

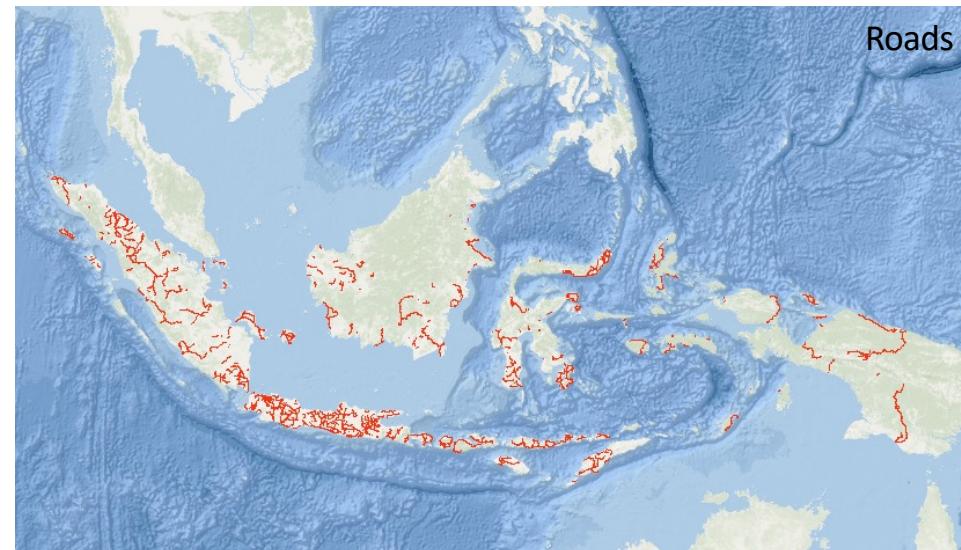
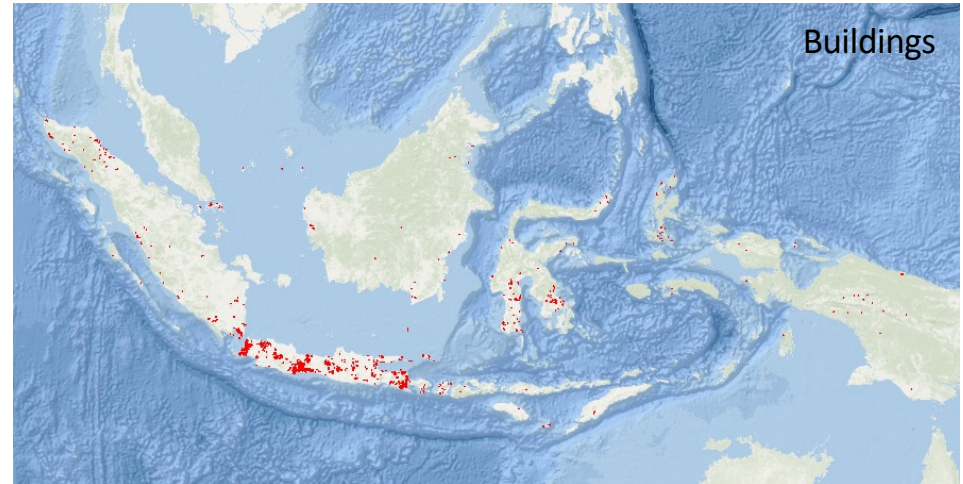
# Typology of the main threats facing different forest types

- 1. Proximity to settlements, infrastructure, road network**
- 2. Climate change and sea level rising**
- 3. Fires and subsistence agriculture**
- 4. Pollution**
- 5. Commercial agriculture, logging and mining concessions**
- 6. Over collecting NTFP (firewood, bamboos, rattans, resins, mushroom, fibres)**
- 7. Invasive species**



# Proximity to settlements, Infrastructure, road network

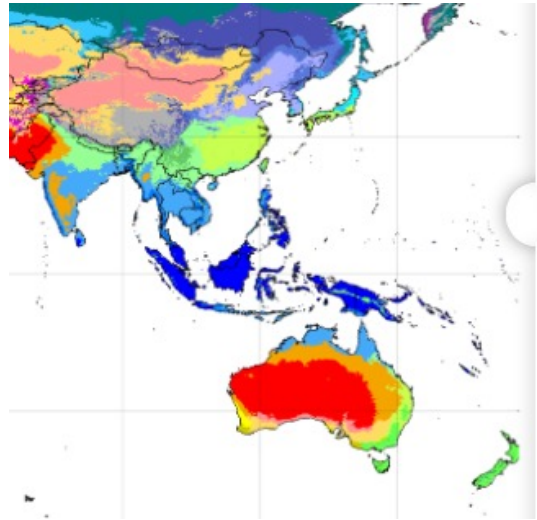
Open Street Map (OSM) 2019



<https://ngdc.noaa.gov/eog/dmsp/downloadV4composites.html>

<https://towardsdatascience.com/illuminating-human-activities-using-the-night-light-9caceaab7867>

