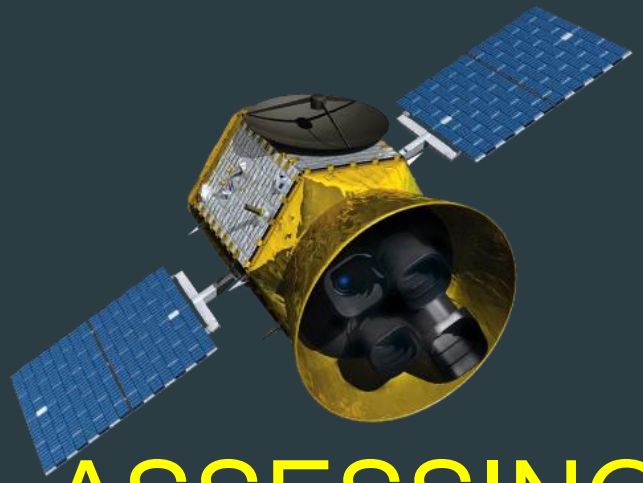
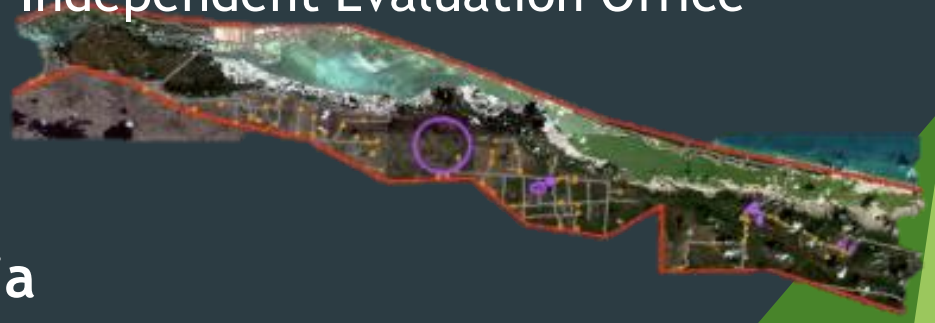


ASSESSING IMPACTS ON EARTH FROM BEYOND EARTH

Experiences of the Global Environment Facility (GEF) Independent Evaluation Office



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IEC Independent Evaluation Office

Some Reasons Evaluation Can Be Painful

Inaccessible data

No control group available

Large and/or inaccessible area to cover

Non-existent baseline or post-project data

WHAT IS THE IMPACT OF GEF SUPPORT?

US$ 3.4 billion in grants to **137 countries**

US$ 12.0 billion in cofinancing for **618 projects**

over the last **25 years**

2,785,350 sq km

A Solution

Geospatial Methods

Independent Evaluation Office

What are some evaluation questions that GEOSPATIAL METHODS can answer?

Relevance

Are we doing the right thing in the right places?

Results

What changes occurred?

What caused those changes?

Return on Investment

How much of the result are we getting per unit dollar?

