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Integrating environmental data into multidimensional poverty measurement to support macro and microeconomic policies

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WARWICK
INSTITUTE FOR GLOBAL SUSTAINABLE DEVELOPMENT

Plan

- Introduction
- Which environment data to go into MPI? How?
- Interaction between people and wildlife
- Integrating conservation and development; lack of effectiveness assessment
- Other potential data
- Recommendations towards improved macro and microeconomics policies

Introduction

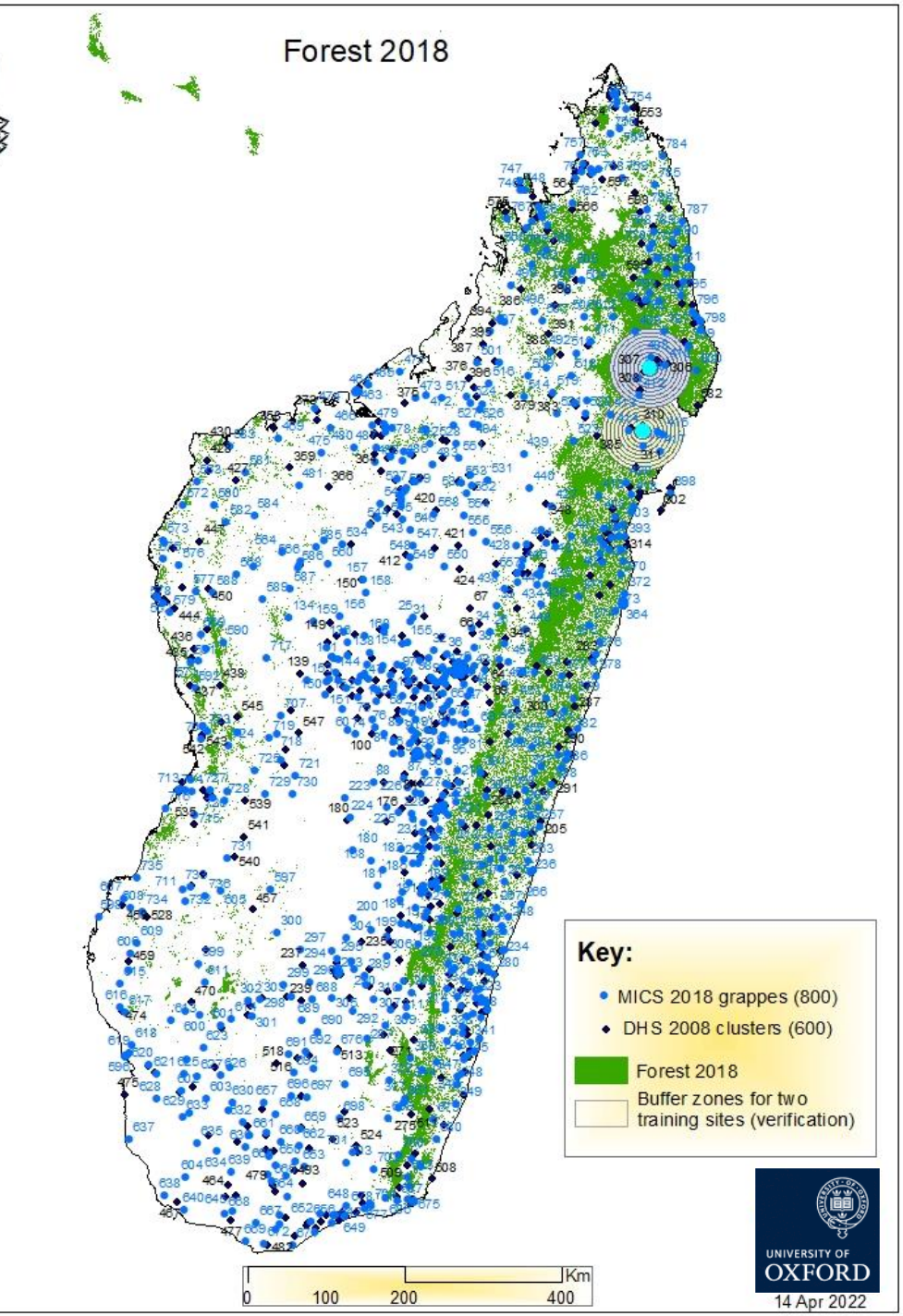
- Natural resources provide immense services to people
- Poverty often causes people to put higher pressures on the environment
- Wealthier people do not always live in good environmental conditions
- We need to consider a 4th dimension of MPI which is the environment

