

# Leave no-one behind: **decision-making in the AI era**

Proposed by the Digital Earth Partnership team for the UN GGIM 7<sup>th</sup> High Level Forum

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# The future of geospatial

## EARTH OBSERVATION

- independence
- trust
- cost effective at scale

## ARTIFICIAL INTELLIGENCE

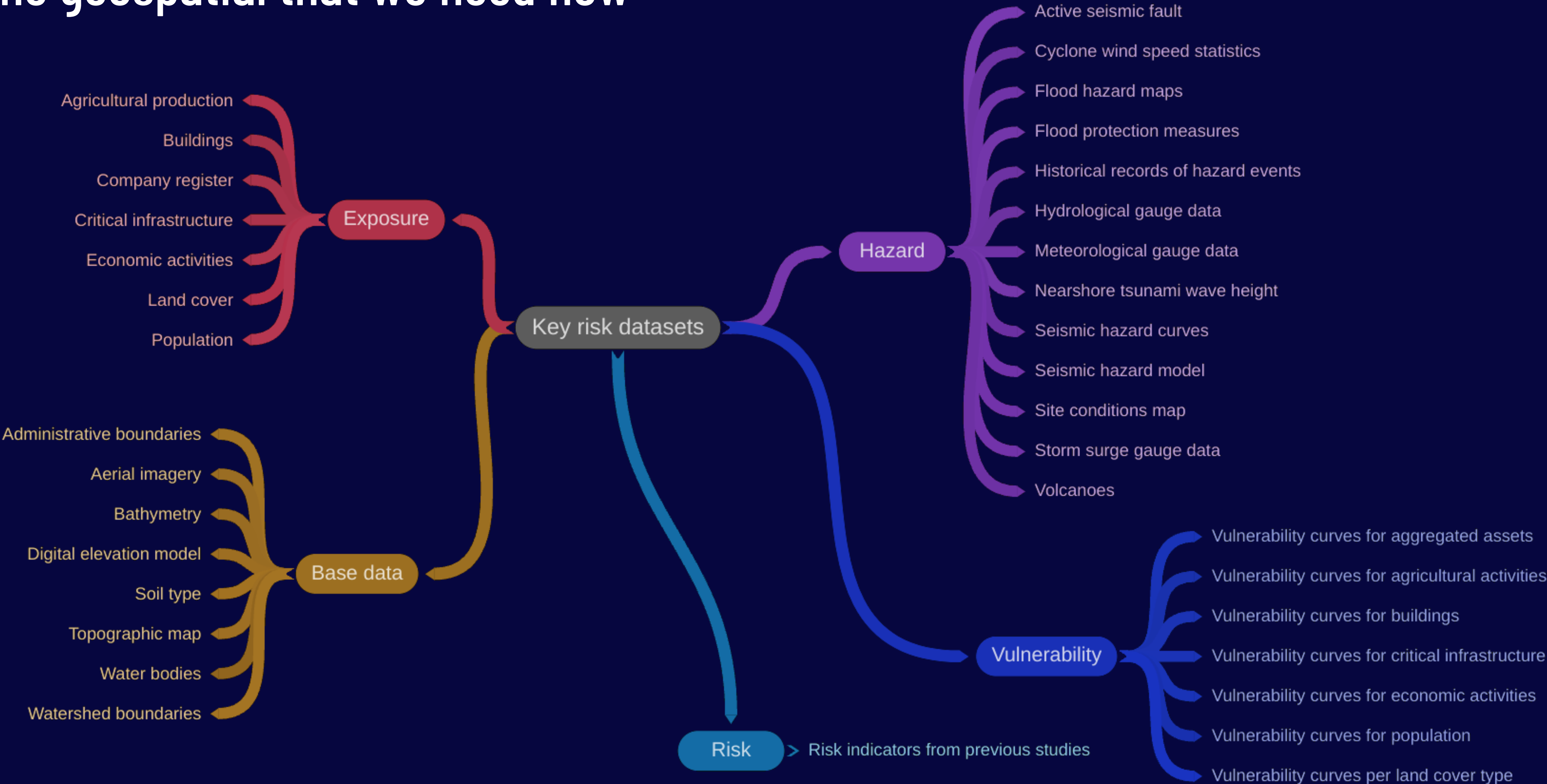
- customization
- cost reduction
- adaptability

## LOCAL PARTICIPATION

- context
- calibration
- skills and jobs



# The geospatial that we need now



We can monitor cities expansion every 6 Months ...

