

The Archive of datasets of the NextData project

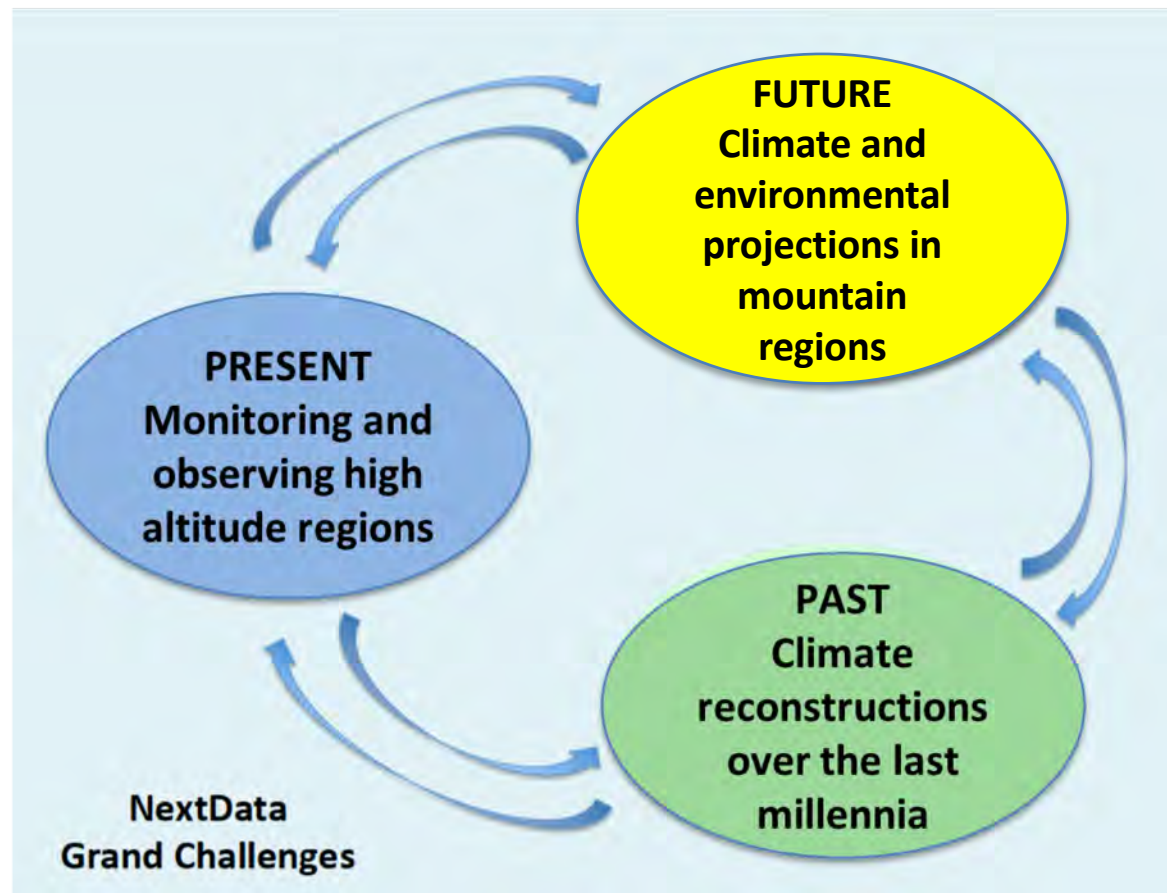
E. Trumpy¹, M. De Amicis², L. Ferraro³,
E. Palazzi⁴, A. Provenzale¹ and the WP2.1 team

¹ CNR – IGG, ² DISAT-UNIMIB, ³ CNR – IAMC, ⁴ CNR - ISAC

NextData structure

Aim: to provide quantitative information on the **past, present and future climate conditions, water resources and natural ecosystems** in Italian mountain areas as well as a **reconstruction of past climatic conditions** in Italy.