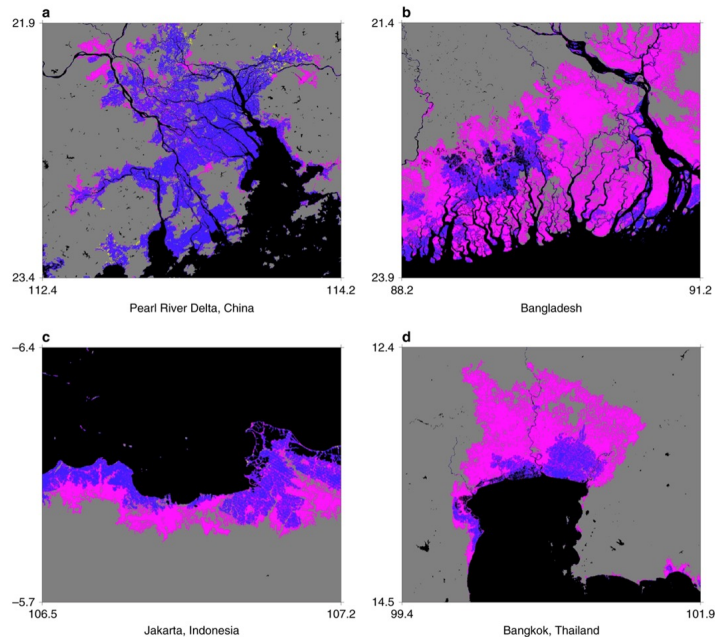
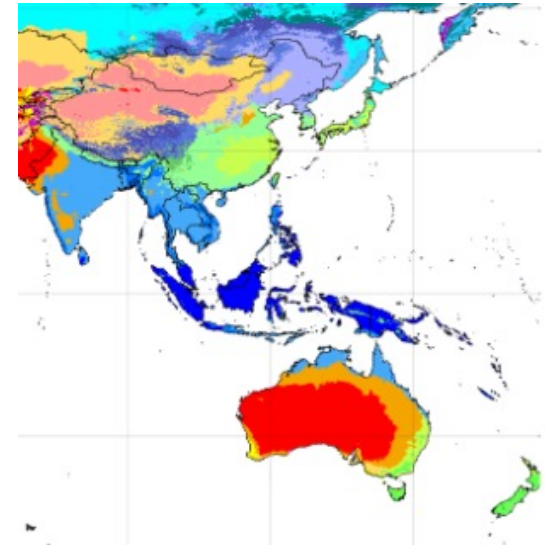
# Climate changes and sea level rising