<https://hdl.handle.net/10986/41229>

Cairo  
EGYPT



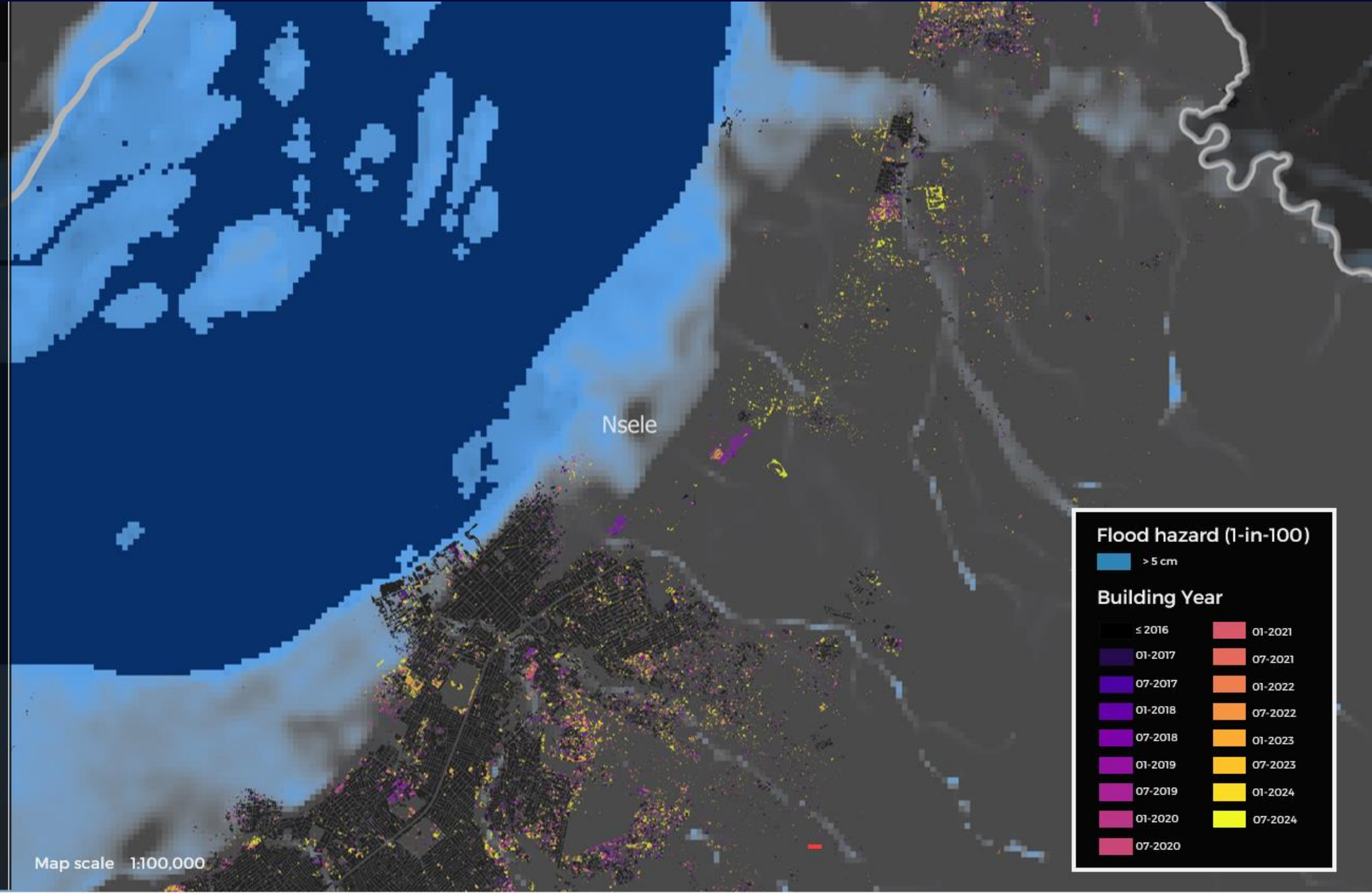
# ... and understand the effect on flood risk

## BUILDING GROWTH

TOTAL NO. OF BUILDINGS	231,486
NEW BUILDINGS LAST 12 MONTHS	16,021
GROWTH RATE LAST 12 MONTHS	7.4%
GROWTH RATE SINCE JULY 2016	28.8%
COMMUNE % GROWTH RANK SINCE 2016	2 / 23

## BUILDINGS IN FLOOD HAZARD LANDS

TOTAL NO. OF BUILDINGS	23,777
NEW BUILDINGS LAST 12 MONTHS	1,902
PERCENT OF BUILDINGS IN FLD HZD	10.3%
RISKY GROWTH LAST 12 MONTHS	8.7%
RISKY GROWTH SINCE JULY 2016	36.1%
COMMUNE % RISKY GROWTH RANK	2 / 23