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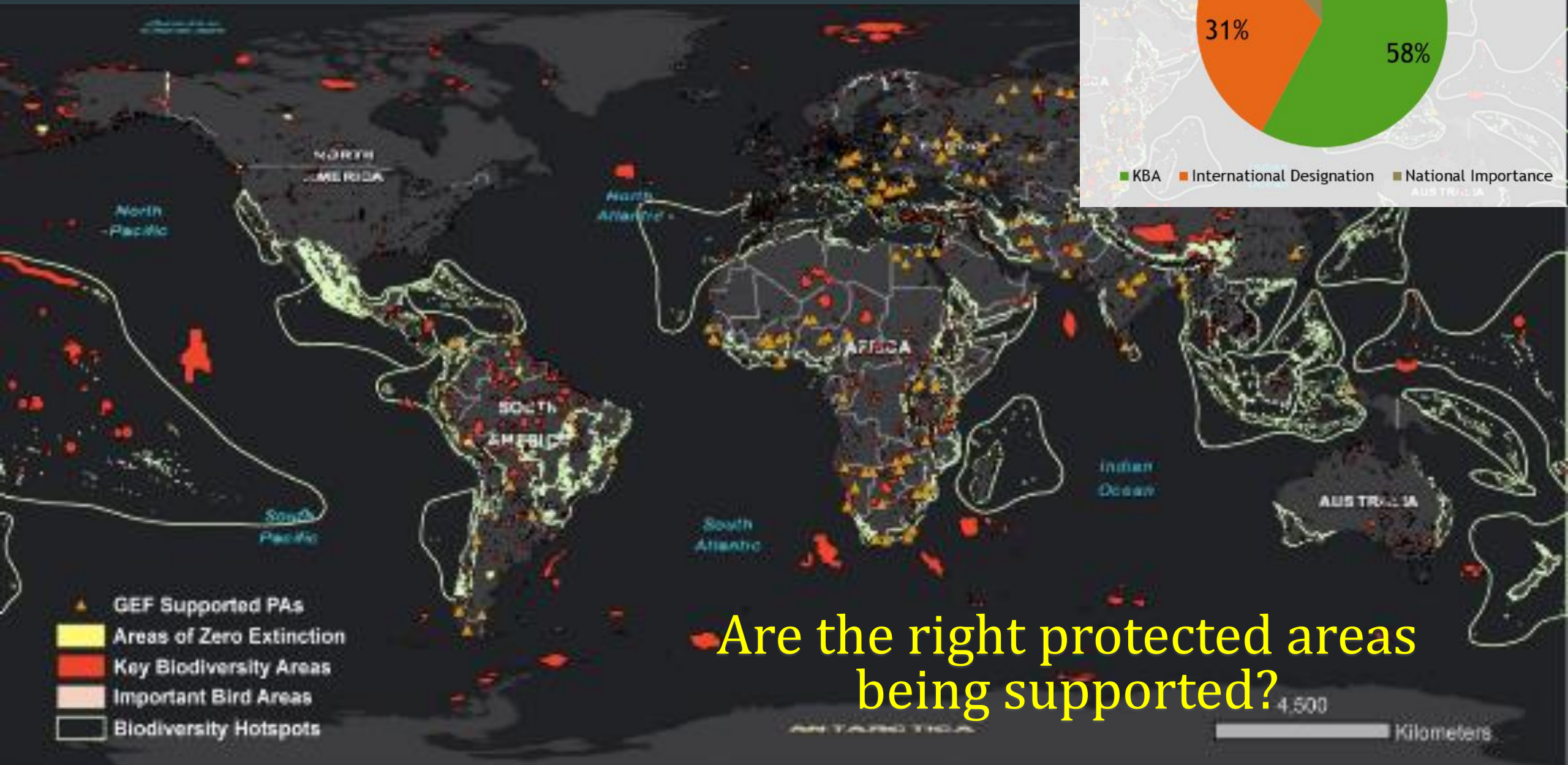
Relevance


NORTH AMERICA
EUROPE
ASIA
AFRICA
SOUTH AMERICA
AUSTRALIA
North Pacific
North Atlantic
South Pacific
South Atlantic
Indian Ocean
Are the right protected areas being supported?
GEF Supported PAs
Count: 1292
Area: 2785350 Sq KM
0
4,500
9,000
Kilometers

Relevance



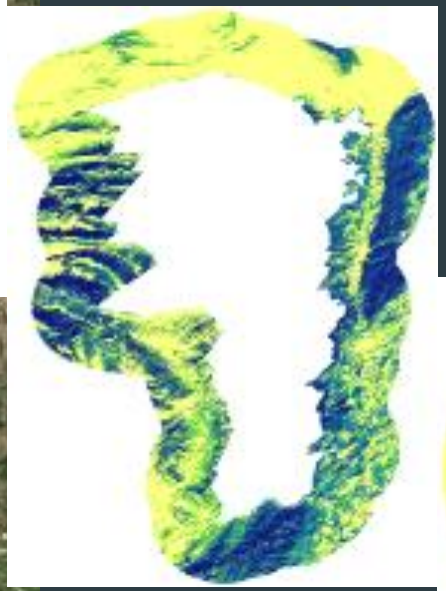
Are the right protected areas being supported?

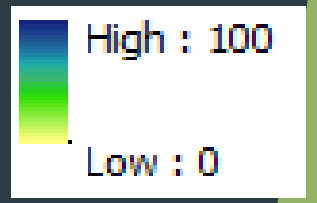
Results

How much forest cover loss was avoided?

