MAPS MATTER
Approaching Resilience through Spatial Risk Analysis

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ADB Integrated Disaster Risk Management Approach

Cross-cutting actions

Outcome

Strengthened disaster resilience

Reduced disaster risk in the immediate and long term

Enhanced residual risk management for effective disaster response

Principles/requirements

Integrate disaster risk reduction into development

Many development actions carry potential disaster risk but also provide opportunities to strengthen resilience

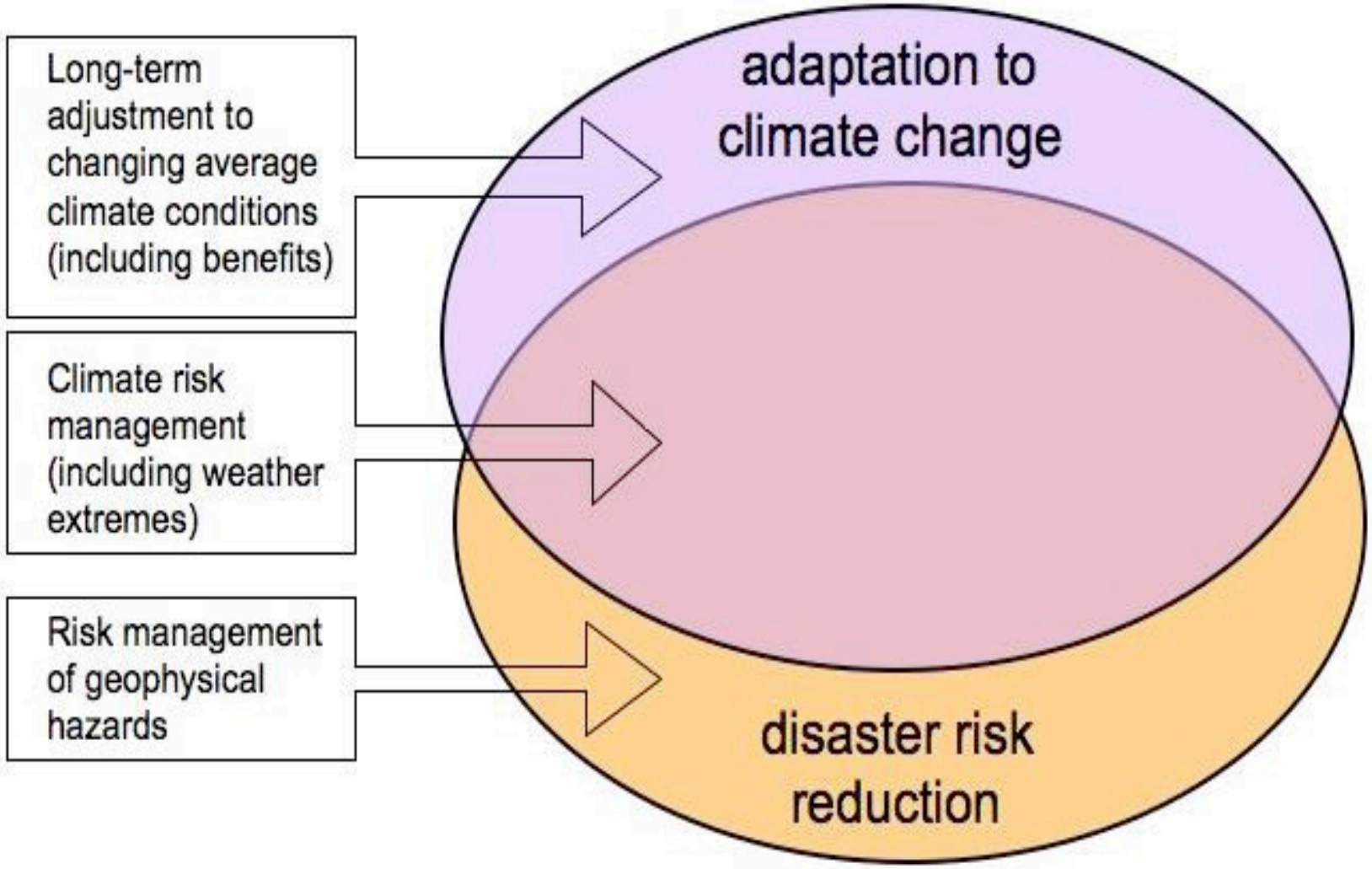
Address the disaster risk management-climate change adaptation intersection

DRM investments may underperform and ultimately even exacerbate disaster risk if climate change is ignored

Develop disaster risk financing capabilities

Levels of expenditure on disaster risk reduction and residual risk management should be increased to reflect long-term risk profiles

Disaster Risk Reduction and Climate Change Adaptation



Risk-Informed Programming

Emergency interventions should be less shock-driven and more focused on vulnerability.

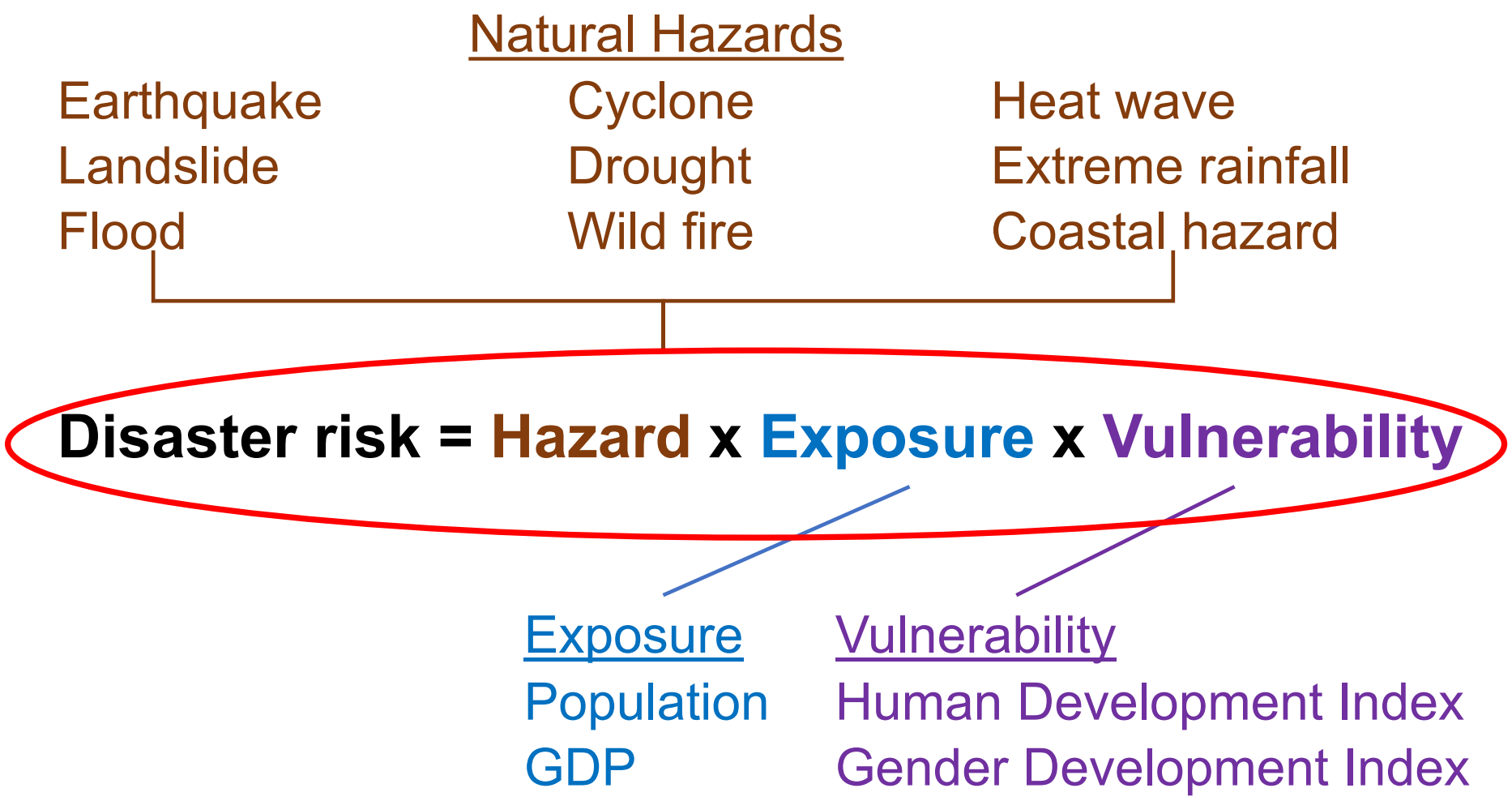
Development interventions should not be 'blind' to disaster risk and climate change