### Flood hazard (1-in-100)

> 5 cm

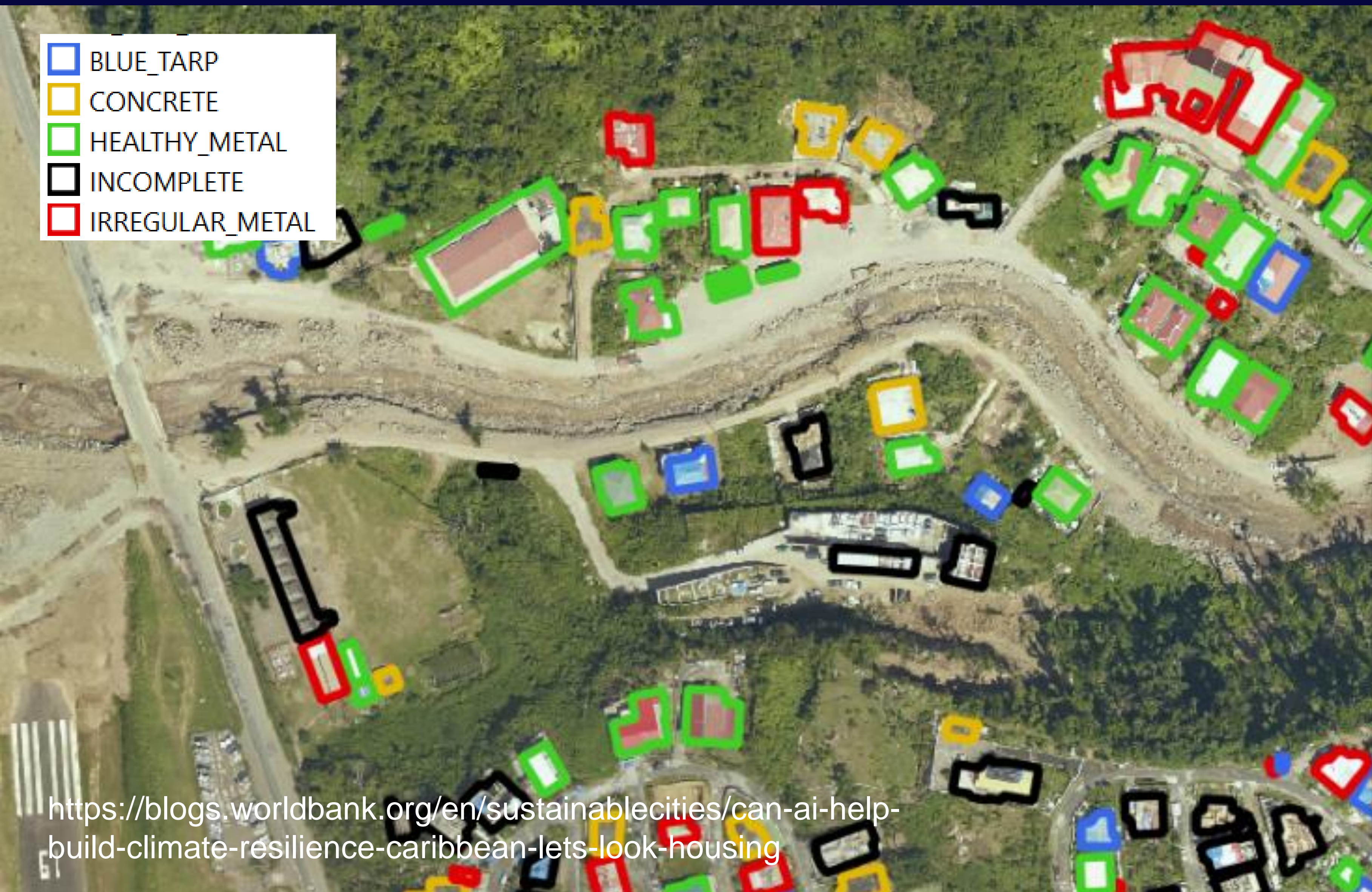
### Building Year

≤ 2016	01-2021
01-2017	07-2021
07-2017	01-2022
01-2018	07-2022
07-2018	01-2023
01-2019	07-2023
07-2019	01-2024
01-2020	07-2024
07-2020	

Map scale 1:100,000

# We can estimate buildings resistance before disaster, and damages after

- BLUE\_TARP
- CONCRETE
- HEALTHY\_METAL
- INCOMPLETE
- IRREGULAR\_METAL



## GUIDE TO DOMINICA'S HOUSING STANDARDS THE ROOF

### ROOF DESIGN

Lightweight flat roofs are easily blown off in high winds. In order to lessen the effects of the uplifting forces on the roof, the roof pitch shall not be less than 25°(12).

Hip roofs have been found to be more hurricane resistant than gable roofs.

Use a hip or a high pitched gable roof.