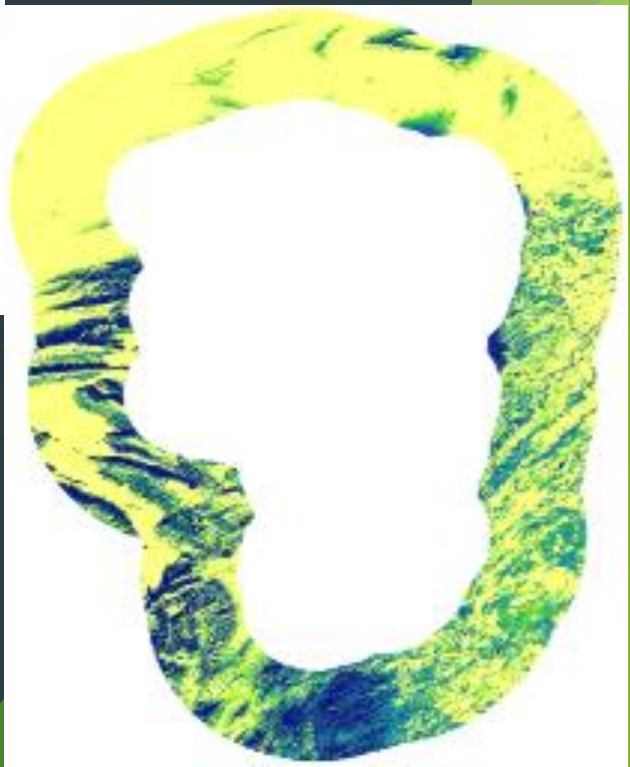
PA

PA - 10km





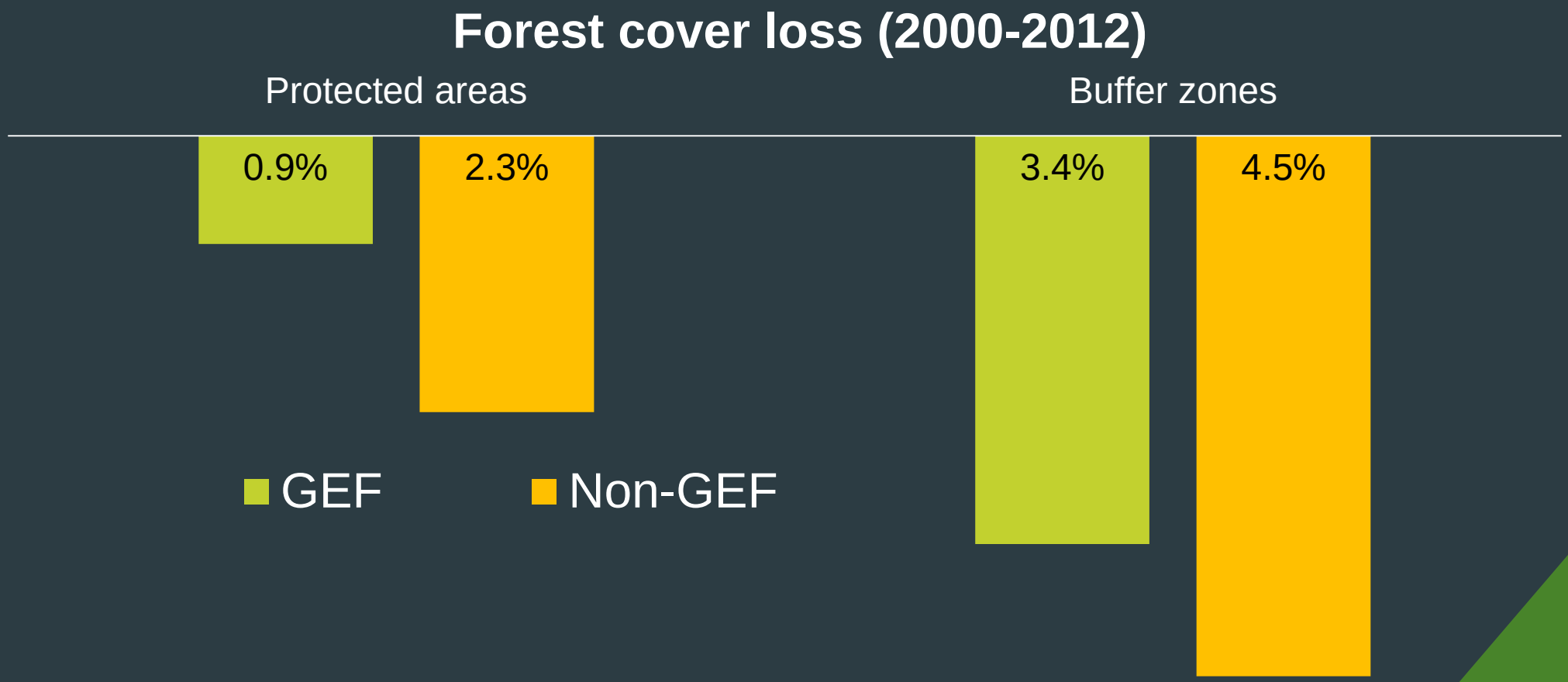
PA - 25km



Percent Tree Cover (2000)

Results

