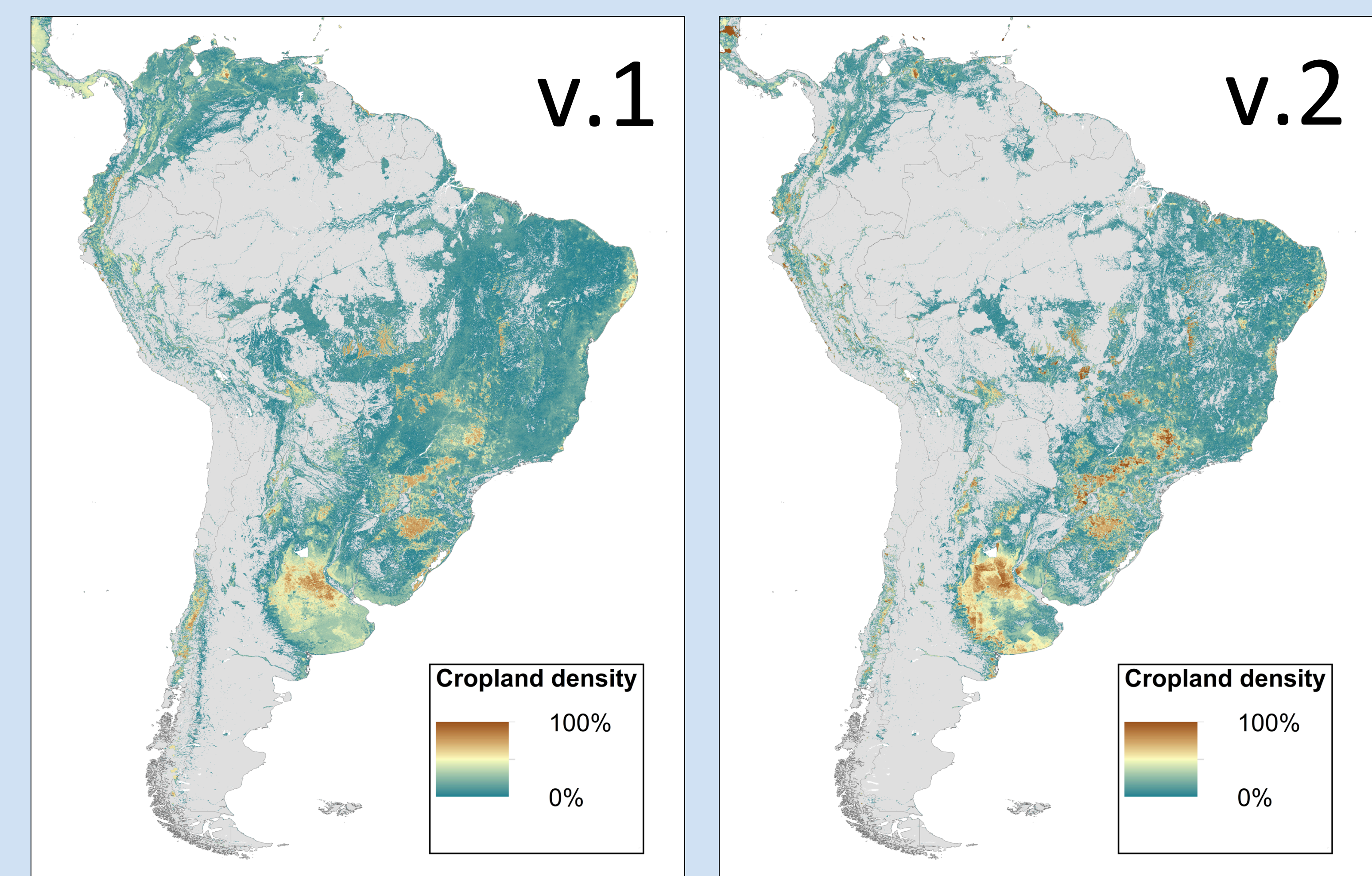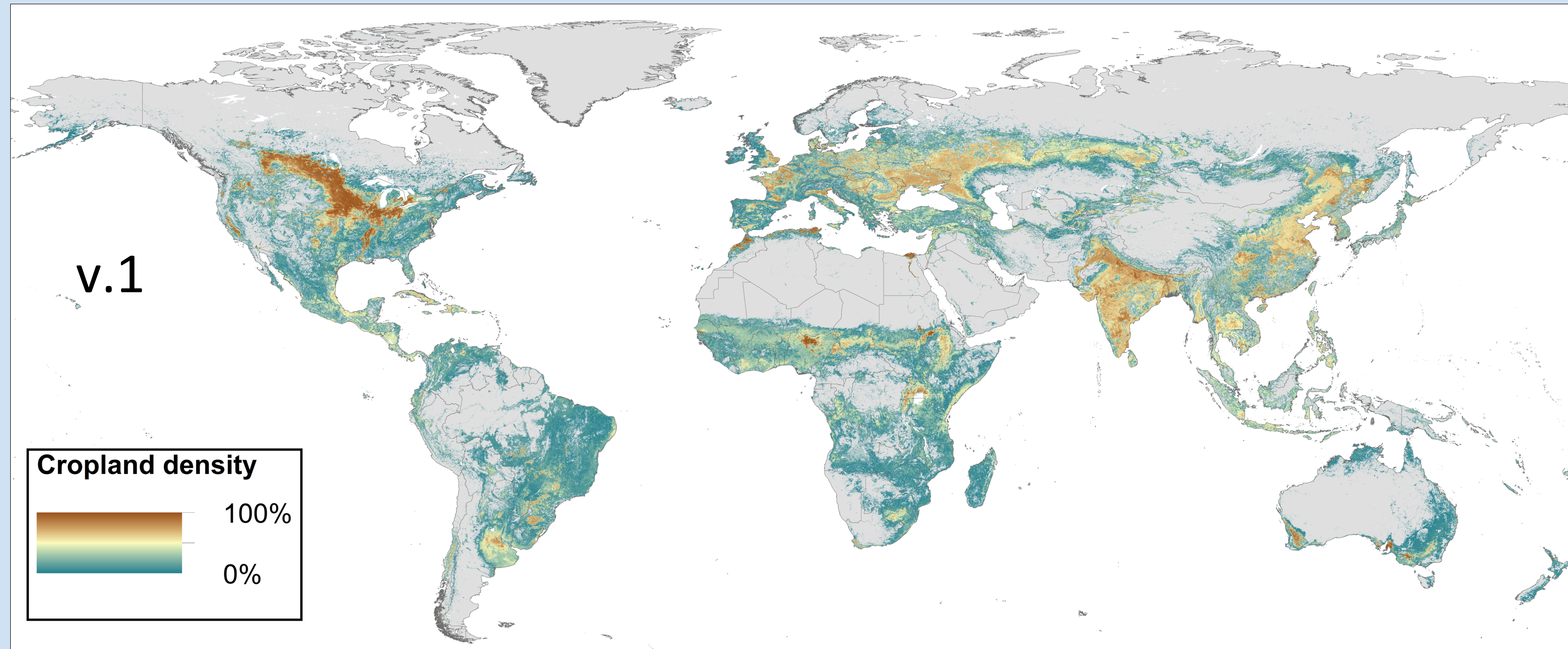