

National Aeronautics and
Space Administration



EXPLORE EARTH

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Biodiversity and Ecological Forecasting
Annual Team Meeting
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Earth Science Partnerships

MISSION

Harness commercial and NGO partnerships to amplify NASA's work to understand the Earth as an integrated system and enable societal benefit by essentially leveraging the expertise of NASA and the partners to achieve together what neither could alone.

ACTIVE PARTNERSHIPS

CONSERVATION
INTERNATIONAL



Google



Microsoft

WHAT?

- Commercial and non-governmental organization partnerships (e.g., non-reimbursable) with the Earth Science Division.
- Partnerships are built around projects/activities that require both sides to provide support.
- NASA and Earth Science Division-wide effort.
- Tool to explore emergent opportunities (e.g., cutting-edge technology) being advanced by the commercial and non-governmental sectors.

WHY?

- NASA develops expertise to:
 - More efficiently partner with commercial and non-governmental organizations, and
 - Leverage the unique capabilities of our partners in order to jointly (1) accomplish aligned goals and (2) amplify the work of NASA.



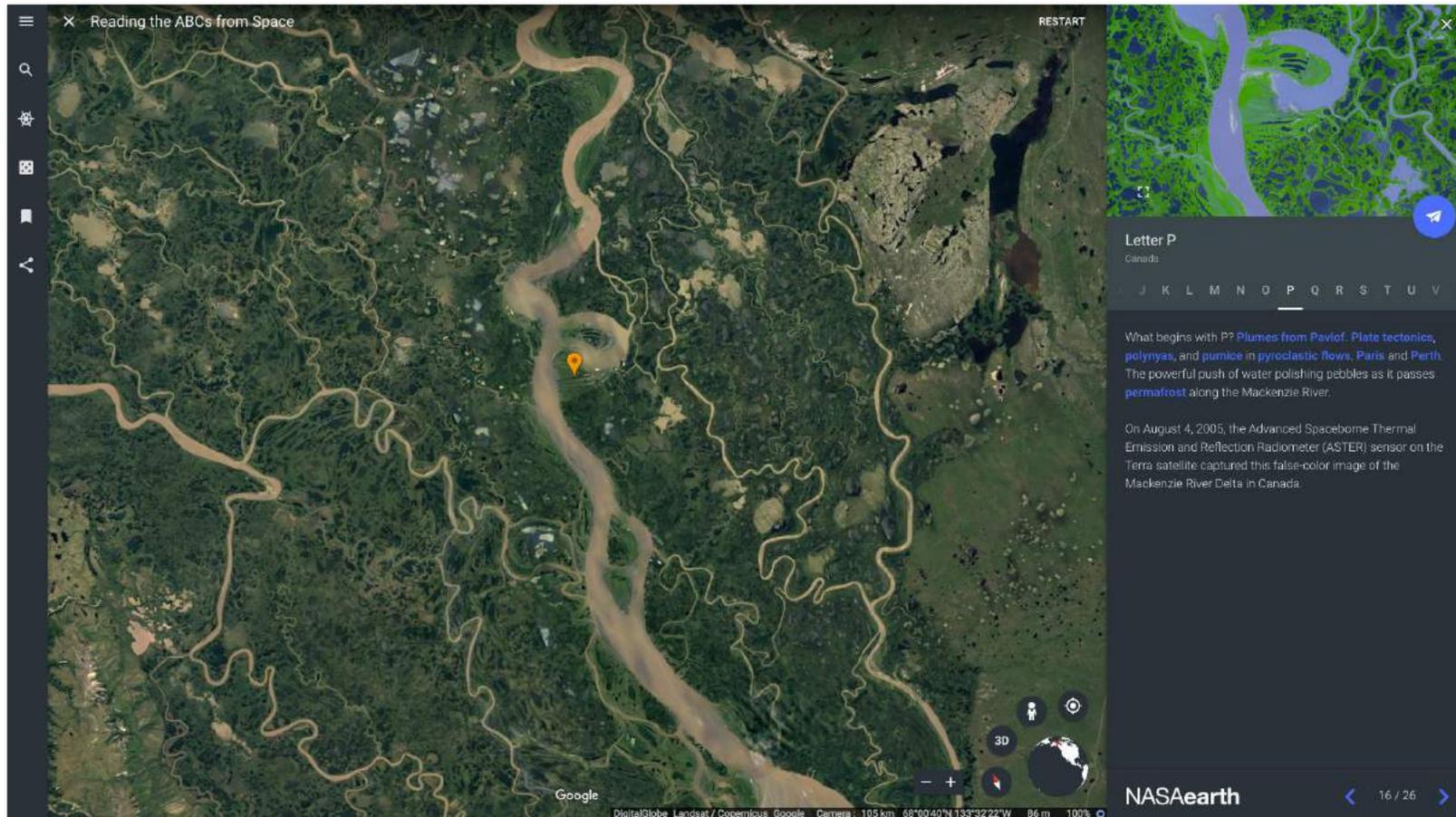
Earth Science Partnerships



“Harness commercial and NGO partnerships to amplify our work...”

