

Evaluating Global Conservation Priorities:

Human Population Density and Protected Areas

in the Biodiversity Hotspots



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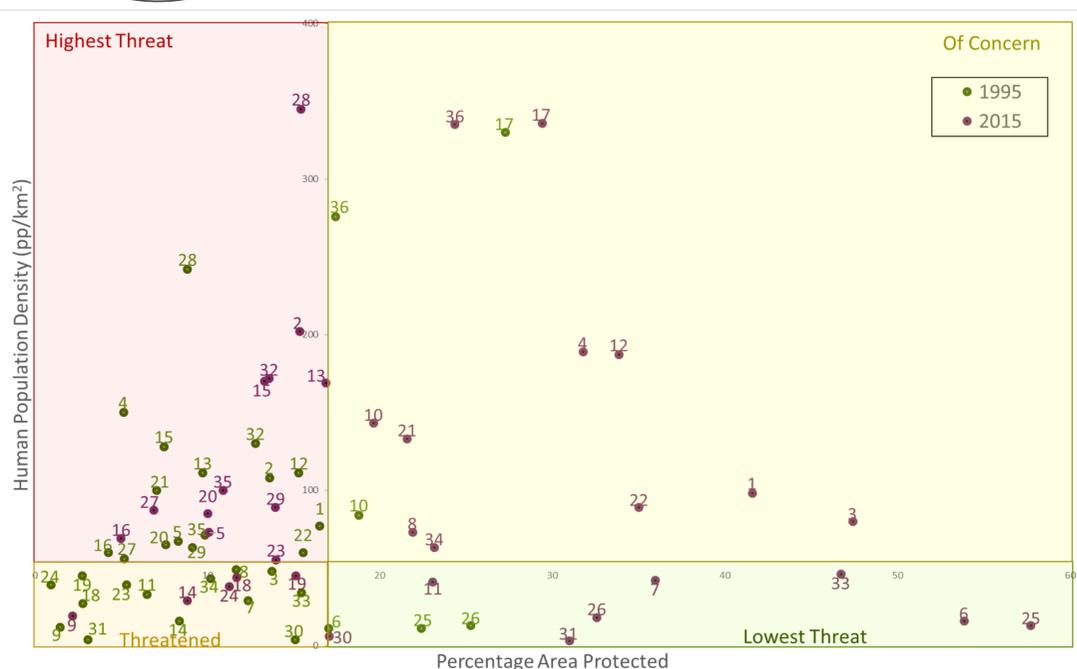
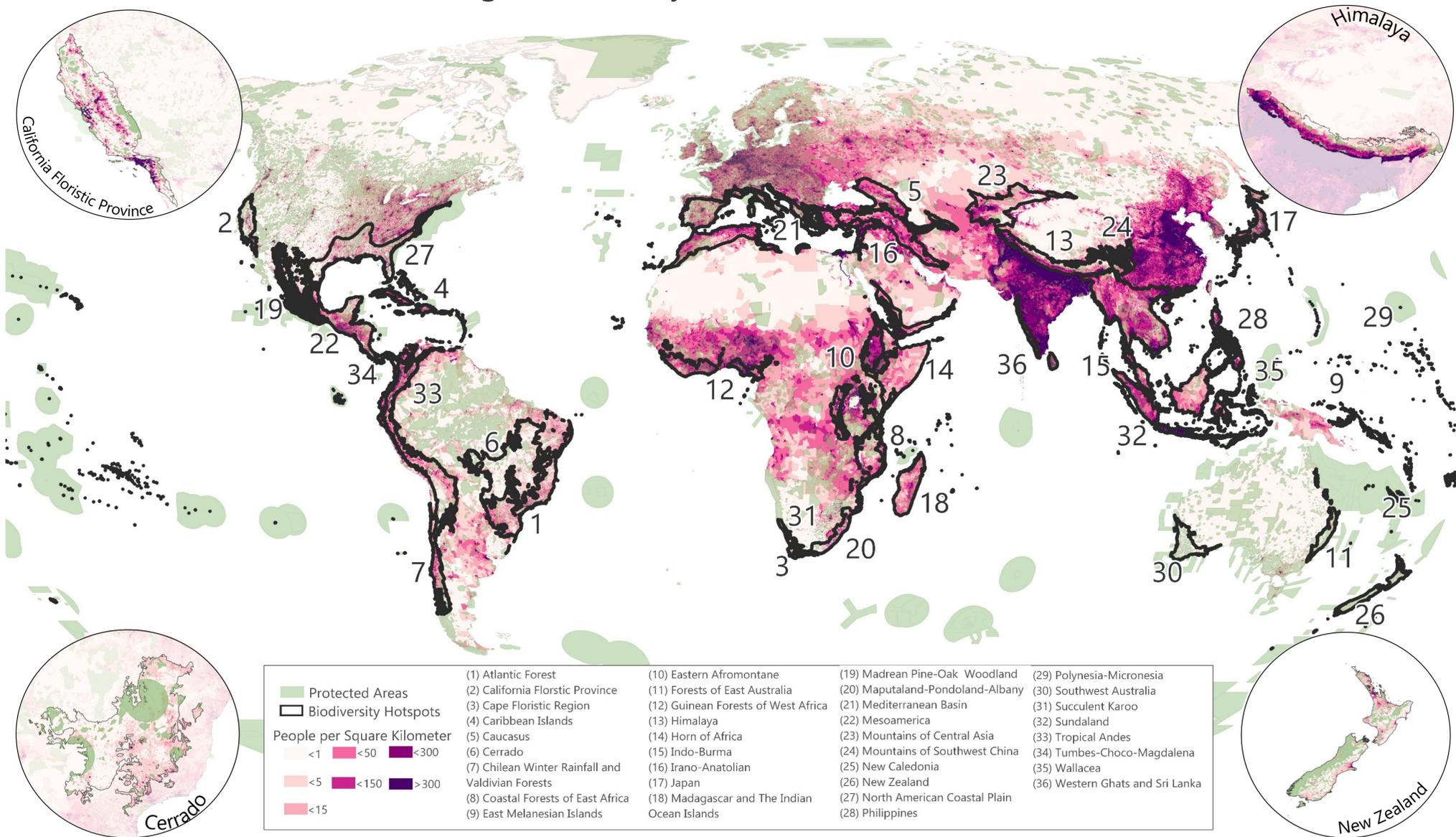
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Biodiversity Hotspots: Landscapes with high levels of endemism (species found nowhere else on Earth) that are also highly threatened by human development. They were originally designated to focus global conservation efforts (Myers, 1988).

