AI for Good Global Summit

Geneva, Switzerland , 15–17 May 2018

Day 1

Panel 1

Innovative Applications of AI and Data Science in the Field

In partnership with

XPRIZE

acm

Christopher Fabian
Principle Advisor on Innovation, Lead,
UNICEF Ventures

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Bernhard Kowatsch
Head of Innovation Accelerator,
WFP

Paula Hidalgo-Sanchez
Manager, Pulse Lab Kampala,
UN Global Pulse

Naroa Zurutuza
Applied AI Lead,
UNICEF Innovation

WFP World Food Programme

INNOVATION ACCELERATOR

Rapid UAVs for Data Analysis in Emergencies (RUDA)

Bernhard Kowatsch
Head of Innovation Accelerator
United Nations World Food Programme (WFP)

@WFPInnovation | @BKowatsch

World Food Programme

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ACCELERATOR

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ACCELERATOR

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HOUSE
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WFP
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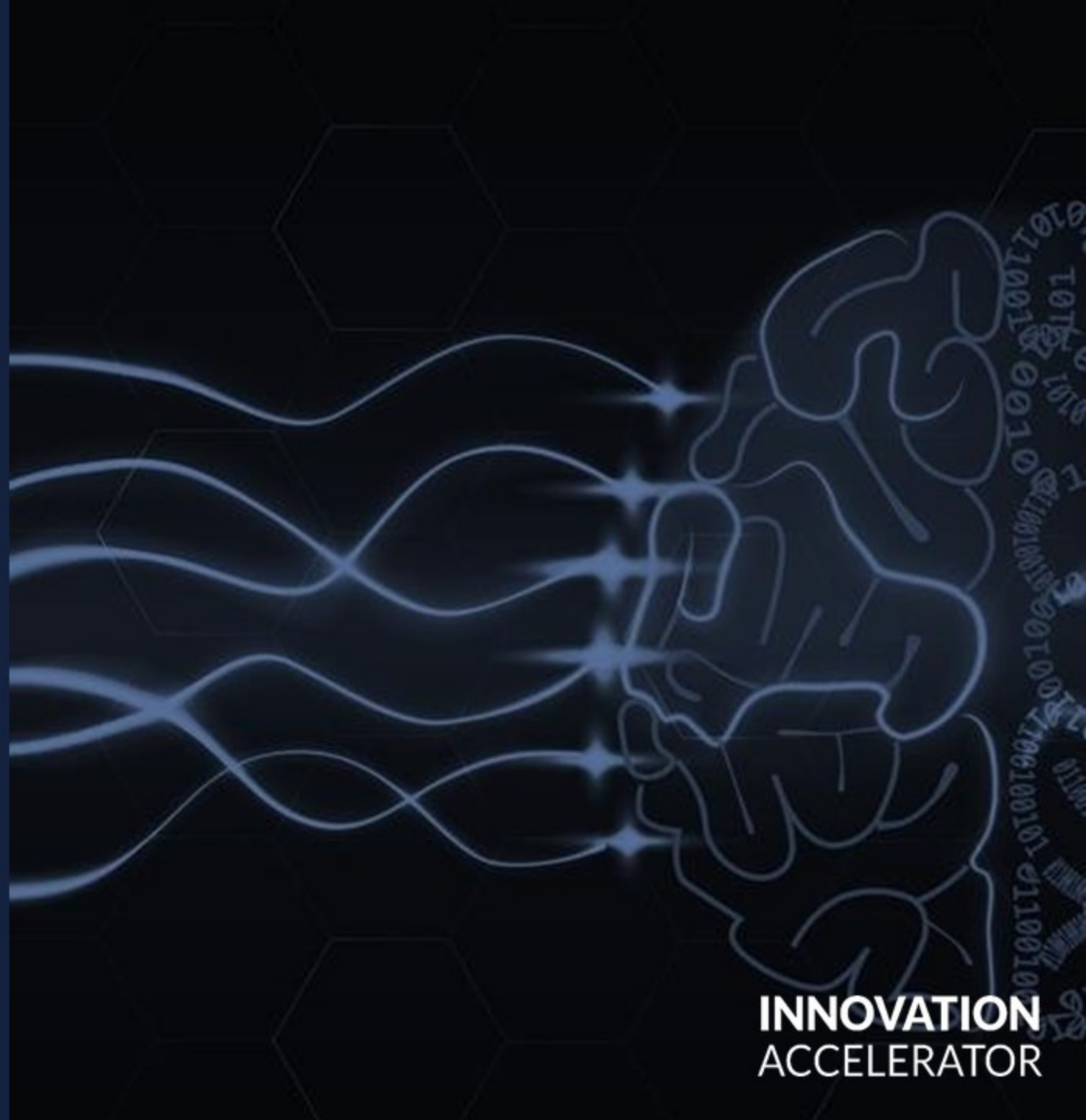
- Faster decision making
- More informed process
- Better targeting of assistance



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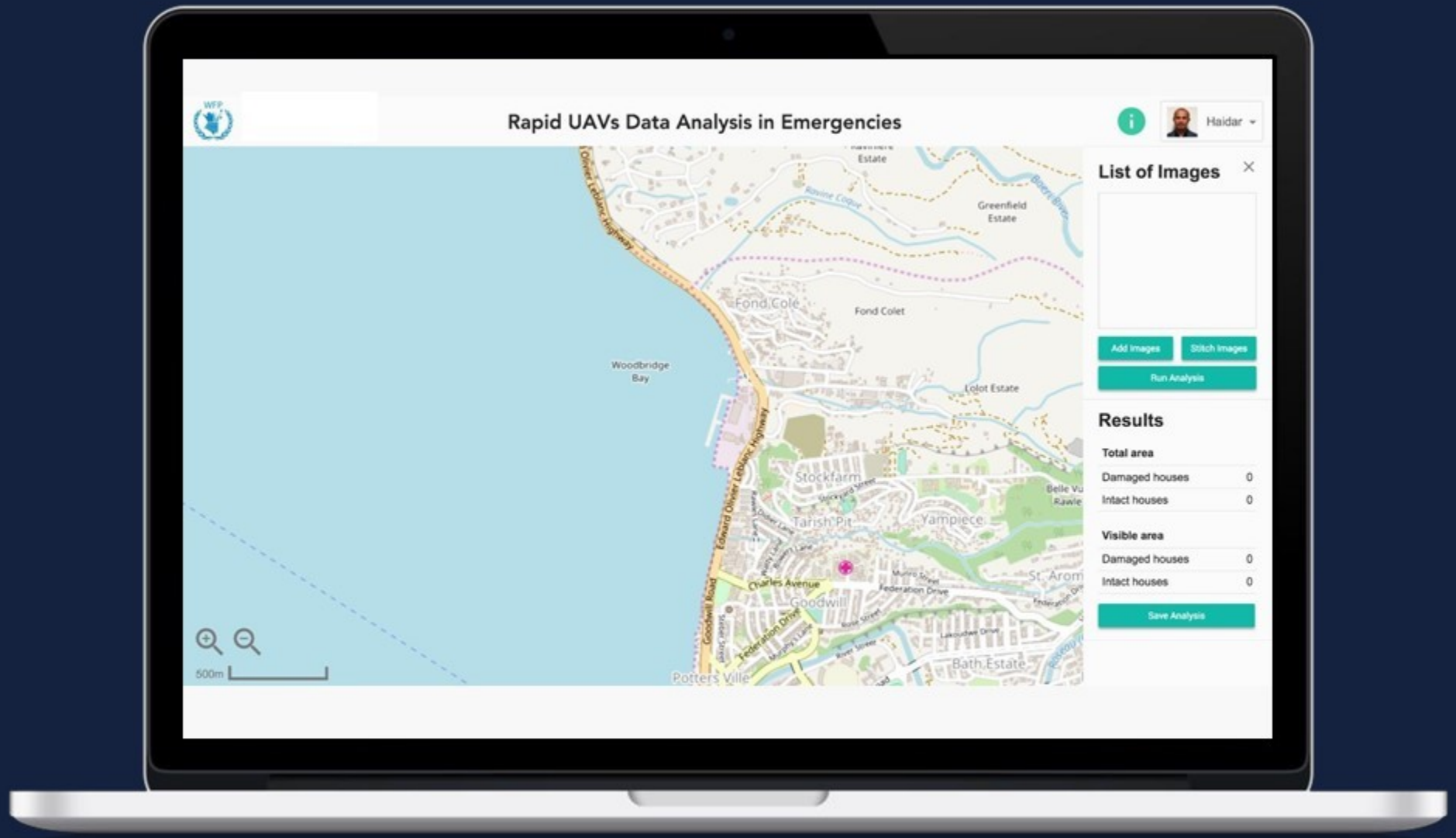

