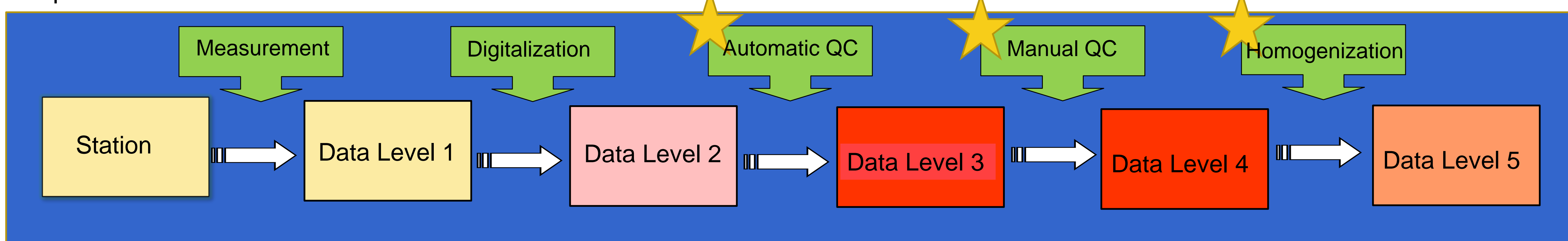


Adaption of the Data Quality Control Procedures of Conventional Stations at SENAMHI Perú within the project CLIMANDES

Clara Oria and Stefanie Gubler

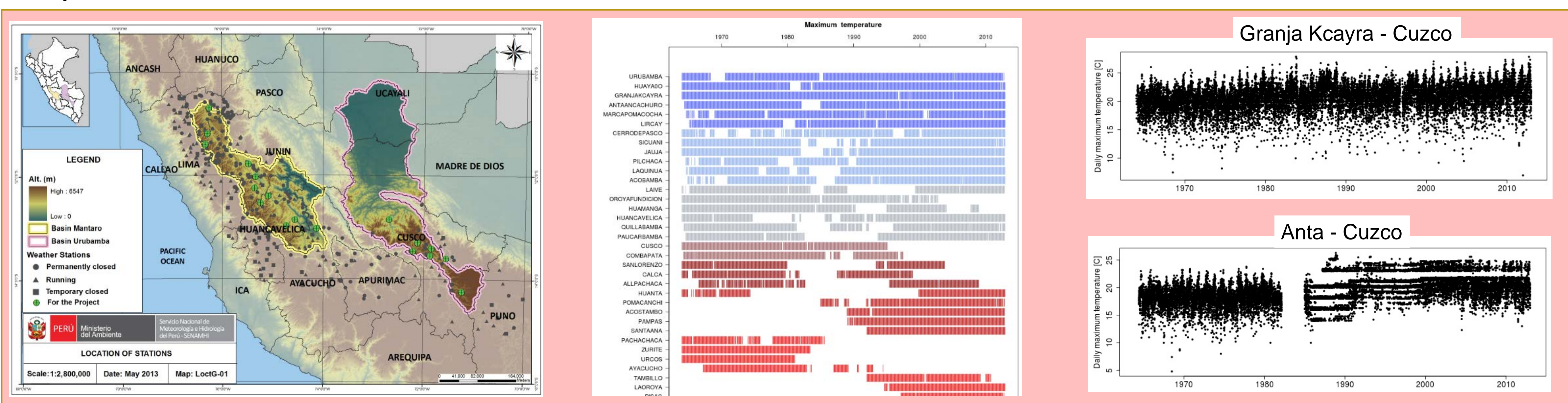
Adapted data chain at SENAMHI Perú



Introduction

The project CLIMANDES (module 2) is a joint project between the Meteorological and Hydrological Service of Peru (SENAMHI) and the Swiss Federal Office of Meteorology and Climatology MeteoSwiss with support from Meteodat GmbH. It aims to establish sustainable climate services by extending and implementing the entire data quality process at SENAMHI and by producing reliable climate information in two Andean regions in Peru, Cuzco and Junín. The project aims at improving and automatizing the data quality control procedures at SENAMHI. The improved processes are symbolized by a star in the data chain shown above (★).

