# Trait Model Selection

Bijan Seyednasrollah May 17, 2016

#### Model Selection for Trait Model using GJAM

The most appropriate model is selected using a model selection approach and based on the Deviance Information Criterion (DIC) and a Bayesian score. The model with the highest score or the lowest DIC value is selected.

#### **Predictors**

The proposed models may consist of climatological variables (including mean winter temperature, soil moisture, hydrothermal deficit and hydrothermal surplus), soil data, topographical data (slope and aspect) and their interactions. The table below shows how different models explain the response variables throughout the dataset.

# PredidionScorScore temp-139447.2 $5.30e + 33\ 0.3812$ moisture soil 140171.2temp- $5.72e + 33\ 0.1324$ deficit soil 3 139208.7 temp- $4.93e + 33\ 0.3965$ + surplus soil 140574.2temp- $7.08e + 33\ 0.6544$ moisture deficit soil

### # Predictions conscore

```
temp- 140539.3
5
    + 6.36e+33 0.8248
    mois-
    ture
    +
    therm
    +
    soil
6 	ext{ temp-} 	ext{ } 142482.9
    + \qquad 8.51\mathrm{e}{+33}\ 1.360
    mois-
    ture
    +
    deficit
    therm
    +
    soil
7 temp- 143378.1
    + 1.22e+34 2.24
    mois-
    ture
    +
    deficit
    therm
    soil
    +u1
    +
    u2
    +
    u3
8 temp- 142153.5
    + 1.07 + 34 2.07
    mois-
    ture
    +
    deficit
    soil
    +u1
    +
    u2
    +
    u3
```

### # Predictions conscore

```
temp- 141521.9
9
   + 9.22e+33 2.11
    mois-
    ture
   +
    therm
   +
   soil
   +u1
   +
   u2
   +
    u3
10 temp
   deficit
   +
   therm
    soil
   +u1
   +
   u2
   +
    u3
11 temp
   deficit
   therm
   +u1
   +
   u2
   +
    u3
12 temp
   +
    mois-
   ture
   therm
   +u1
   +
   u2
   +
    u3
```

# # Predictionscoyscore

 $\overline{13}$  temp + deficit moisture+u1+u2+ u314 15 16 17 18 19