Lineage:

- Initial version – Bruce, Nov 2014
- Minor Edits – Bruce, Jan 2017

User Story

6.1.3 Climate Data Homogenisation

Version: 0.4

Bruce Bannerman 24/1/2017 14:47
Comment [1]:
This needs much more work

==== User Story ====

Related components: 6.1.3, 4.1, 4.3, 4.4, 4.5, 5.4, 8.1.1, 8.3.1, 7.1

Related User Stories:

- .

A climate scientist is preparing a high quality homogenised set of data.

The scientist views the time-series distribution of observation values for a set of stations for specific phenomena and identifies step changes in the distribution of the data at specific time intervals.

The scientist reviews the observations metadata associated with the station / sensor, and attempts to identify a cause of the step changes in values. These may possibly have been caused by station relocation, a changed sensor, changed operating procedure etc.

Architectural Comments:

- This component may need to be split between 5.3 and 6.1.3
- There is also a user interface aspect, probably via 7.1.4 Integrated Search

===== end ====

Reference: WMO 1131

Need to consider and include as appropriate:

1. Climate data series homogenization
   As a end user of the CDMS, I want to check the homogeneity of a climate series (eg. Monthly surface mean temperature of a site from 1961 to 2014) and adjust the series in order to make the series homogeneious and to make it to represent natural climate change .
   Conversations:
   (1) What is the variable?
   (2) What is the temporal resolution?
   (3) What is the time coverage?
   (4) Where is the metadata I can use?

(5) What is the algorithm for homogeneity test and adjustment?
(6) What is interface between the data and algorithm?
(7) What is the analysis result?
(8) Is the homogenization process automatic or human-computer interaction?

Confirmation:
(1) A variable could be selected from a list of variables.
(2) the temporal resolution could be selected from a list of resolutions, ie. yearly, monthly and daily.
(3) The starting date and ending date could be selected.
(4) I can check and look up the metadata of a station when I make homogeneity analysis.
(5) Regular and frequently-used algorithms should be listed and be selected.
(6) The input data should be definite and distinct, such as the format, missing data, etc.
(7) The files of results are automatically outputted in a definite format.
(8) Some of the homogenization process are automatic and some need to have human-computer interaction.

2. Time series analysis
3. Spatial analysis

Bruce Bannerman 1/2/2017 14:52
Comment [2]:

Contributed by Anyuan