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MONITORING THE FORESTS OF THE DEMOCRATIC REPUBLIC OF CONGO USING LANDSAT DATA

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THEME: Terrestrial ecosystems, national to global-scale forest monitoring with Landsat data

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ABSTRACT:

The non-governmental organization, OSFAC (Observatiore Satellital des Forêts d'Afrique Centrale), is tasked with providing earth observation data and derived products that advance our understanding of forest resource state and change within Central Africa. As part of FACET (Forêts d'Afrique Centrale Evaluées par Télédétection) product suite, we create forest cover and change maps quantifying national-scale forest extent and loss. Our initial product was for the Democratic Republic of Congo (DRC) and depicted forest type and loss. Subsequent analyses have added wetland forest cover and estimation of aboveground carbon loss from 2000 to 2012. Recent work is focused on moving the record from circa 1985 forward and adding settlements as thematic layer, as most forest disturbance is due to local populations performing smallholder agriculture. Results illustrate a rate of forest loss that is small compared to other large tropical forest countries, such as Brazil and Indonesia, both of which are subject to large agro-industrial forest change dynamics. Such change is largely absent in DRC. Smallholder forest change is pervasive and estimated to be slightly increasing of time in relation to growing populations. Effects of the war in DRC are observed, including the movement of populations in war-affected areas into more remote forest locales. Overall, remote sensing-based characterization of forest extent and change has brought valuable transparency to an otherwise data poor environment.