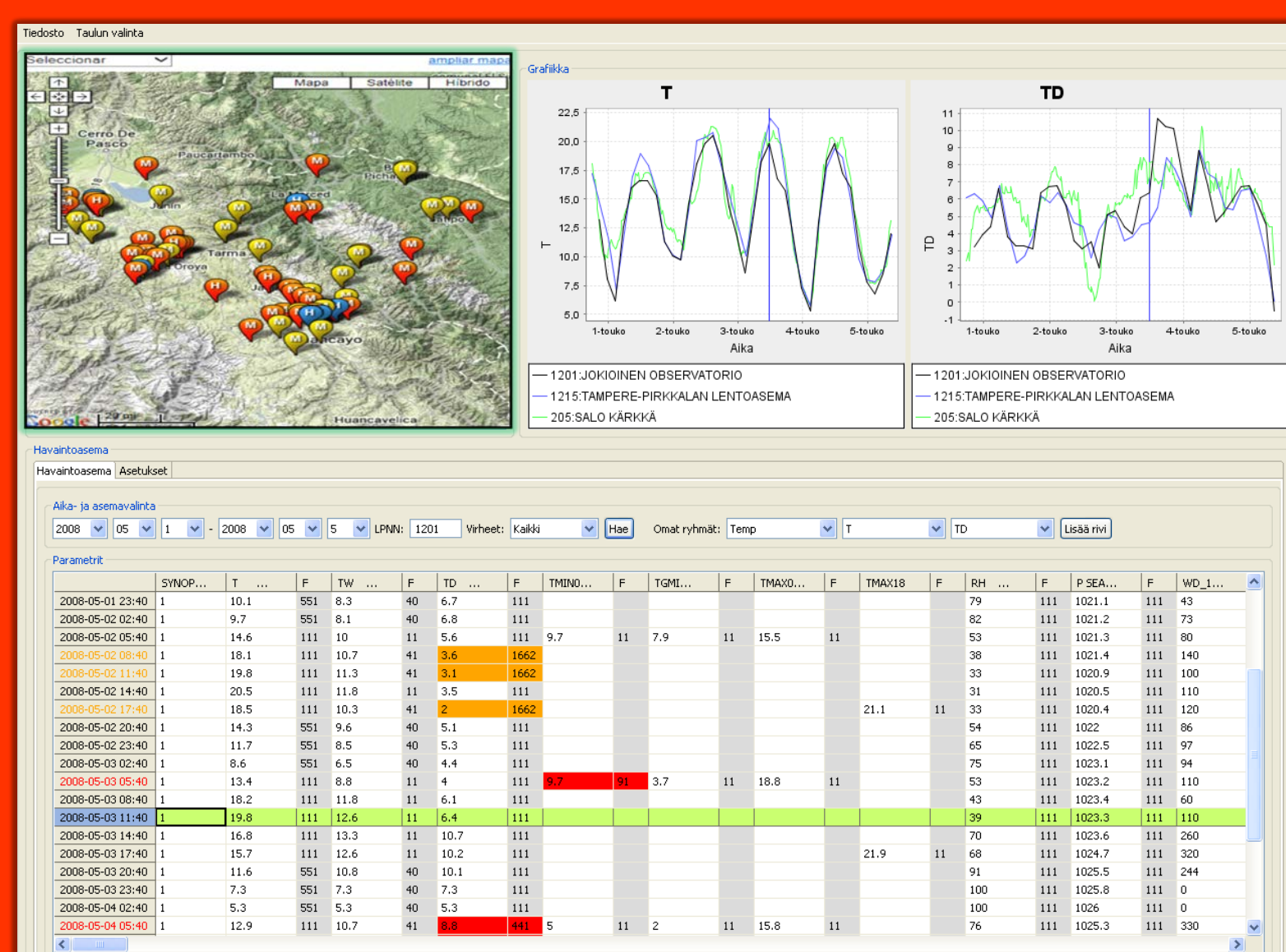
Study area and raw data



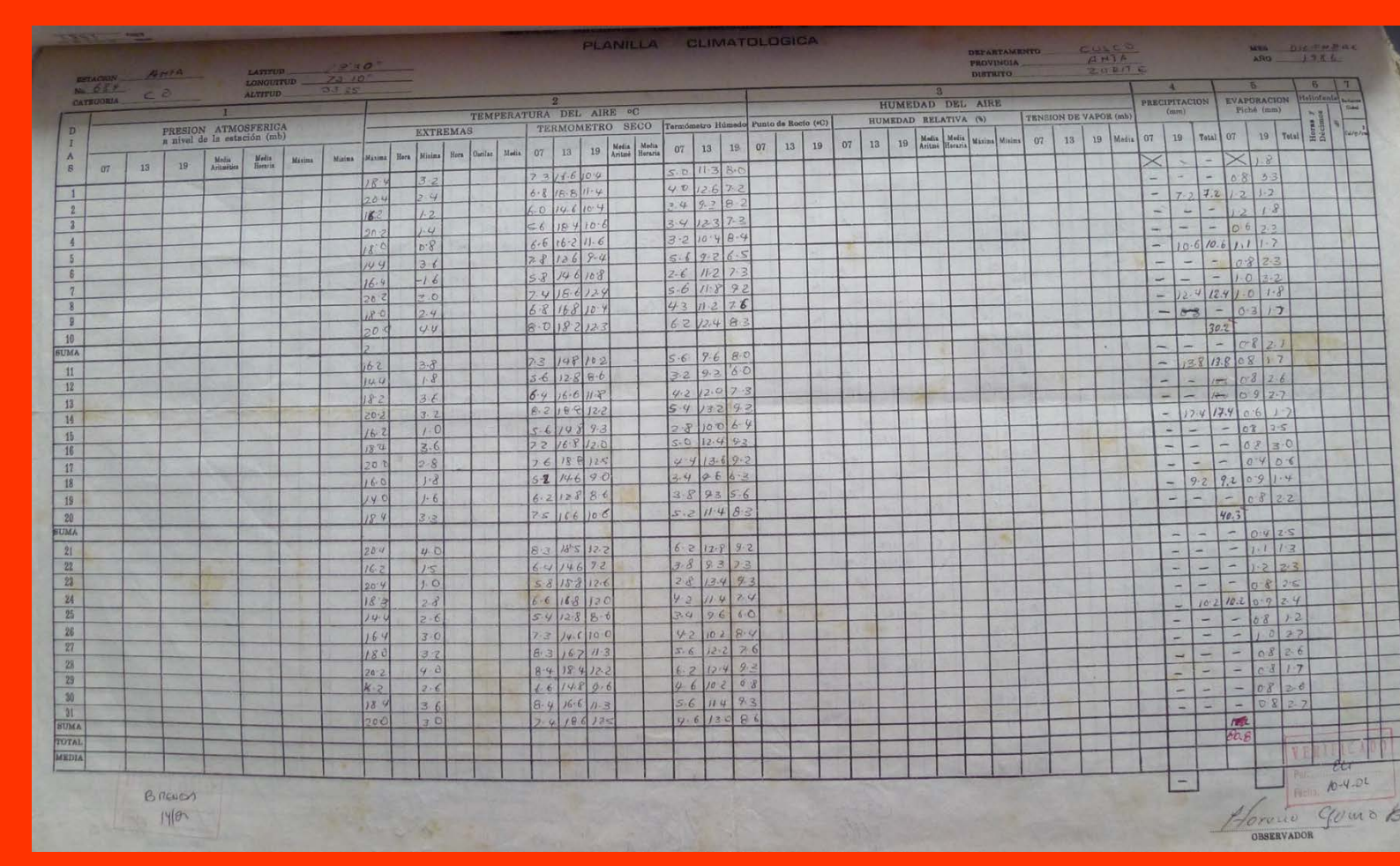
Automatic and manual data quality control

In a first step, all data is flagged automatically based on up-dated quality control (QC) rules according to WMO (Aguilar, 2003; Brunet, 2008) requirements.

To facilitate the manual data control, it is planned to digitize the data sheets and make them available online for data correction. For spatial interpolation, an automatic selection of appropriate neighboring stations will be implemented. Furthermore, additional data sources (e.g., satellites, data from re-analyses) will be provided automatically for data quality control and interpolation of missing values.