We were able to compare across multiple scales and comparison criteria



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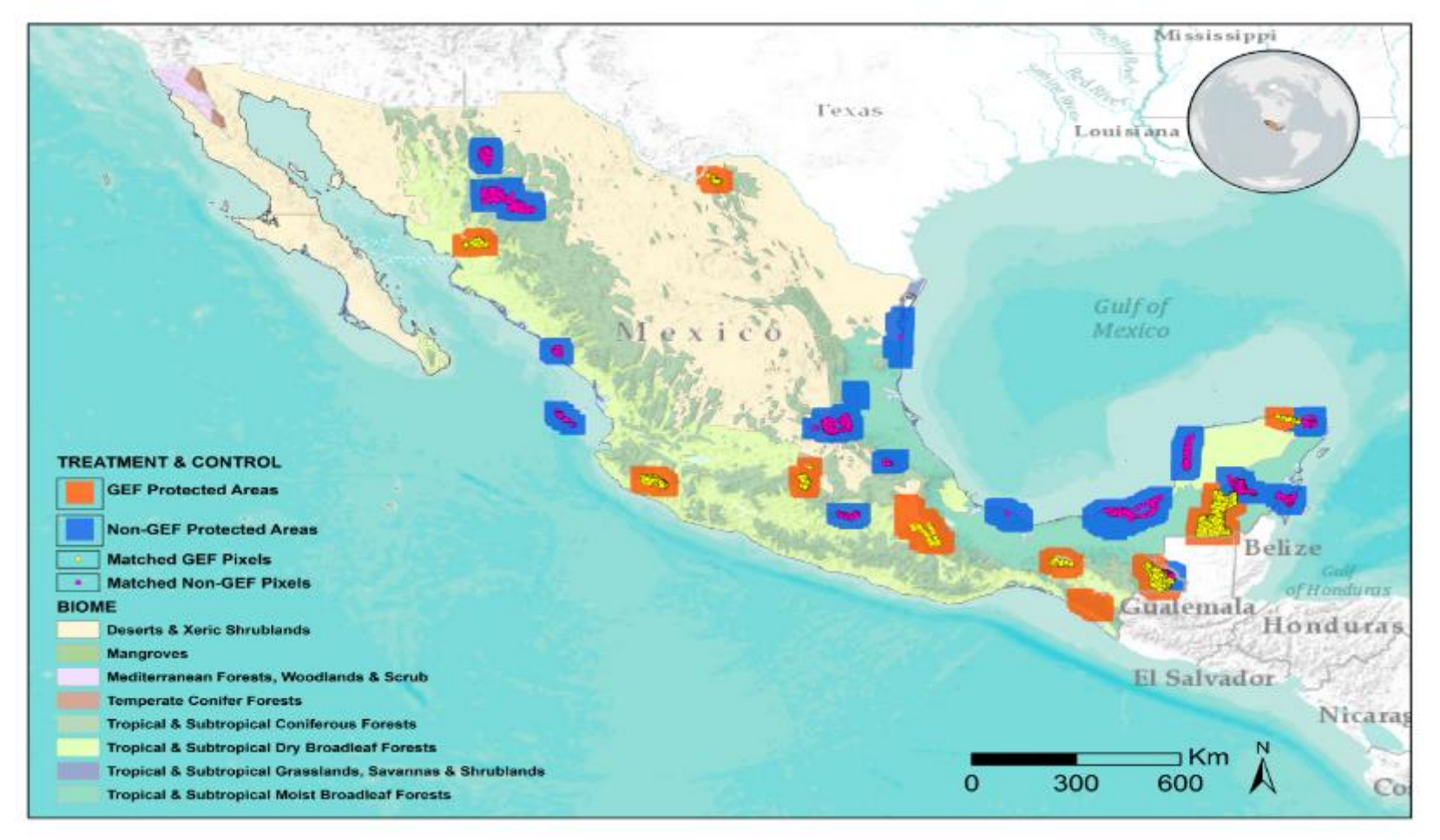
Results

