

GHG flux models

Response variables

NEE
GPP
ER
CH₄ flux
N₂O flux
n=101
spatial study setting

Predictors

Vegetation type
Biomass
Soil moisture
Soil temperature
Annual average
soil temperature
Soil organic
carbon stock
Soil C/N

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Environmental models

Response variables

Biomass
Soil moisture
Soil temperature
Annual average
soil temperature
Soil organic
carbon stock
Soil C/N

~

Predictors

Elevation
Slope
Potential incoming
annual solar radiation
Aspect
Topographic position index
Topographic wetness index
Normalize difference
vegetation index
Snow cover duration
Surficial deposits

n=50-168
spatiotemporal study setting
(soil moisture and temperature),
spatial study setting (other variables)

Vegetation type
n=5413
spatial study setting

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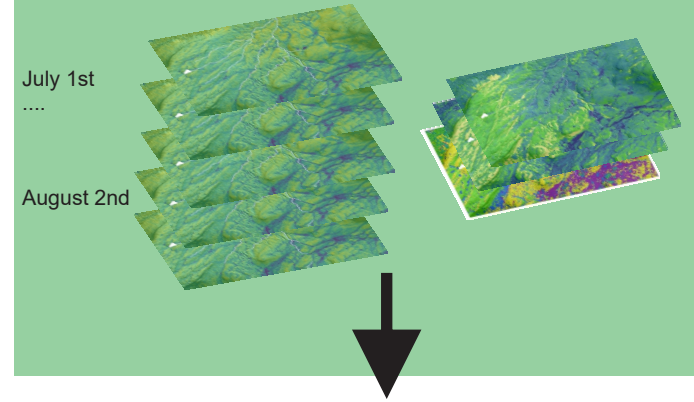
Normalized difference
spectral indices
calculated from all
4 spectral bands



Environmental predictions

Soil moisture and
temperature maps
at 2h time steps

Static maps of other
environmental
conditions



GHG flux predictions

GHG flux maps
at 2h time steps

Average maps
from 1 July to
2 August
(8 am to 8 pm)

Machine learning models used with the variables

Generalized boosted regression tree
Random forest
Support vector machine