HIP ROOF



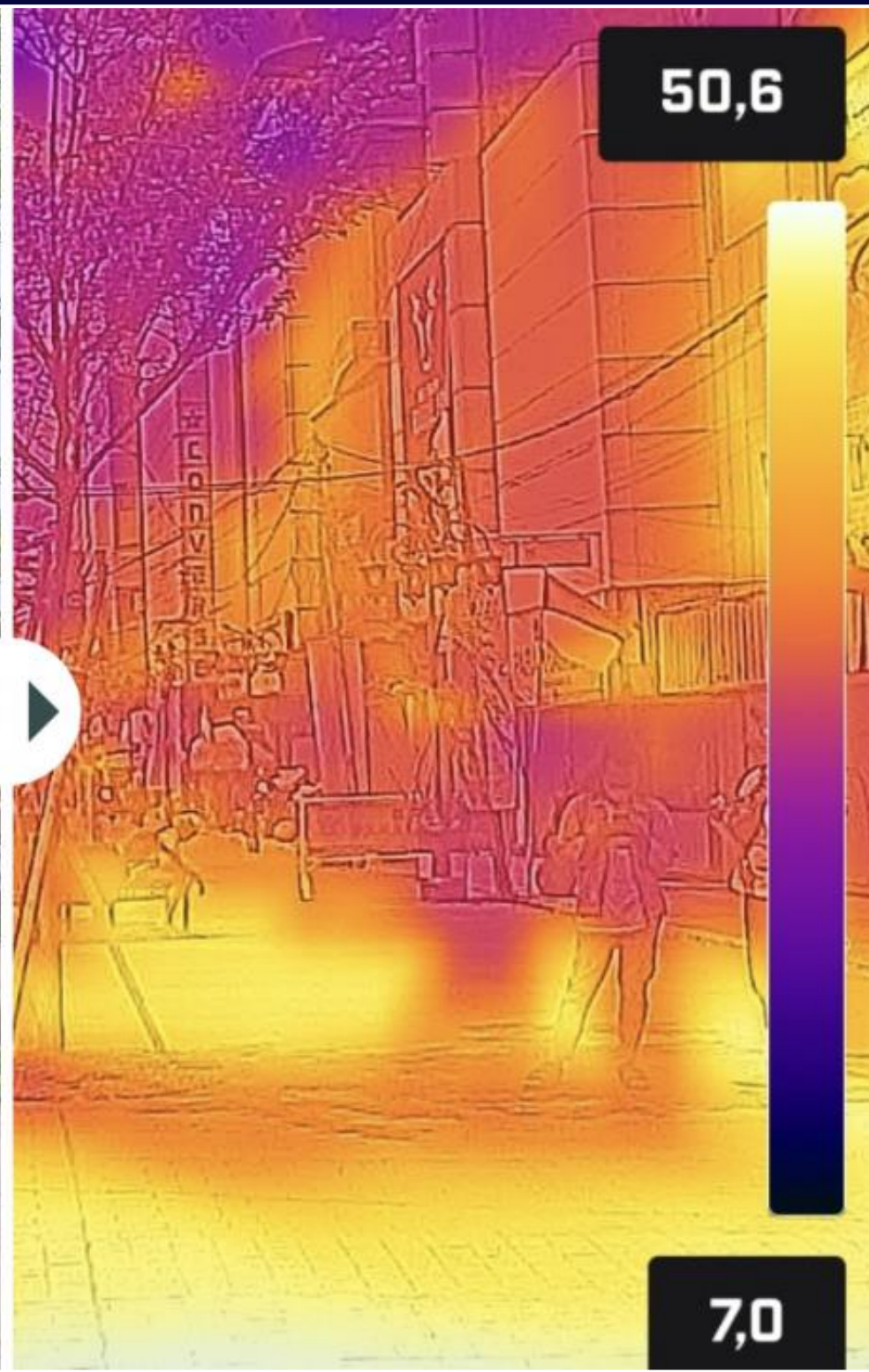
GABLE ROOF



FLAT ROOF

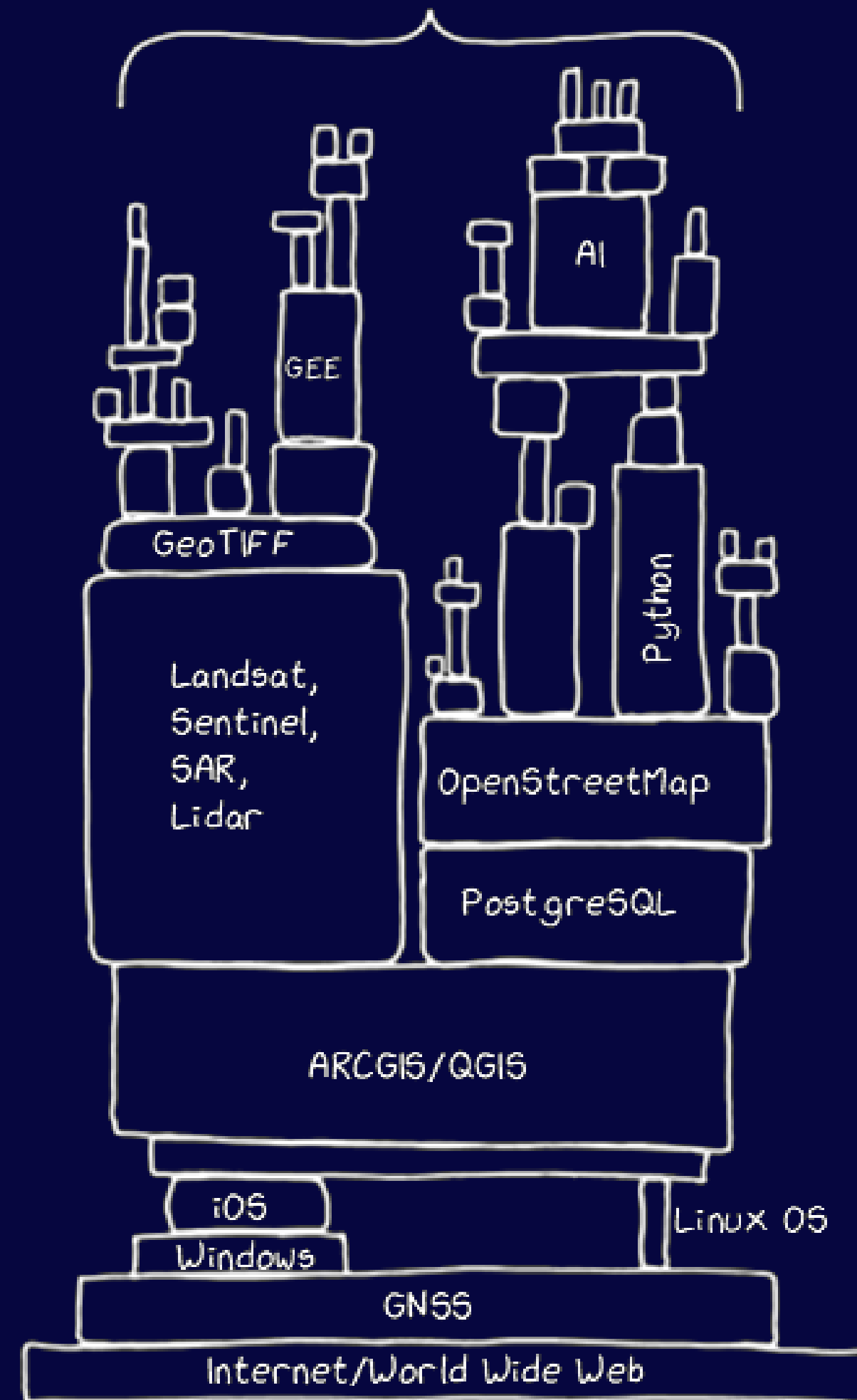
<https://blogs.worldbank.org/en/sustainablecities/can-ai-help-build-climate-resilience-caribbean-lets-look-housing>

# We can model heat, street by street, **but also nature based solutions**



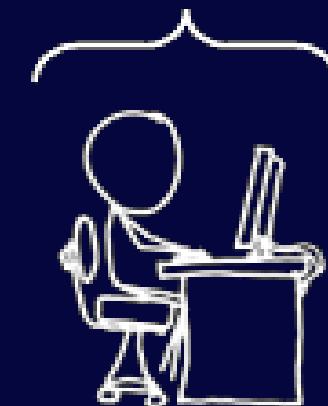
# If the future of geospatial is already there, **why are people still left behind?**