Which environment data to incorporate into MPI measurements?

- **Air Quality**
- **Storms**
- **Wildfires**
- **Earthquakes**
- **Forest Cover Loss**
- **Soil Erosion**
- **Precipitation (drought or flooding)**
- **Temperature**

We can also use:

- VIIRS Light data (NASA)
- Migration World pop data
- Flood
- IUCN red list species


Forest 2018
Key:
MICS 2018 grappes (800)
DHS 2008 clusters (600)
Forest 2018
Buffer zones for two training sites (verification)
0 100 200 400 Km
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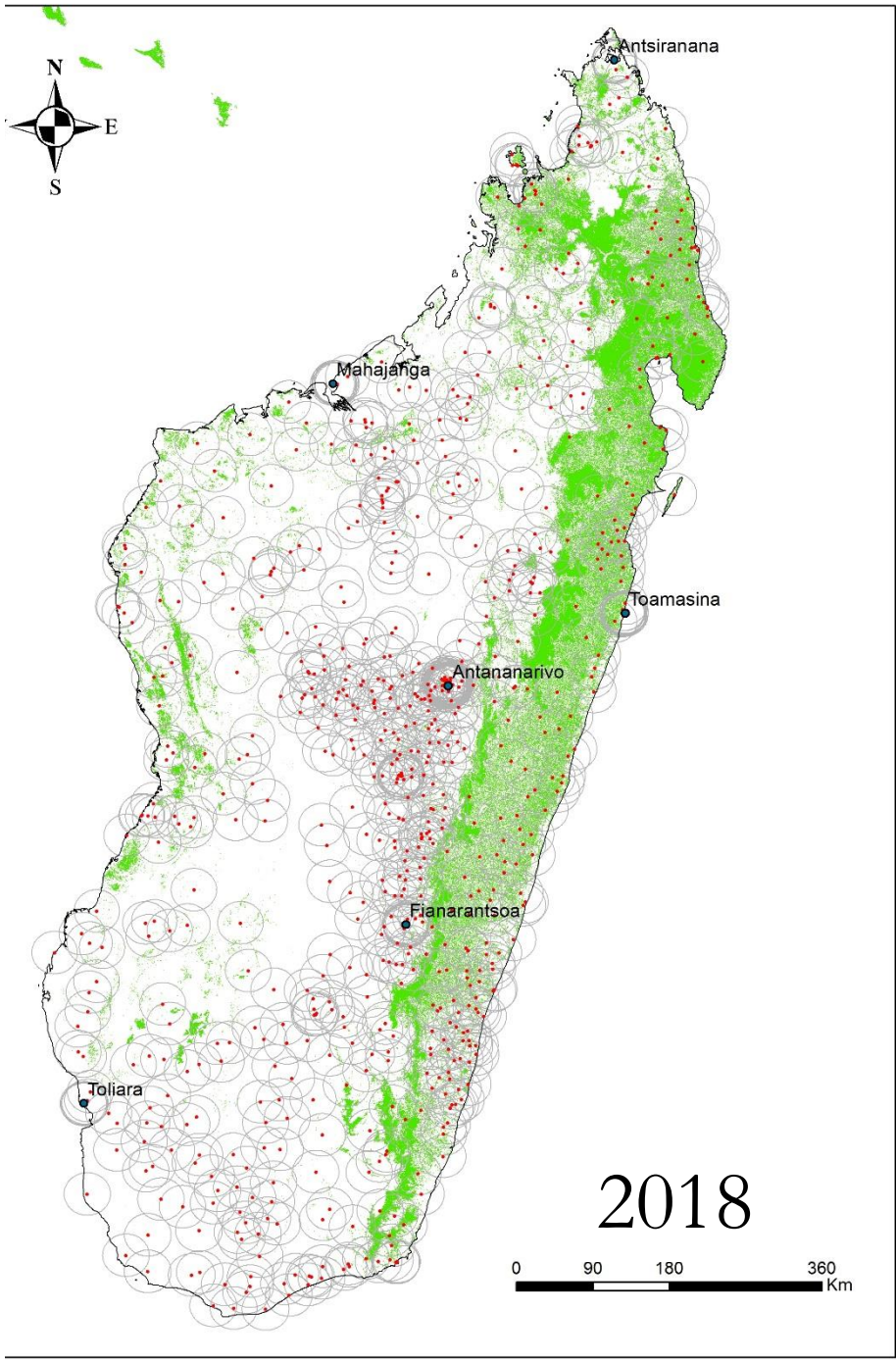
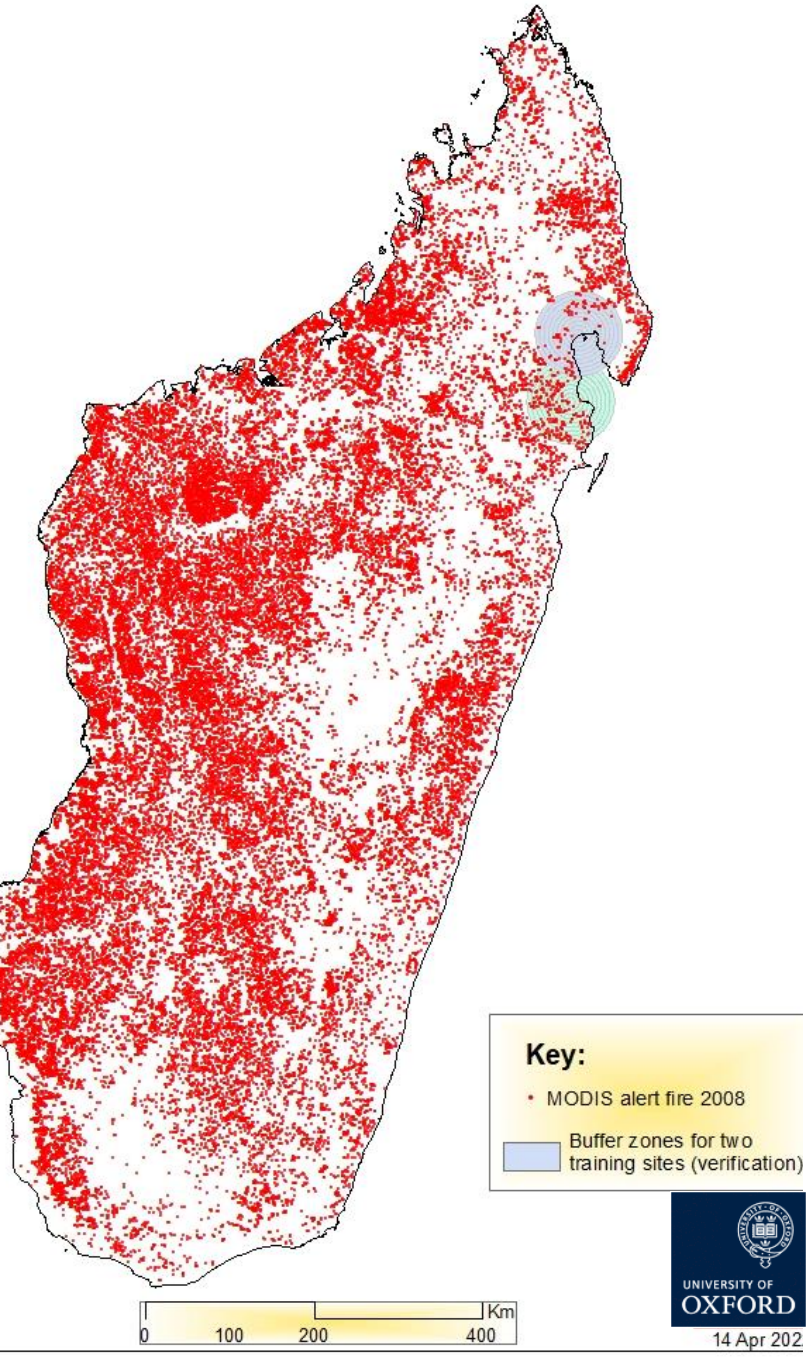

