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Collaboration for Technical Capacity Building Caribbean and the Americas

Agenda

1 CARIGEO

2 GeoAI Capacity Building

3 Jamaica and Dominca's Experience with TAP

4 SIRGAS – Capacity Building Efforts

GeoAI

- **Canada among leaders in deploying Geospatial AI for national mapping**
  - **GeoAI allows governments to map what matters, when and where it matters, rapidly, and as often as needed.**

Left side: Satellite image of Sherbrooke, QC.
Right Side: GeoAI Data Series, Geospatial AI to automatically extract roads, buildings, forested areas and waterbodies.

International GeoAI Capacity Building

- Canada employs a variety of mechanisms to support technology transfer, knowledge sharing, and capacity building in GeoAI.

- UN-GGIM: Americas GeoAI Community of Practice
- Bilateral engagements
- Global Affairs Canada's Technical Assistance Partnerships

In partnership with Canada

Technical Assistance Partnerships

- Canada has completed a GeoAI-focused technical assistance project with Dominica and is currently undertaking an initiative with Jamaica.
- Projects emphasize the application of GeoAI to enhance community resilience and disaster preparedness.
- Initiatives include funding for visits by Canadian experts to partner countries, as well as hosting foreign experts in Canada to foster knowledge exchange.
- Each technical assistance project is structured as a one-year engagement to maximize impact within a defined timeframe.

Dominica: Highly Vulnerable to Natural Disasters and Climate Change

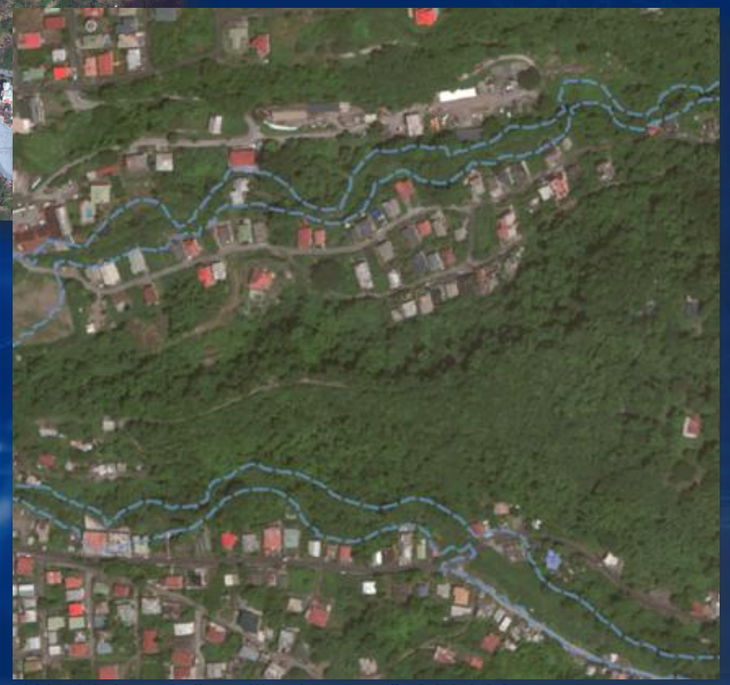
Destruction after Hurricane Maria in Scott's Head, Dominica. Image source: BBC News, "Dominica grieving: Life after Hurricane Maria," September 25, 2017

- Small island developing state in the Caribbean
- Devastated by category 5 Hurricane Maria in SEP 2017
- Committed to becoming the world's first climate-resilient country, with an ambitious reconstruction program
- Dominica public service rebuilding geospatial infrastructure and expertise post-Hurricane Maria

Value of Geospatial AI for Dominica

Worldview-2 Satellite image © 2024 Maxar Technologies

Left: *Hurricane Maria flood extent estimated from 2017 satellite images of Loubiere, Dominica (mock-up)*



Worldview-3 Satellite image © 2024 Maxar Technologies

Right*: Buildings within Hurricane Maria flood extent identified from 2023 satellite images of Loubiere, Dominica (mock-up)*

Short-Term (TAP Project): Dominica can use Geospatial AI to autonomously identify vulnerable buildings and infrastructure in flood-affected areas from Hurricane Maria.

Medium-Term (Post-Project): Technology used to identify flood hazards and support land management, erosion control, and emergency preparedness and response.

Long-Term (Post-Project): Integrated tools in Dominica's land planning automatically detect changes to land and human environments.

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Land-Cover Maps of Jamaica, 2016 and 2024

SIRGAS – Capacity building efforts

- Technical assistance on geometric and gravimetric networks (WG I and WGII)
- SIRGAS schools:
- GNSS Real-Time Processing, Reference Frames, Gravity & Heights, Very Long Baseline Interferometry & Satellite Laser Ranging
- Technical Support for infrastructure development
- Technical Assistance Program in Geodesy (e.g. Precise Point Positioning)

Discussion

- Questions for Presenters
- Best Practices for Capacity Building
- Examples & Opportunities for Capacity Building

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MUCHAS GRACIAS

MUITO OBRIGADO!

THANK YOU!