OPEN DATA
& OPEN KNOWLEDGE
Workshop

GEO
GROUP ON
EARTH OBSERVATIONS

Spatial Analysis & Remote Sensing
Evidence and Decision Making tools

How open data enhances support to field operations
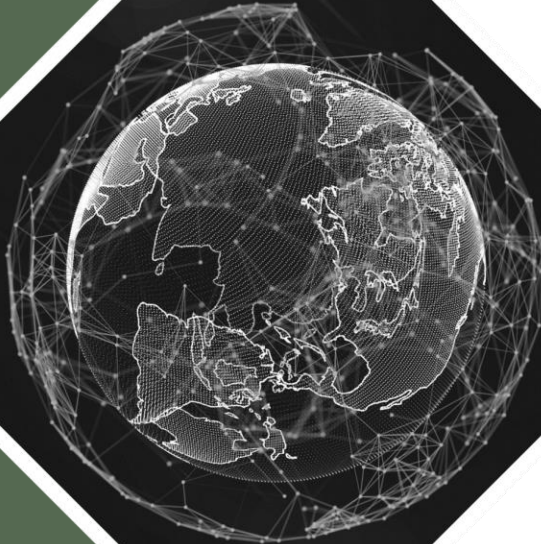
Thao Ton-That Whelan

ttonthat@icrc.org

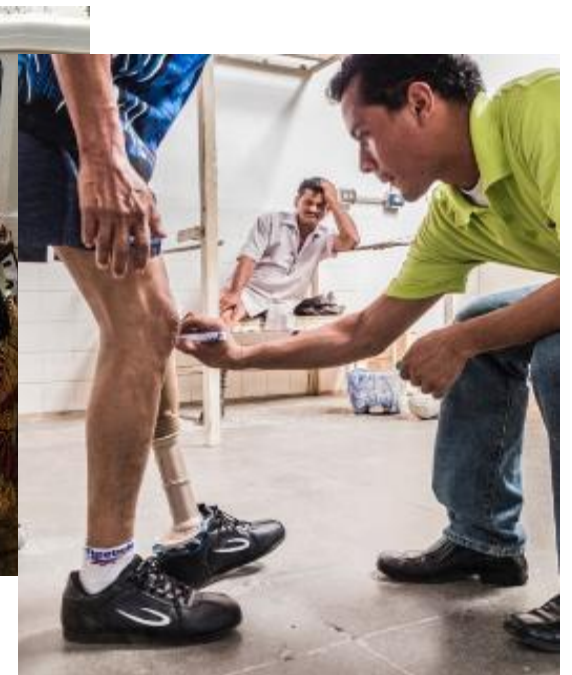gisupport@icrc.org

160 YEARS

160

On the side of Humanity

PROTECTING CIVILIANS

ECONOMIC SECURITY

DETAINEES

WATER and HABITAT

FAMILY LINKS

HEALTH

Over 20'000 staff in over 90 countries
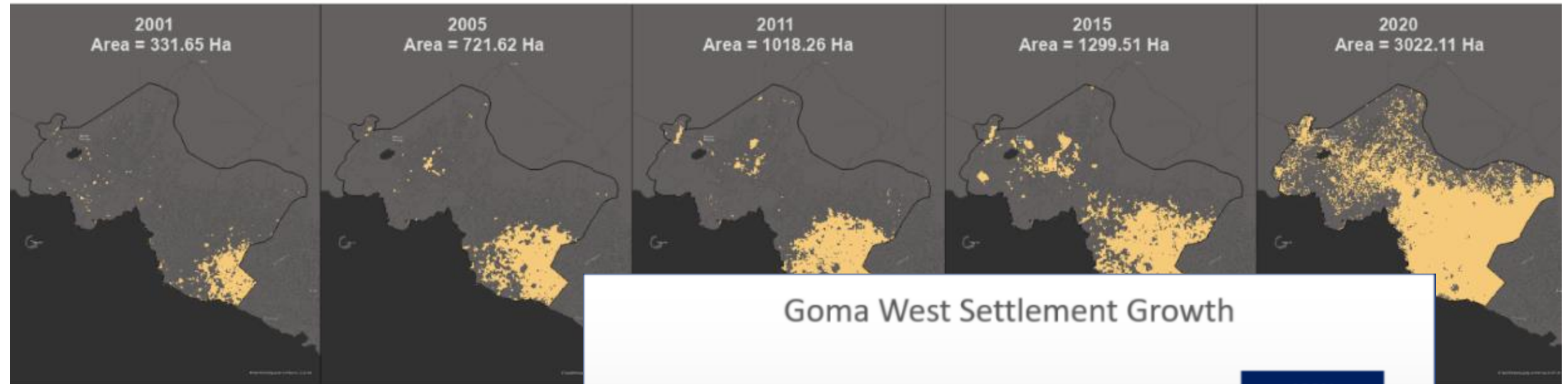GIS team: 50 field staff covering 75 countries (2 remote sensing analysts)