→ Risk-informed programming incorporating

- disaster risk
- climate change
- conflict risk
- economic volatility

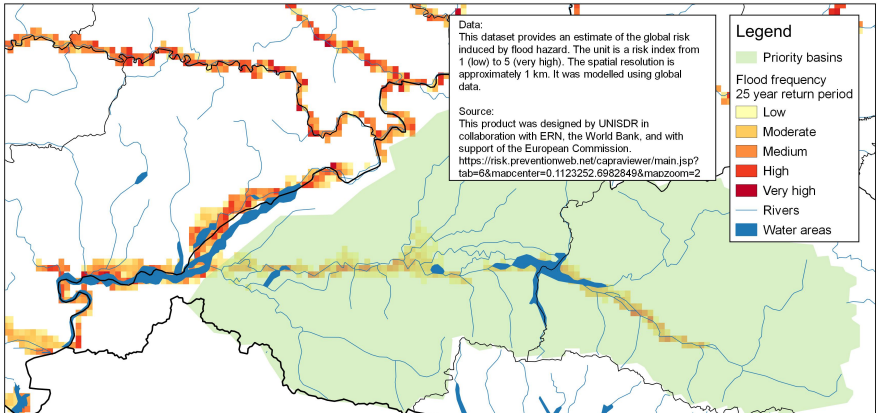
Resilience

Disaster Risk Indicators

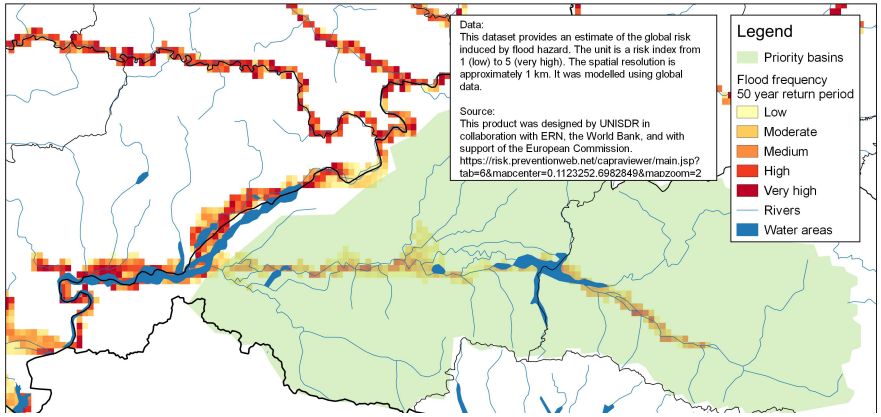


Probabilistic Risk Assessments

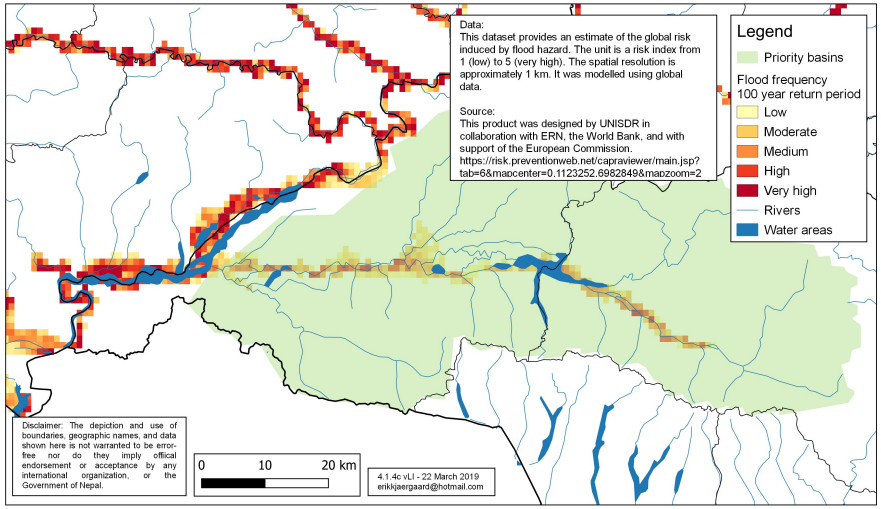
Modelled 25-year Flood Hazard of East Rapti