N
E
S
Antsiranana
Mahajanga
Toamasina
Antananarivo
Fianarantsoa
Toliara
2018
0 90 180 360 Km


Key:
MODIS alert fire 2008
Buffer zones for two training sites (verification)
0 100 200 400 Km
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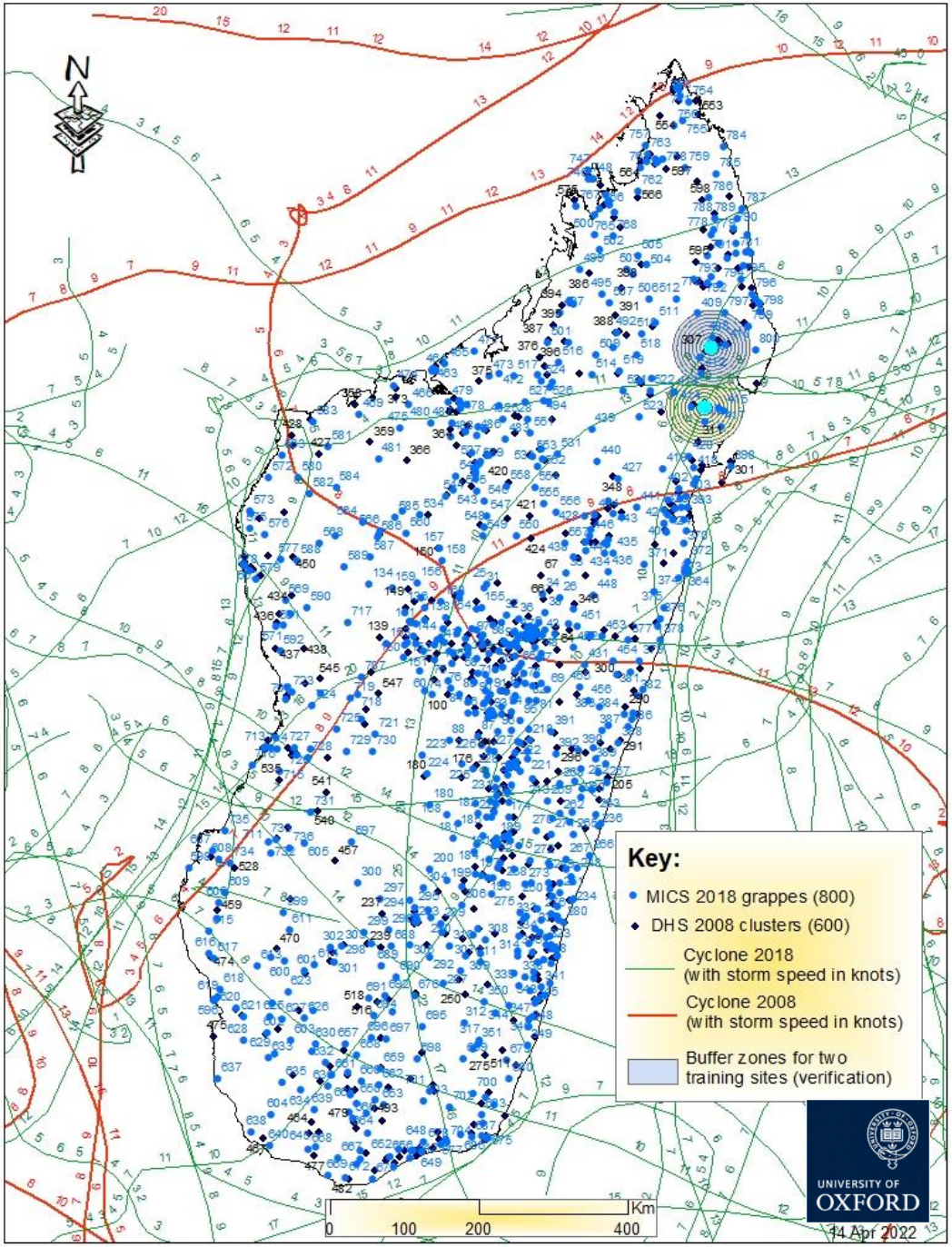
N
Key:
MICS 2018 grappes (800)
DHS 2008 clusters (600)
Cyclone 2018 (with storm speed in knots)
Cyclone 2008 (with storm speed in knots)