**3 KEY
THEMES**



NextData WP2.1

PAST

PRESENT

FUTURE

Long-term system of digital data on climate
and environment

Subproject 2: resp. Elisa Palazzi, CNR ISAC

2.7 General Portal for data access

2.1 Archives of
mountain observation
networks

2.2 Archive of the
Reconstruction/Reanalysis
is of the Mediterranean
Sea circulation

2.3 Archives of
paleoclimatic data from
mountain and
continental regions

2.4 Archives of
paleoclimate data
from marine sediment
cores

2.5 Future climate
projections in
mountain areas

2.6 Future
projections on
water resources
and ecosystems

1.1 High-altitude
climate observation
system and GAW-
WMO stations)

1.2 Underground
water resources in
mountain areas

1.6 Mountain
criospheric resources

1.7 Mountain
ecosystems and
biodiversity

1.3
Reconstruction/reanalysis of
the Mediterranean Sea
circulation

1.4 Paleoclimatic data from
mountain and continental
regions

1.5 Paleoclimatic data from
sedimentary cores on the
continental platform

Subproject 1:

resp. Carlo Baroni, UNIFI

**Integrated observation system for
environment and climate monitoring**

NextData WP2.1

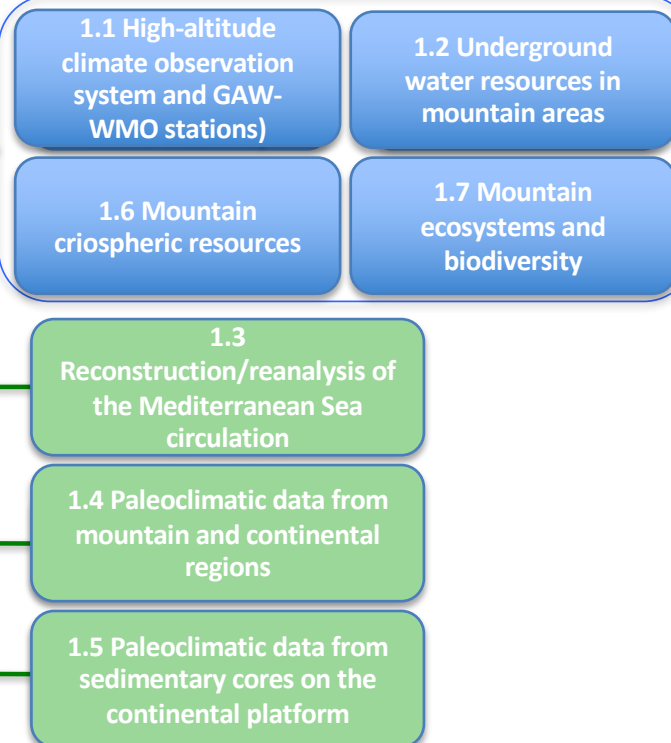
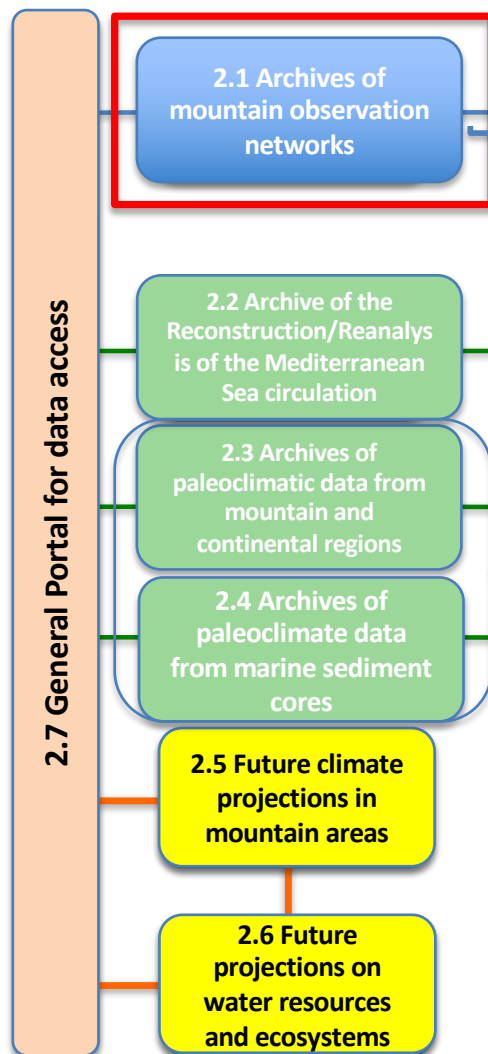
PAST

PRESENT

FUTURE

Long-term system of digital data on climate
and environment

Subproject 2: resp. Elisa Palazzi, CNR ISAC



Subproject 1:

resp. Carlo Baroni, UNIFI

Integrated observation system for
environment and climate monitoring

NextData WP2.1

Aim: to build a system of **accessible thematic archives**, with validated, integrated and interoperable **data and metadata**, hosted at CNR.