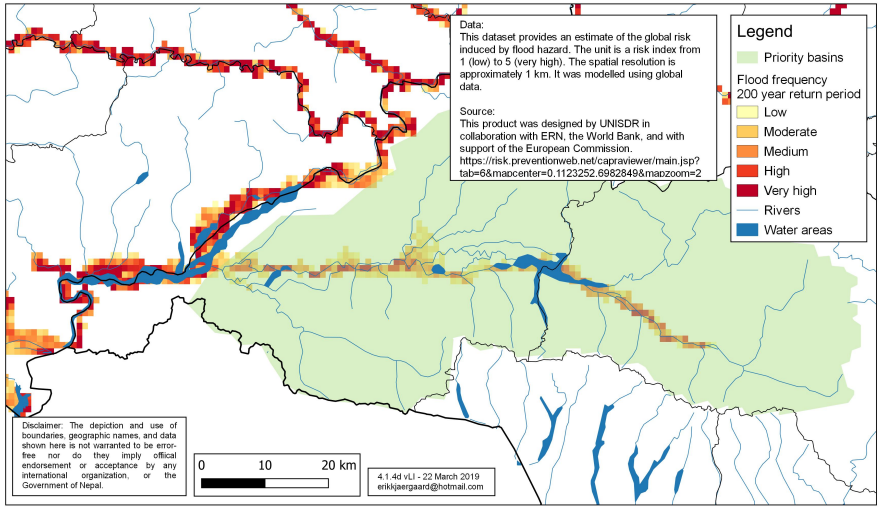
Modelled 50-year Flood Hazard of East Rapti



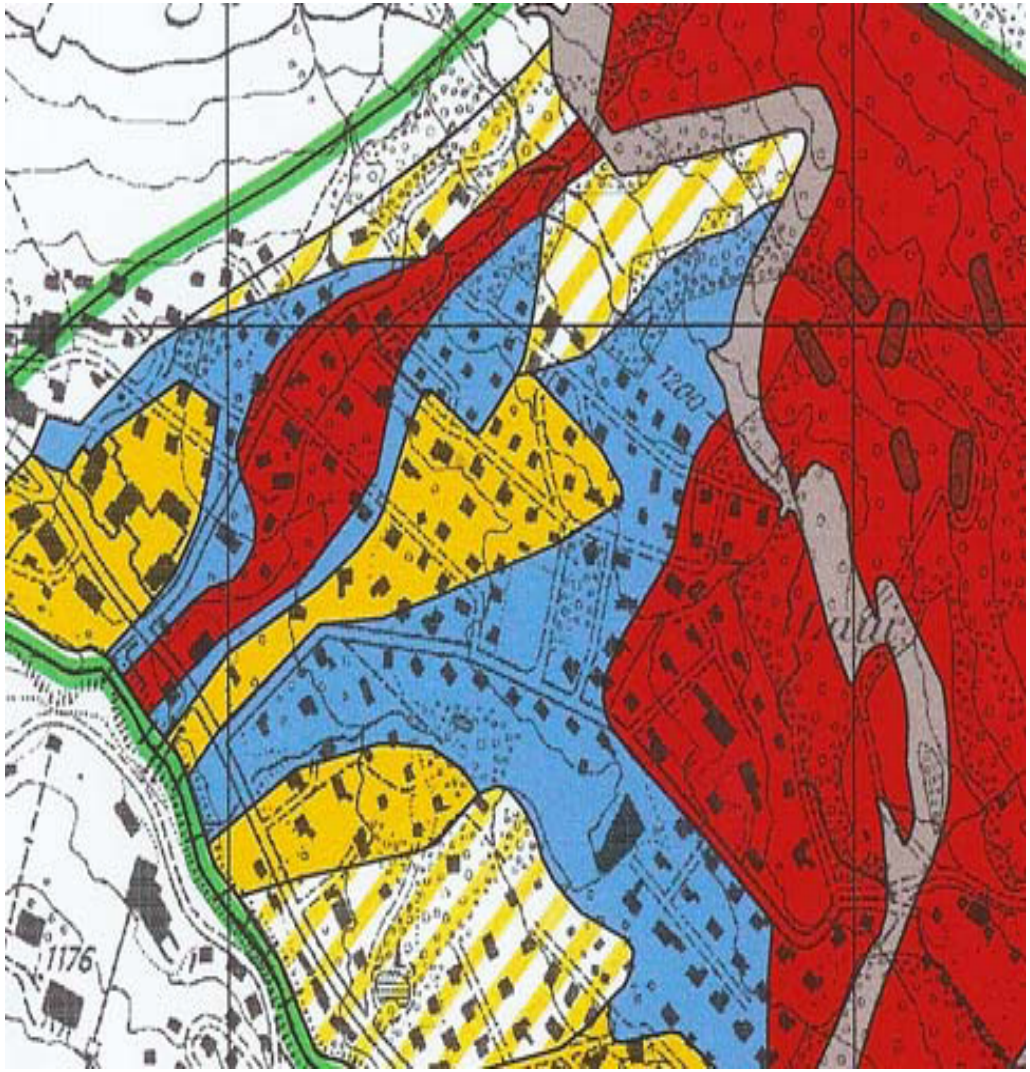
Modelled 100-year Flood Hazard of East Rapti



Modelled 200-year Flood Hazard of East Rapti



Swiss Example of Land Zoning



Hazard map based on:

1) Intensity

2) Probability

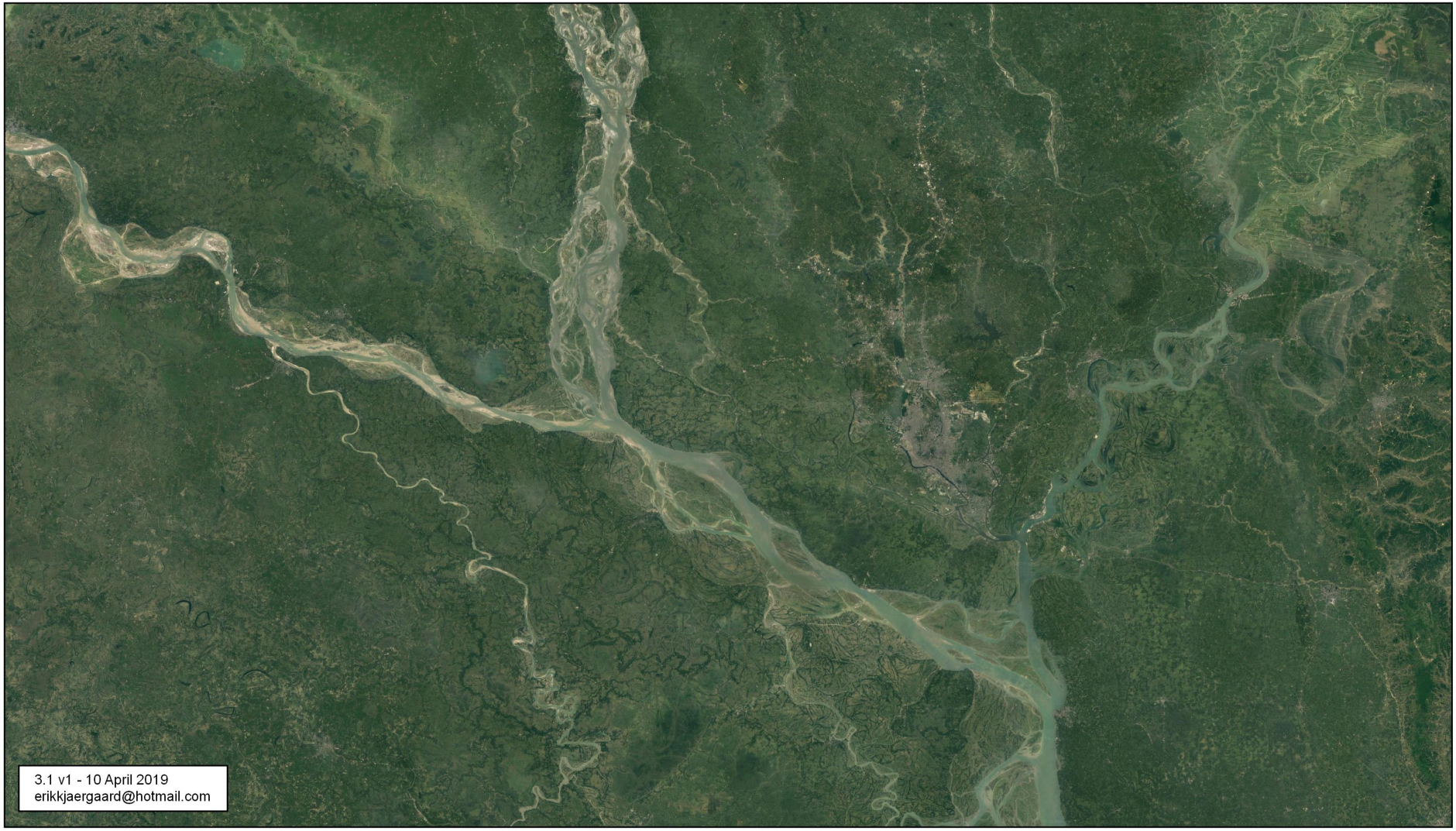
Red: high danger → prohibited area

Blue: medium danger → conditional use

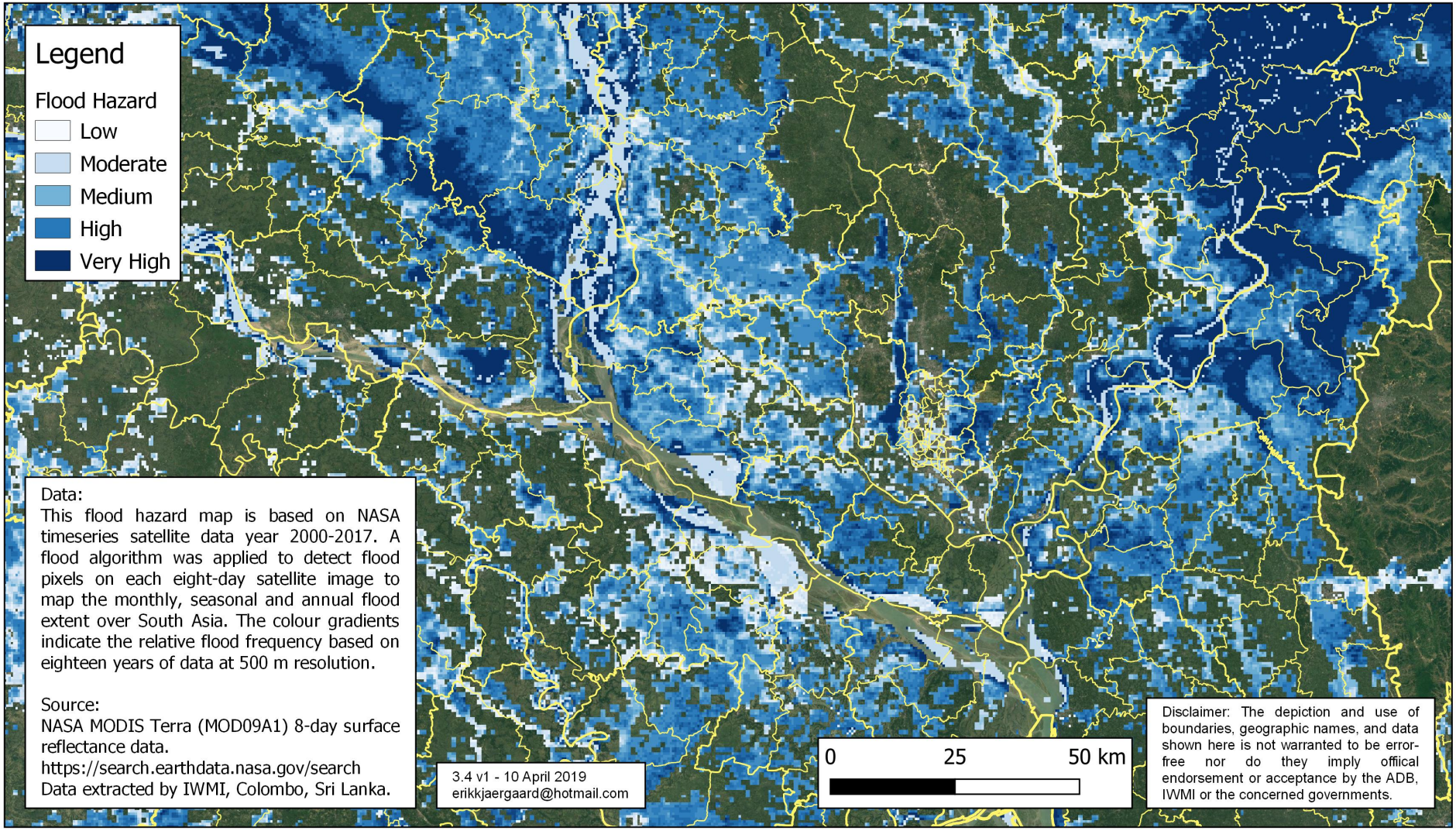