All modern spatial data infrastructures



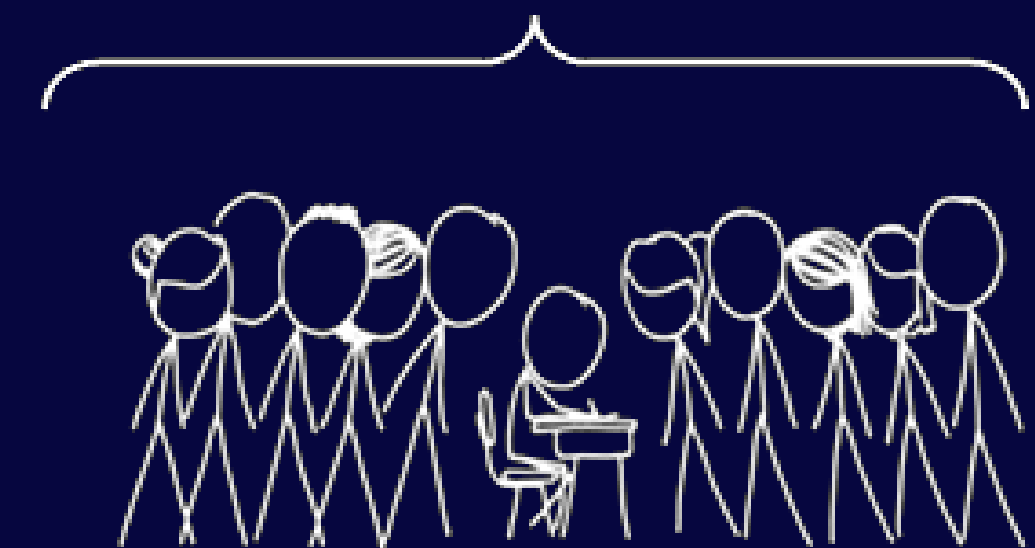
## Government GIS Officer

Trying to produce a map of flood risk areas while maintaining a donor funded modern GIS infrastructure and while responding to a grant for proposal because his GIS unit is partly self-funded



## GIS Students

Considering job offers to build the spatial data infrastructure of the future, for private companies, abroad