Task 1

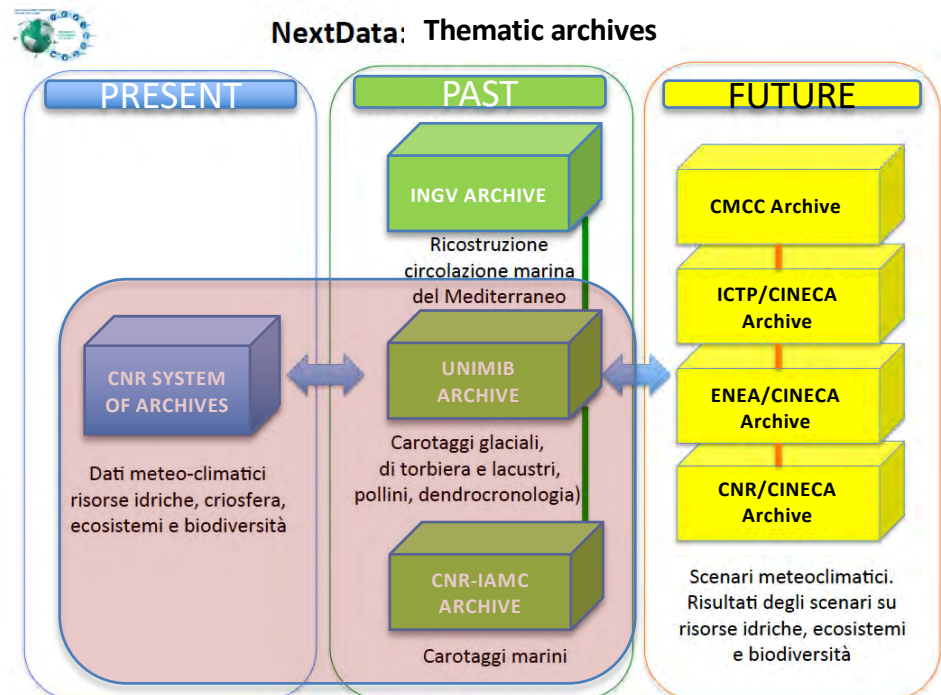
Definition of the procedures for data quality control, validation, standardization and choice of the type of software for data and metadata management

Task 2

Harmonization of the data and metadata and development of thematic archives and data portals.

Types of data and metadata:

- (1) Meteoclimatic and atmospheric composition data
- (2) Cryospheric data
- (3) Hydrological resources data (surface and underground water resources)
- (4) Ecosystems and biodiversity data
- (5) Mountain ice cores
- (6) Sea sediment cores



1) Meteoclimatic and atmospheric composition data

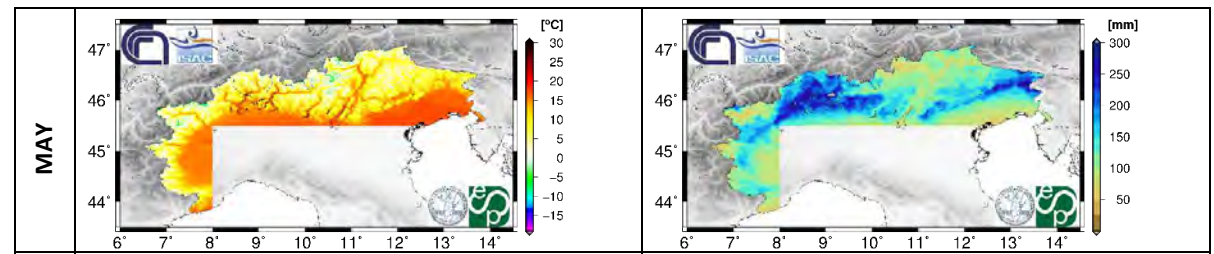
Information from high-elevation Italian stations network

- ❑ Climate stations network: (PRS: **Plateau Rosa**; MRG: **Col Margherita**; CMN: **Monte Cimone**; CMP: **Mt. Portella/Campo Imperatore**; CUR: **Mt. Curcio**; CGR: **Capo Granitola**; LMP: **Lampedusa**)
- ❑ Network of deposimeters in the dolomitic environment