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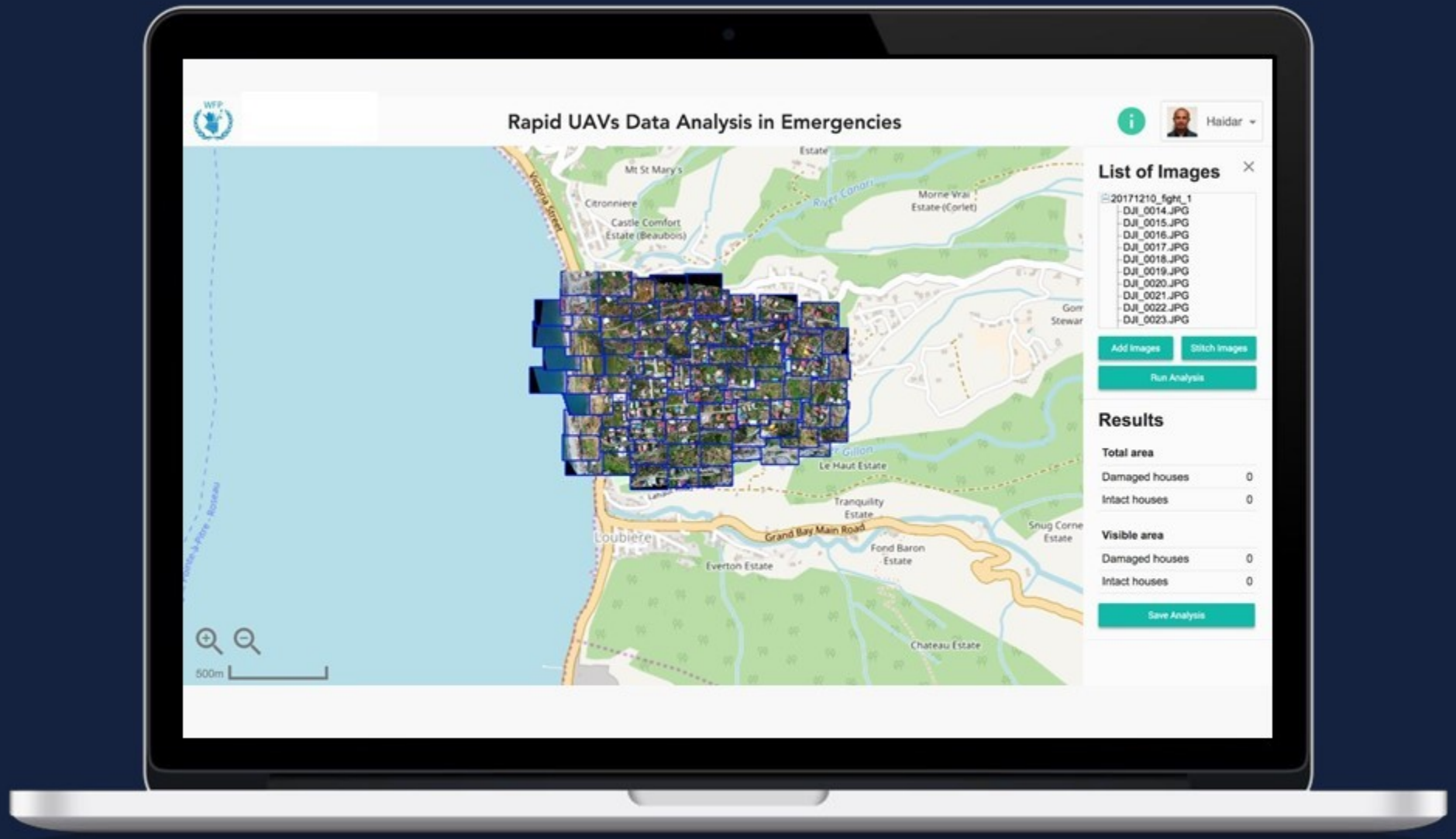

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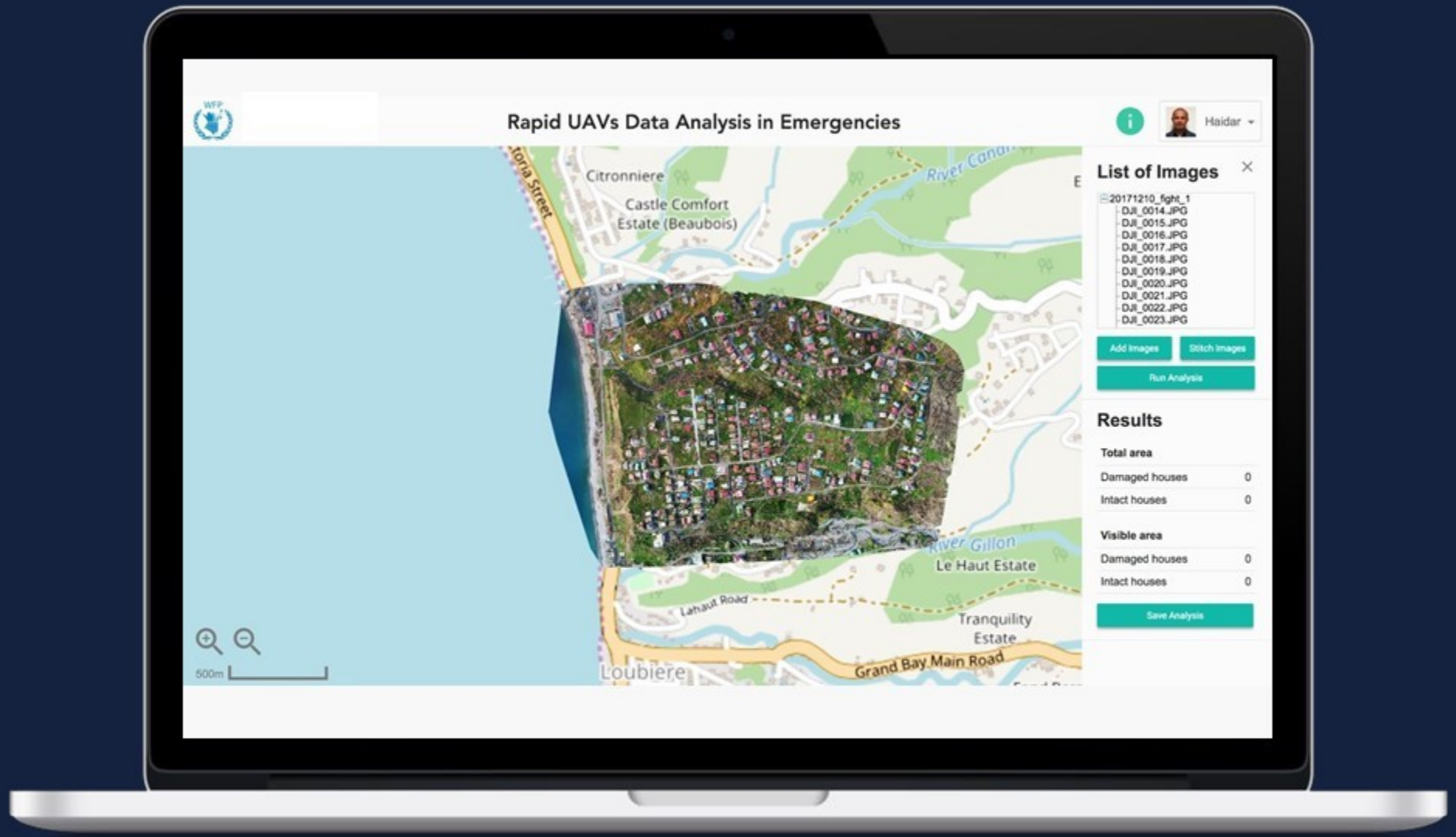

