Correlation involving

* Anomaly of CFAPAR at the end of season
* Variable X (has to be an anomaly, including SPI1)
* Start and end of season phenology

Time frame has to be the same for all

The FAPAR (or NDVI or whatever) is first resampled to the spatial scale of variable X

**New processing chain**

The idea is to use:

Y

* MODIS Boku (OF)

X

* Soil moisture anomaly (SWI copernicus now)
* SPI 1 and 3 from CHIRPS and ECMWF?
* SPEI?
* Anomaly of GWSI?

Space and time

* All Africa, both mono and bi-modal
* Asap pheno from SPIRITS

Masks

* Agriculture (crops and rangelands)

(SPEI is here: <http://spei.csic.es/database.html>, but it is only monthly and so cannot be used)

**Data preparation**

Data are stored here: \\ies\d5\asap\users\_data\meronmi\TEST\_PREDICTORS

* Extract all variable over the ROI, resampling them at the most detailed spatial resolution (MODIS)

*Note for self-computed spi (from chirps):*

*computing spi on 1 km resampled data was too slow so:*

*- extract roi at chirps res*

*- compute spi*

*- rename spi (adjust for the SPIRITS convention of using the first dek as filename), use bbb\_rename\_adjust\_date\_SPIRITS\_SPI*

*- resample (using gdal as spirits does not have NN resampling, use bbb\_resize\_spi\_roi)*

*The SPI hr computed for ASAP is ok already.*

For SWI also the date has to addede with SPIRITS adapt hdr in order to compute Z score anomaly

Steps

The new **BBB\_find\_index\_of\_progress** does not work on bil files but on metafiles. Index of progress must be computed once, then it works for all time series with same time span.

* Run **BBB\_find\_index\_of\_progress** to build the subscripts of the various progresses (this is done once and it is valid for all X data having the sane period)
* Run **BBB\_build\_cNDVI\_zcNDVI** to build the zcNDVI
* Run **BBB\_build\_indicator\_at\_progresses** to build the indicator value at different progresses. It works on mta files (make sure that the time period is the same for all)
* Run **RUN\_BBB\_regXYmat**
* **RUN\_BBB\_compare\_annual\_linear\_reg**
* Run R script (copied in ewp idl dir) **my\_script\_modified\_for\_SPI.r**
* **BBB\_find\_best\_at\_pixel\_linear\_reg**