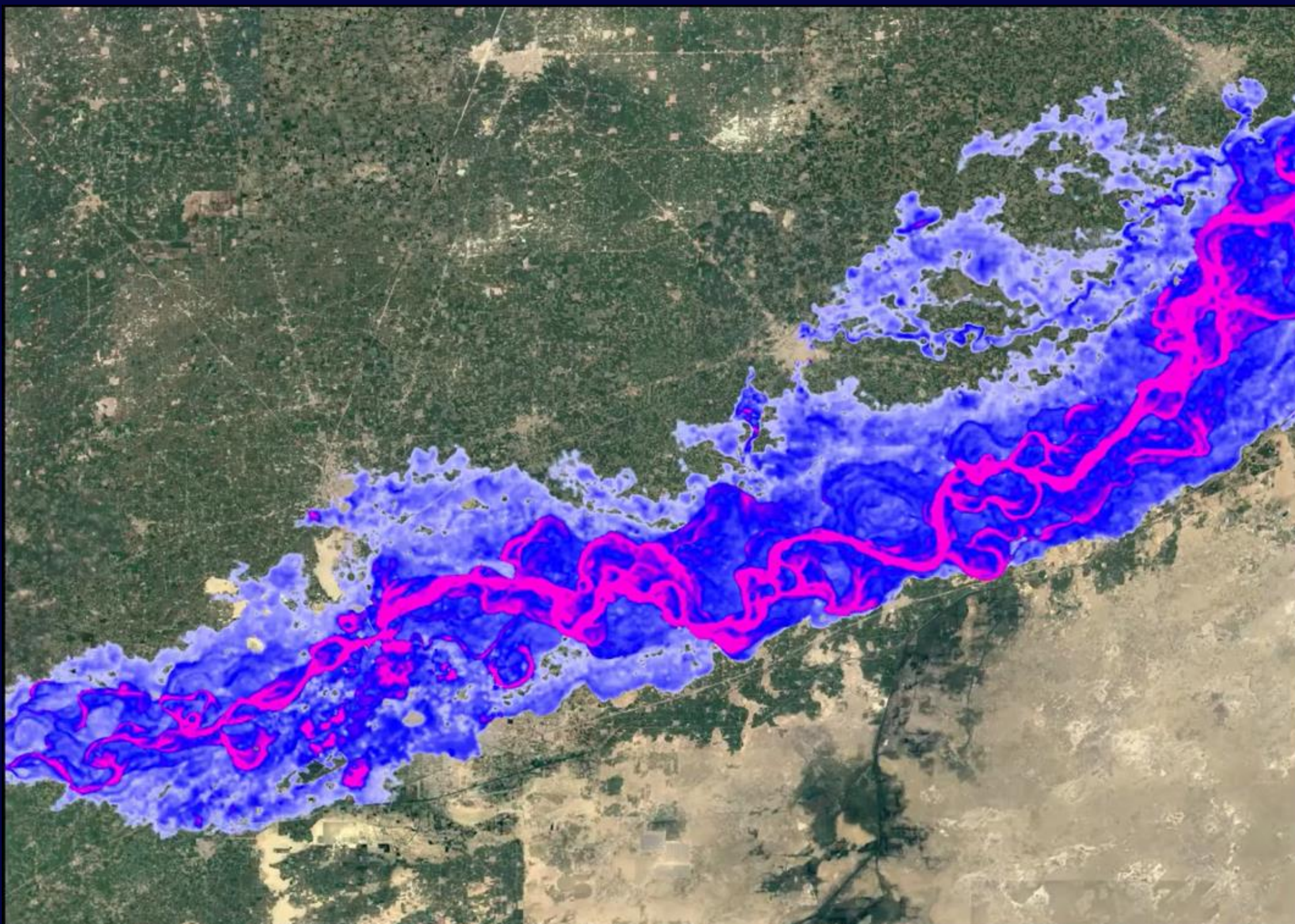




# Invest in open data, tools and standards **that work with and for the most vulnerable**

Free flood data access for 16 climate vulnerable countries

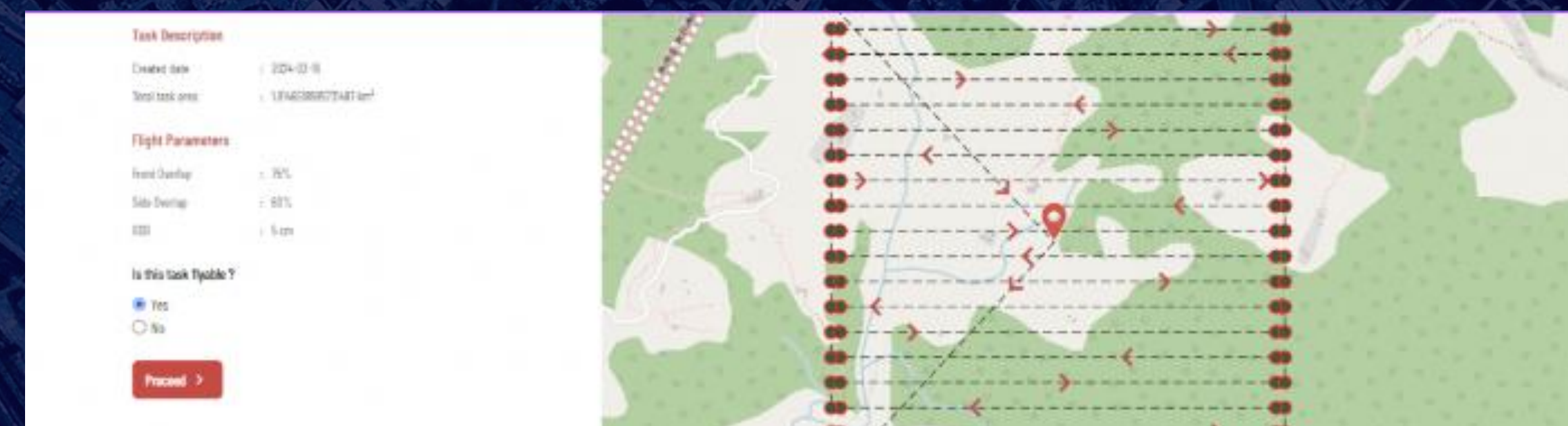
**Fathom, World Bank**



<https://www.fathom.global/newsroom/world-bank-collaboration/>

Open Drone Aerial Tasking Manager equips local pilots with tools to create high-resolution aerial maps

**HOTOSM, NAXA, World Bank**



<https://www.hotosm.org/updates/together-we-map-for-good-building-the-open-drone-aerial-tasking-manager/>

# Invest in local GIS talents, skills, and jobs

## Digital Public Work for Urban Resilience

Kenyan youth strengthen urban resilience through innovative public works pilot

VIVIEN DEPARDAY, SHEILA KAMUNYORI, MIRA LILIAN GUPTA, YVES BARTHÉLEMY & RAYMOND KIRWA | FEBRUARY 07, 2024

This page in: English



A worker walks through his settlement with a 360-degree terrestrial camera to capture Street View images. Photo: Spatial Collective

On a weekday morning in Nairobi's Embakasi Sokoni settlement, 30-year-old Lydiah is viewing familiar images on her smartphone of businesses, churches and schools in her community, and answering questions about their physical characteristics. Lydiah, a single mother of two, starts work

<https://blogs.worldbank.org/en/nasikiliza/kenyan-youth-strengthen-urban-resilience-through-innovative-public-works-pilot-afe-0224>

## Risk Data Fellows 2022/23



Paolo R. Magnata  
Philippines



Isabelle Tingzon  
Caribbean



Hwaba Mambo  
DRC



Zia Uddin Foisal  
Bangladesh



Bradley Riley  
South Africa



Ankita Sood  
India



Mohammad Fadli  
Indonesia

<https://www.youtube.com/watch?v=0yHDSia2ogM>

# Invest in Government GIS & Open Data

## this also means people, not just tech

The Good Basic Data for Everyone (Grunddata) initiative in Denmark was officially launched in 2012, as part of a broader effort to enhance the country's digital infrastructure and support public sector efficiency.

