A satellite with large solar panels is shown in orbit above the Earth's surface. The satellite is emitting a green beam of light towards the ground. The text "Big Space Data" is overlaid on the image in a large, white, sans-serif font.

# Big Space Data

State of play, opportunities and  
challenges

Bertrand Frot

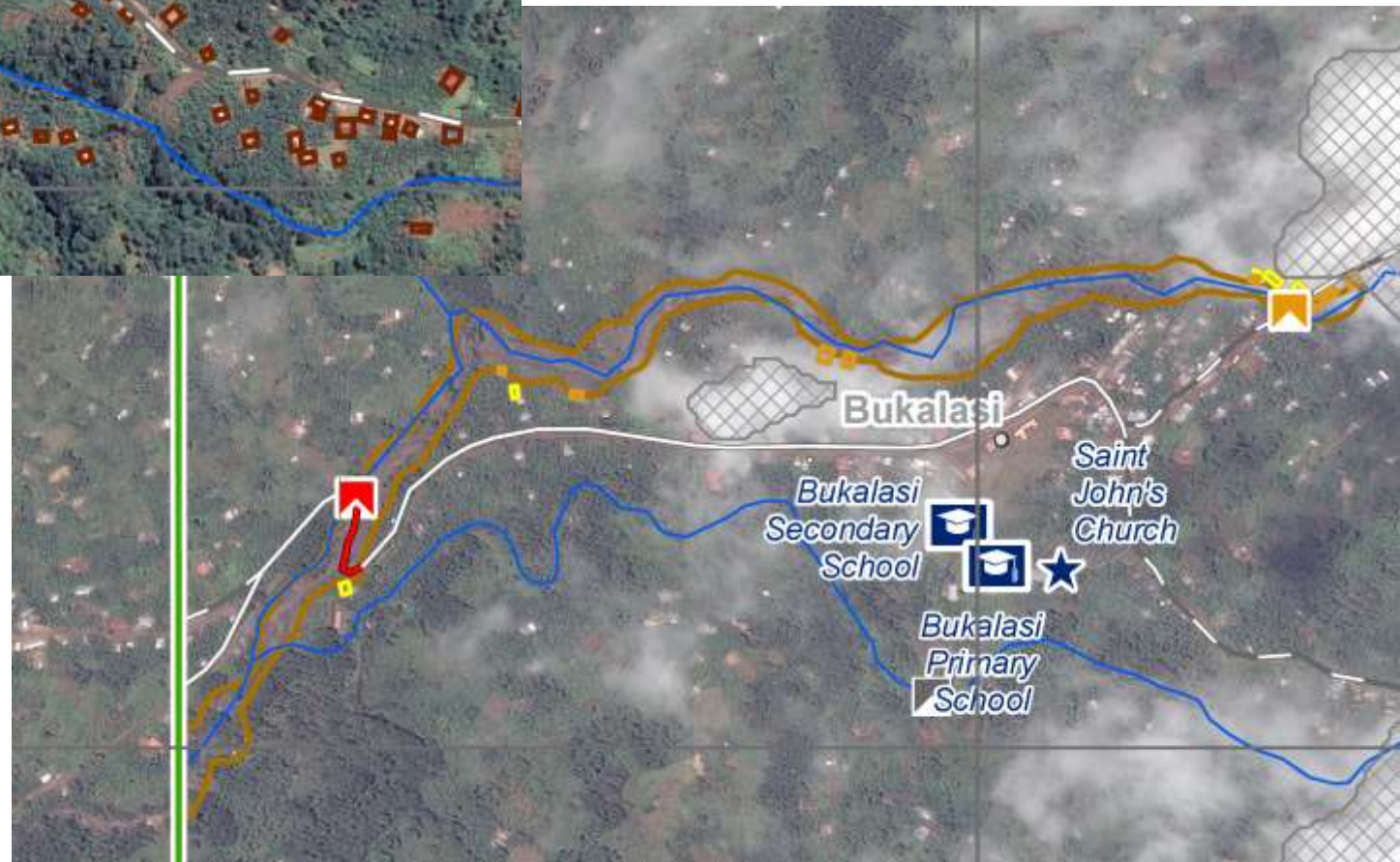


*Empowered lives.  
Resilient nations.*





**Floods in Bukalasi  
(eastern Uganda),  
Thursday 11 October 2018**





Work in progress

# State of play - Planning, Monitoring, Analysis

Tombouctou

Février 2013

Points clés de la carte:

- En Février 2013, l'analyse a montré que 6 des 17 points d'intérêts ont été totalement détruit et 2 présentent des dommages.
- De plus, 2 zones (Le tribunal de grande instance ainsi que la résidence du gouverneur) présentent des aménagements pour d'éventuelles constructions.