Information from high density observational data-set

- ❑ Definition of a high-resolution (30-arc-second) temperature and precipitation climatology of the Alps and Apennines (elev > 1500m)



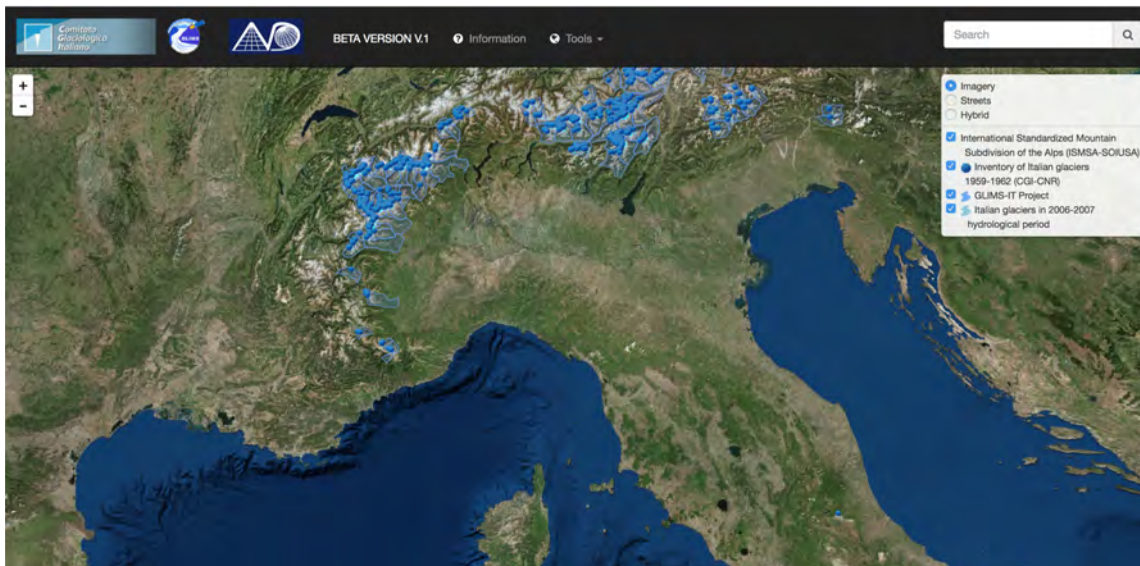
2) Cryospheric data

Information from Italian Alpine Glaciers and Snow stations

❑ Monitoring and quantitative census of alpine glaciers

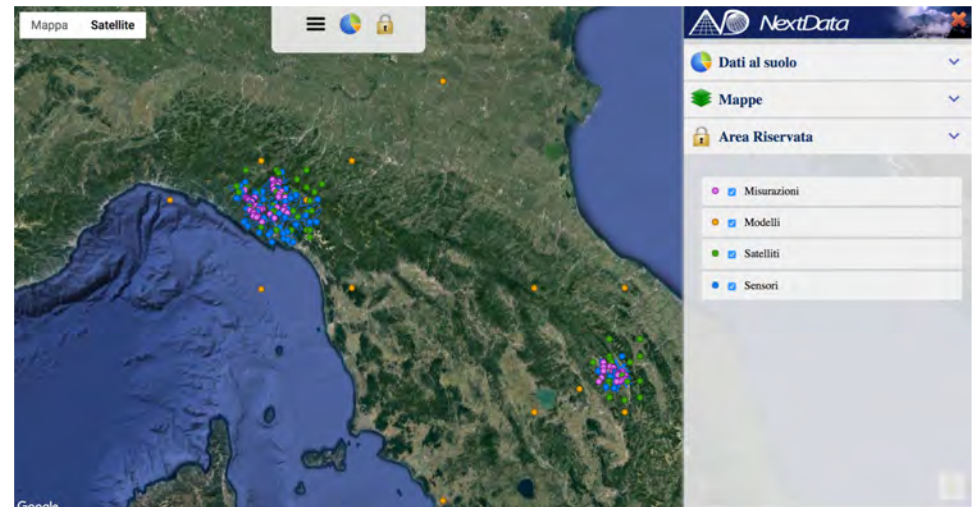
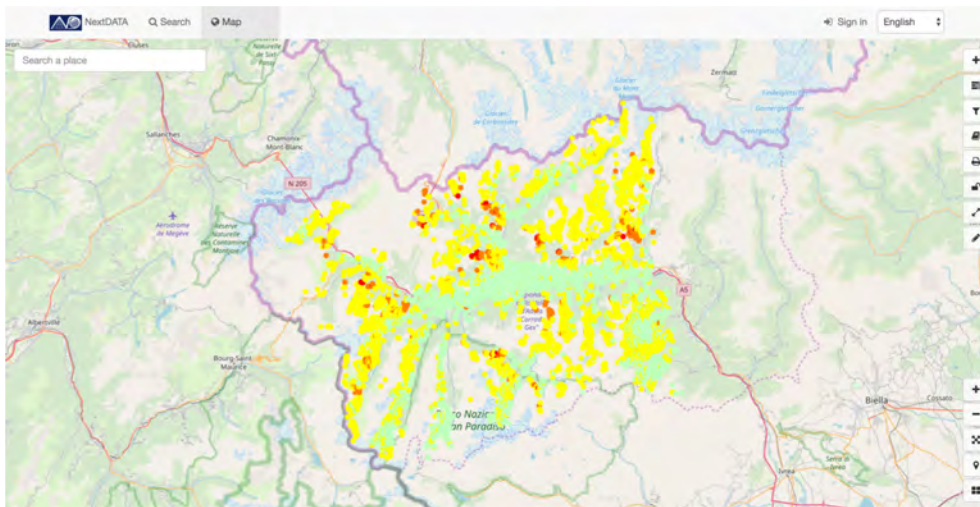
- Snapshots of Glaciers limits
- Time/distance curves
- Multi-annual mass balance measurements