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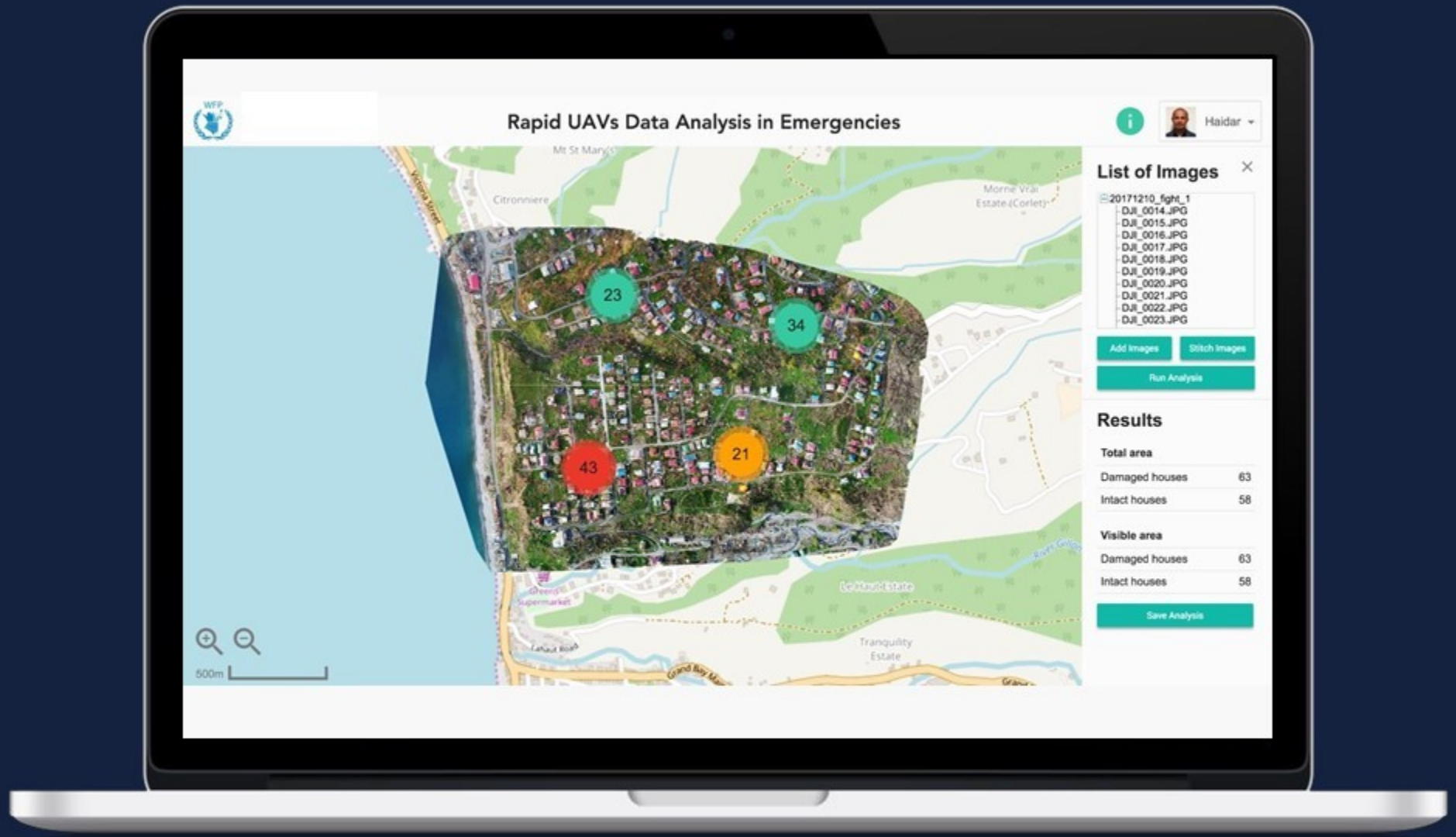
ACCELERATOR



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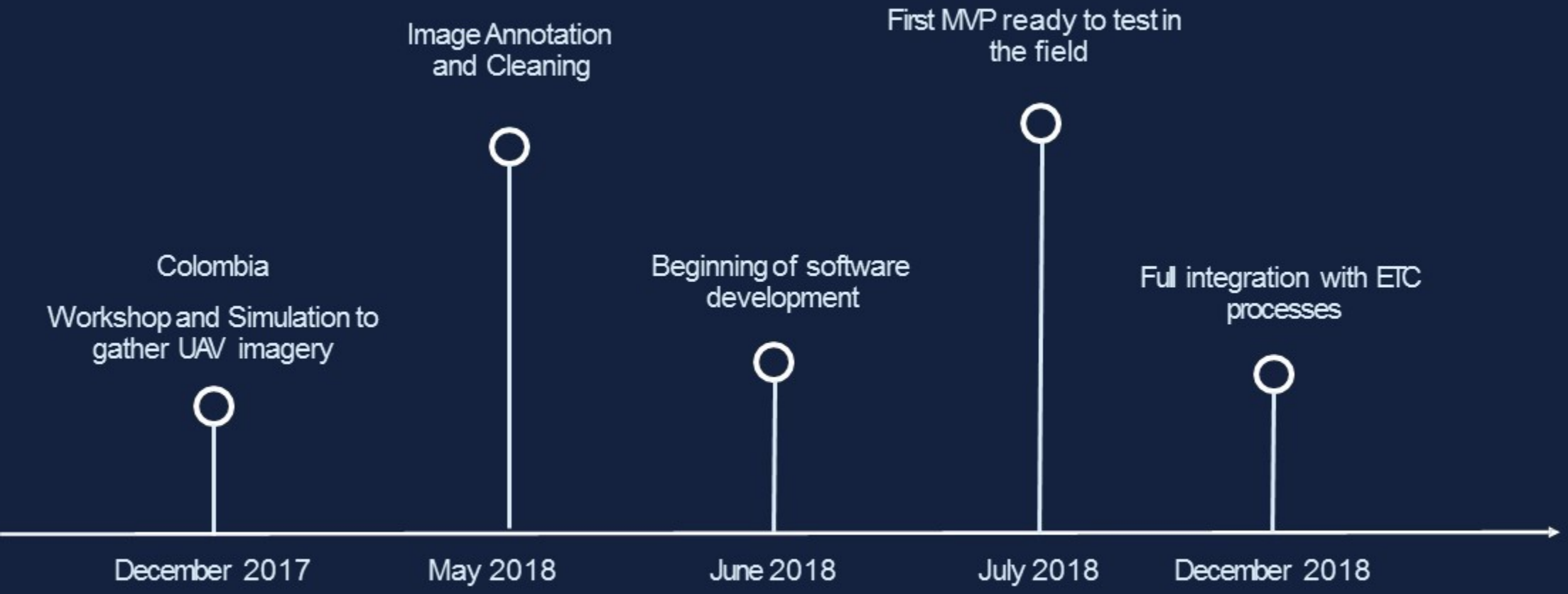
WFP

INNOVATION ACCELERATOR

ETC
etc



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Thank You!

