

## LANDSAT SATELLITE OBSERVATIONS AND CROWD-SOURCED DATA PROVIDE NEAR REAL-TIME MONITORING OF CHIMPANZEE HABITAT

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The endangered chimpanzee (*Pan troglodytes*) is threatened by habitat loss from resource extraction and land conversion, as well as illegal bushmeat hunting and disease. It has been estimated that more than 70% of chimpanzee's tropical forest habitats in Africa are now threatened by human-induced land use change. Recent developments in remote sensing and cloud computing enable the use of satellite observations to provide a synoptic view of chimpanzee habitats at finer spatial and temporal resolutions that are locally relevant and consistent across the entire species' range. We present a practical Decision Support System to be used by the Jane Goodall Institute and partners to annually monitor and forecast chimpanzee habitat health in Africa. The system integrates Earth observations from 30-meter resolution Landsat data with a species-specific habitat model and a model forecasting future land use change, enhanced by crowd-sourced field data collected by local communities and rangers using the Open Data Kit app and Android mobile smartphones and tablets. Current habitat health status of the chimpanzee in Africa between 2000 and 2014 and future habitat health until 2030 will be presented and discussed. While coarser-scale and static chimpanzee habitat models have been previously developed, this project is the first to develop a dynamic monitoring system updated annually via Earth observations data that will systematically monitor threats and changes in habitat over time.