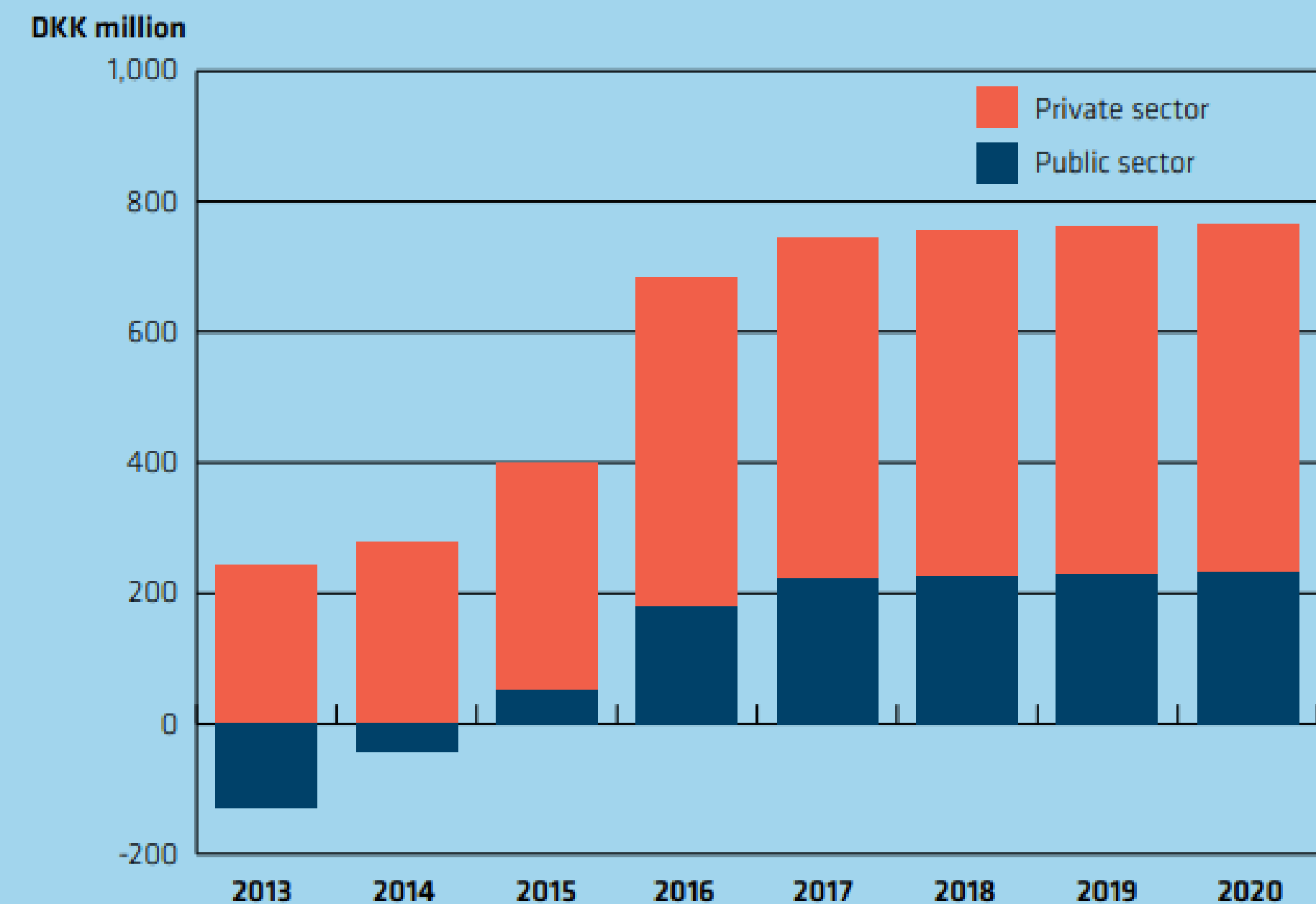
One of the most compelling arguments that convince the Ministry of Finance was the potential for significant economic gains and cost savings for both the public and private sectors.

All data maintained and released through the program are now used in disaster prevention and response.

### TOTAL PUBLIC-SECTOR NET SURPLUS/DEFICIT

DKK MILLION	2013	2014	2015	2016	2017	2018	2019	2020
Ministries	-108	-81	-50	-26	3	9	29	42
Municipalities	-24	24	79	143	165	169	174	175
Regions	1	11	23	33	43	43	43	43
<b>TOTAL IMPACT</b>	<b>-131</b>	<b>-45</b>	<b>52</b>	<b>149</b>	<b>211</b>	<b>221</b>	<b>246</b>	<b>260</b>

### TOTAL NET SURPLUS/DEFICIT, BY SECTOR



Geospatial is  
good for our  
Climate

It is also good  
for your  
Economy



According to a recent French study GIS contributes 9% of the digital economy  
<https://www.afigeo.asso.fr/wp-content/uploads/2024/09/16/synthese-etude-economique-afigeo.pdf>