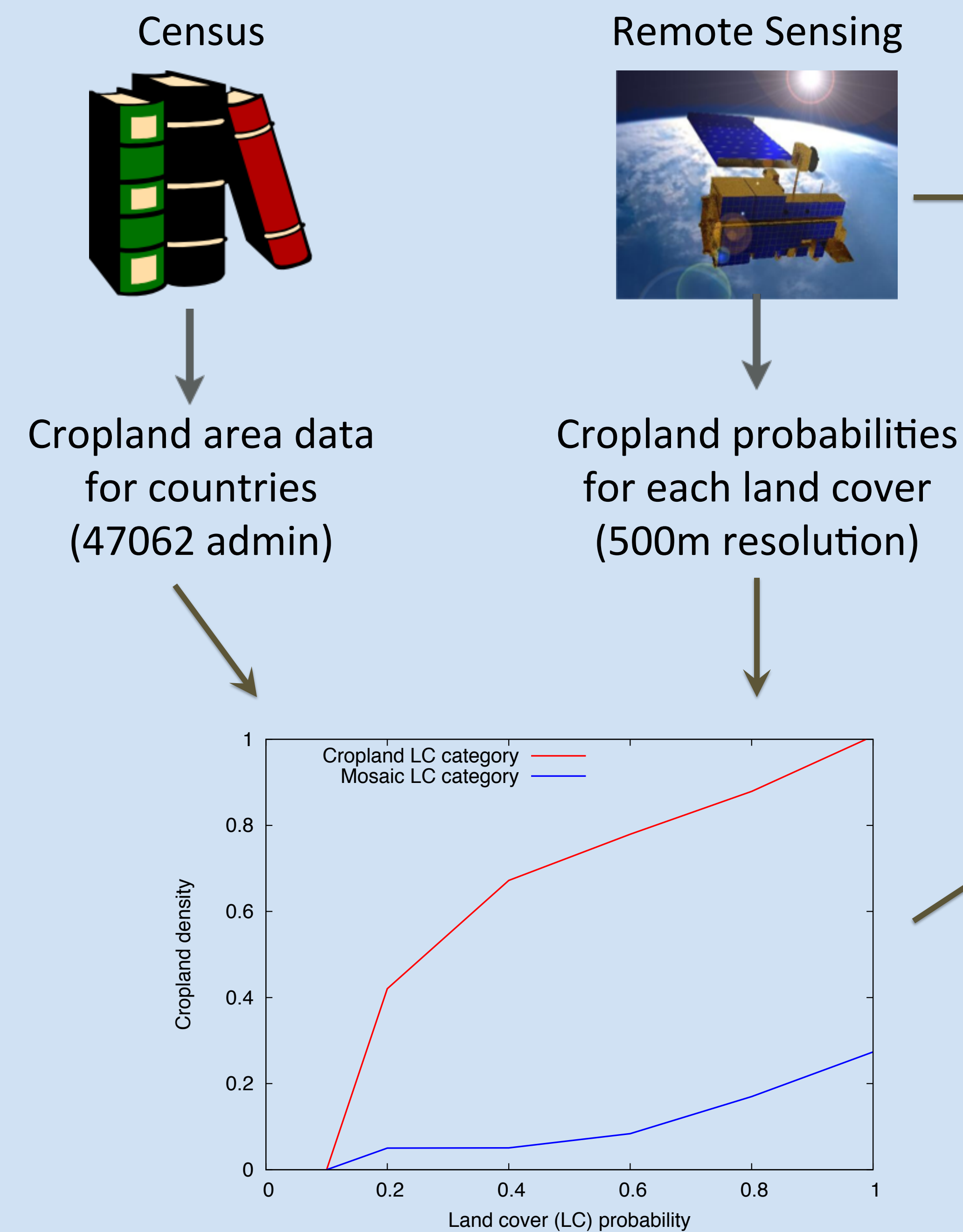# Global Croplands: A new dataset for year 2005