Yellow: low danger → awareness zone

White: residual → awareness zone

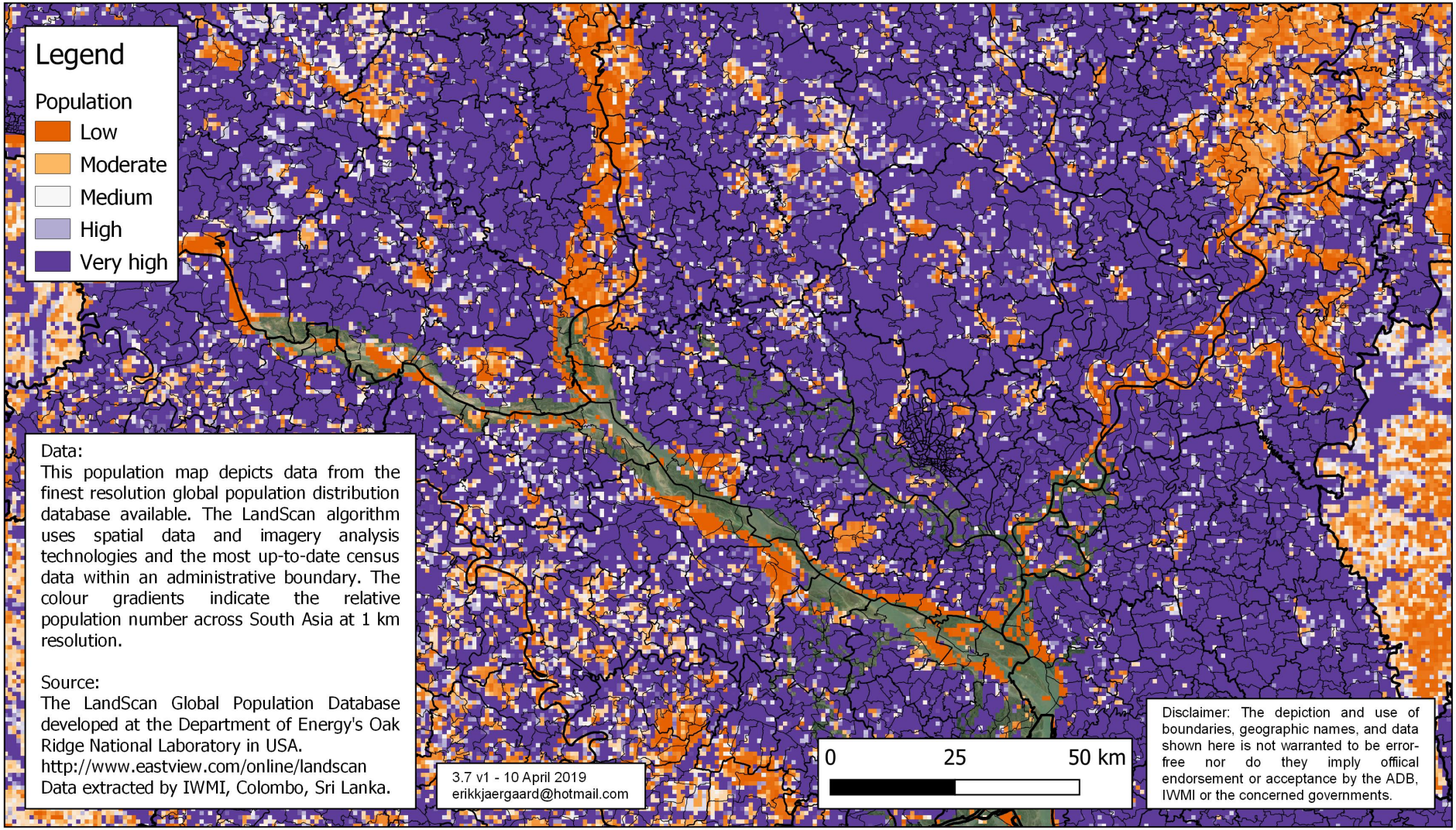
Greater Dhaka and Surroundings



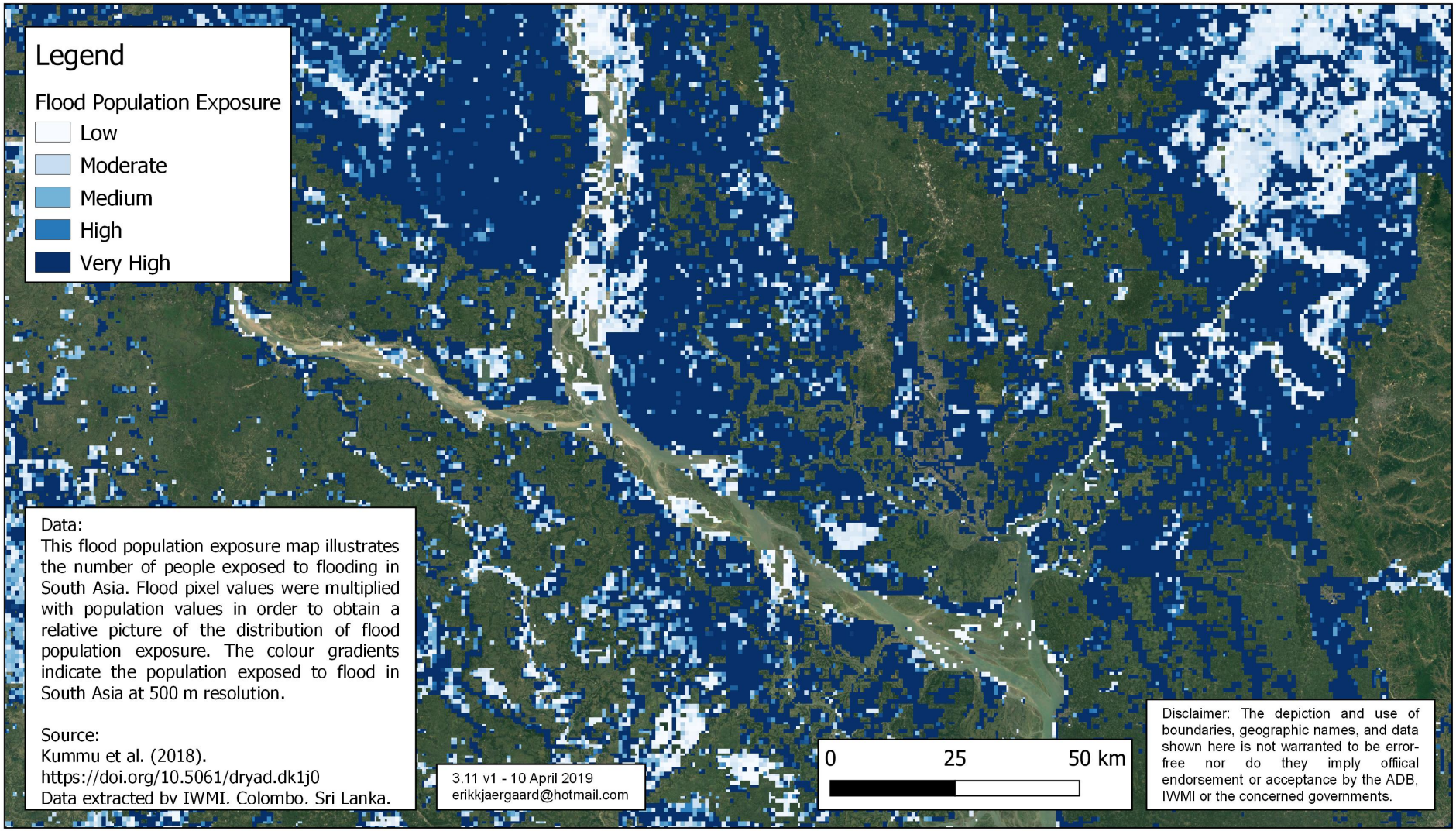
