# BRAZILIAN DRY FOREST: UNDERSTANDING CLIMATE CHANGES AND BIODIVERSITY DYNAMICS USING SEBAL ALGORITHM AND CLOUD COMPUTING

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**ABSTRACT:**

Brazilian dry forest biome called Caatinga is unique in the world. Vulnerability and resilience of Caatinga vegetation upon the climate changes has been often a research challenge. Water resource scarcity, land degradation and desertification are driven by climate variability and human activities. There is more than 22 million of people living in the Brazilian semi-arid region which put major pressures on natural resources. Appropriate use of satellite images in their full potential would substantially help a best understanding about the main land use changes drivers: human activities and climate changes. Output data from SEBAL (Surface Energy Balance Algorithm) provides indicators of LUC trends. Additionally, SEBAL output data can be input data for hydrologic models such as evapotranspiration time series. To provide such data, a method is required that combines global and local remote sensing datasets that should be calibrated with field observations and existing climate measurements and biodiversity records. Efficient computational capacity to run the complex workflows on huge data sets is required. This papers shows some jointed actions aimed to integrate transcontinental data exchange and expert knowledge sharing on both sides of the Atlantic trough the EU Brazil CC project (European Union Brazil Cloud Connect).

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