



Project of strategic interest NEXTDATA

Deliverables

WP 1.4 – Climatic and environmental data from non-polar ice cores

WP.2.3: Archive of data from non-polar ice cores

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Deliverables WP1.4: Database of proxy data (isotopic, pollen, dendrochronological) from mountain ice cores (Lys, Ortles, Mont Blanc), peat bogs (Danta di Cadore, Rutor), alpine lake sediments and trees sampled near the treeline and at other key Italian sites .

Deliverables WP2.3. Web Portal to access data and metadata arising from ice cores; lake sediments; peat bogs; pollen series and dendrochronological curves, containing static pages describing technical characteristics

Dendrochronological, pollen and isotopic data provided by Universities, Research Centers and also data available in online databases such as ITRDB of NOAA have been collected, structured and organized according to the requirements of NEXTDATA and then incorporated into the two projects database, Paleodata Database and Dendrochronological Database. All data has been collected and sorted in order to get a complete representation of those available, in terms of geographical coverage, temporal extension, type of data available, and so on. The collection system of metadata and data from groups within and outside the project has been strategic for visualizing the consistency of the data potentially available at the national level and of their spatial distribution. The purpose was to obtain an updated view of the data distribution at the national level and to contact the various groups operating in Italy for reaching the NextData Italy 2k objective of climate reconstruction. For Dendrochronological data set, six groups have sent their metadata (namely University of Milan, University of Pisa, Second University of Naples, University of Molise, University of Basilicata and Civic Museum of Rovereto - former Italian Institute of Dendrochronology). Other information regarding the Italian territory were derived from the ITRDB (<http://www.ncdc.noaa.gov/>), and other groups have assured their metadata. Metadata of 89 sites and 25 chronologies (data) were collected. A WebGIS application of Metadata and a dedicated free-access website has been predisposed (<http://geomatic.disat.unimib.it/dendro>).

Palynological data, in the geographical and chronological context, concerned were collected and carefully evaluated. More than 60 published palynological stratigraphic successions from limnic/wet

environment, partially or entirely covering the last 3 thousand years, were picked up. The palynological sequences detected have been critically analyzed, with a special attention on the quality of their chronostratigraphical resolution. The acquisition of the numerical data (pollen percentages) was then started, in order to obtain the numerical data for further graphical and statistical elaborations.

At the end of the Wp activities two geoportal was developed. The first, <http://geomatic.disat.unimib.it/paleodata>, make available data and metadata of the paleoclimatic proxies. Point data set can be interrogated, displayed and downloaded and also both data and metadata are available for each data.

Dendrochronological metadata

Insieme dei siti italiani per i quali è disponibile una cronologia stagionale. I metadati sono stati raccolti unicamente a scopo scientifico entro il progetto NextData: in parte sono stati direttamente inviati dai vari gruppi operanti in Italia e in parte sono stati derivati da database internazionali aperti.



Figura 1- Metadati Web Application

The second one <http://geomatic.disat.unimib.it/dendro> is a web map application where only metadata, of significant climate denchronology from the last 2K years, can be visualized and downloaded.

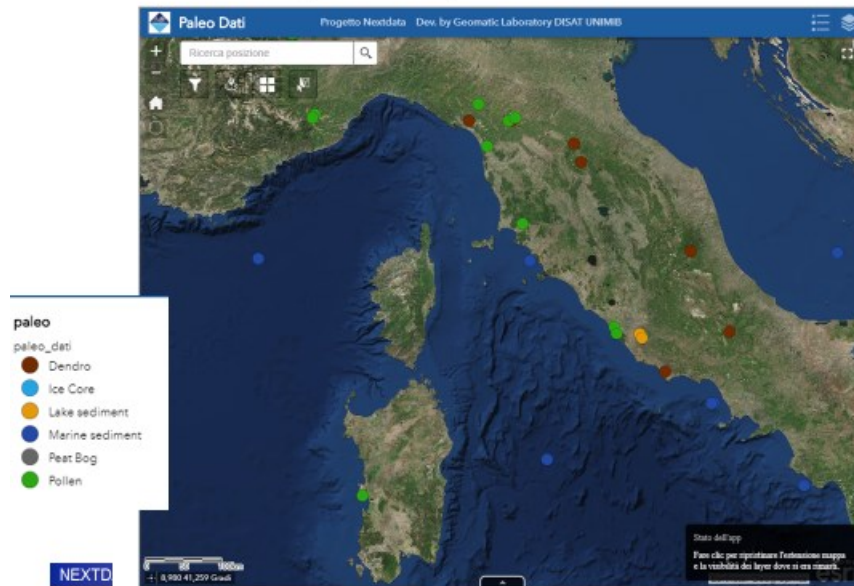


Figura 2- Paleodata Web Application

Concerning the ice cores, a database called IDB2.0 has been made realized. It contains data and metadata of non-polar ice cores and also stores spatial information about glacier derived from other DB such as GLIMS, WGI etc and parameters from DTM elaboration useful to evaluate the suitability for ice core drilling. In particular the geodb structure has been completely redesigned:

- New structure to archive data in a better way, 4 tab containing information about perforation project, perforation site, principal attribute of the ice-core (diameter, altitude) and a tab with archived all the references for every ice-core will be create and fill up;
- Increase of the spatial accuracy for the ice-core creating a replacement index that has been developed and applied at the entire dataset;
- Introduction of creative commons policy to protect the production the dissemination and the re-analysis of archived data;
- Association of IDB with other geodb (WGI, WGMS, RGI, GLIMS) that stored info about glacier and glacier analysis such as mass balance, ela altitude, area;etc.
- Dust measurement of the first NextData ice-core; (LYS12) and data upload in IDB.
- the policies, according to the creative commons licenses to protect the production, dissemination and reanalysis of the archived data were added;

So a web portal is now available at the web address: <http://geomatic.disat.unimib.it/home/geomatic/idb2>. It proposes a static map with the possibility of querying the database of ice-cores and the possibility of displaying records of the characterized ice cores. It also allows to download, by WFS service, all the data and metadata of the stored cores, both, characterized (with the chemical-physical parameters measured) and not characterized.

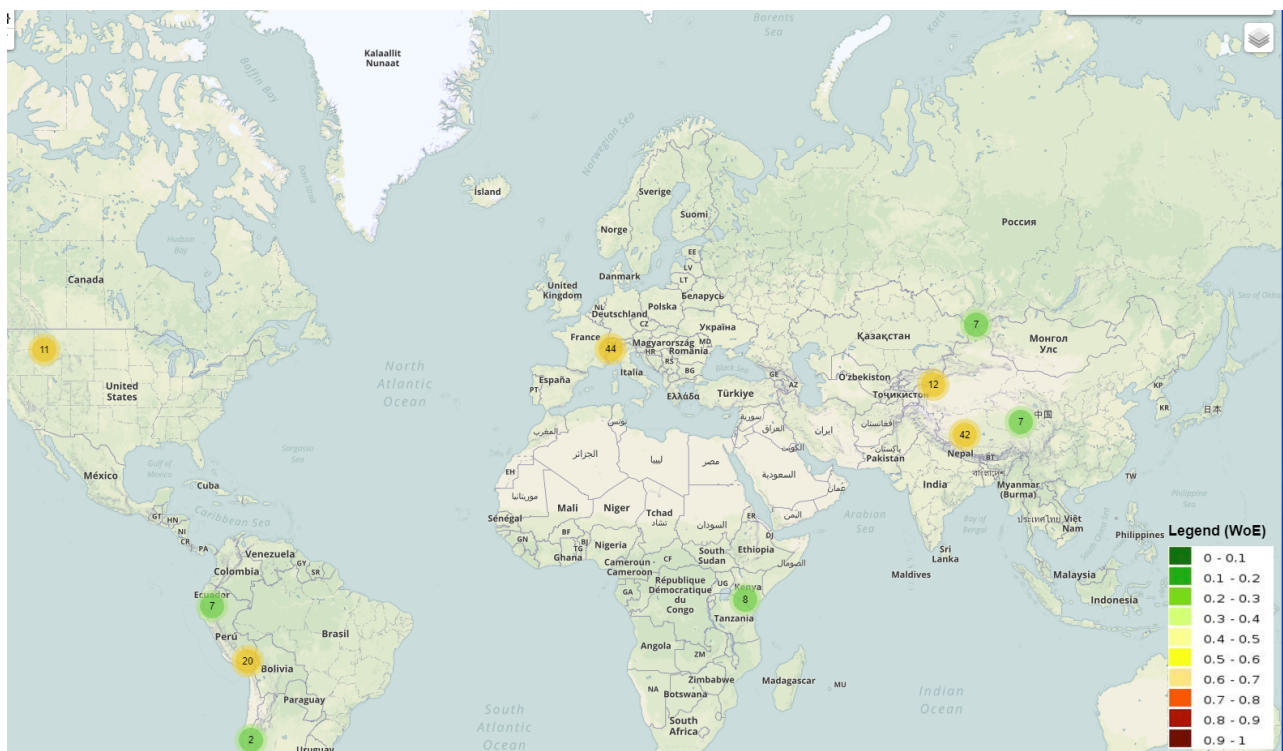


Figura 3 - IDB2 database Spatial distribution

Download Data

Download Icecore - XLSX
Download metadata about all ice cores
WFS services - SHP
icecores
icecores_characterized
Download Raster map of SICD (OGC - WCS)
Copy link WCS



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Figura 4 - IDB2 database OGC services