Google Earth

Earth-focused stories highlighting Earth Science and NASA Earth observations



Highlights

- 3+ million total views of NASA stories in Google Earth. (Since 22 Apr. 2017)
- NASA’s “Earth at Night” is one of the top five most viewed stories in Google Earth.
- “ABCs from Space” story (image to the left) continues to be actively shared on social media by teachers that use it as a classroom exercise.

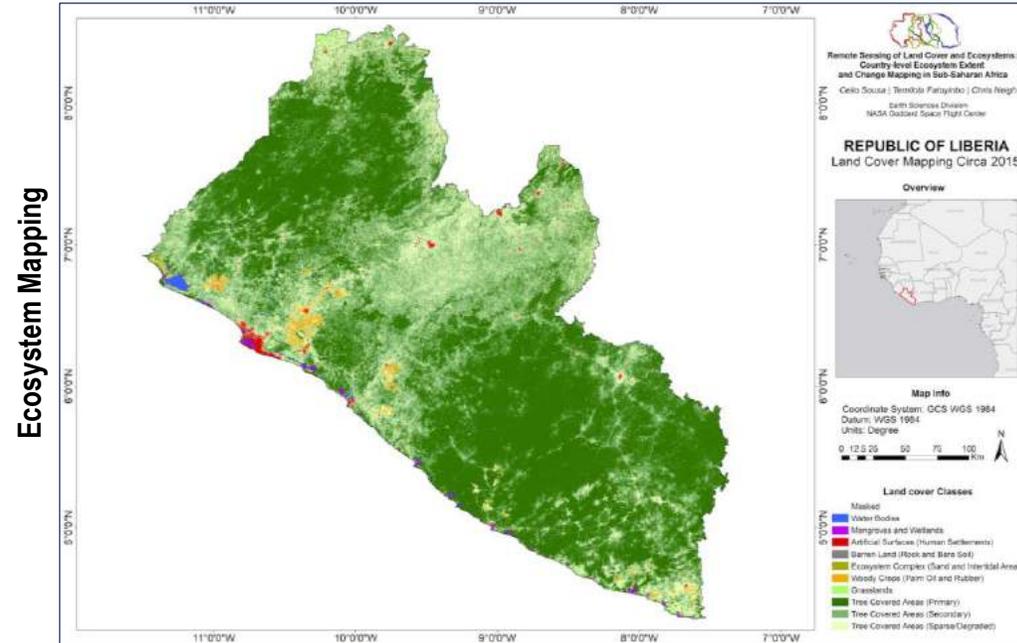
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“...leveraging the expertise of NASA and the partners to achieve together what neither could alone.”

Conservation International | Gaborone Declaration for Sustainability in Africa

Designing a framework to place an economic value on a country's natural resources to inform decision making and to better understand their role in the global economy.

NASA



Land cover in Liberia

Conservation International



Expertise in ecological economics



Relationships with in-country stakeholders



In-situ measurements for satellite validation

Both CI partnership projects (i.e., Gaborone and Freshwater Health Index) will be presented on Thursday at 10.50a

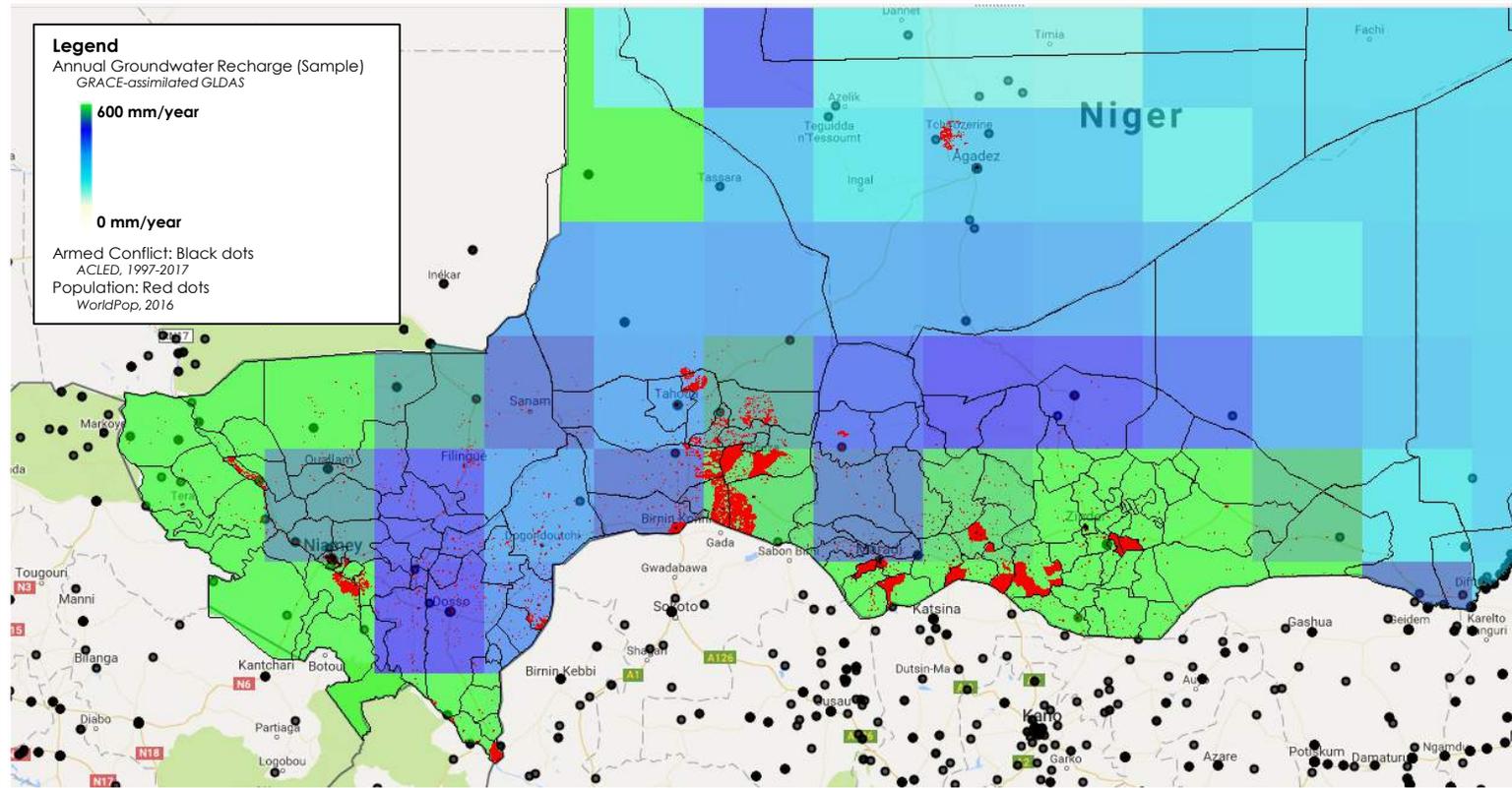
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Quick Highlights