Research Questions:

- *How have population density and protected areas in the hotspots changed over 20 years?
- *Are hotspots meeting protected areas targets under the Convention on Biological Diversity (CBD)?

Methods: Using data from NASA (human population density) and the UNEP (protected areas), changes in the hotspots between 1995 and 2015 were determined. Population density values were compared to the global average and the percentage protected areas to the CBD's target of 17%. The overall threat to hotspots was then evaluated to determine where future conservation effort should be focused.



Key Findings:

- *No correlation between population density and percentage area protected
- *Human population densities in the hotspots are double that of global average
- *CBD protected areas targets have been met in hotspots with a variety of population densities, but mainly in developed nations
- *Conservation efforts in the hotspots are improving, but concerted effort is needed in those in developing nations

Reference:

Myers, N. (1988). Threatened biotas: "Hot spots" in tropical forests. *The Environmentalist*, 8(3), 187-208.

Acknowledgements:

This poster is based off the work in Cunningham, C. & Beazley, KF. (2018). Changes in Human Population Density and Protected Areas in Terrestrial Global Biodiversity Hotspots, 1995-2015. *Land*, 7: 136. Thank you to Dr. Karen Beazley and the Dalhousie GIS Centre for their support of this work which was supported by a Nova Scotia Graduate Scholarship.

1995 and 2015 mean population densities and percentage terrestrial area protected in each biodiversity hotspot. The x-axis crosses the y-axis at 58 people per square kilometer (the global average in 2015). The y-axis crosses the x-axis at 17% protected area (the target in the Convention on Biological Diversity). Quadrants denote the threat level of the hotspot based on these two factors and identify which need to become areas of greater conservation effort. Hotspot numbers correspond with those in the map above.