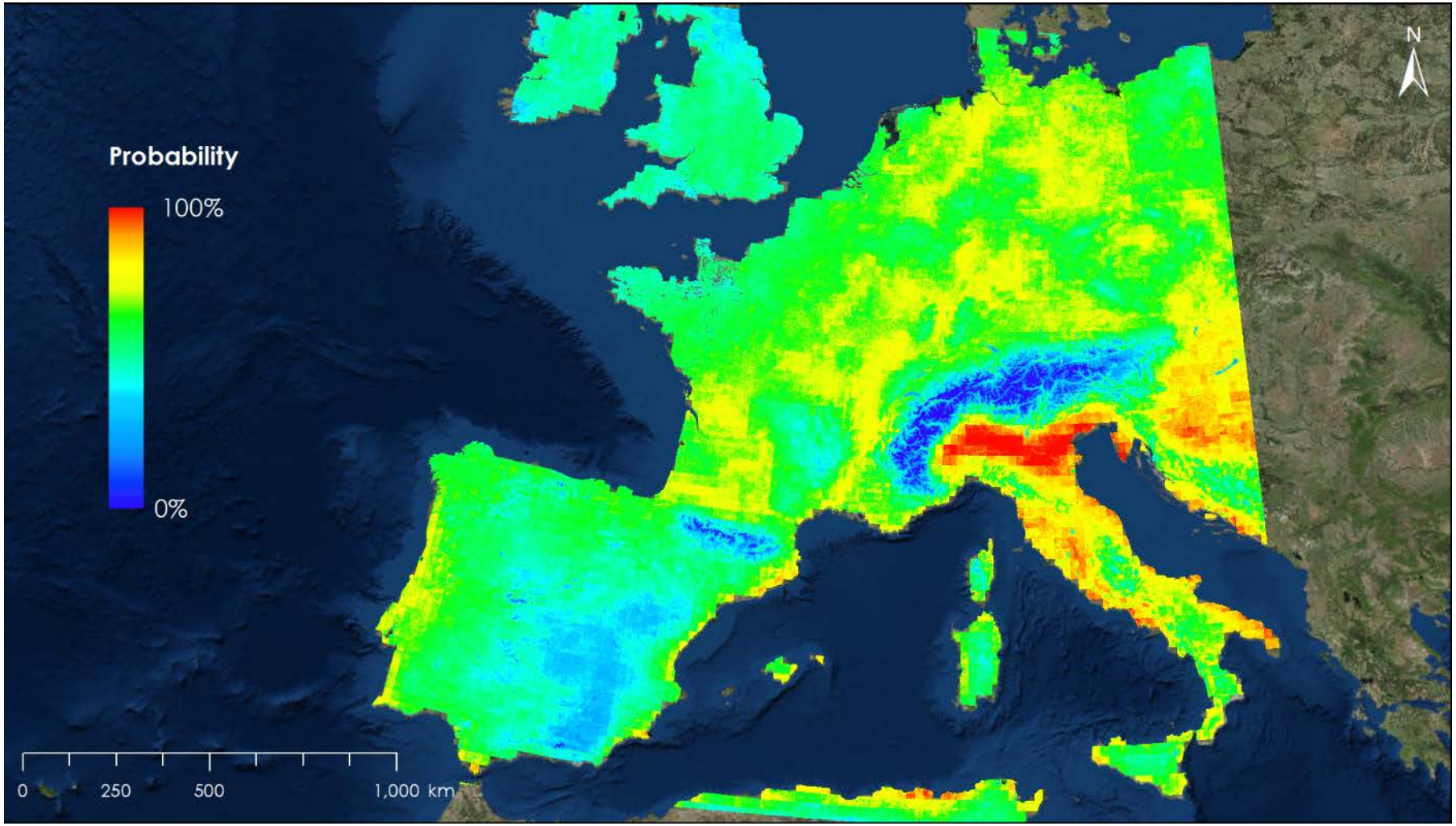
September 2012

Disease

Partners:

- Global Mosquito Alert Consortium
- Zanzibar Malaria Control Program
- Red Cross/Red Crescent
- Mobile County, AL Health Department
- Department of Vector Control
- Montana Tech
- Medecins Sans Frontieres
- The Carter Center
- US Naval War College

Mosquito Habitat Suitability in Western Europe



Thank You!

National Aeronautics and Space Administration

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