

Environment and organisms - Task #361

Test and compare the GAM method on several days (10 days for now) for Oregon

02/23/2012 12:16 PM - Benoit Parmentier

Status:	In Progress	Start date:	02/23/2012
Priority:	Normal	Due date:	
Assignee:	Benoit Parmentier	% Done:	0%
Category:	Climate	Estimated time:	0.00 hour
Target version:			
Activity type:	Coding/analysis		

Description

The GAM regression is applied on a set of 10 days spread over a year to test its performance. We expect changes in the prediction fit with the different time of year (e.g. Winter and Summer) so replicating the same method for a set of 10 days will be useful for the development of the new methods.

A r script will be developed to produce and compare the outputs for the 10 selected days.

History

#1 - 02/23/2012 01:16 PM - Benoit Parmentier

- Category set to Climate
- Assignee set to Benoit Parmentier
- Activity type set to Coding/analysis

#2 - 02/23/2012 02:59 PM - Benoit Parmentier

- Parent task deleted (#359)

#3 - 03/01/2012 11:44 AM - Benoit Parmentier

- Status changed from New to In Progress

Beginning of the r code to produce prediction for 10 dates. Fit and validation will be evaluated using AIC, GCV, deviance and RMSE,.

#4 - 03/11/2012 12:00 PM - Benoit Parmentier

I am reading about interactions and experimenting with the visualization tools.
At this stage, it is still unclear to me what interaction matters (among the variables: lat, lon, ELEV_SRTM, Eastness, Northness). There are also some errors in the input data which resulted in errors in the fit. There is a need to screen the data before performing the GAM... This requires some additional r coding.

#5 - 03/23/2012 09:54 AM - Benoit Parmentier

- File IPLANT_working_roundup_Benoit_GAM_INTERACTION_03202012.pdf added

- The R code has been updated to include some interaction terms. Examination of 3D surface plot with tmax on the z-axis and the various independent variables (lat, long, ELEV_SRTM,...) reveals different interesting features (see pdf document attached). So far two interactions terms have been included: lat-long and Eastness-Northness. To replicate the ANUSPLINE model a three way interaction term will also be included in the GAM model (lat, long, ELEV_SRTM).

#6 - 05/01/2012 02:24 PM - Benoit Parmentier

Many models have been explored using the GAM methodology. At this stage, more detailed diagnostics is needed so for the past two weeks work has focused on the analysis of:

- patterns in residuals.
- outliers detections and screening of "bad" values.
- examining the contribution of various variables to the models in particular the land cover and LST averages.

Files

IPLANT_working_roundup_Benoit_GAM_INTERACTION_03202012.pdf 01 KB

03/23/2012

Benoit Parmentier