World Food Programme

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Pulse Lab Kampala

GLOBAL PULSE

PULSE LAB KAMPALA

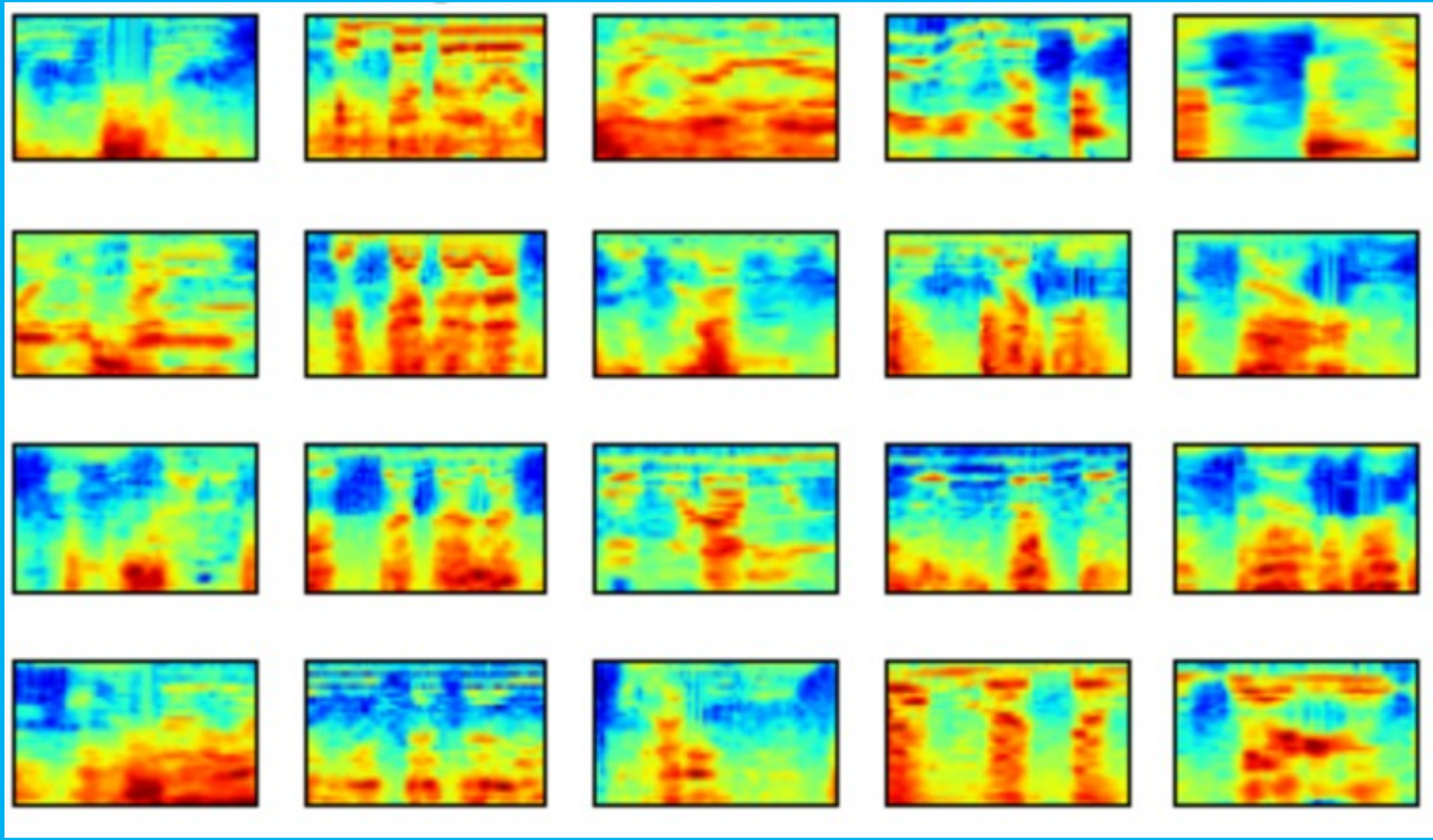
United Nations UGANDA

Paula Hidalgo - Sanchis, PhD

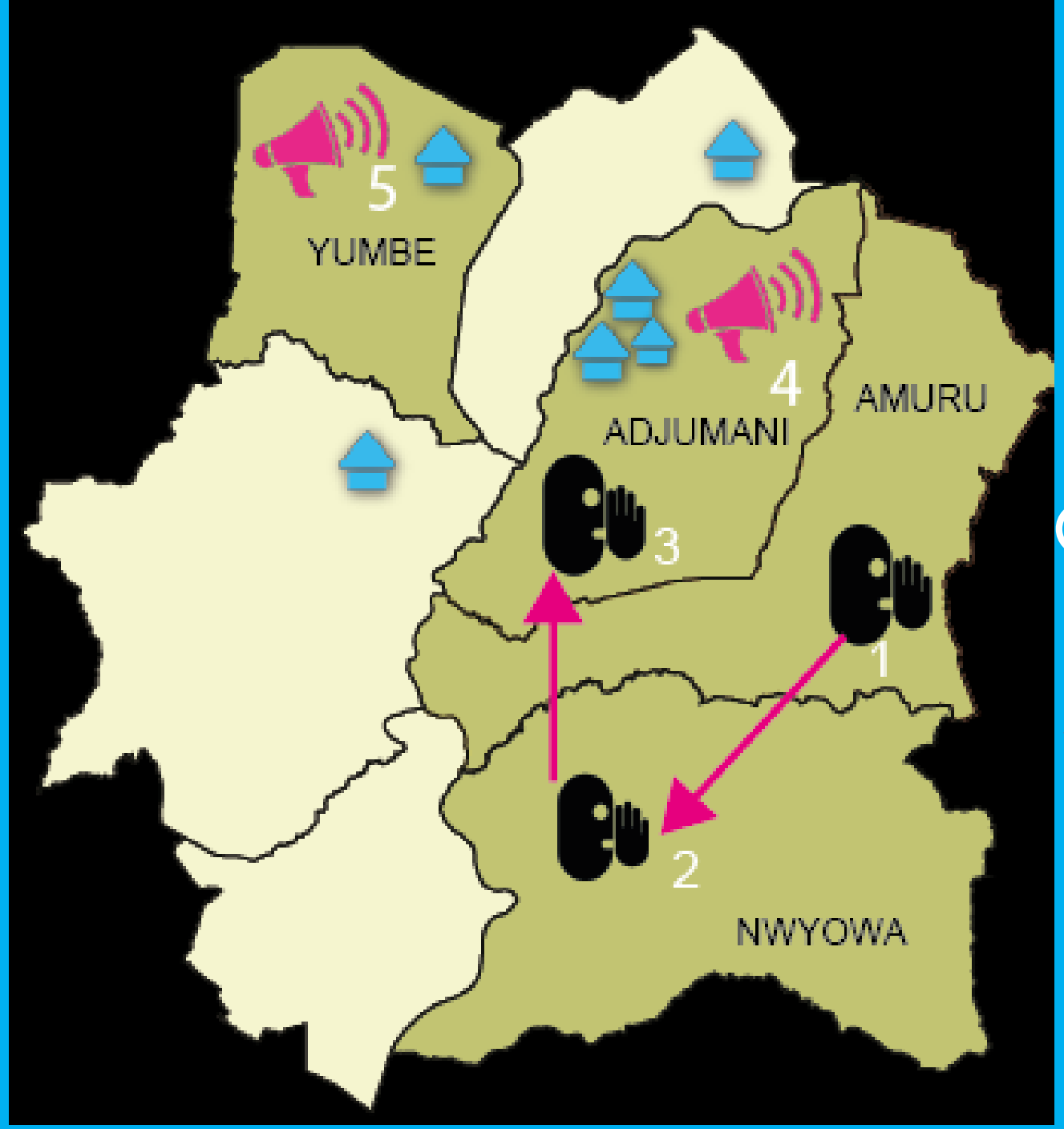
Manager, Pulse Lab Kampala

UN Global Pulse

voice



public radio



rumor

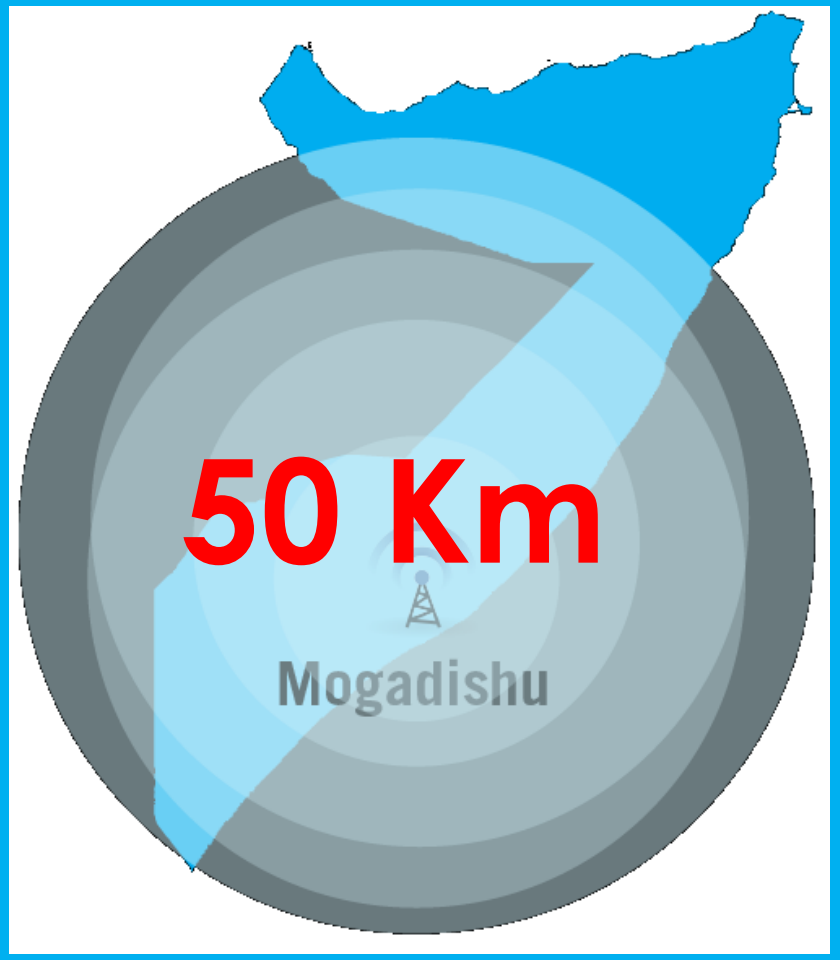
cholera outbreak

17 days

rumor

inflated numbers

100 days



remote monitoring

thank you

unicef
INNOVATION

School Mapping

2018 AI for Good Summit

Naroa Zurutuza

Brazil

Centro de Mídias
de Educação
do Amazonas
LG

Mauritania

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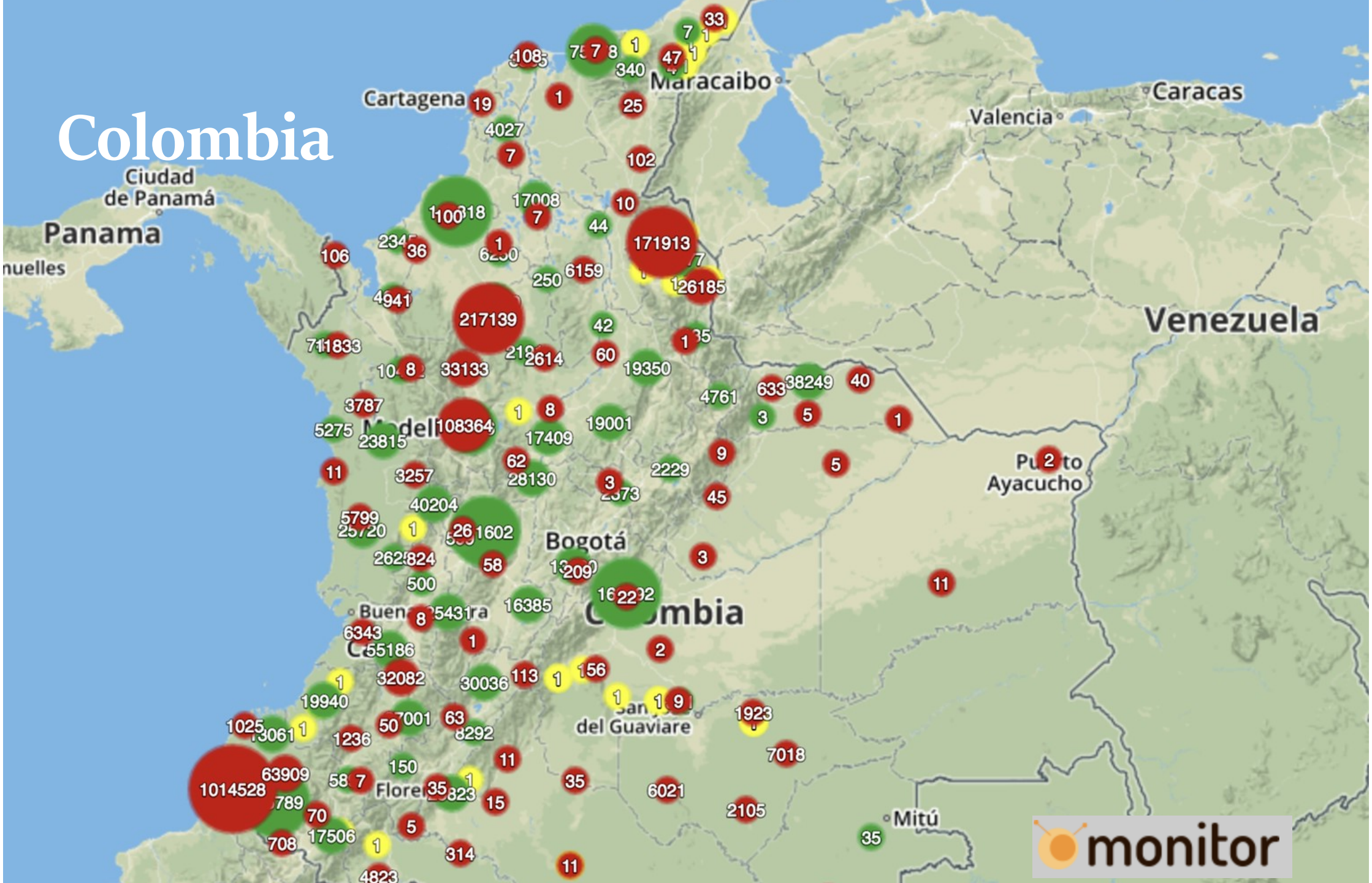
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Maracaibo
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Valencia
Cartagena
Ciudad de Panamá
Panama
Venezuela
Bogotá
Medellín
Buenaventura
Puerto Ayacucho
San José del Guaviare
Florencia
Mitú
monitor

VENEZUELA
Paramaribo
GUYANA
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Cayenne
FRENCH GUIANA
ATLANTIC OCEAN
Manaus
Tefé
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Brasília
BOLIVIA
La Paz
PARAGUAY
Asunción
CHILE
ARGENTINA
ATLANTIC OCEAN

WESTERN SAHARA
Bir Moghrein
Aguelt El Adam
Admamtalmat
Fderik
Zouerate
Tourine
Choum
Ouadane
Atar
Terjit
Chinguetti
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Faraoun
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M A U R I T A N I A
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Tidjikdja
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Boutilimit
Moudjeria
Boumdeit
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Mederdra
Rosso
Dar El Barka
Aleg
Magtalahjar
Barkeouol
Kamor
Melzem Barouk
Kiffa
Ayoun El Atrous
Agouenit
Nema
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Bababe
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Mbout
Keyouala
El Baghoui
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Timbedra
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Bassikounou
Kow
El Moudere
Toumbare
Kosa
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Bilikouate
Maoudass
Bousteile
Maghama
Kersiniane
Moribougou