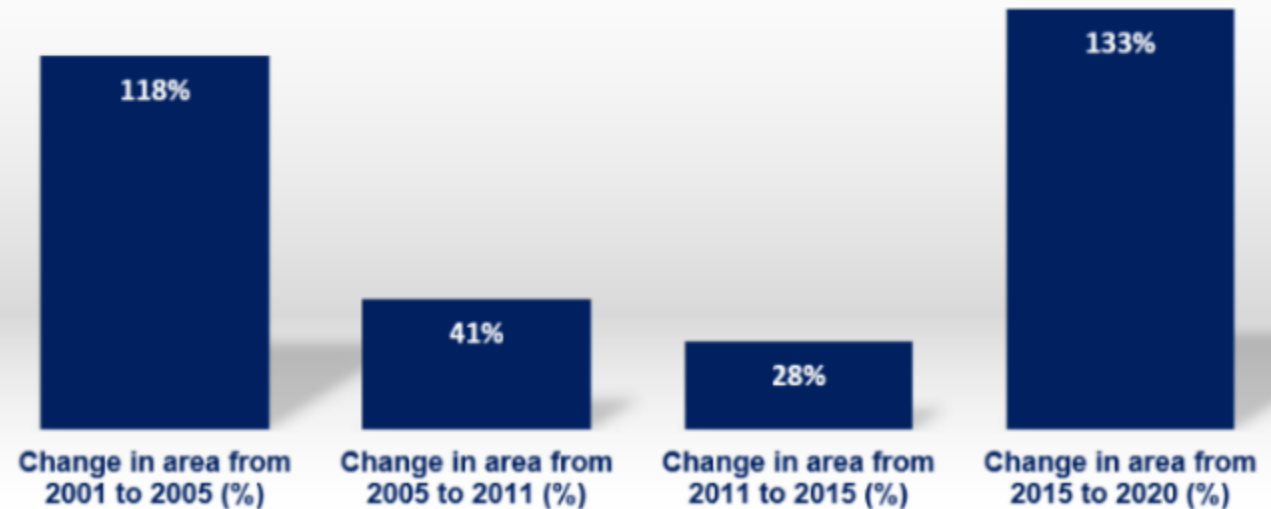# REMOTE SENSING AND GIS SUPPORT IN CRISIS

- Timeseries: urban, camp growth, NDVI

- Damage assessment: conduct of hostilities, support to authorities for reconstruction

Goma : landcover change showing urban growth 2001-2020 (Landsat)