❑ Estimate of snow cover and depth state and changes



3) Surface and underground water resources

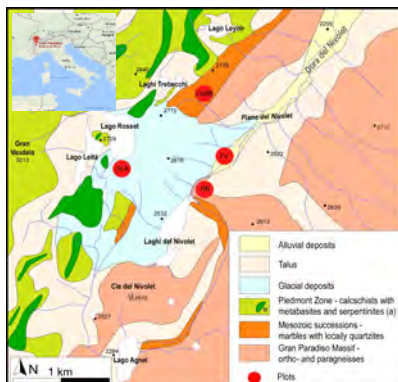
- ❑ Monitoring and estimate of water content and chemical/physical characteristics of aquifers
- ❑ Meteo-climatic parameters and ground surface deformation in mountain areas
- ❑ Hydrometeorological database for the Apennine basins – ‘high’ Chiascio and Magra



4) Ecosystems and Biodiversity

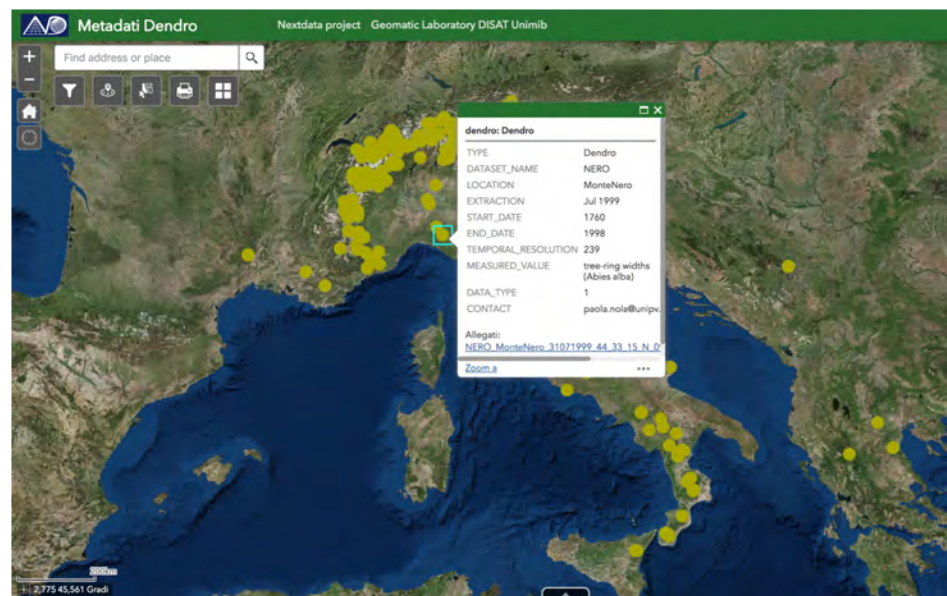
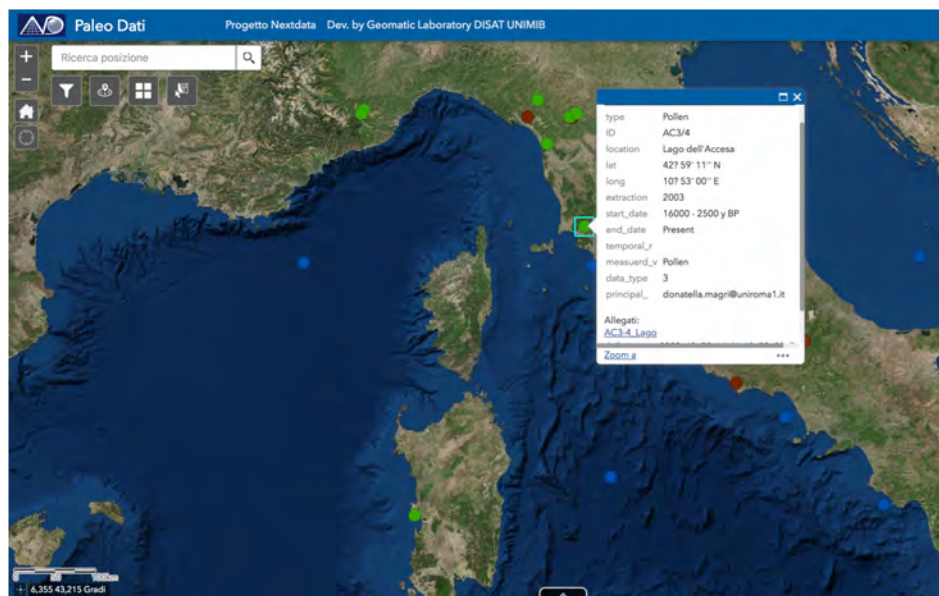
Information from:

- ❑ Data from **LTER** (Long Term Ecological Research Network) mountain Italian stations
- ❑ Animal biodiversity monitoring in mountain areas (**Gran Paradiso National Park**)
- ❑ **Earth Critical Zone and Ecosystem Observatory** in the Gran Paradiso National Park
- ❑ Alpine grasslands dynamics at high altitudes at the Brocon and Torgnon stations.



5) Italy2k data – mountain climate proxies

- ❑ Information on the climatology and climate variability in Italy in the last 2,000 years, by blending information from different paleoclimatic data (ice and lake sediment cores, pollens, peat bog data, dendroclimatology)
- ❑ IDB - Ice Core Database v 2.0
- ❑ Dendrochronological data



6) Sea sediment cores

Information from single cores:

- ☐ sampling device
- ☐ water depth
- ☐ core length
- ☐ Year
- ☐ data source holder
- ☐ vessel name
- ☐ cruise name

Paleoclimatic proxies:

- ☐ planktonic foraminifera
- ☐ benthonic foraminifera
- ☐ Pollen
- ☐ calcareous nannoplankton
- ☐ magnetic susceptibility
- ☐ stable isotope
- ☐ Radionuclides
- ☐ radiocarbon data




The NextDATA Archives

- ❑ The **archives make the data available** in the form of **spatial datasets, data tables or time series**
- ❑ The archives include the metadata (standard ISO19115/19139) **associated with the data**
- **Geonetwork**: a catalog application to manage spatially referenced resources. It provides metadata editing, search options, interactive web map viewer.
- **Data download**

Geonetwork 3.2.1 - Home

<http://geonetwork.igg.cnr.it/>

 NextDATA

Q Search

Map

Sign In

English

Search ...


Search over 269 data sets, services and maps, ...


NextDATA project


Archives of mountain observation networks


Here you will find data, services and maps and more


Browse by **topics** Categories


**Sea sediment cores**
11


**Mountain ice cores**
12


**Ground Deformations in Mo...**
28


**Ecosystems & Biodiversity**
5

**Hydro-Meteo**
2


**Datasets**
2


**DataGRALP**
65


**Atmosphere & Climate**
38


**Alpine Glaciers Database**
44

Browse resources

**Dataset**
105


**Series**
48

**Feature**
12


**Non geographic dataset**
1

Latest news


Most popular



Marine sediment cores in the Mediterranean Sea
Dataset



Marine sediment cores in the Western Mediterranean Sea
Dataset



Marine sediment cores in the Ionian Sea
Dataset

Geonetwork 3.2.1 - Search

The screenshot displays the Geonetwork 3.2.1 search interface. At the top, the browser address bar shows the URL: `geonetwork.igg.cnr.it/geonetwork/srv/eng/catalog.search#/search?facet.q=type%2Fdataset&resultType=details&fast=index&_content_type=json&from=1&to=20&...`. The interface includes a search bar with the text "Search ...", a "Sign in" button, and a language dropdown set to "English".