Buffer zones for two training sites (verification)
0 100 200 400 Km
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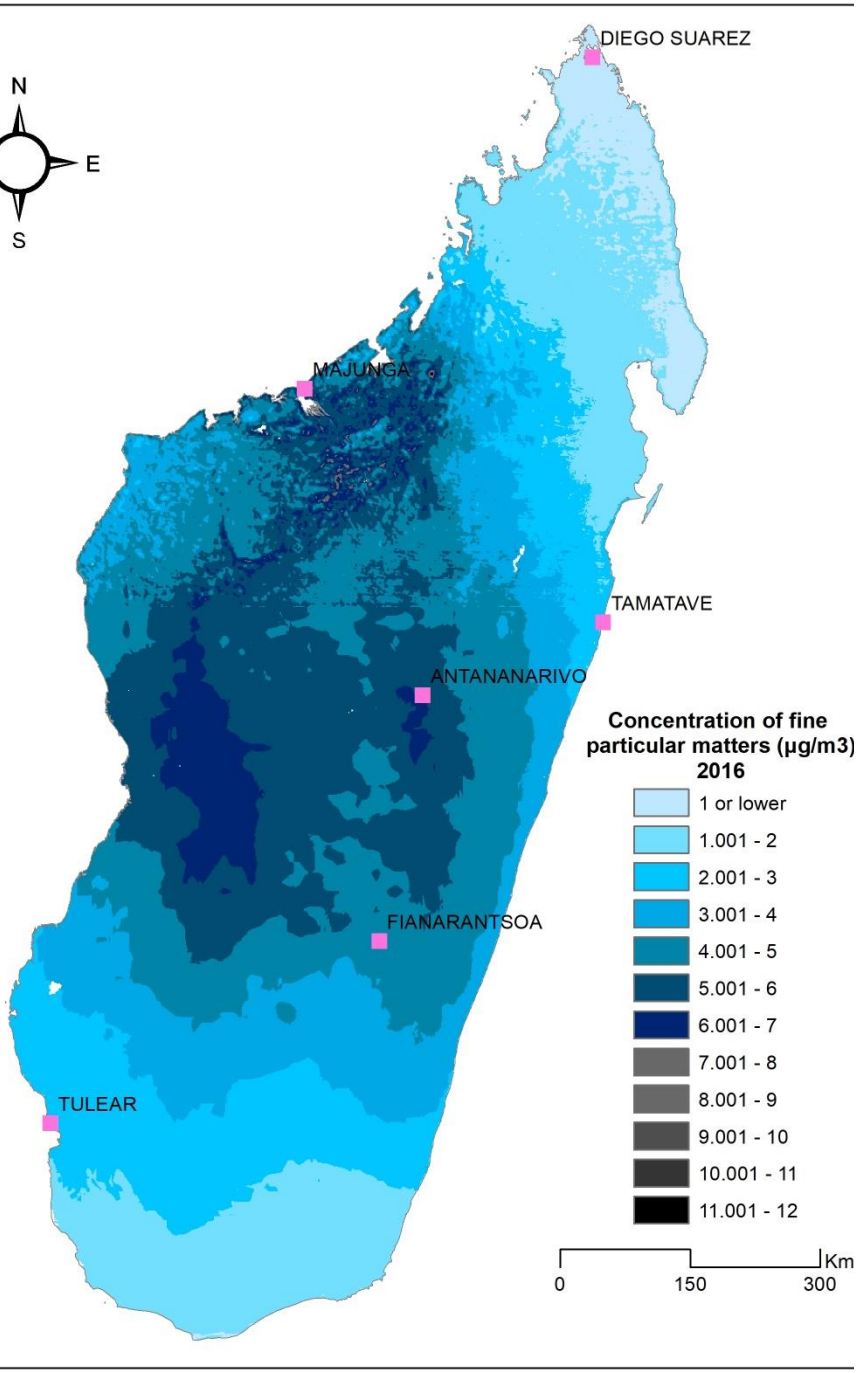
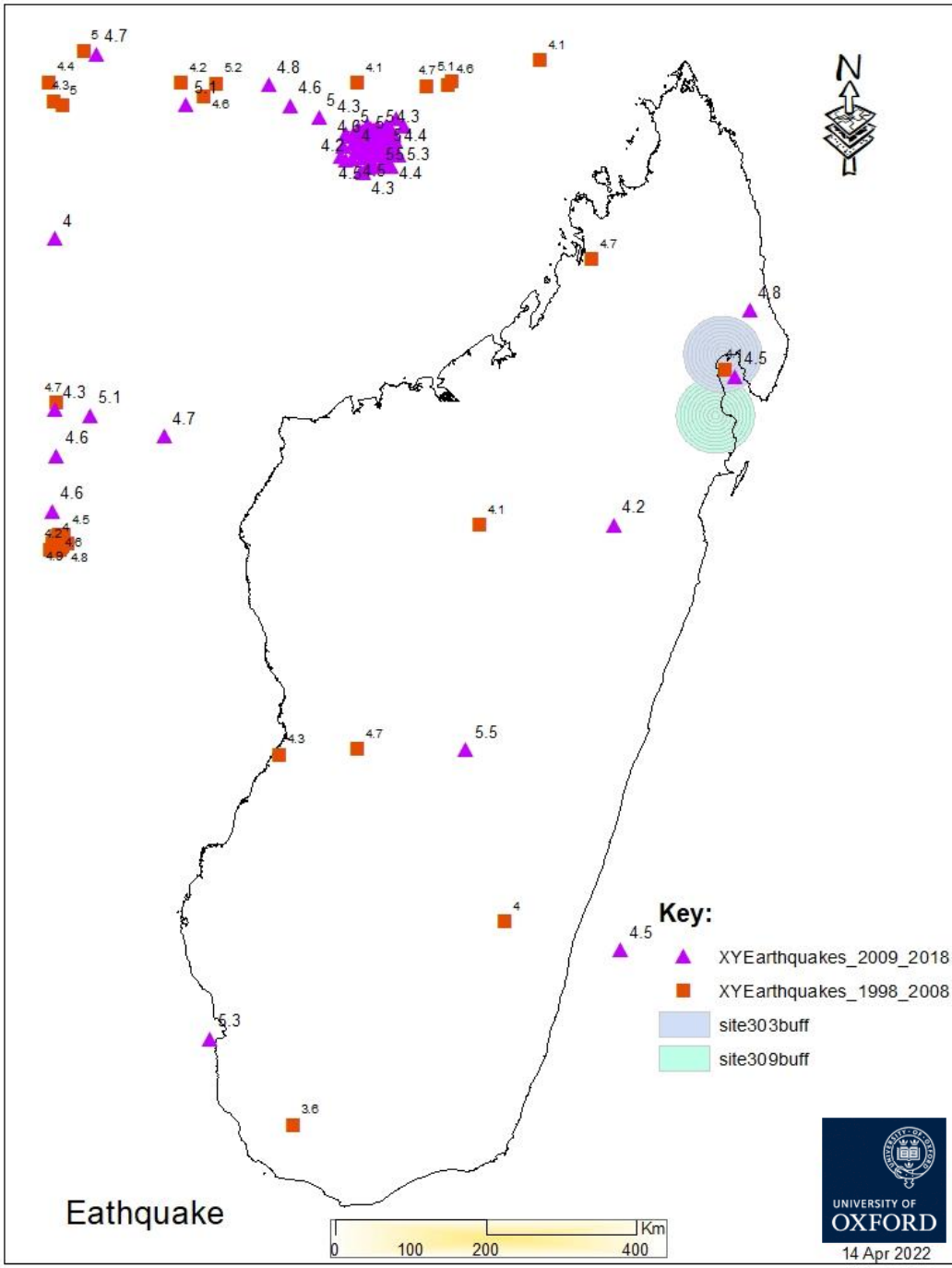