Did GEF support cause the change?



GEF-supported PAs have 23% less forest loss BUT results vary across biomes

Quasi-experimental evaluation design based on Propensity Score Matching

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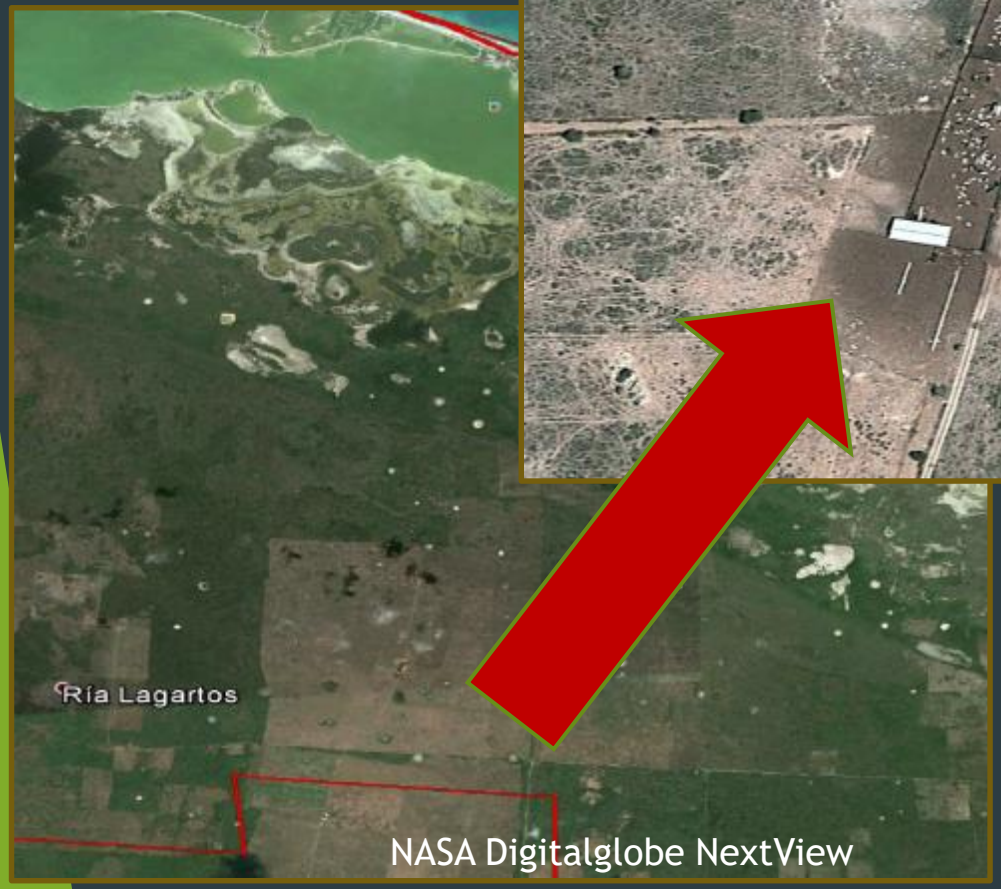
Results

What factors caused the difference in results?