On the left, the "What ?" section contains filters for "Categories", "Keywords", and "Contact for the resource". A dropdown menu is open for "Categories", showing a list of categories including "Alpine Glaciers Database", "Applications", "Atmosphere & Climate", "DataGRALP", "Datasets", "Directories", "Ecosystems & Biodiversity", "Ground Deformations in Mountain", "Hydro-Meteo", "Instruments & Sensors", and "Interactive resources". Below this, the "TYPE OF RESOURCES" section shows "Dataset (108)" selected. The "CATEGORIES" section lists several categories with counts: "Ecosystems & Biodiversity", "Ground Deformation...", "Hydro-Meteo (1)", "Mountain ice cores (12)", and "Sea sediment cores (11)". The "KEYWORDS" section shows "CNR IRPI (26)".

On the right, the "When ?" section contains filters for "Resources created in the last" and "Records created in the last", each with "From" and "To" date pickers. Below this, the search results are displayed, sorted by relevancy (1 - 20 on 108). The first result is titled "Ground Deformation in Mountain areas" and includes a description: "There is a systematic lack of information on the effects of the climate and environmental changes on the frequency and the intensity of landslides and their triggering phenomena. The problem is particularly severe in mountain areas, where natural and human-driven climatic and environmental changes may alter significantly the frequency and the intensity of the". The second result is titled "HARVESTING TEMPLATE - DISCOVERY" and includes a map of Europe.

Search by

Category

Keyword

Contact for the resource

Archive data categories

Categories:

☐ Alpine Glaciers Database

☐ Atmosphere & Climate

☐ Ecosystems and Biodiversity

☐ Ground Deformation in Mountain

☐ Hydro-Meteo

☐ Mountain ice cores

☐ Sea sediments cores



Alpine Glaciers Database

44



Atmosphere & Climate

38



Ecosystems & Biodiversity

5



Ground Deformations in Mo...

28



Hydro-Meteo

2



Mountain ice cores

12





Sea sediment cores

11

<http://geonetwork.igg.cnr.it/geonetwork/srv/eng>

Geonetwork 3.2.1 – Filter operations



TYPE OF RESOURCES

☒ Dataset (108)

CATEGORIES

☐ Ecosystems & Biodiversity (4)

☐ Ground Deformations in... (26)

☐ Hydro-Meteo (1)

☐ Mountain ice cores (12)

☐ Sea sediment cores (11)

[2 more](#)

KEYWORDS

☐ CNR IRPI (26)

☐ Environment (26)

☐ Geoscientific information (33)

☐ Landslide (27)

☐ NEXTDATA (47)

[10 more](#)

CONTACT FOR THE RESOURCE

☐ DISAT UNIMIB (13)

☐ DISAT-UNIMIB (12)

☐ IAMC-CNR, Naples (12)

☐ Italian National Research... (28)

☐ LTER Italy (7)

YEARS

☐ 2013 (14)

☐ 2018 (29)

FORMATS

☐ .Dat (2)

☐ CSV (6)

☐ KLM (1)

☐ KML (21)

☐ TXT (5)

[7 more](#)

REPRESENTATION TYPES

☐ Grid (2)

☐ Text, table (7)

☐ Vector (53)

UPDATE FREQUENCIES

☐ Annually (8)

☐ As needed (64)

☐ Continual (8)

☐ Not planned (2)

STATUS

☐ Completed (74)

☐ On going (20)

SCALE

☐ 1/100000 (2)

☐ 1/1000000 (6)

☐ 1/50000 (1)

☐ 1/500000 (5)

☐ 1/60000 (1)

[5 more](#)

RESOLUTIONS

Filter operations:

- Type of resources
- Categories
- Keywords
- Contact person/group
- Period of availability
- Format
- Type of data representation
- Update frequencies
- ...