Greater Dhaka Flood Hazard Map



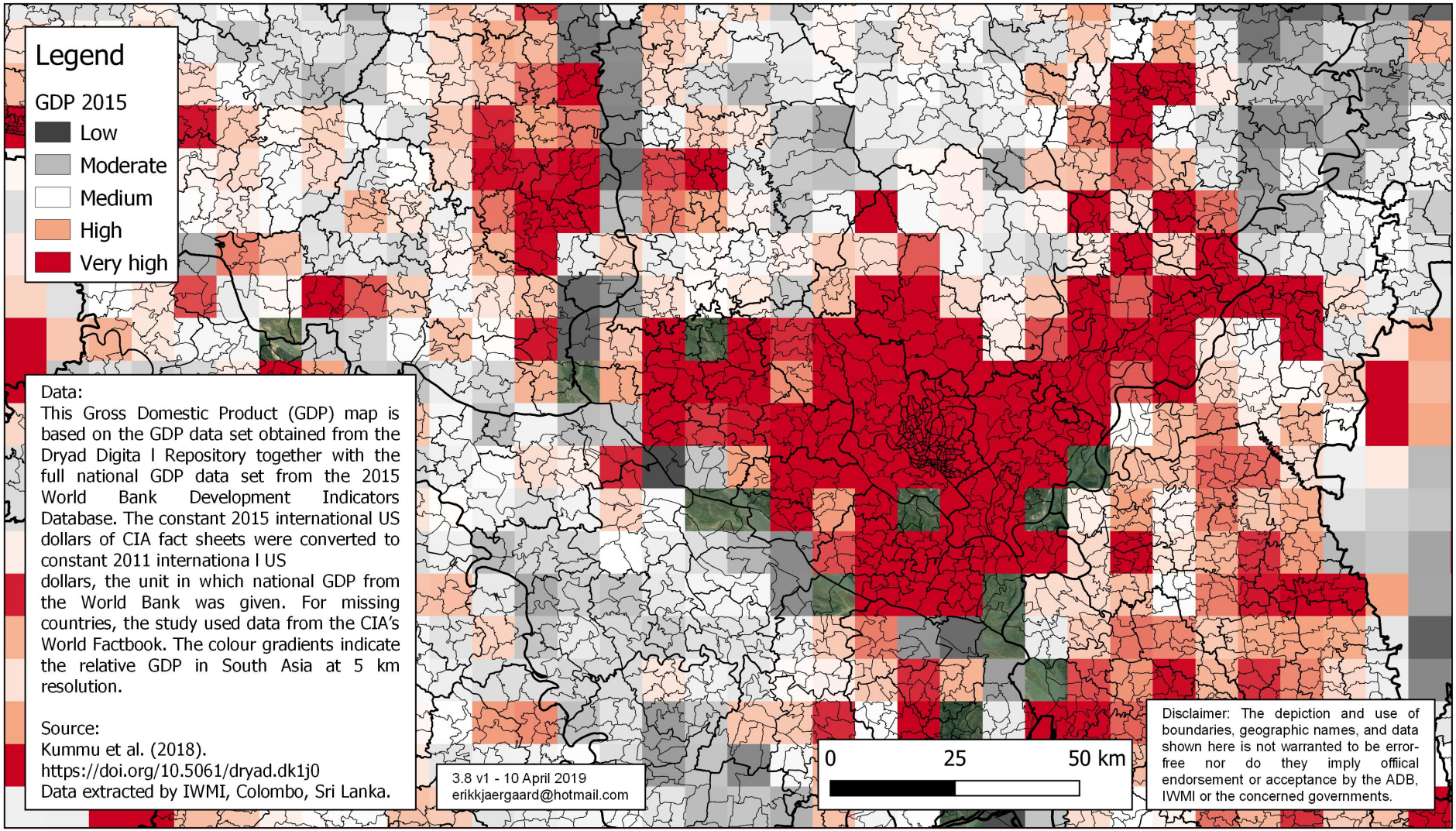
Greater Dhaka Population Map



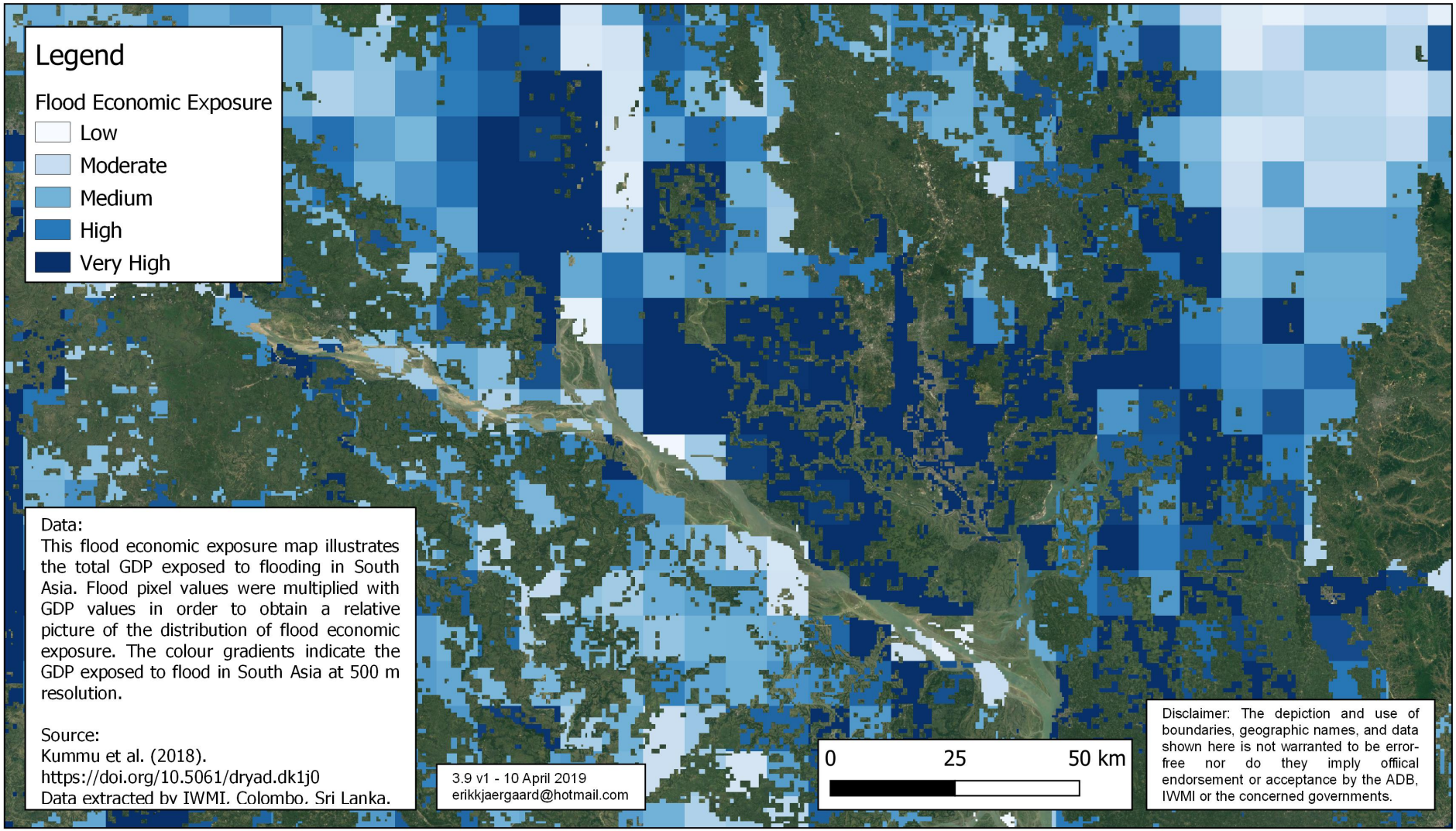
Greater Dhaka Flood Population Exposure Map