2.5 m

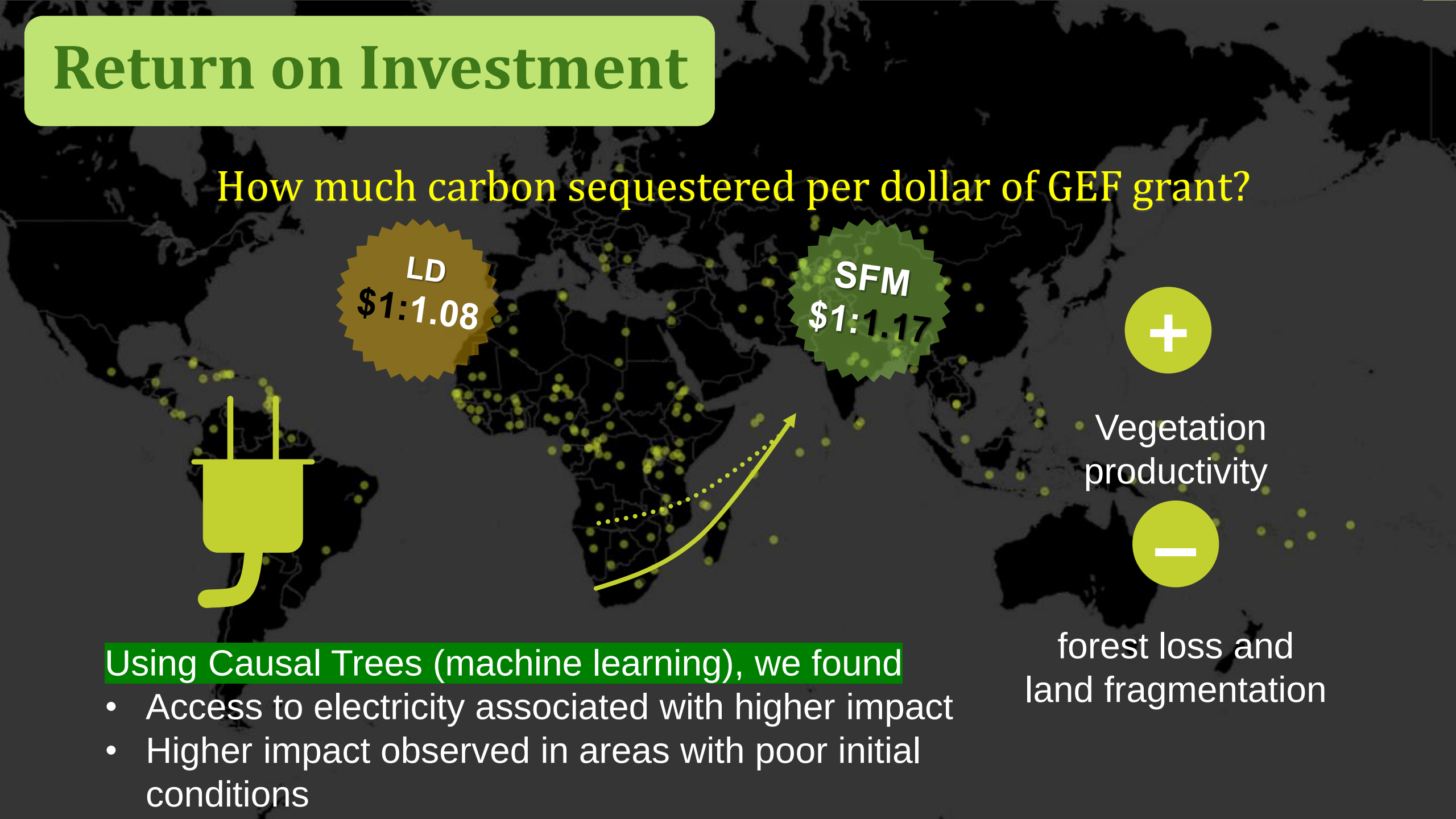
30 m zoomed in to 2.5 m



Images at 2.5 to 0.5 m resolution used to identify drivers of change that hinder success of GEF support

Return on Investment

How much carbon sequestered per dollar of GEF grant?



