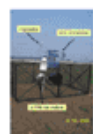
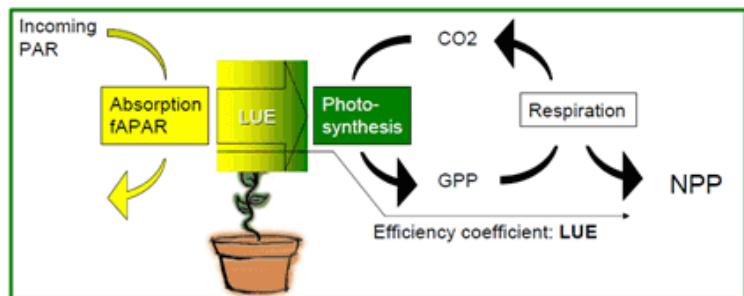


Modeling of primary productivity of cropland ecosystem

(solely satellite observation driven model)

Modeling concept : LUE approach



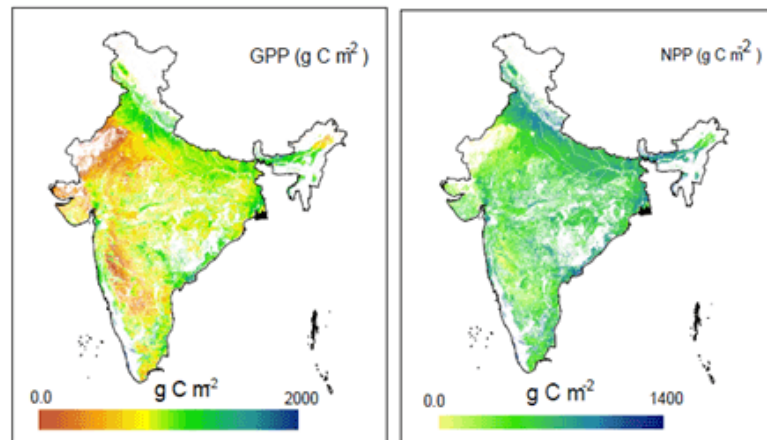
$$NPP = LUE \cdot \sum_{day=1}^{365} fAPAR \cdot PAR$$

The LUE is f (crop species, soil moisture, temperature and phenology)

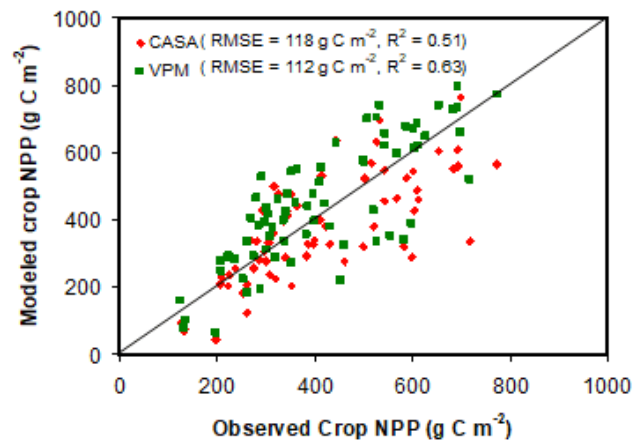
Measured by satellites

Modeled from cloud properties by satellites

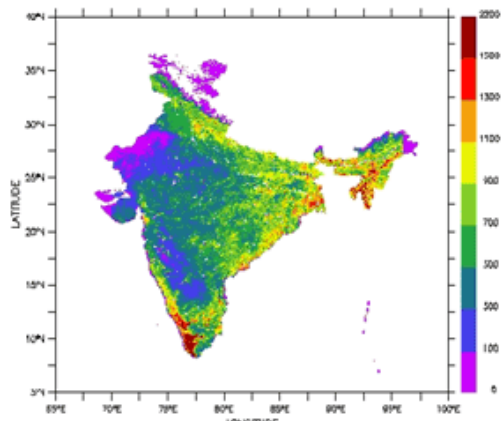
VPM based Cropland NPP = 0.859 Pg C



Validation of Model results



CASA model Total NPP = 1.6 Pg C



Cropland NPP = 0.895 Pg C

Environ. Mon. and assess., 170 (1-4): 195.213(2010).

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