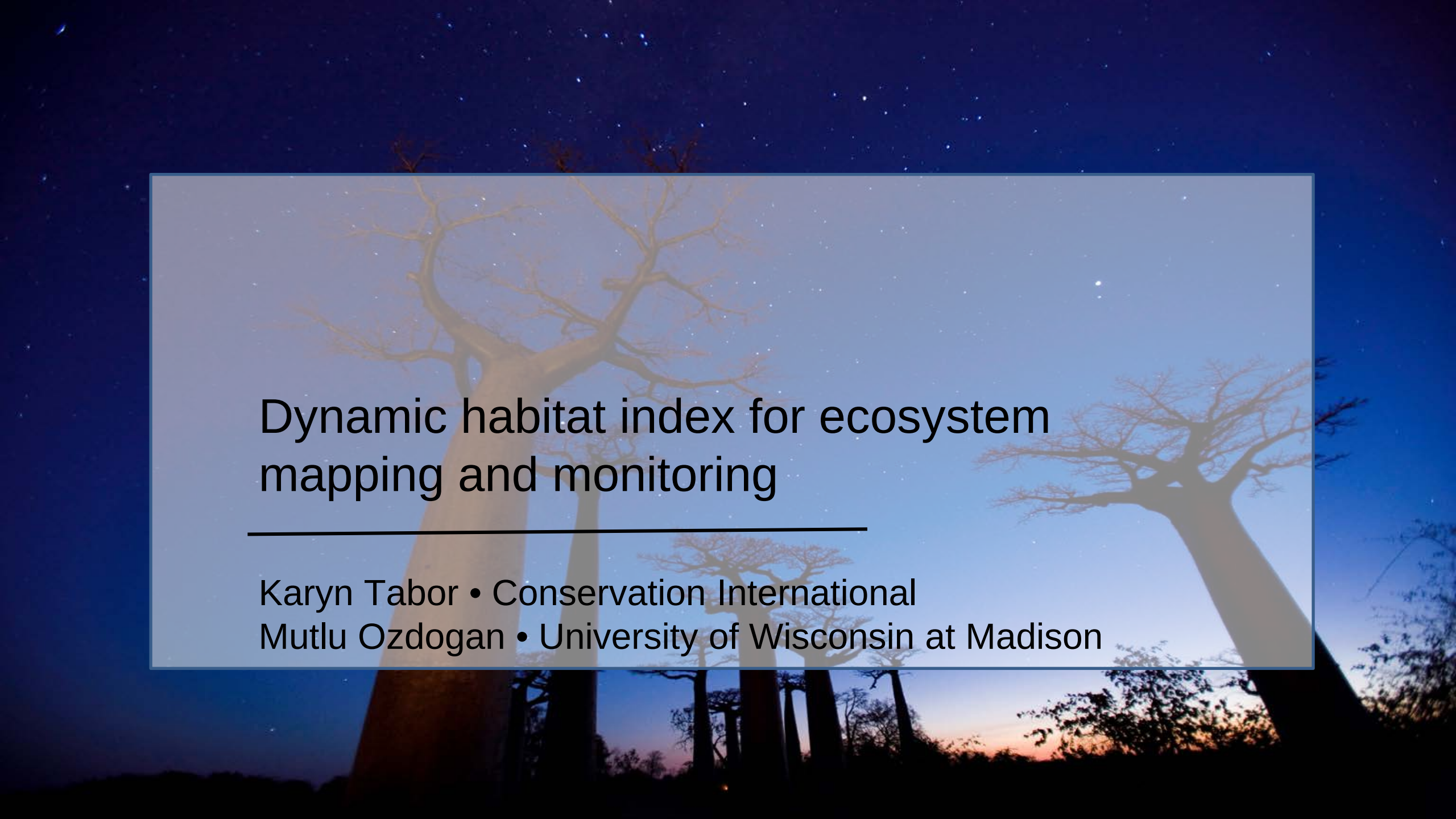

Dynamic habitat index for ecosystem mapping and monitoring

Karyn Tabor • Conservation International
Mutlu Ozdogan • University of Wisconsin at Madison

Dynamic Habitat Index

Indirect measurement of habitat health and biodiversity through satellite-based measures of vegetation productivity and function

Time series of Fraction of absorbed Photosynthetically Active Radiation (FPAR)

structure + function vs greeness (NDVI)

Strong link between ecosystem productivity and species richness:

- grassland bird species richness in Canada
- butterfly diversity in Canada
- species richness in Thailand

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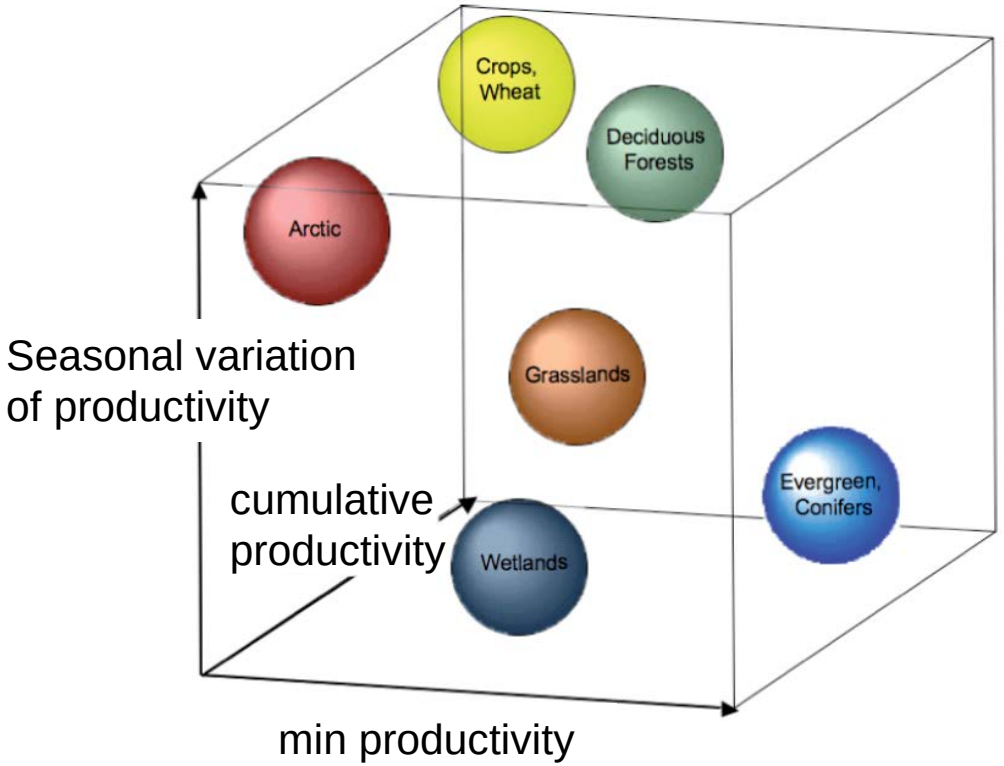
Dynamic Habitat Index