Riohacha
Parque Nacional Tayrona
Santa Marta
Golfo de Venezuela
Caribbean Sea
Barranquilla
Ciudad Perdida
Cartagena
Valledupar
Lago de Maracaibo
Covenas
Sincelejo
PANAMA
Capurgana
Monteria
VENEZUELA
Turbo
Puerto Santander
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Carepa
Cucuta
Bucaramanga
Arauca
Barrancabermeja
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Quibdo
Paz de Rio
Tunja
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Manizales
Yopal
Pereira
Armenia
Ibague
Bogota
Tulua
Villavicencio
La Tagua
Buenaventura
Palmira
COLOMBIA
Puerto Inirida
Cali
Barrancomina
Neiva
Popayan
Cano Cristales
San Jose Del Guavuare
Santa Ana
Tumaco
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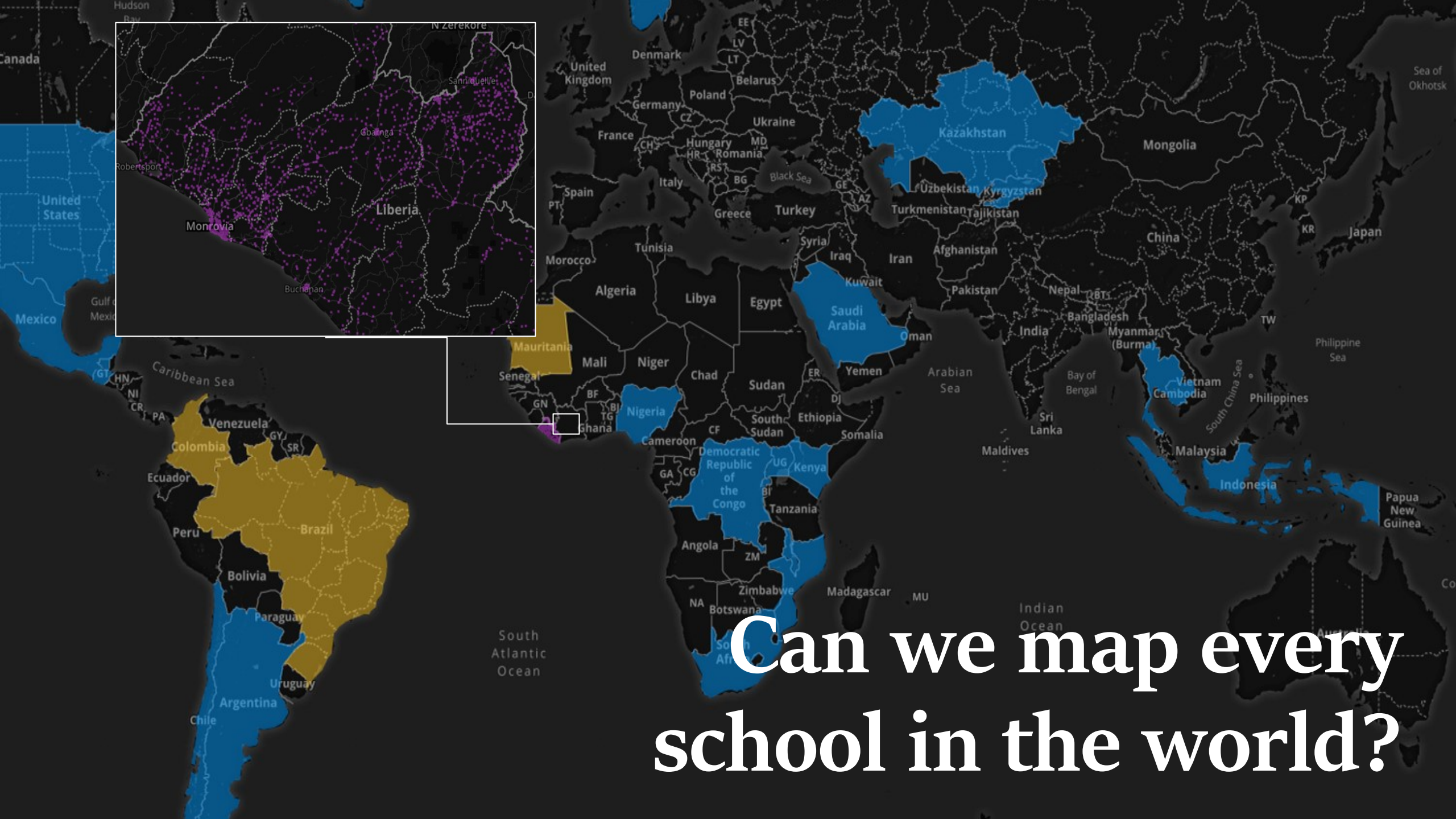
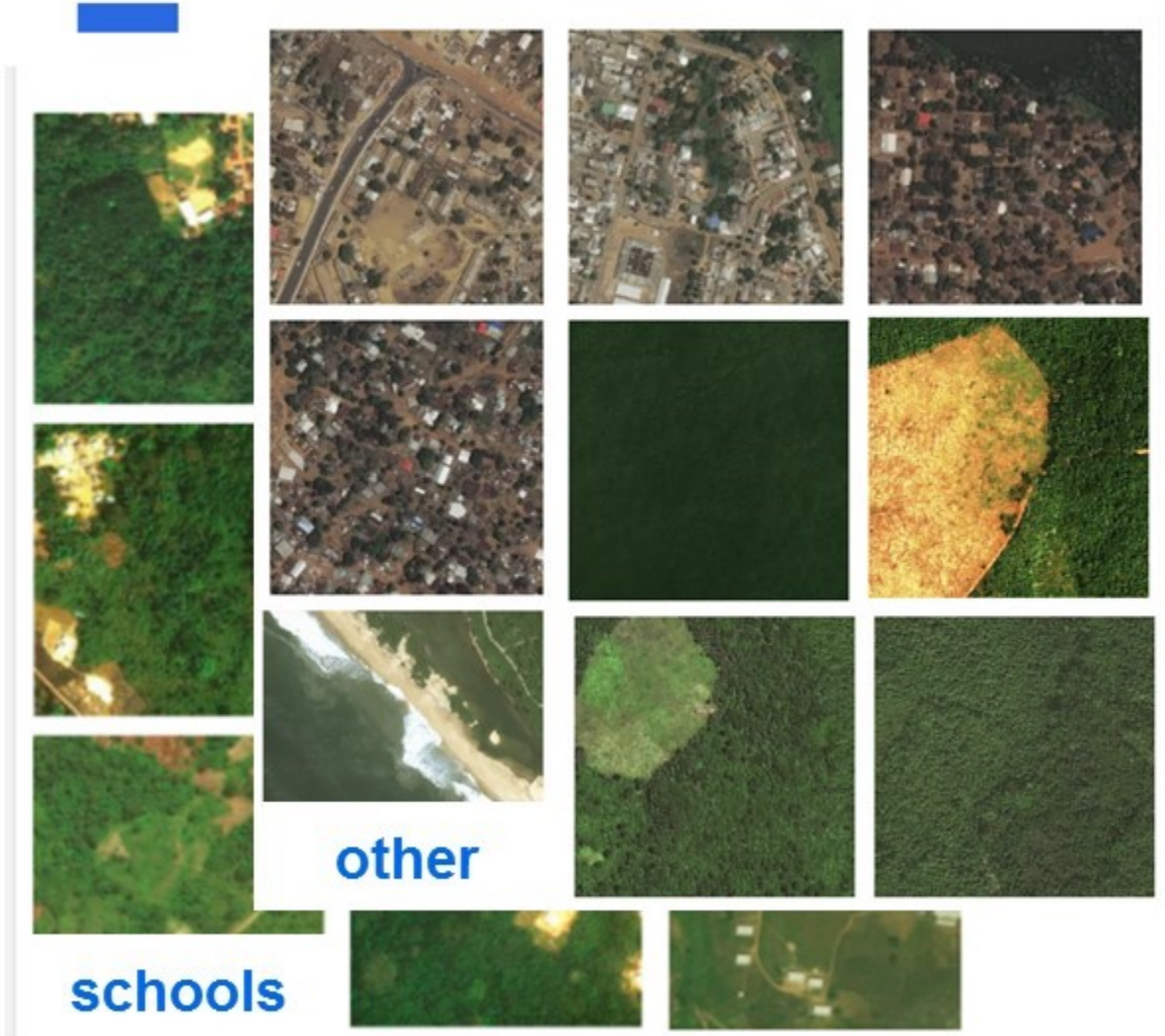
Colombia Travel Advice



Can we map every school in the world?

Schools

Deep Learning for automatic school detection



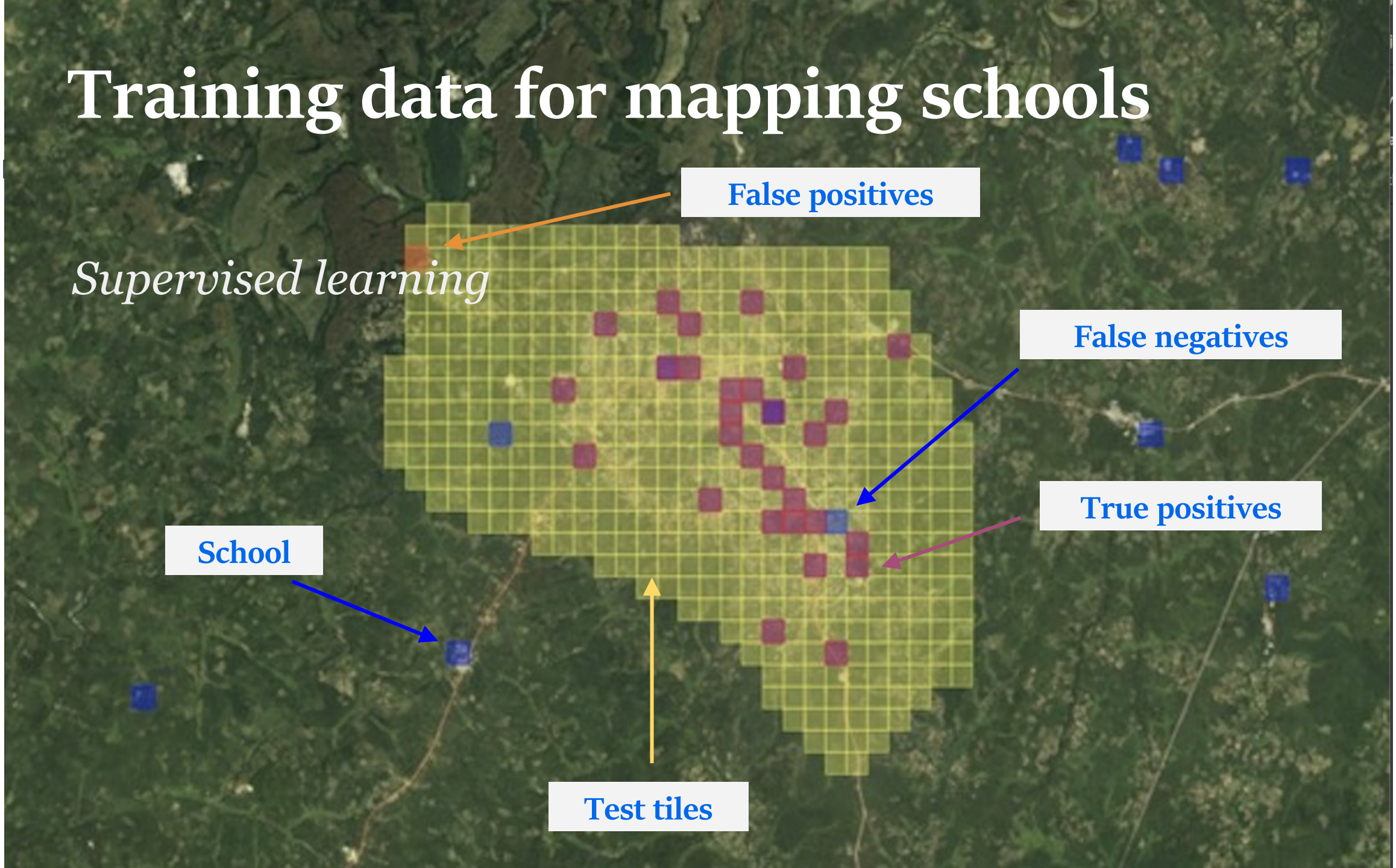
- ~1700 rural school in Liberia as training data
- < 1m high resolution satellite imagery
- Convolutional Neural Networks (CNNs)
- Preliminary results with more than 75 % overall accuracy

