UNIVERSITA' DEGLI STUDI DI MILANO - BICOCCA

RELATIONSHIP BETWEEN INPUT AND OUTPUT OF WATER BALANCE IN LOMBARDY PLAIN FROM TICINO RIVER TO OGLIO RIVER

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RESEARCH PROJECT RICLIC-WARM
(Regional Impact of Climatic Change in Lombardy Water Resources: Modelling and Applications)

The target of the project is to develop a scientific methodology in order to evaluate climatic impacts on water resources of Lombardia region.

The project involves: public monitoring authorities (ARPA LOMBARDIA), scientific research authorities (UNIMIB, UNIMI, UNIPV) and regional public authorities (REGIONE LOMBARDIA).

DATA

HYDROGEOLOGICAL SYSTEM

MONITORING NETWORK

In Lombardia parameters that describe the hydrogeological cycle are monitored by different Monitoring Networks:

- Regional thermometric and pluviometric monitoring network (ARPA Lombardia).
- Automatic hydrometric monitoring network (ARPA Lombardia).
- Regional piezometric monitoring network (ARPA Lombardia).
- Groundwater monitoring network of Milano and Lodi provinces.

CONCLUSIONS

- This study is only a preliminary analysis of the complex datasets collected.
- The validity of every elaboration is associated to a limited temporal continuity of data.
- The comparison between the pluviometric and hydrometric/discharge datasets shows that surface water is directly correlated to rainfalls.
- The comparison between the pluviometric and piezometric datasets shows that water table level is directly correlated not only to rainfalls, but also to other anthropic factors like pumping and irrigation.

TARGETS OF THIS STUDY

- Rebuilding of pluviometric, hydrometric, discharge and piezometric datasets, necessary to the study of hydrogeological cycle and its evolution.
- Analysis of temporal trend of datasets.
- Comparison between rainfalls datasets and hydrometric/discharge datasets, between rainfalls datasets and piezometric datasets in order to underline possible relationship between them.
- Identifying anomalous drought or wet periods, thanks to SPI.

GLOBAL CHANGE