Original data sheet of Anta (Cuzco) – Dec.1986

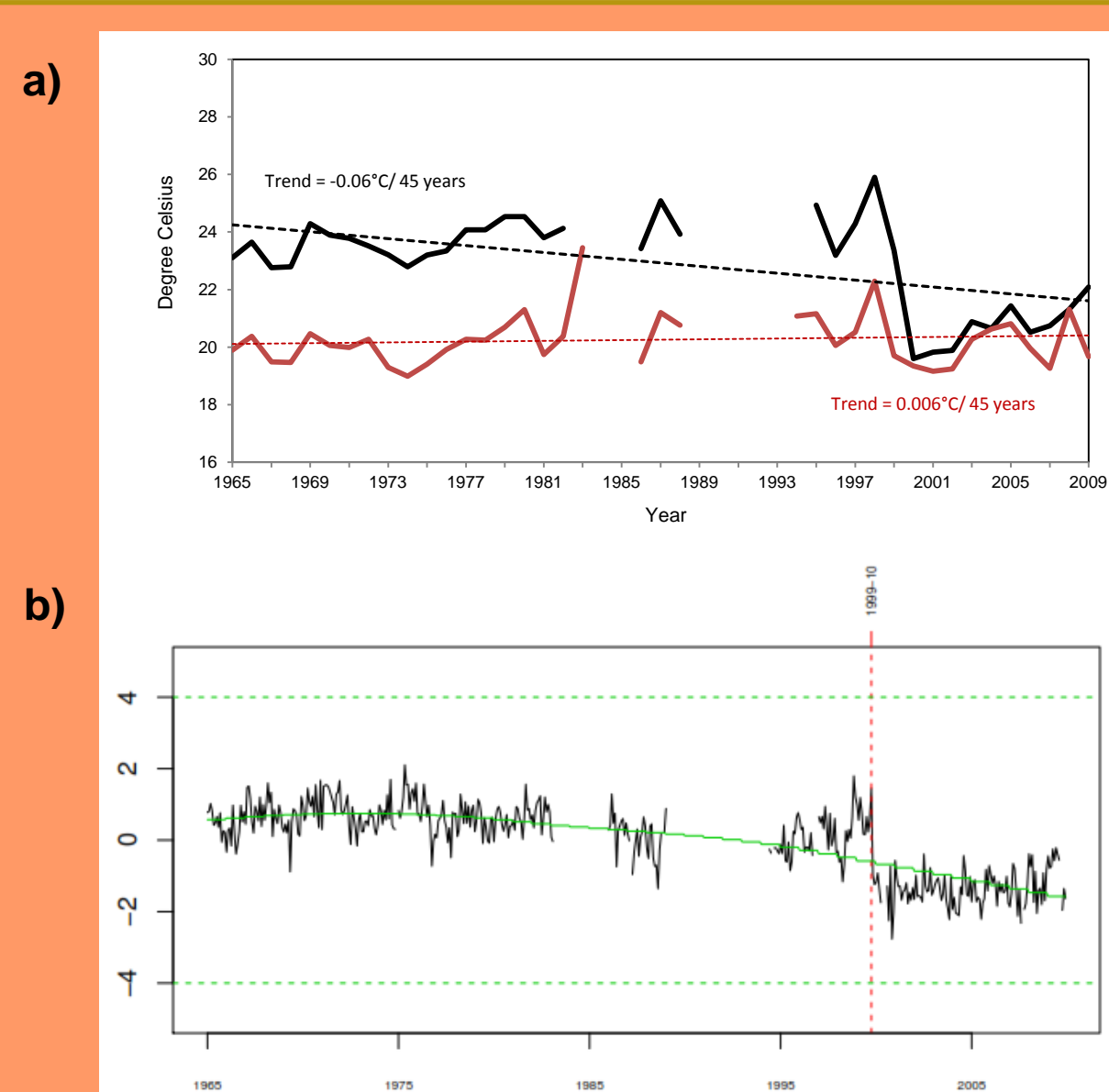


Homogenization

Within CLIMANDES, it is planned to homogenize maximum and minimum temperature and precipitation of several climatological stations in the two pilot regions using HOMER (e.g., Venema et al. (2012), Mestre et al. (2013)).

Example of a homogenized series (with rsnht): Chalhuanca station in Apurimac (Southern Andes)

- a) Trend of Maximum Temperature of raw data (black) and after homogenization (red).
- b) Inhomogeneity detected, break due to station relocation of 200 meters of elevation distance.



Acknowledgements:

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References:

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