DHI = C * M * S

C = cumulative productivity

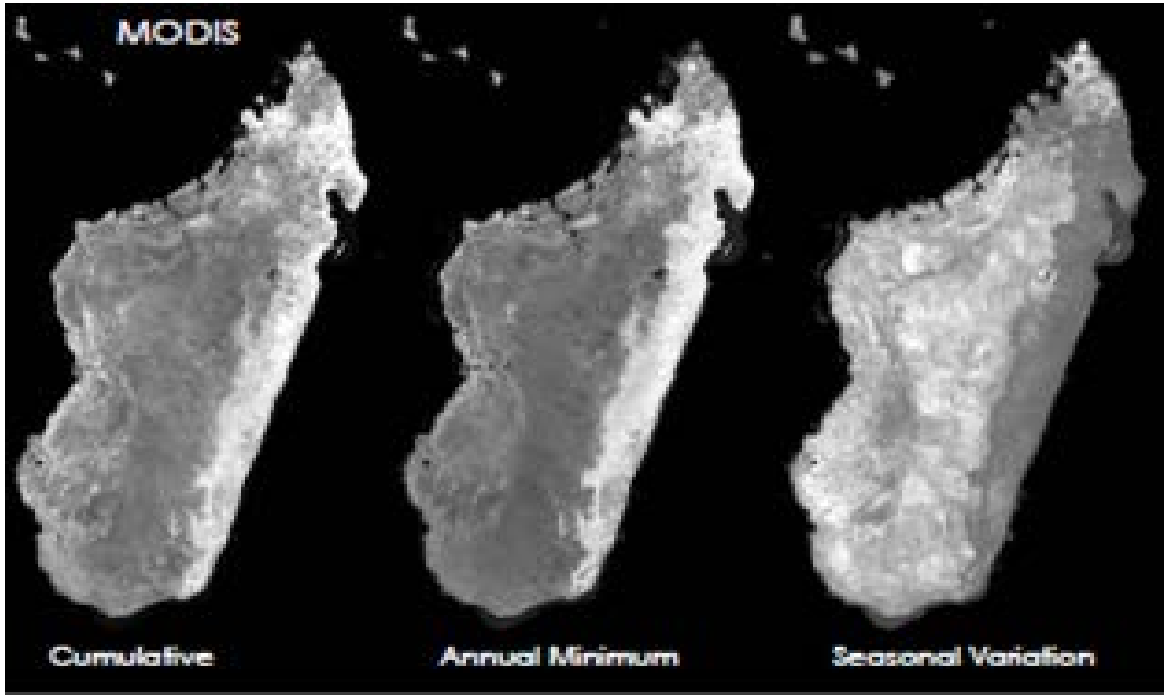
M = minimum productivity

S = seasonal variation of productivity



* Duro et al, (2007)

Dynamic Habitat Index



Cumlative
humid forests in the east

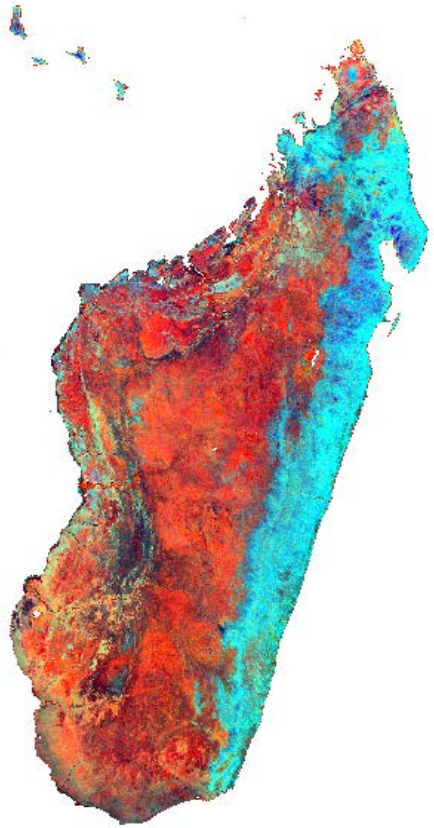
Annual minimum
agriculture

Seasonal variation
grassland and agriculture

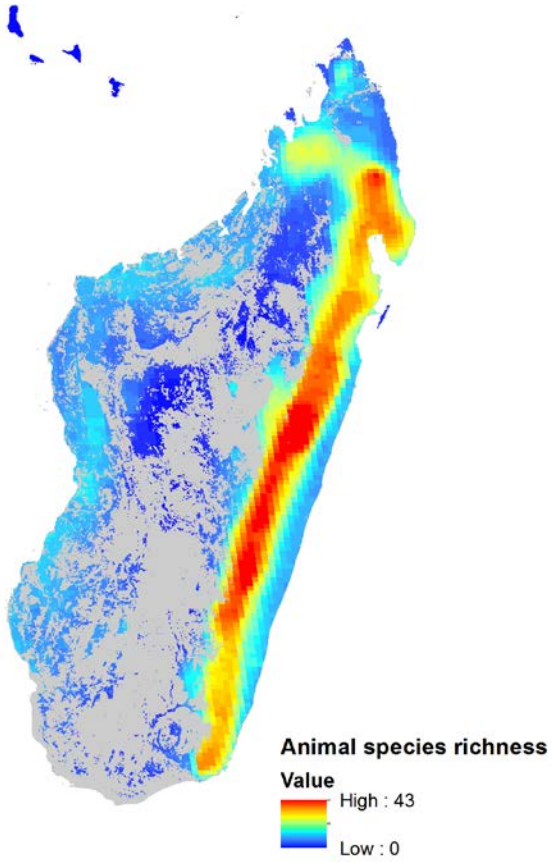
* Coops et al., (2009)

Dynamic Habitat Index

What does this look like for changes in species richness and ecosystem function?



BLUE: minimum
RED : seasonality
GREEN: cumlative



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Dynamic Habitat Index

What are the potential policy applications…

- Natural Capital Accounting – valuing healthy ecosystems
- Species Distribution Modeling – additional infomration about landscape for species preferences
- Climate Mitigation – monitoring forest degredation (the other “D” in REDD)
- Land Degradation – monitoring change and identifying opportunities for interventions

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