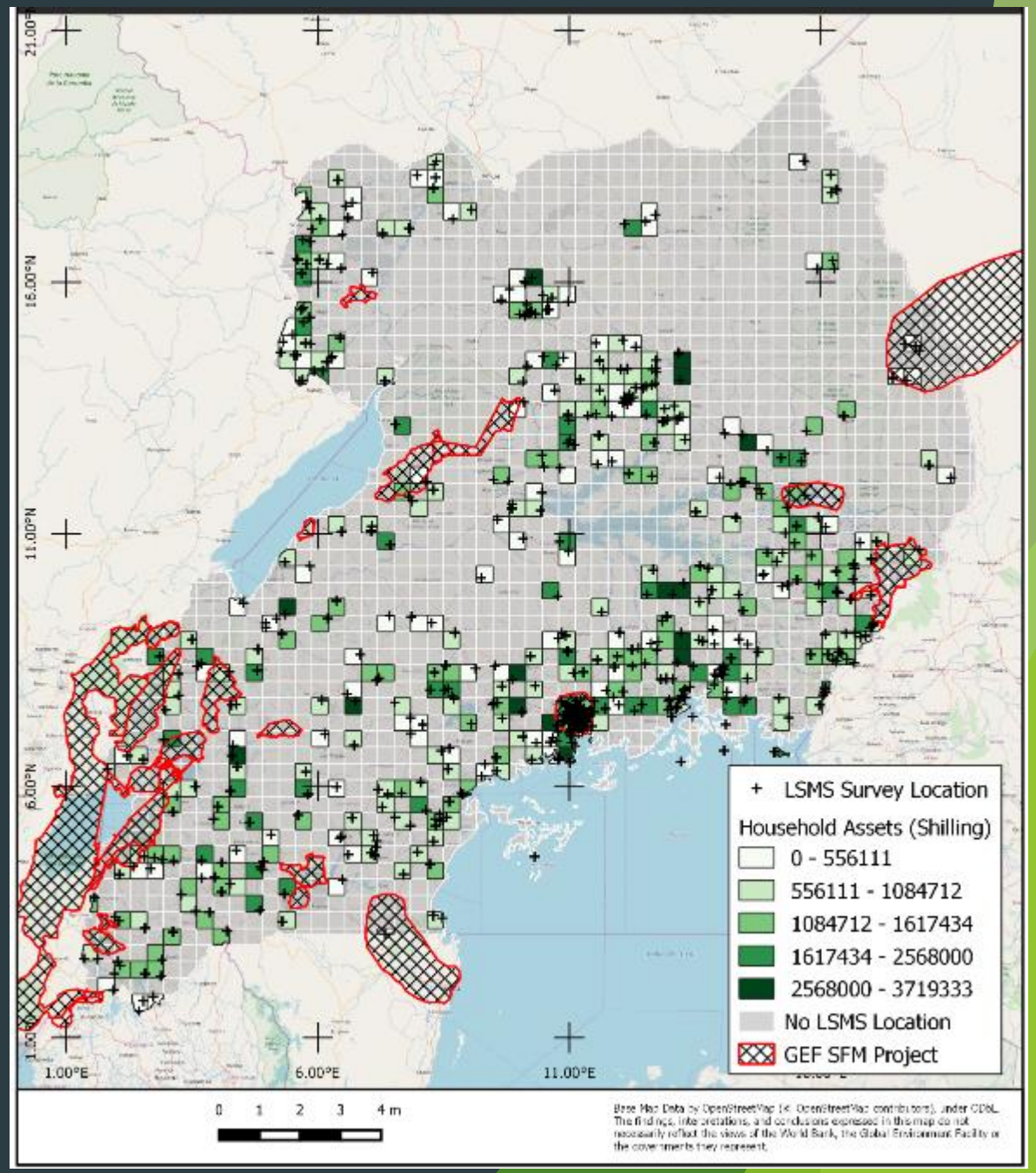
Using Causal Trees (machine learning), we found

- Access to electricity associated with higher impact
- Higher impact observed in areas with poor initial conditions

Other Applications

- Combined with **survey data**
- Households in proximity to GEF SFM interventions have more in household assets as compared to households further away.

Positive Correlation with GEF, not causation



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Hard to reach, isolated and unsafe areas

Tracking illegal mining in Chaco, Colombia

Some Limitations to Consider

- Need geolocation and polygons of where intervention is implemented
- Satellite data and processing can be free, but need to invest in specialist
- Geospatial data has to match target outcomes and their corresponding time and spatial scales
- Big data has its own sources of error in measurement and analysis

A Few Solutions

Require maps and GPS coordinates in project proposals and monitoring reports

Partner with national and global institutions with existing capacities

Use existing global databases and local sources of information

Use mixed methods and always validate against Theory of Change!

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