UC San Diego

UNOSAT

developmentSEED

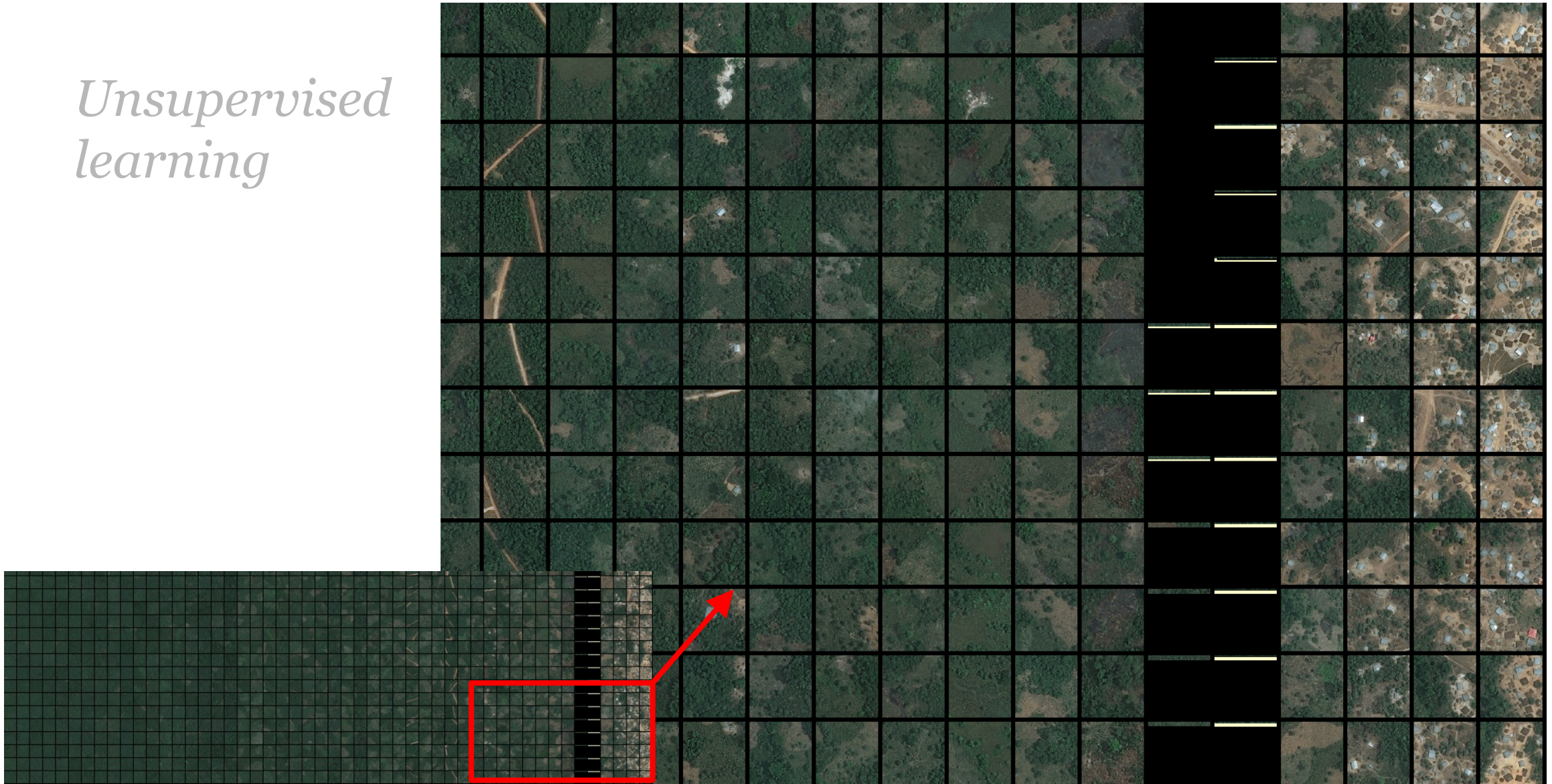
DigitalGlobe GBDX

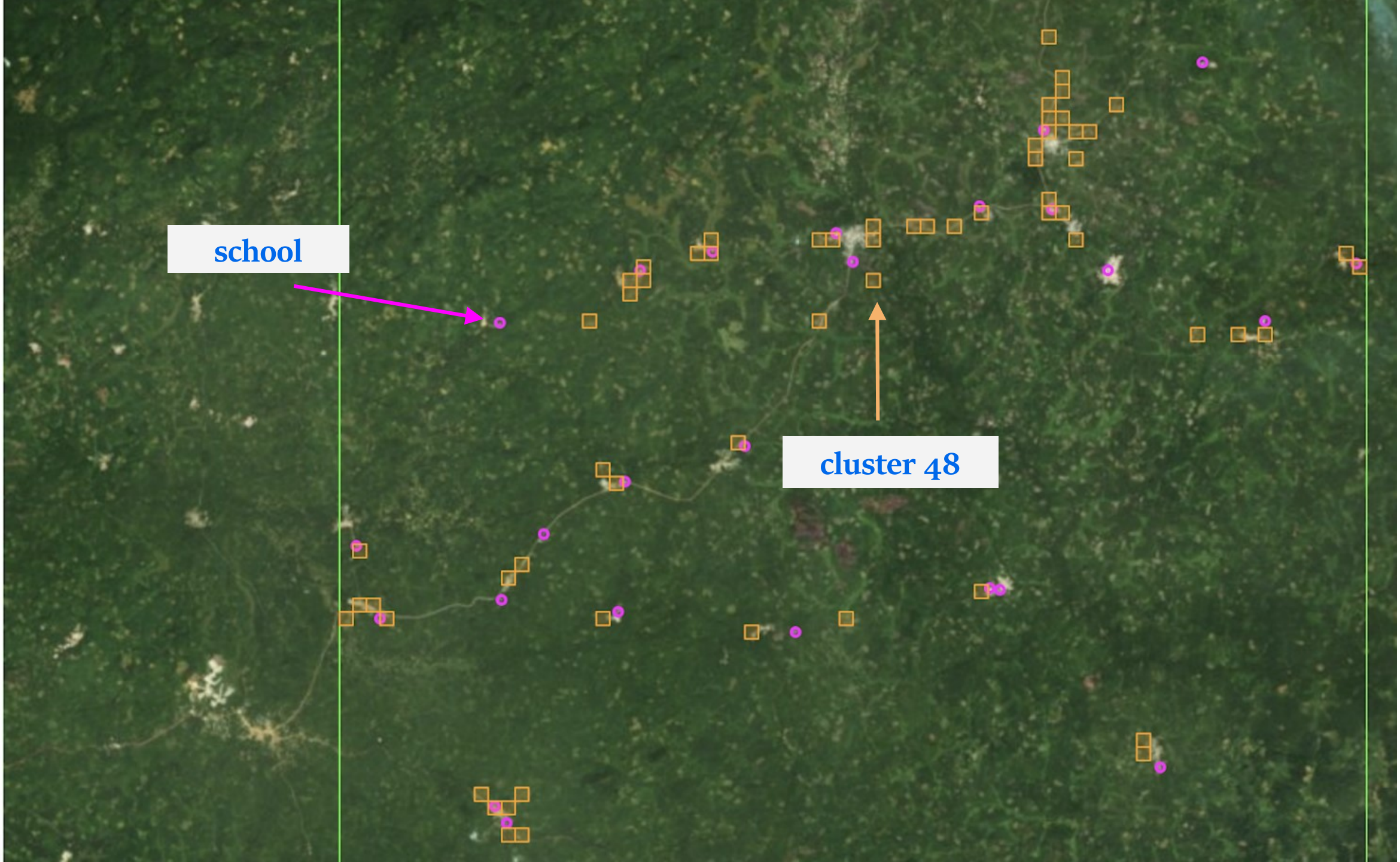

Training data for mapping schools
Supervised learning
False positives
False negatives
True positives
School
Test tiles

