# Vegetation Continuous Fields

## Evolution through multiple spatial and temporal resolutions

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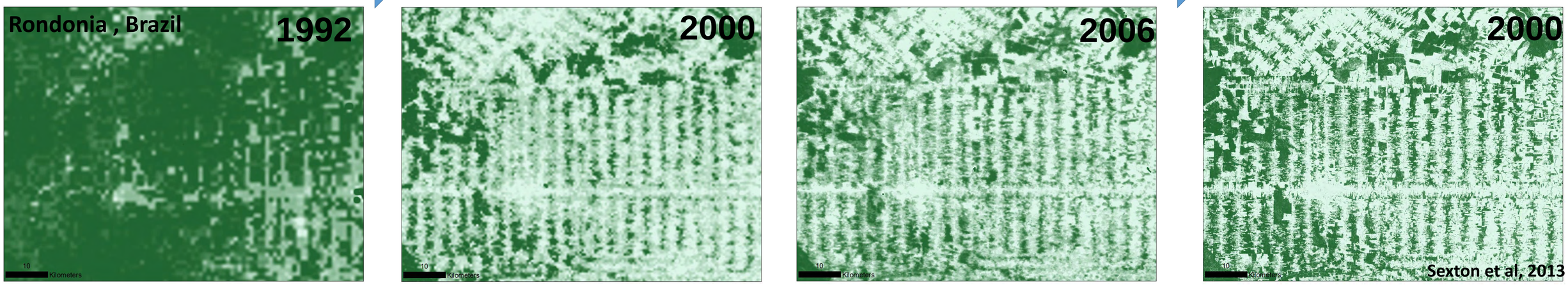
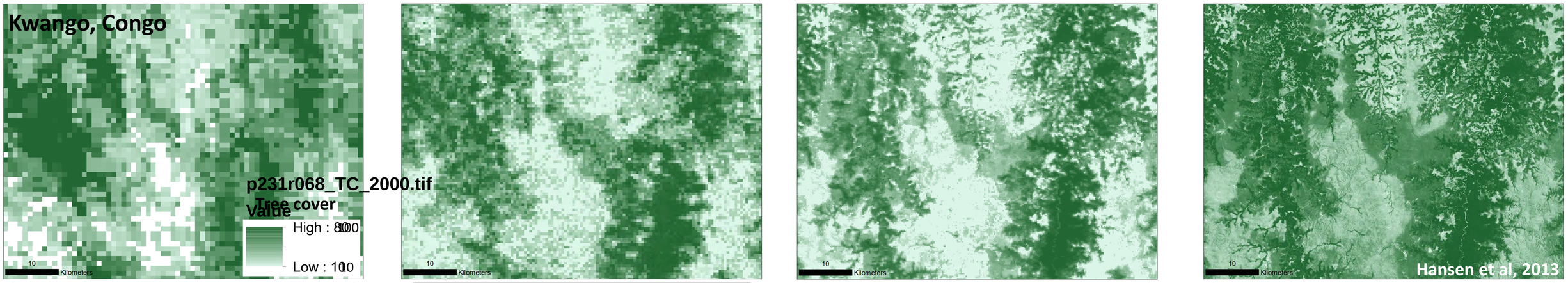
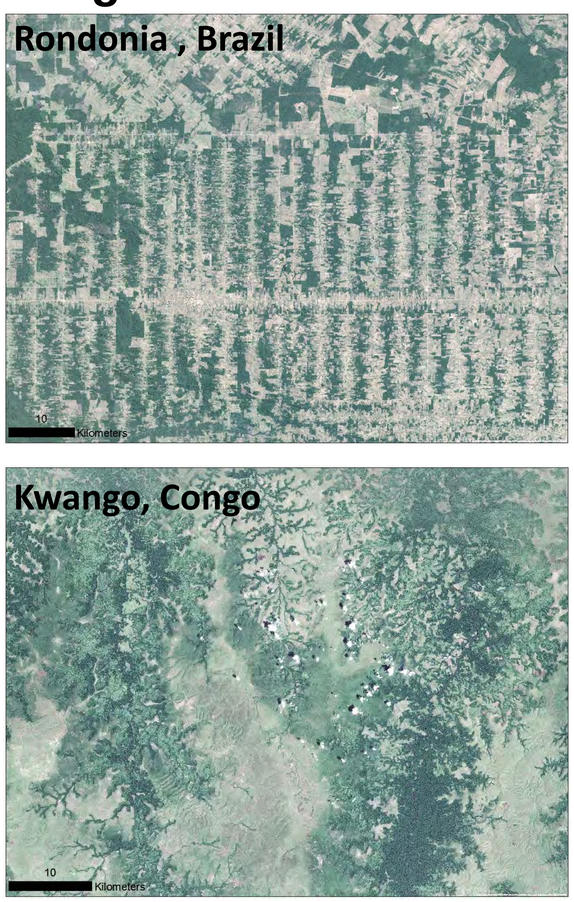
## AVHRR VCF → MODIS VCF → Landsat VCF



