Spectral contextualization metric
(*Bfast-Monitor*)

The implementation of the native cover conversion metric initially considered three algorithms: *Bfast01* (DE JONG *et al.*, 2013) and *Bfast-Monitor* (VERBESSELT *et al.*, 2012) for the MODIS vegetation index time series between 2000 and 2017, and the *LandTrendR* algorithm (KENNEDY *et al.*, 2010) for the Landsat time series between 1985 and 2017. The *Bfast-Monitor* algorithm presented the best hit rates in the detection of breaks in the 2016 and 2017 time series for polygons greater than 0.25 km², and therefore, it was chosen as the standard algorithm for implementing this metric. The implementation of this metric is considered the centroid of all PRODES-Cerrado 2017 polygons.

After running *Bfast-Monitor* on all MODIS pixels contained in the PRODES-Cerrado polygons, between 2016 and 2018 (*i.e.*, 525,038), it was observed that about 82% of the polygons had pixels with breaks in their time series, and among these, polygons with an area of at least 0.25 km² presented more than 50% of the pixels with breaks, an indication of the efficiency of this method in detecting large deforestations. In contrast, the polygons that showed up to 25% of pixels with breaks represent about 46% of the total polygons of PRODES-Cerrado. However, this value is equivalent to a total area of 2,369 km², which represents only 11% of the total deforestation between 2016 and 2018.
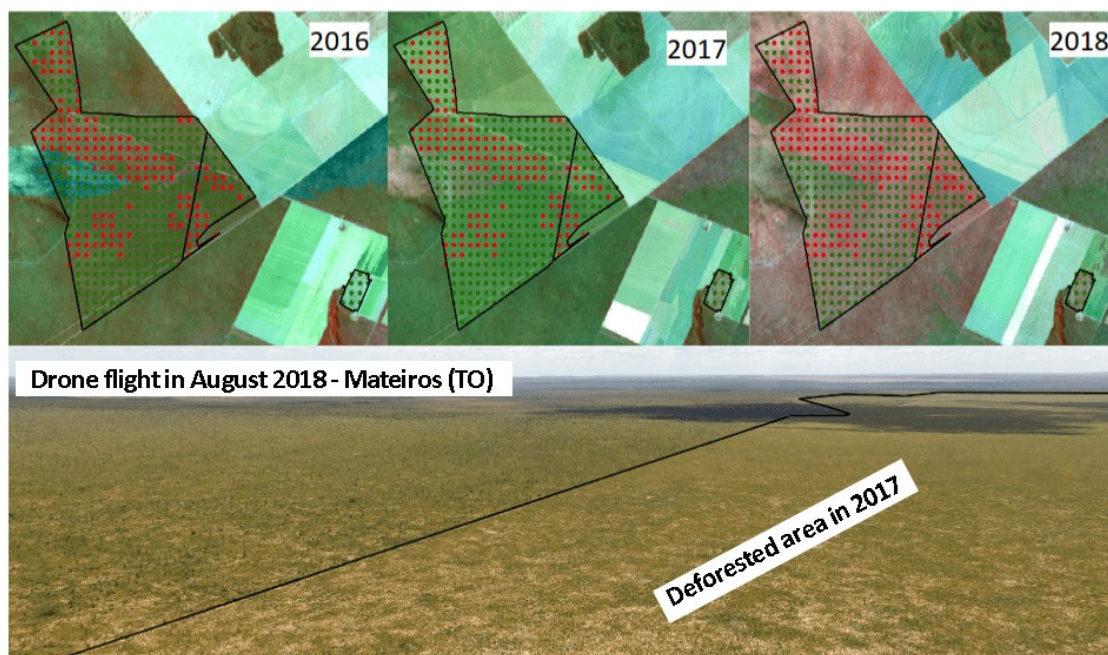

Figure 1. Result of the execution of the *Bfast-Monitor* for a PRODES-Cerrado polygon in Mateiros-TO and photograph obtained with drone overflight during the field visit.

Finally, it is essential to note that of the total of 21,869 km² of deforested areas between 2016 and 2018 in the Cerrado biome, *Bfast-Monitor* was able to identify 15,550 km² of polygons that presented at least 50% of breaks in their time series, which represents ~ 71% of the total. In the other areas, pixels with breaks were also identified, but in a smaller proportion, which indicates the presence of deforestation of less than 0.25 km², which due to the resolution of the MODIS pixel, becomes more difficult to be identified. In general, it was possible to observe a convergence between the results generated by *Bfast-Monitor* and the data released by PRODES-Cerrado.