Greater Dhaka GDP Map



Greater Dhaka Flood Economic Exposure Map



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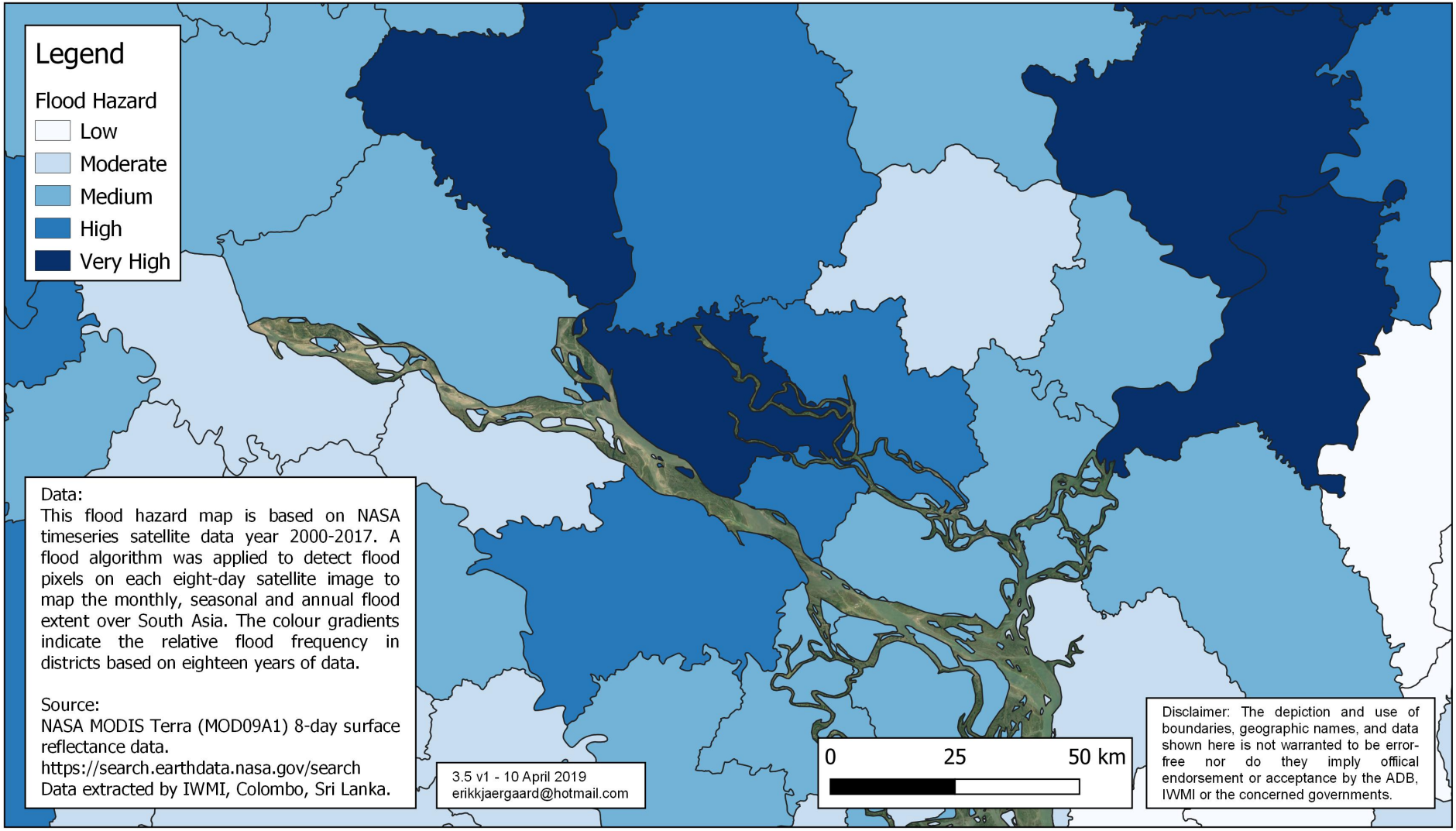

