






Predictor and response variables
 from data and models, common resolution: 2.5° x 1.89°, monthly, 2005–2011


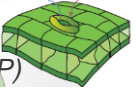


Predictor variables

Climate: TMAX, TMIN; wind speed; P; wet days 

Population density 


Biomass  H_2O CO_2

Land cover  (GPP) Photosynthesis 

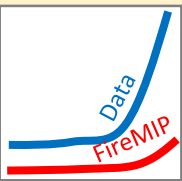

Estimate burned area with random forest (RF)
 for data D or models M

$BA_{D|M} = RF(\text{Climate}_D, \text{PopDens}_D, \text{land cover}_{D|M}, \text{GPP}_{D|M}, \text{biomass}_{D|M})$

Response variable:
 Burned area (BA) from satellite data sets (5x) or FireMIP models (7x)



Emergent relationships and sensitivities
 between predictor variables and burned area

Burned area

Max temperature

Local sensitivities