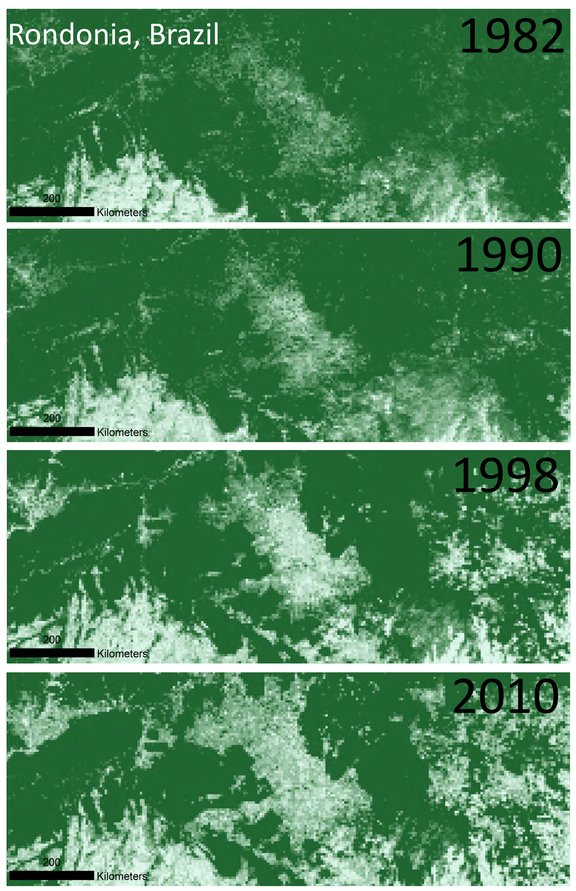

| Algorithm / Resolution | Regression Tree / 500 m | Bagged Regression Tree (Fully Automated) / 250 m | Regression Tree (trained with 250 m MODIS) / 30 m |
|---|---|---|---|
| Linear Mixture Model / 1 km | | | |

## High Res. Reference



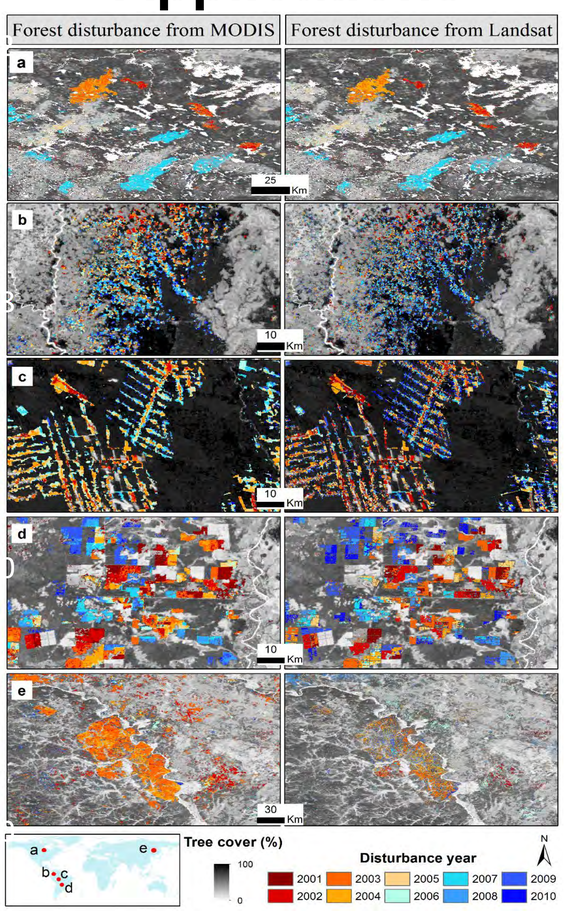

World imagery (ESRI, 2014)

## MEaSURES VCF




30 years (1982 – 2014), annual, 1/20 Degree

## Applications




A time series of MODIS VCF V5 yearly data is used to identify deforested areas (X.-P, Song et al., in preparation)

## Details of VCFs

| Instrument | Spatial Resolution | Spatial & Temporal Extent | References |
|---|---|---|---|
| AVHRR (GVI prototype) | 1 ° | North America subset, 1989 | DeFries et al. 1995 |
| AVHRR (Pathfinder prototype) | 8 km | Central Africa, 1987 | DeFries et al. 1997 |
| AVHRR | 8 km | Global, 1982 – 1994 | DeFries et al. 2000 |
| AVHRR | 1 km | Global, 1992-1993 | DeFries et al. 2000 |
| MODIS | 500 m | Global, 2001 | Hansen et al. 2003 |
| MODIS | 250 m | Global, annual 2000-2010 | DiMiceli, et al. 2011 |
| AVHRR & MODIS | 1/20 ° | Global, annual, 1982-2014 | In Preparation |
| LANDSAT | 30 m | Global, 2000, 2005 | Sexton, et al. 2013 http://www.landcover.org |
| LANDSAT | 30 m | Global 2000 | Hansen, et al. 2013 http://earthenginepartners.appspot.com/science-2013-global-forest |

## Acknowledgement

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