N
E
S
DIEGO SUAREZ
MAJUNGA
TAMATAVE
ANTANANARIVO
FIANARANTSOA
TULEAR
Concentration of fine particular matters (µg/m3) 2016
1 or lower
1.001 - 2
2.001 - 3
3.001 - 4
4.001 - 5
5.001 - 6
6.001 - 7
7.001 - 8
8.001 - 9
9.001 - 10
10.001 - 11
11.001 - 12
Km
0
150
300


N
Key:
XYEarthquakes_2009_2018
XYEarthquakes_1998_2008
site303buff
site309buff
Eathquake
Km
0
100
200
400
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Interaction between people and wildlife

Camera trap photos by Dr Sam Merson in Menabe dry forest, Western Madagascar

Credit: Sam Merson, University of Oxford

Credit: Sam Merson, University of Oxford

Credit: Andrianandrasana

Integrating conservation and development

- Conservation actions: Local people accept to collaborate only if they understand the benefits

E.g. There are 144 PAs in Madagascar: 46 managed by Madagascar National Parks, 92 by NGOs etc.

All conservation managers are running development actions

About 70% of Madagascar's PAs are managed under IUCN category V or VI

=> Local people must be integrated in the management and monitoring process

Other potential data

- Conservation and development cost by district
- Number of NGOs intervening in each district
- Amount of government support received at district level

At National level:

- Annual international financial support by subject

It is hard to mitigate anthropogenic threats

Credit: Durrell Wildlife Madagascar Programme

Plantation of maize and peanuts in the Protected Area


People including migrants
make money

Lack of management effectiveness assessment

According to the Global Database on Protected Area Management Effectiveness (GD-PAME) 2020:

- Only 15.4% of countries have met the target of assessing management effectiveness across 60% of their protected lands and waters
- Globally, management effectiveness assessments have been conducted across only 18.29% of the area covered by protected areas

Recommendations towards improved macroeconomics policies

- Promote the use of E-MPI at national, regional and international level

- Encourage governments and multilateral organisations to promote community-based and citizen science approaches

- This could enrich the monitoring and link it to awareness-raising and enhanced decision-making at all levels of resource management

Recommendations towards improved microeconomics policies

Empowering local people to sustainably manage and monitor their own environment & society

Reinforcing the participation of women in conservation & development

Intensifying ecological restoration that promotes conservation, and targets profitable economic sectors (e.g. cash crop, mangroves)

Conclusion

- It is important to come up with robust concept of E-MPI integrating relevant environment data
- Each Protected Area should identify the main economic sectors that lead to motivation of local people to save wildlife
- There are many available spatial data that can be used to underpin the calculation of E-MPI
- G20 have a session about E-MPI in the regular meetings
- If possible: propose E-MPI within the ongoing development of the post-2020 global biodiversity framework


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