GOMA WEST SETTLEMENT DEVELOPMENT

2001
Area = 331.65 Ha

2005
Area = 721.62 Ha

2011
Area = 1018.26 Ha

2015
Area = 1299.51 Ha

2020
Area = 3022.11 Ha

Goma West Settlement Growth

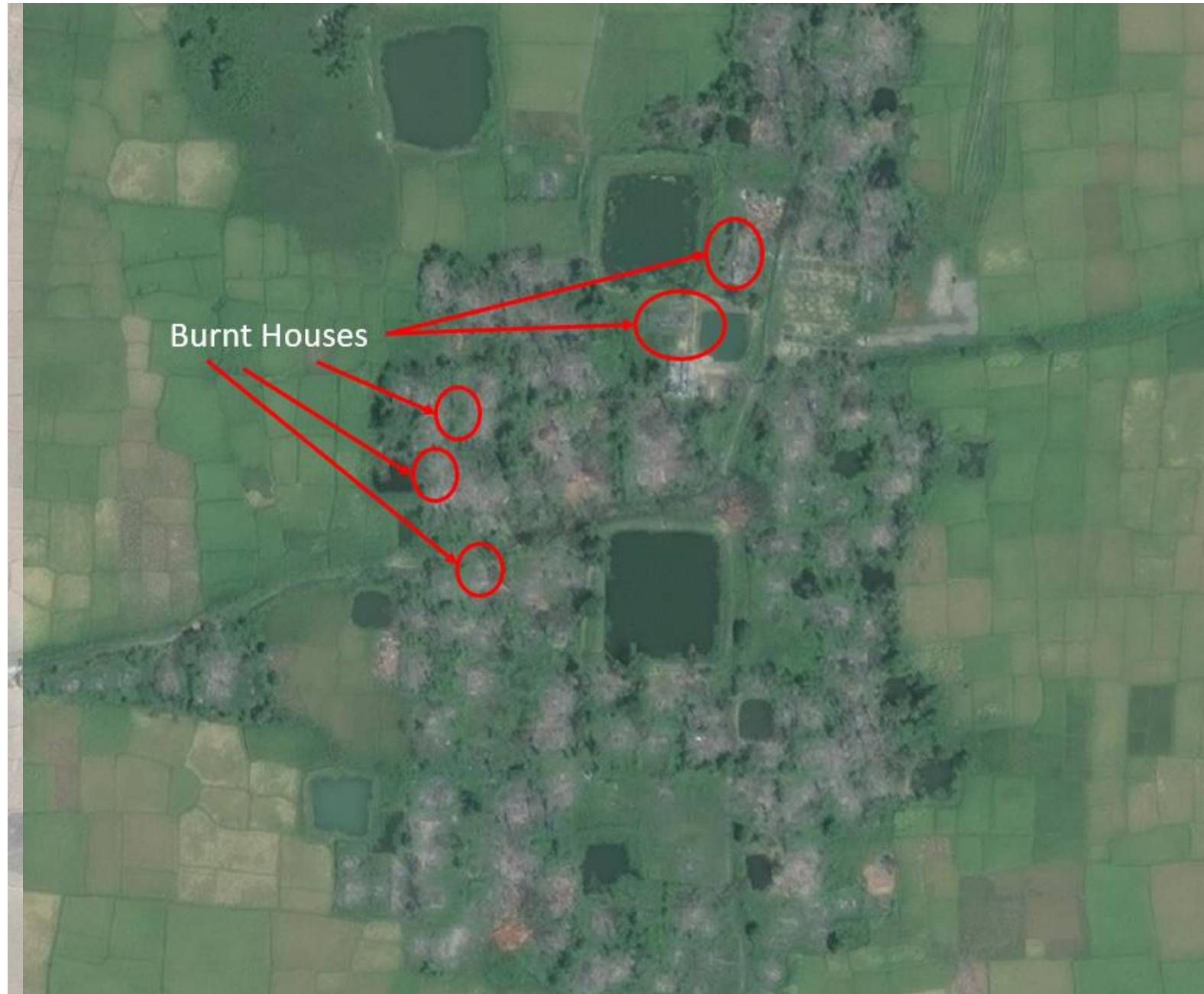| 118%	41%	28%	133%
Change in area from 2001 to 2005 (%)	Change in area from 2005 to 2011 (%)	Change in area from 2011 to 2015 (%)	Change in area from 2015 to 2020 (%)