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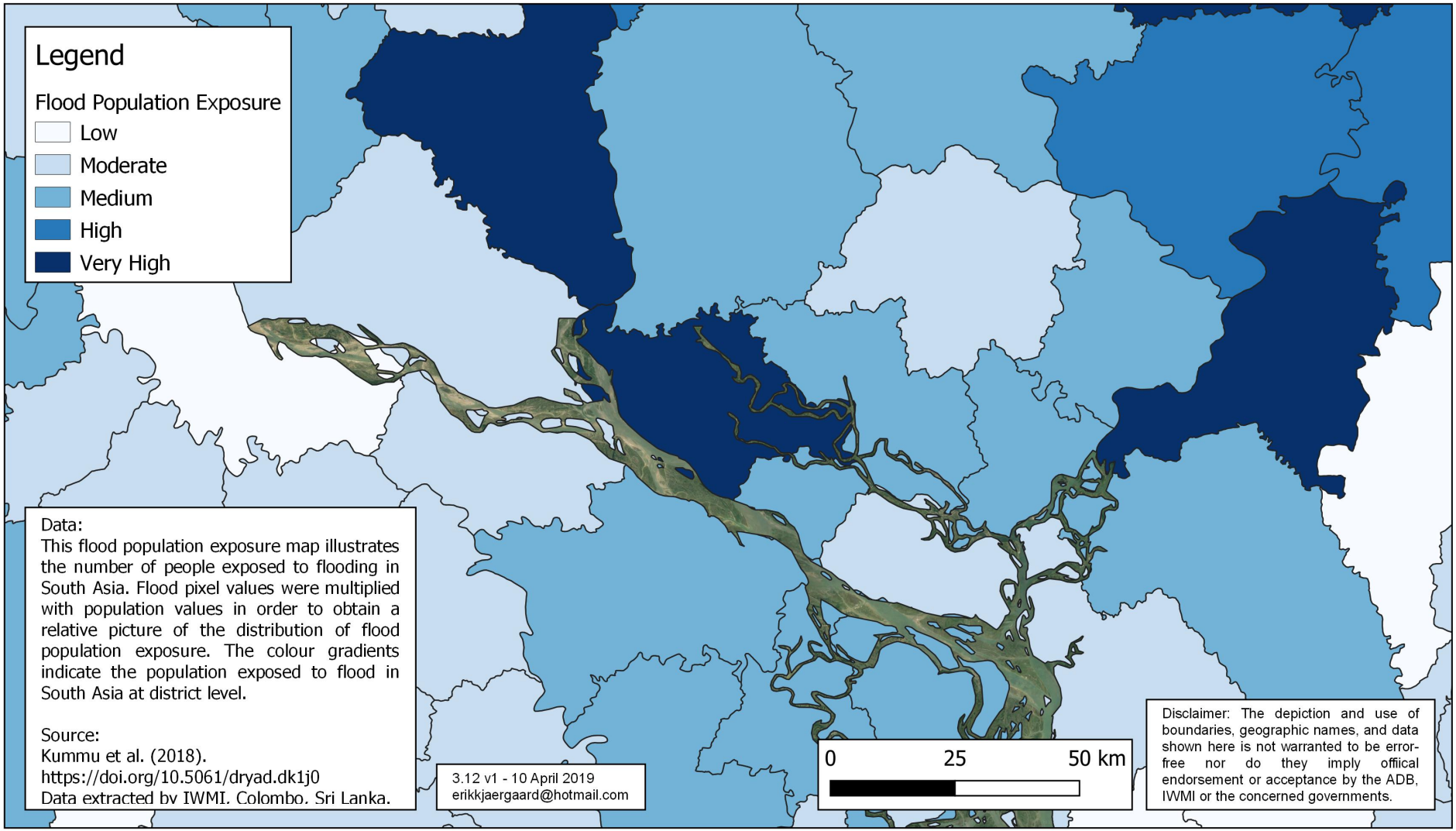
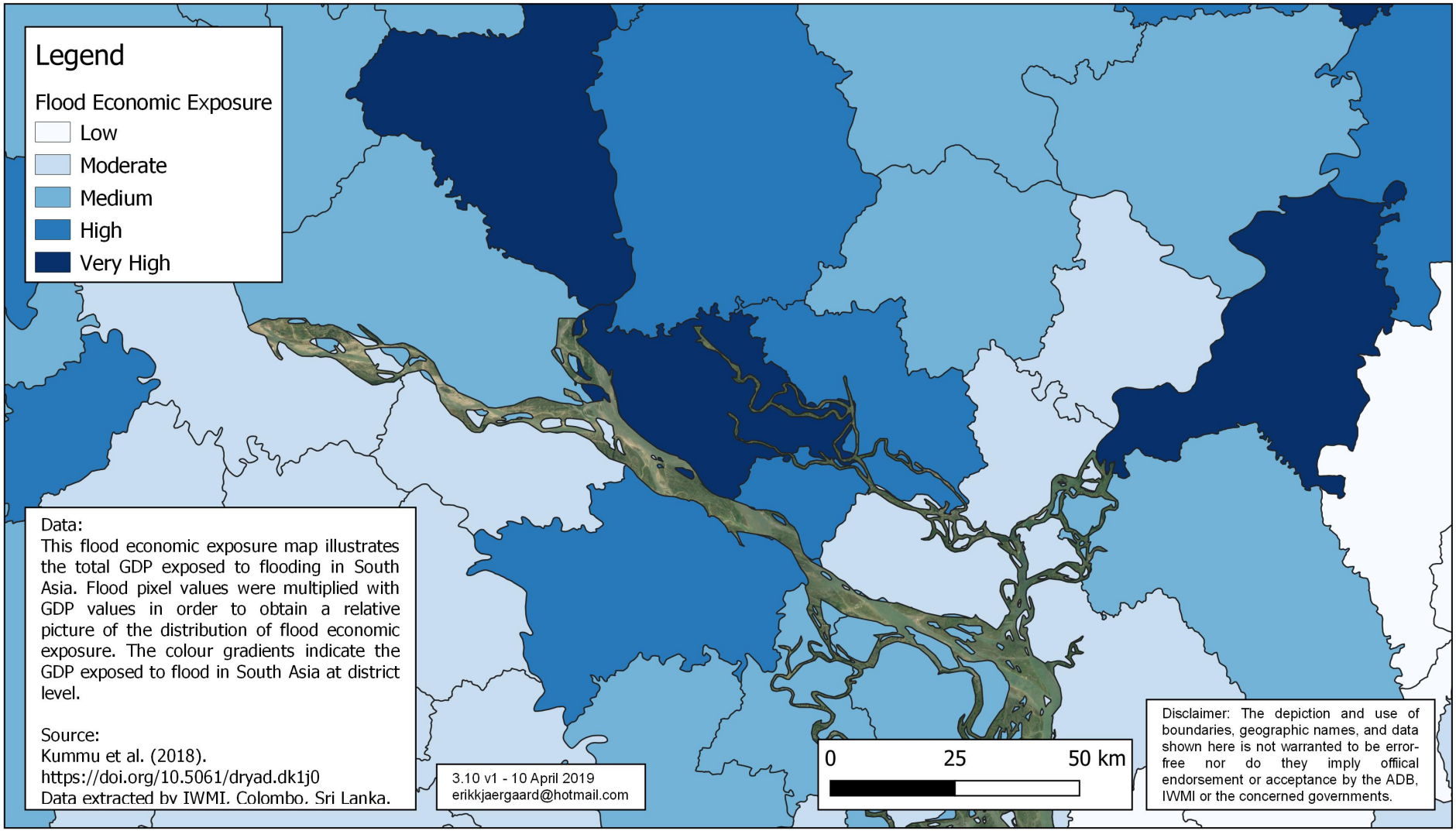


Greater Dhaka Flood Economic Exposure Map



Key Messages

- Publicly available datasets and open source software open doors to new ways of approaching resilience
- Spatial risk mapping has great potential to enhance ADB's approach to DRM and adaptation
- Not only natural hazards and climate change matters – exposure and vulnerability are equally or perhaps more important
- Disaster risk reduction offers baseline data for adaptation and resilience