

VALE: Development and Validation of Earth Observation-Based Indicators for the Monitoring of the Sendai Framework Using the Example of Flooding in Ecuador



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Motivation & Background

Sendai Framework
for Disaster Risk Reduction
2015 - 2030

187 countries, 7 Global Targets, 38 indicators

→ Problem: lack of loss and damage data

Approach

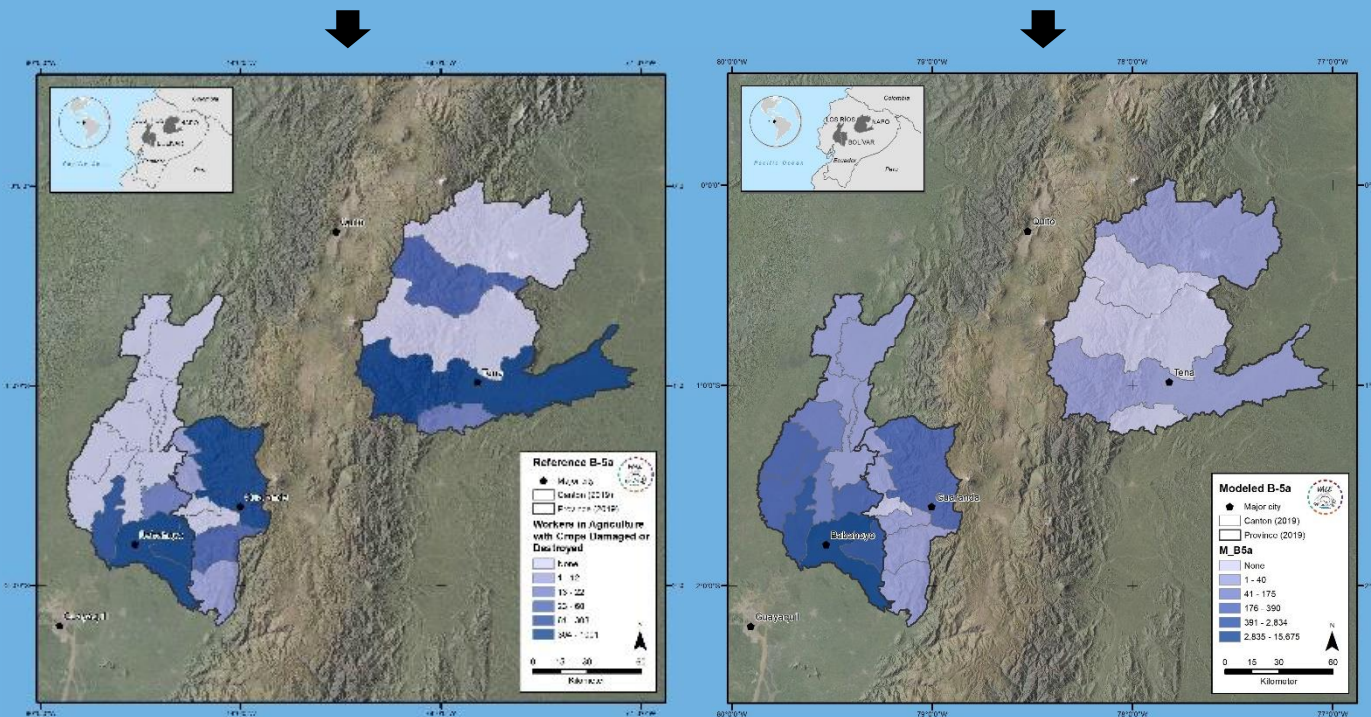
- Geospatial model to estimate flood loss and damage for select Sendai indicators
- Combine Sentinel-1 and other geospatial data
- Example of flooding in Ecuador
 - 3 focal provinces to represent coastal, mountainous, & Amazon regions

2017 Sendai indicator B-5a: Number of workers in agriculture with crops damaged or destroyed

Reference B-5a: Validated
in-situ flood loss & damage data



Modelled B-5a: Input flood hazard severity,
cropland & census data



Differences Between Reference and Modelled B-5a

- Over reporting (coastal province) due to exposed cropland
- Under reporting (Amazon province) due to high forest coverage & low number of Sentinel-1 scenes

→ Validate Modelled B-5a to address problem

Next Steps

Validation procedure adjustments:

- Crop cycle calendar
- Hazard data
- Ecuador flood risk assessment integration (flood hazard-exposure and vulnerability)

More information at:
www.ehs.unu.edu