+
-
Esri World Imagery
Stamen TonerHybrid
Mali
training result
True Positive1
False Positive2
False Negative3
True Negative4

Clustering to reduce the search space

Unsupervised learning




school
cluster 48

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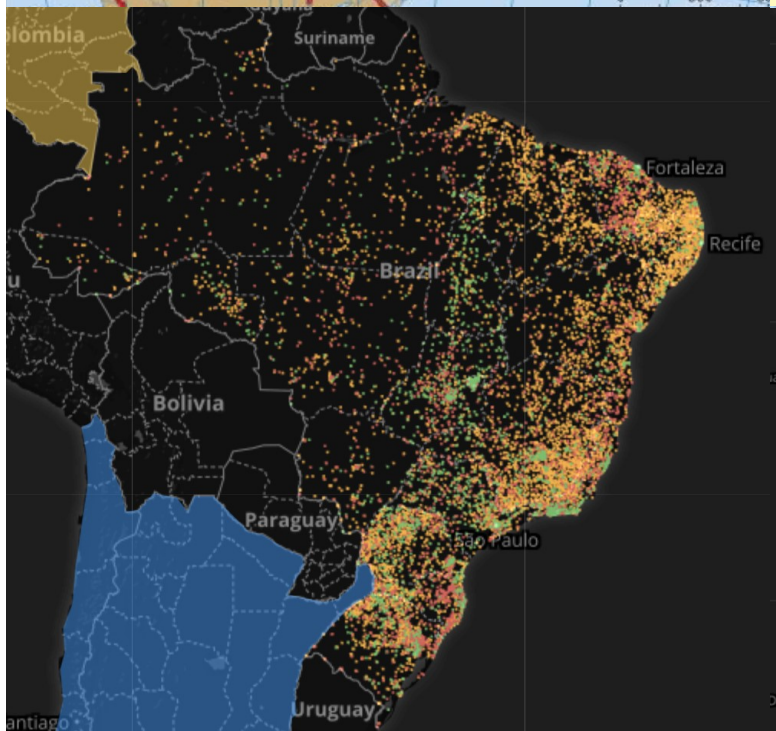
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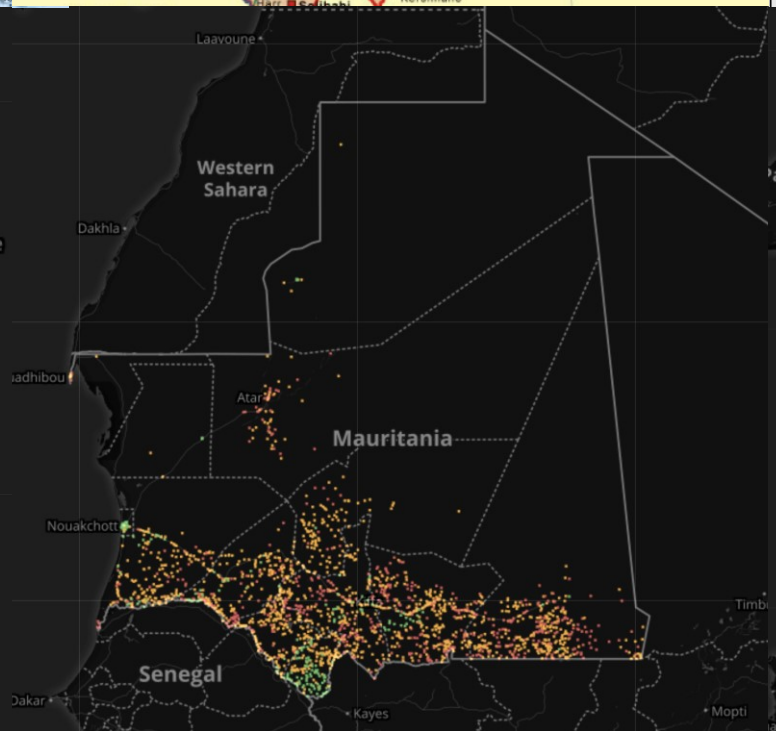
São Paulo
Uruguay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Western Sahara
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Atar
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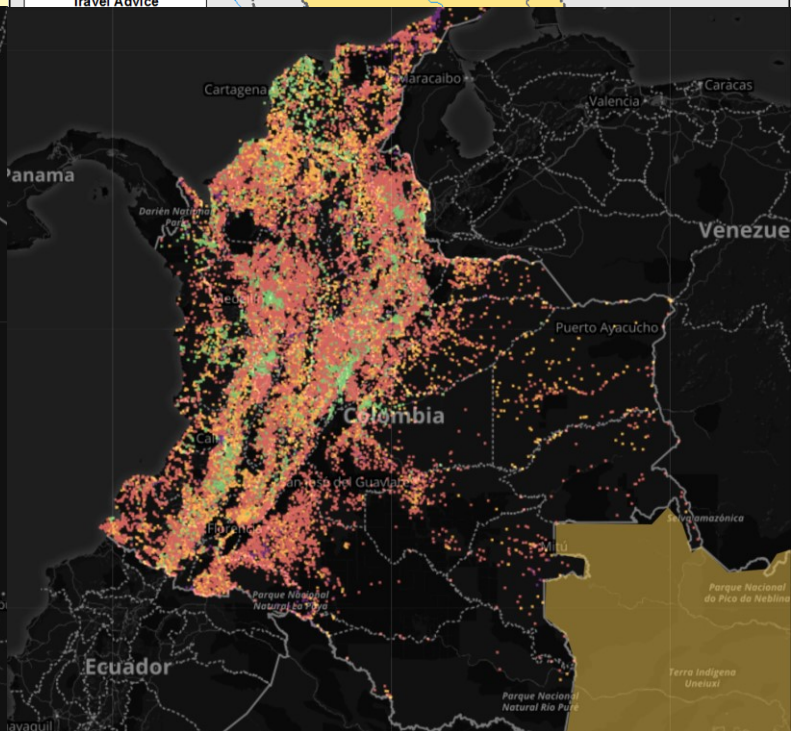
Nouakchott
Senegal
Kayes
Mopti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Colombia
Ecuador

Thank You

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European Space Agency

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Managing Director, Kenya Office,
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Rebecca Distler
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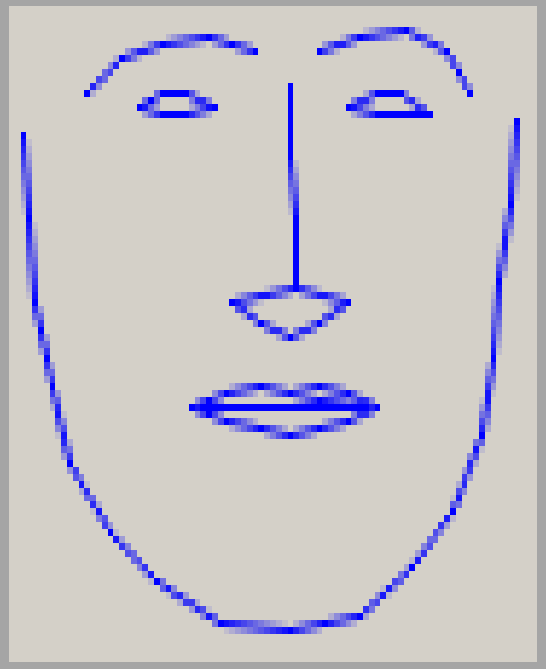
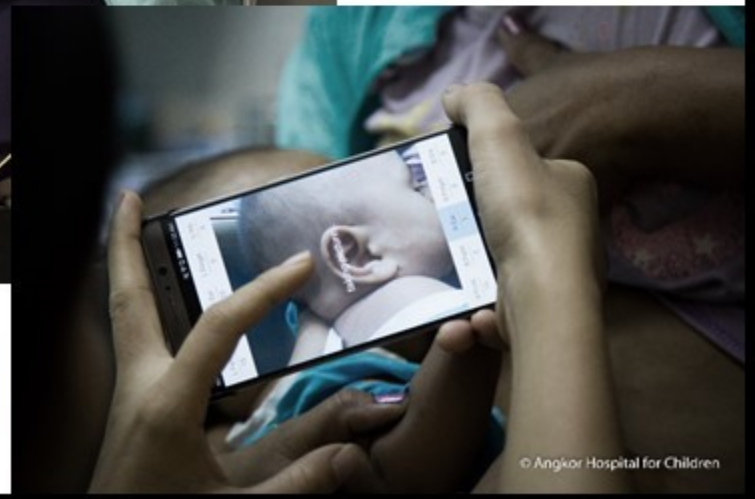
Element Inc



Angkor Hospital for Children

icddr,b



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Rob Opp
Director of Innovation
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