## Köppen-Geiger Climate Classification 1980–2016



<http://www.gloh2o.org/koppen/>



Coastal DEM

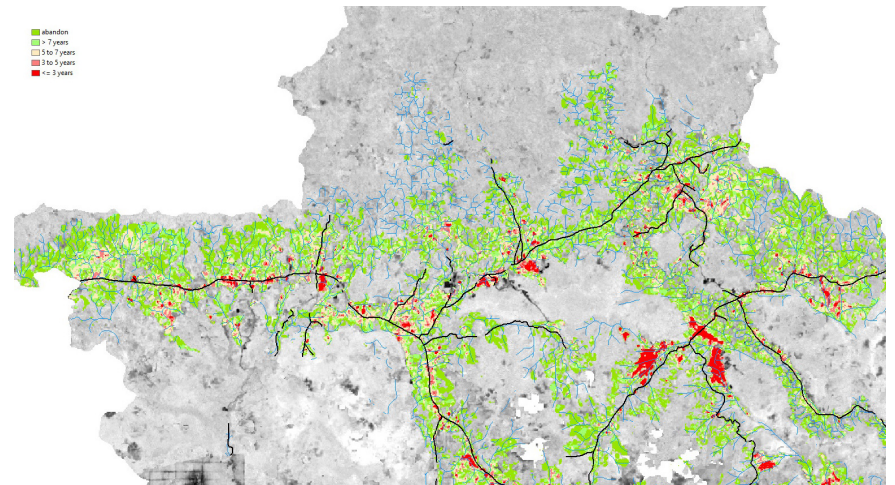
Kulp and Strauss, 2019



## Forest fire and swidden agriculture

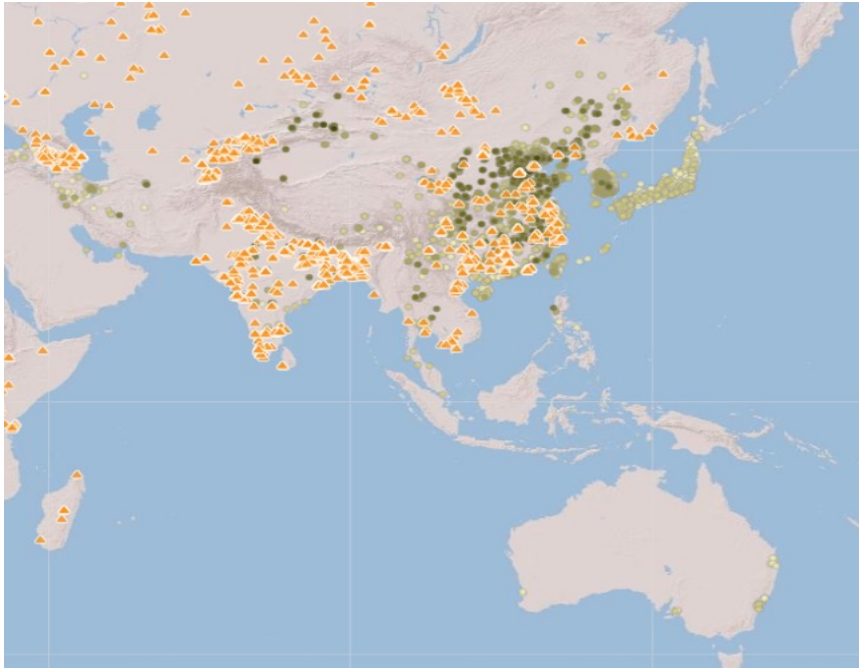


## Detecting forest fires with satellites (MODIS and VIIRS)

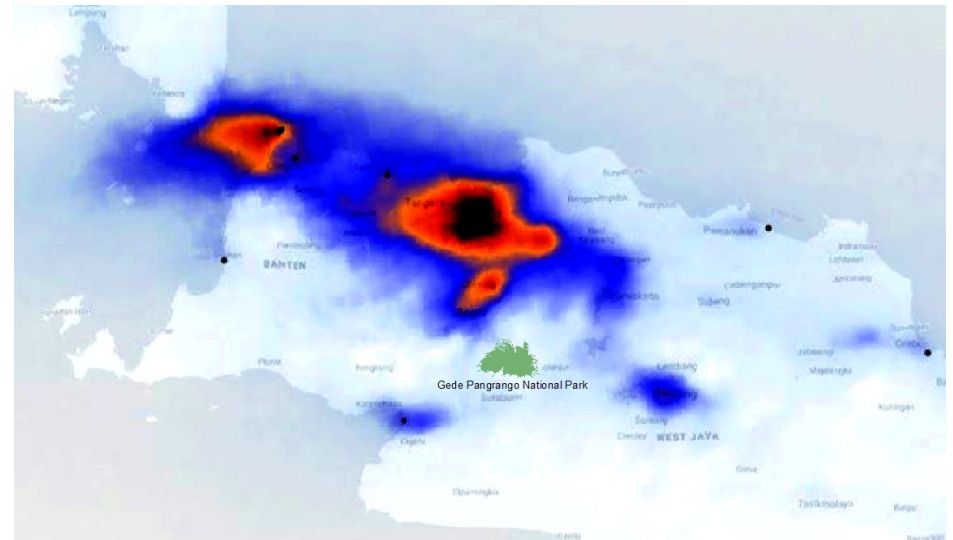


Assess and monitor the spatial and temporal dynamics of shifting cultivation  
Jakovac et al. 2017  
Dutrieux et al. 2016