05 April 2019

13 June 2019
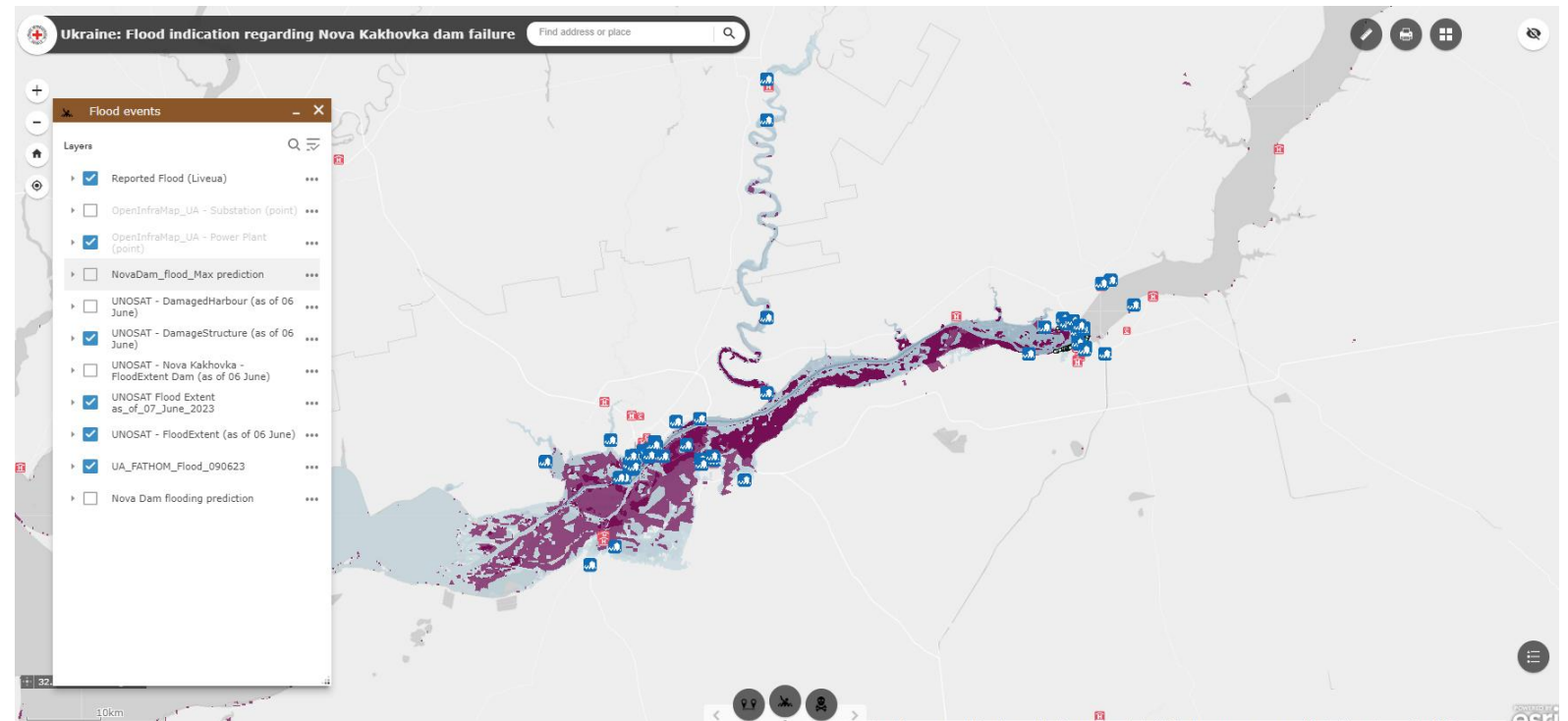
11 January 2014
20 Nov 2017

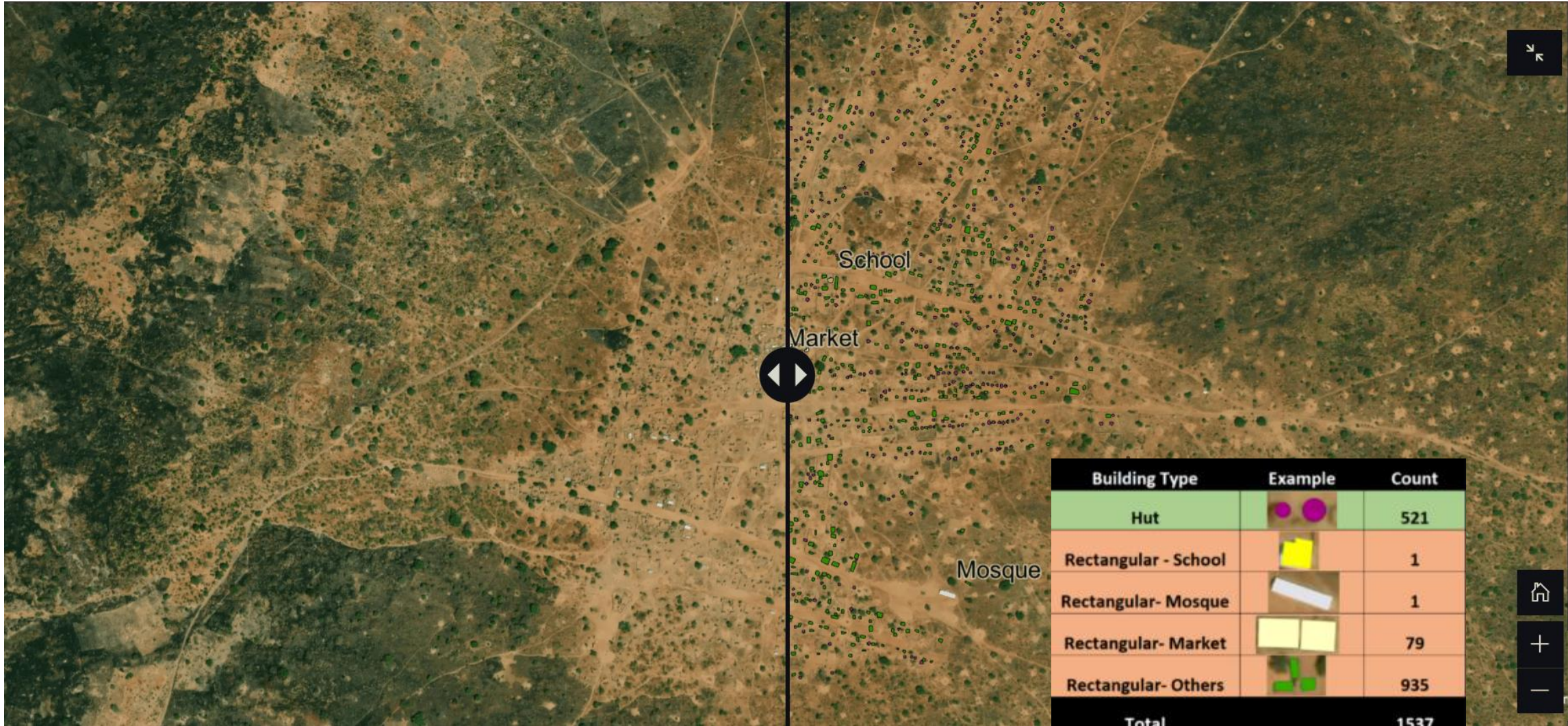Burnt Houses

©2014 Maxar
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REMOTE SENSING AND GIS SUPPORT IN CRISIS

Other supports we provide include:

- Security assessment: field trip preparation

- Gravesites identification: for later excavation

- Fires: burnt crops

- Floods: construction

04/07/2023

9

Deep Learning: Building Counting

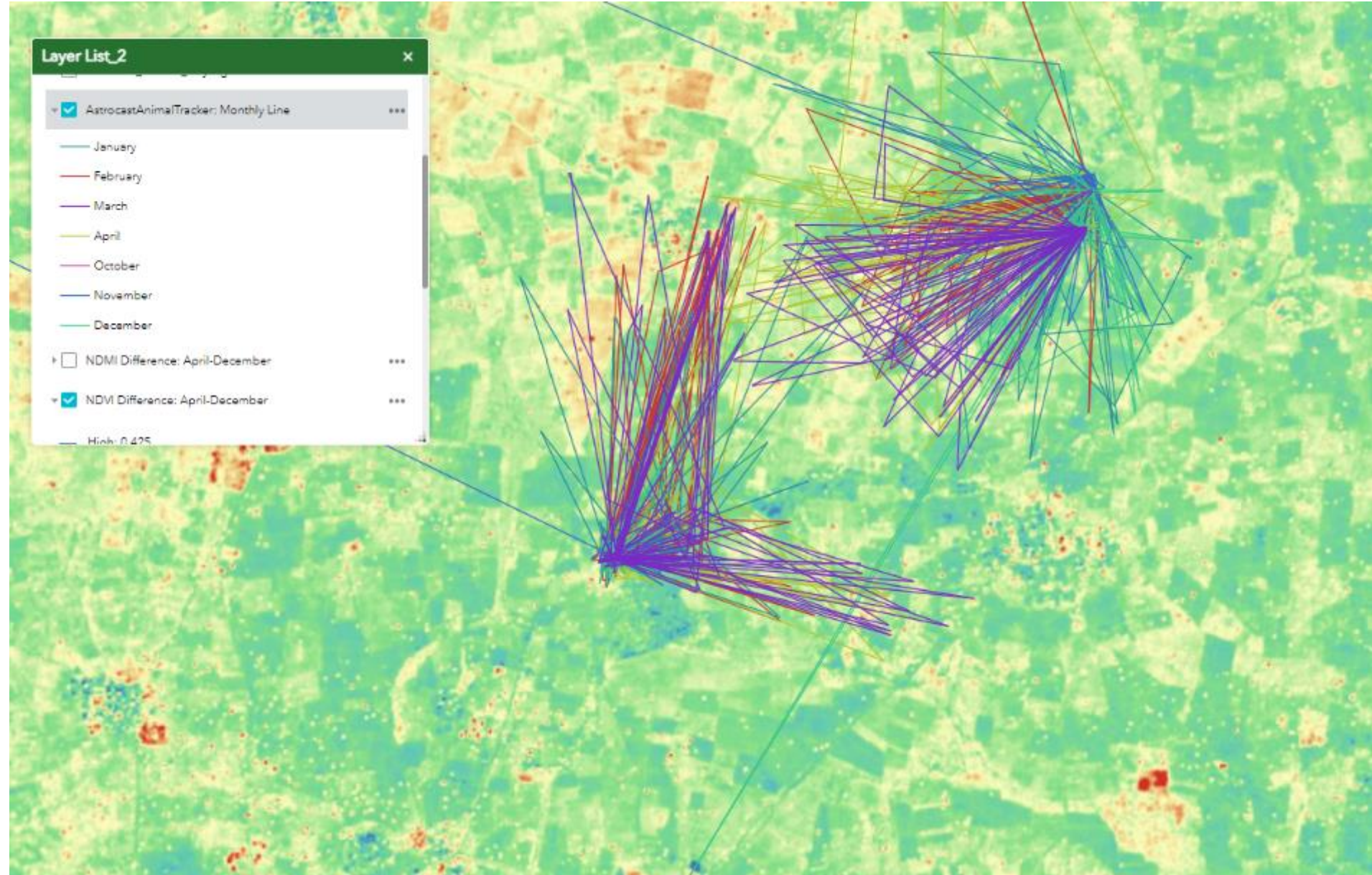| Building Type	Example	Count
Hut		521
Rectangular - School		1
Rectangular- Mosque		1
Rectangular- Market		79
Rectangular- Others		935
Total		**1537**

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Micro Satellite tasking

IoT and Vegetation, Moisture Indices

©Sentinel

EMERGING THEMES

- Do no harm principle:
  - Status of space assets: dual-use;
  - Data protection;
  - Perception;

- Cost of imagery: medium vs. very high resolution,

- Rapid support in crisis,

- Fast evolving technologies,

- and as always: connectivity, hardware, software, HR...

CONTACT DETAILS

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