Photos sur le terrain



État

Affecté

Pas Affecté

Tombouctou

Nord du Mali

Map highlights 2013:

- The site does not seem damaged
- An additional two buildings were constructed
- Signs of further possible construction
- An additional extension to main building can be seen
- An additional two buildings were constructed
- Increased greenery, including what appears to be hedges around parts of the site

Map highlights





# State of play - Slums and access to schools and hospitals facilities

Work in progress

Bookmark

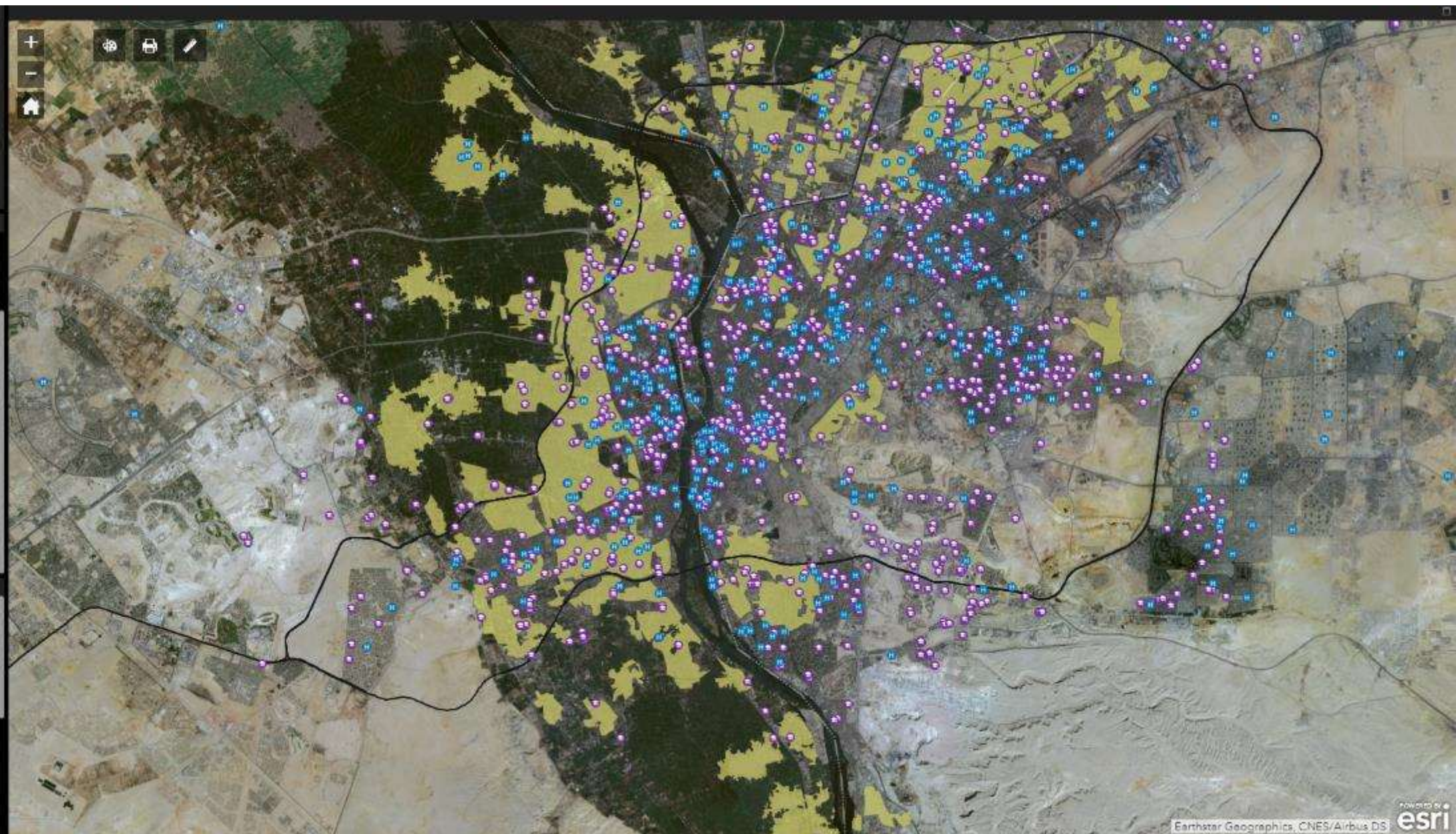
Slums Area 1 Slums Area 2

Layer List

- ☒ Hospitals
- ☒ Schools
- ☐ Roads
- ☒ Road Ring
- ☒ Slums
- ☒ Governorates

Basemap Gallery

- Dark Gray Canvas
- Imagery
- Imagery with Labels
- Light Gray Canvas





# The future of disaster response?



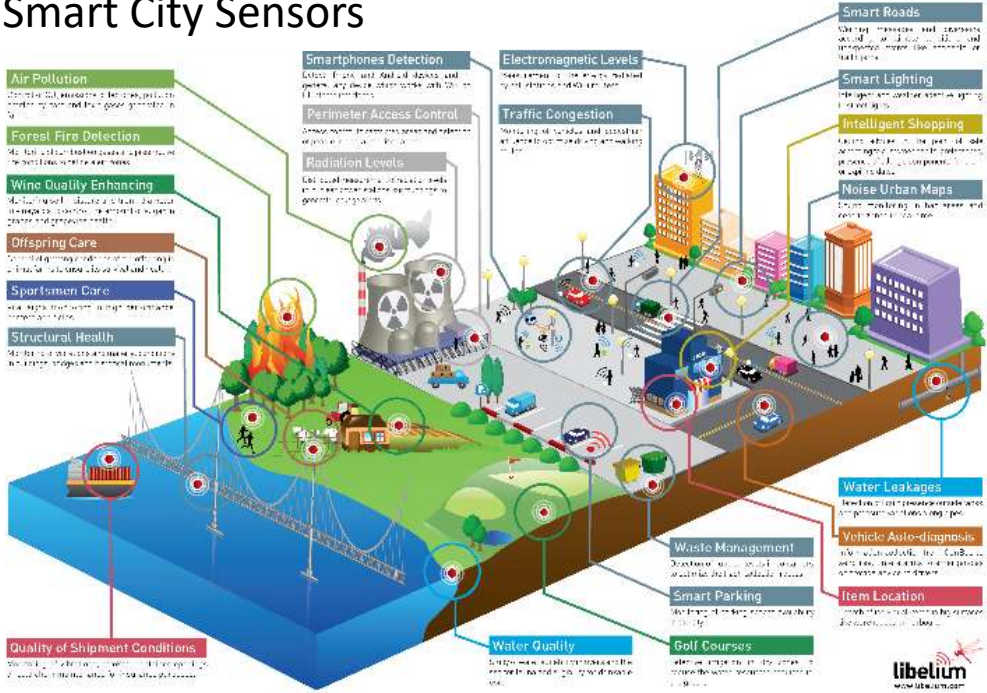
HAPS  
High Flying Pseudo Satellites  
*c AIRBUS*

## Body-Worn Mobile Sensors

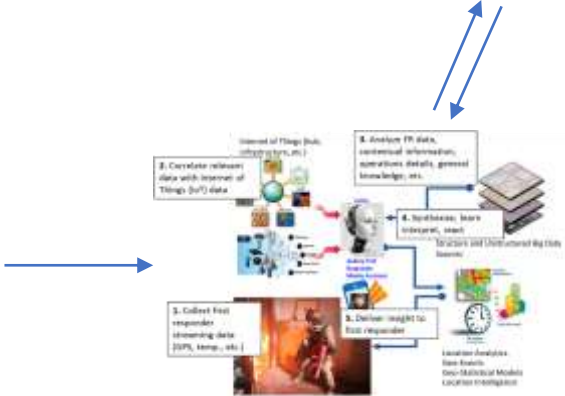


*c NASA – JPL sponsored by US department of Homeland security*

## Smart City Sensors



Control Room



Artificial Intelligent Agent for Next Generation First Responder (NGFR),  
*c NASA – JPL sponsored by US department of Homeland security*

# Opportunities?

- **Connectivity and electricity**
- **Mobile technologies**
- **Policies - Digital privacy, Open data,...**
- **Collaboration across jurisdictions**
- **New technologies (*HAPS, Decision Making with Incomplete / Difficult Observations and Communications, Predictive Recommendations in Real-time, Human-System Interface in High Stress Environments,...*)**
- **Inclusion of women**







Natural disasters disproportionately affect women and children, especially in countries where women's socioeconomic status is low.

Death toll from the December 2004 tsunami in the Indian Ocean:  
up to four times more women than men had died;



# What to do?

perhaps the best opportunity is simply to ensure that more women have a say in decisions related to risk reduction and response


- [20-point checklist](#) developed by the United Nations Office for Disaster Risk Reduction.
- Gender-specific strategies for disaster planning and response: [report](#) published by UNDP and UNWomen



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Resilient nations.





A satellite with large solar panels is shown in orbit above the Earth's surface. A green laser beam is directed from the satellite towards the ground.

Space technologies are  
fantastic for development...

... and special thanks to the space community,  
you are saving lives every day



*Empowered lives.  
Resilient nations.*