Environment and organisms - Task #408

Capturing LST spatial structure using spatial eigenvectors

05/01/2012 02:03 PM - Benoit Parmentier

Status:	New	**Start date:**	05/01/2012
Priority:	Normal	**Due date:**	
Assignee:	Benoit Parmentier	**% Done:**	0%
Category:	Climate	**Estimated time:**	80.00 hours
Target version:			
Activity type:	Coding/analysis		

Description

Spatial filtering is explored to assess its usefulness in capturing the LST spatial structure by creating spatial variables from spatial eigenvectors.
These spatial variables will be used to improve tmax predictions.

History

#1 - 05/09/2012 03:40 PM - Benoit Parmentier

I started writing the R code using the two functions from spdep package: ME and SpatialFiltering()
I am trying to see if the functions' code can be modified for our use.

The logic of the spatial filtering method is the following one:

1)Create the list of neighbours from grid cells
2)Create the list of weights from list of neighbors
3)Create a matrix of Weights
4)Perform an Eigenvalue/eigenvector decomposition
5)Select the relevant spatial patterns to include in the regression (be it lm, glm or gam).