# Pollution

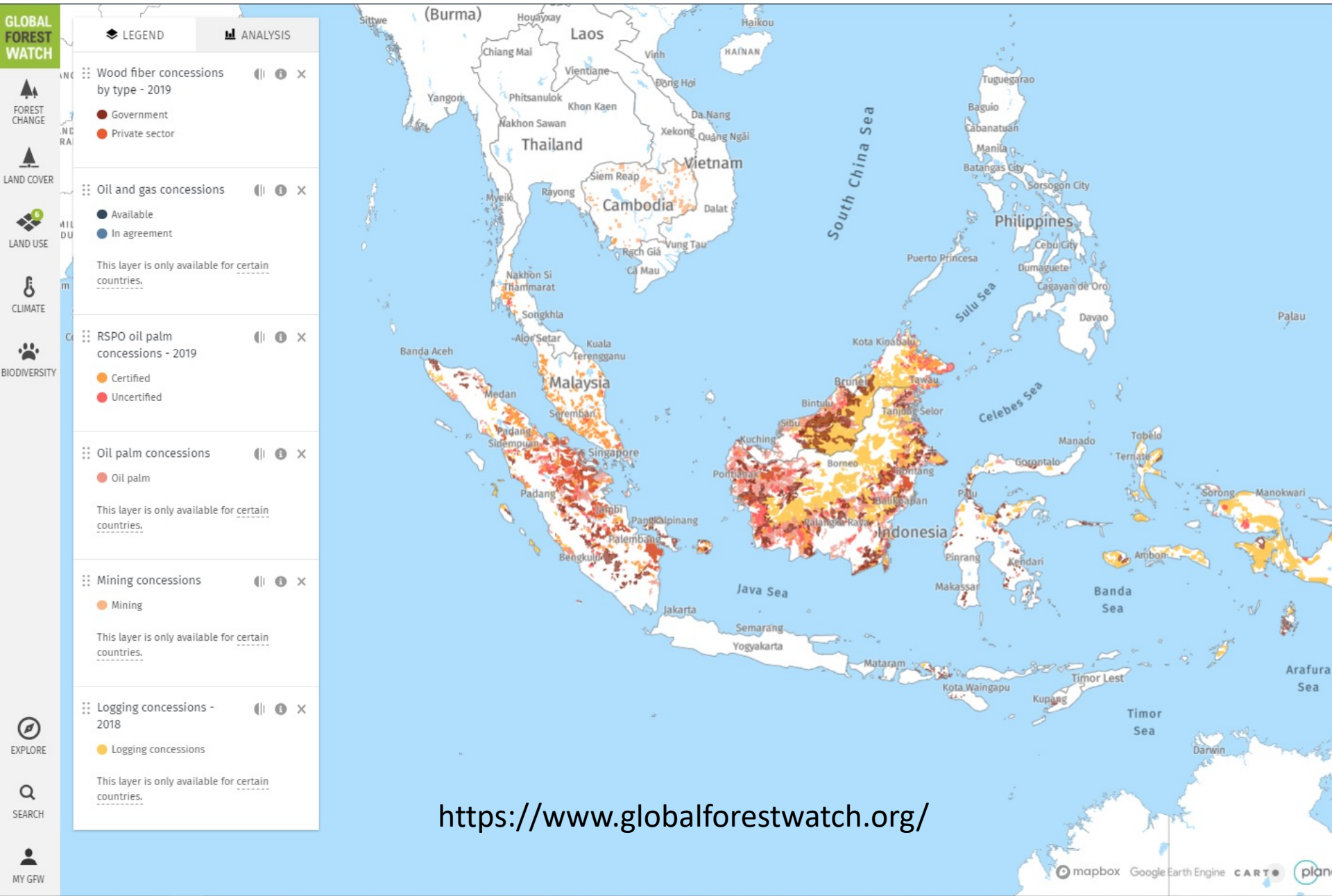


<https://www.pollution.org/>



NO<sub>2</sub> hotspots over Jakarta, Banten and  
West Java, CREA 2020

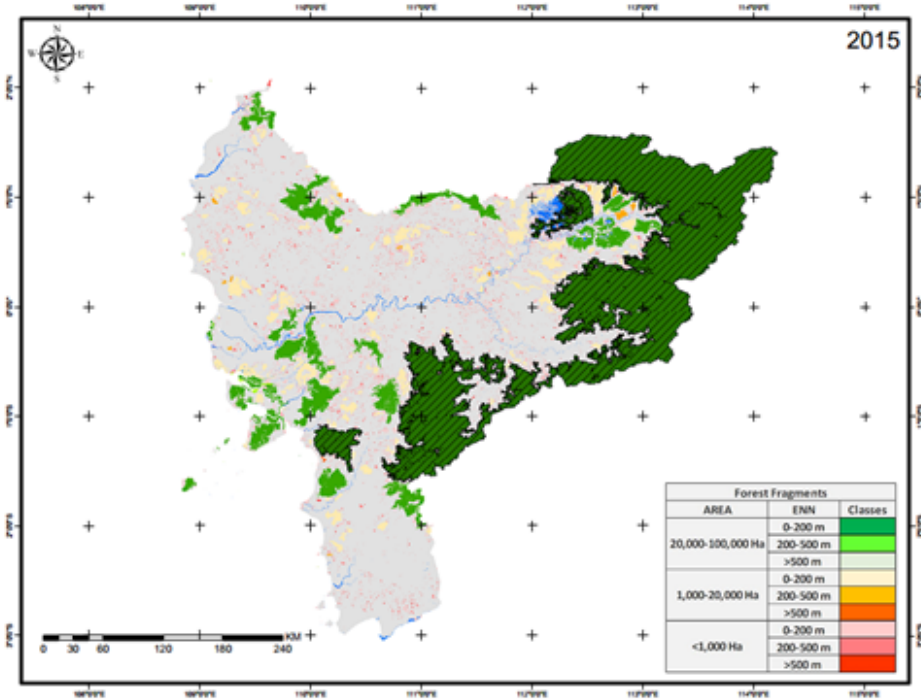
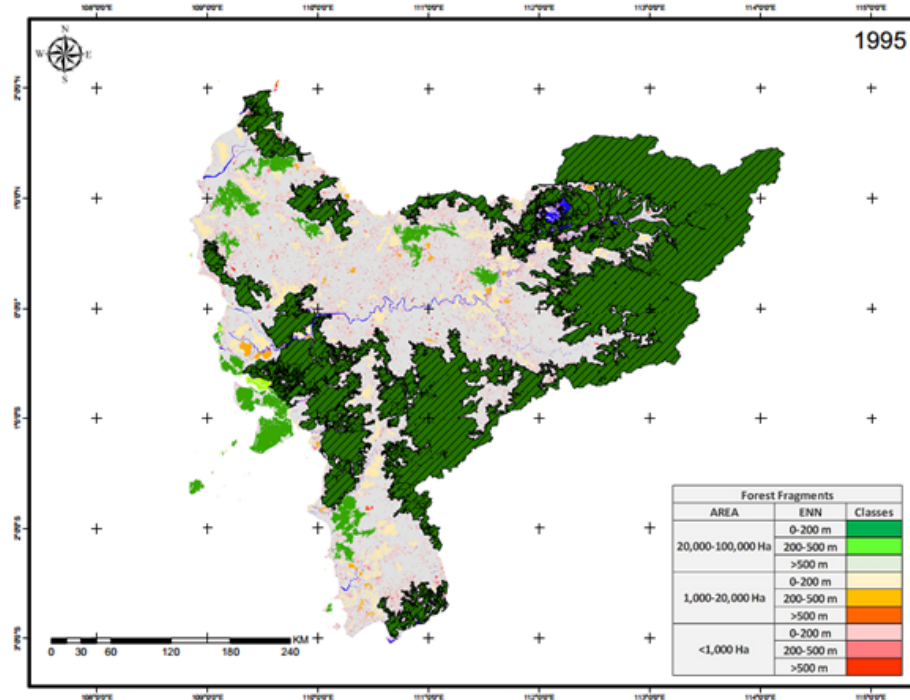
# Industrial agriculture, logging and mining concessions



<https://www.globalforestwatch.org/>



# Fragmentation (FRAGSTATS), GUIDOS Toolbox etc...



- Minimal patch size for primary forest
- Level of acceptable fragmentation within the landscape
- Degree of isolation of patches

↑ Increase

Number of patches  
Euclidean Nearest Neighbor

Total core area  
Edge density

↓ Decrease



An aerial photograph of a lush tropical forest. The canopy is a dense mosaic of green, with a few trees showing yellow and orange foliage. A large tree with bright red flowers stands out on the right side. In the background, misty hills are visible under a hazy sky.

Produce a matrix identifying the different threats faced by different types of primary forest mentioned in session 1

THANK YOU