Mercy Corps | Groundwater Management in Niger

Integration of systems approaches to Earth science and human resilience



Why does the Mercy Corps partnership matter?

Without Mercy Corps, NASA would have limited capability to connect to local-level communities in conflict-prone and fragile locations where satellites provide critical environmental data that support decision making to build resilience. NASA would also have limited understanding of the social, economic, and governance factors that influence these communities and the Earth system.

Without NASA, Mercy Corps would lack the data and scientific analysis needed to plan resilience activities at the national-scale, and would likely only be able to focus on smaller, community-level initiatives that benefit fewer people.

Together, a more resilient future can be built where communities are less vulnerable to risk.

Google Earth Engine platform (DEVELOP) with groundwater analysis (NASA) and population and conflict data (Mercy Corps)

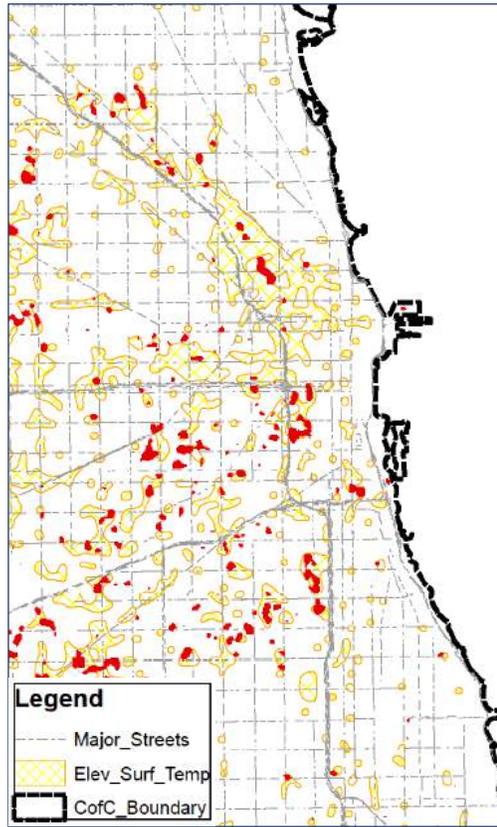
Earth Science Partnerships



Quick Highlights

Microsoft | Urban Resilience

Integrating Extreme Heat Mapping and Forecasting with the Internet of Things to Serve Vulnerable Populations in Chicago



Test data – not valid for decision making use



Urban Heat and Vulnerable Populations

Microsoft and NASA meeting with City of Chicago planners about current decision support tools for extreme heat impacts on vulnerable populations (above), and preliminary work on mapping extreme heat risk across Chicago (left).

Why does the Microsoft partnership matter?

Without Microsoft, NASA would have reduced access to resources and expertise in cutting-edge technology opportunities (e.g., cloud-storage, Internet of Things, artificial intelligence, and quantum computing) that could play a role in Earth system science and applications, as well as Microsoft's expansive network of over 800,000 business and government partners. Microsoft's strong focus on the commercial sector also provides a path for NASA data to be more accessible to businesses being built with Earth observations.

Without NASA, Microsoft would have limited access to the global datasets and credible science that could drive successful business ventures for them and their partners.

Together, more companies will utilize Earth observations, and Earth system science and applications will be amplified by emergent technology opportunities.