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G E O S H A R E

Census

Remote Sensing

Cropland area data for countries (47062 admin)

Cropland probabilities for each land cover (500m resolution)

v.1

Cropland density

100%

0%

v.1

v.2

Cropland density

100%

0%

Cropland density

100%

0%

We developed a global cropland map for 2005 by merging MODIS satellite data with a global compilation of subnational statistics. We compiled national and subnational census/survey statistics on croplands for 47,062 administrative units globally for 2005 (or estimated it from the closest dates possible to 2005, using interpolation or extrapolation based on FAOSTAT annual statistics). We used the cropland probability layers at 500m spatial resolution for the 'cropland' and 'cropland mosaic' classes from the MODIS global land cover classification product, averaged over the 2003-2007 period. We calibrated the MODIS data to match the census data separately for 14 macro-regions of the world. The calibration model estimated 'piece-wise linear functions' describing the relationship between cropland probabilities and cropland density for the 'cropland' and 'cropland mosaic' land cover classes using a least squares minimization approach. These functions were then applied to each 500m pixel to calculate cropland density in each pixel, and the data were further aggregated to a 2km resolution for the final global product. This will form version 1 of the GEOSHARE global cropland map.

GEOSHARE will also provide a second version of the global cropland map, wherein the data will match the original census data when aggregated over each administrative unit. This version 2 will be useful for those users for whom it is important that the data are consistent with administrative-level statistics. A comparison between version 1 (uncorrected) and version 2 (corrected) are shown in the adjacent figure for South America. We are further planning to release a version 3 which will be consistent with FAO national statistics.

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