Search results: Dataset + Atmosphere & Climate

TYPE OF RESOURCES

- ☒ Dataset (5)

CATEGORIES

- ☒ Atmosphere & Climate (5)

KEYWORDS

- ☐ Climate change (3)
- ☐ Climatology, meteorology, ... (4)
- ☐ Environment (3)
- ☐ Geoscientific information (4)
- ☐ NEXTDATA (4)

10 more

CONTACT FOR THE RESOURCE

- ☐ CNR-IIA, Institute of... (1)
- ☐ CNR-Institute of Atmospheric... (1)
- ☐ CNR-ISAC (2)
- ☐ Milan University - Department... (2)
- ☐ National Research Council... (3)

2 more

YEARS

- ☐ 2018 (1)

FORMATS

- ☐ .Dat (2)
- ☐ Csv (1)
- ☐ Dataset txt format (1)
- ☐ Unknown (1)

REPRESENTATION TYPES

- ☐ Grid (2)
- ☐ Vector (2)

UPDATE FREQUENCIES

- ☐ As needed (4)
- ☐ Not planned (2)

STATUS

- ☐ Completed (3)
- ☐ On going (1)

SCALE

- ☐ 1/0 (1)
- ☐ 1/1000 (1)



Categories


GMOS network - Mt. Curcio site, Hg measurements



The Monte Curcio CNR-IIA station is a Climatic-Environmental Observatory located in a strategic and isolated position within the Sila Grande area, one of the main three areas making-up the Sila National Park, which is officially recognized, since June 2014, as the Tenth Reserve of Italian Biosphere. It is characterized by no local sources of contamination and no access

Categories

Automatic Weather Station (Col Margherita)



The Col Margherita Observatory (MRG) is equipped with different meteorological sensors installed on an integrated weather station (Aluminium Tower -3m- ATW3, Campbell Scientific). A thermo-hygrometer (CS215, Campbell Scientific) measured air-temperature and relative humidity, a digital barometer (PTB110, Vaisala) provided atmospheric pressure

Massimiliano Vardé
Federico Dallo

Categories

Optical Particle Counter (Monte Portella)




Aerosol concentration of particles with optical diameter between 0.28 and 10 μm has been continuously measured in 8 size channel by using a OPC MONITOR MULTICHANNEL (FAI Instruments) which is based on the quantification of the 90° scattering of light by aerosol particles. By assuming typical aerosol densities PM1, PM2.5 and PM10 can

Piero Di Carlo
Eleonora Aruffo

Categories

Temperature climatology



This database consists of mean monthly values of temperature (referred to the standard period 1961-1990) for any box of dimension 30 arc-second x 30 arc-second over the Italian alpine region. The database has been realized starting from a high density observational data-set and by estimating for each grid point of the domain a weighted linear fit of

Michele Brunetti
Maurizio Maugeri

Categories

Precipitation climatology



This database consists of cumulated monthly values of precipitation (referred to the standard period 1961-1990) for any box of dimension 30 arc-second x 30 arc-second over the Italian alpine region. The database has been realized starting from a high density observational data-set and by estimating for each grid point of the domain a weighted linear fit of

Michele Brunetti
Maurizio Maugeri

Search results Dataset + Atmosphere & Climate → Temperature Climatology

[Back to search](#) [< Previous](#) [Next >](#)


Temperature climatology

This database consists of mean monthly values of temperature (referred to the standard period 1961-1990) for any box of dimension 30 arc-second x 30 arc-second over the Italian alpine region. The database has been realized starting from a high density observational data-set and by estimating for each grid point of the domain a weighted linear fit of the meteorological variable versus elevation. Weights are chosen to assign more importance to those stations that have geographical characteristics as much similar as possible to those of the grid point itself (close to it, similar elevation, similar slope steepness and orientation and similar distance from the sea).

Data are provided as direct-access binary files, one referred to climatologies (CLINO) and one to 95% confidence interval (CONF), together with the corresponding info file containing the following information:

- Row 1 longitude resolution (XSTEP)
- Row 2 latitude resolution (YSTEP)
- Row 3 number of rows (NROWS)
- Row 4 number of columns (NCOLS)
- Row 5 no data code (NODATA)
- Row 6 longitude of the central point of the upper left grid box (ULXCUT)
- Row 7 latitude of the central point of the upper left grid box (ULYCUT)
- Row 8 record length in bytes (BANDROWBYTES)
- Row 9 file name

Download and links

 Monthly mean temperature climatology for the Italian Alpine Area [Download](#)

About this resource

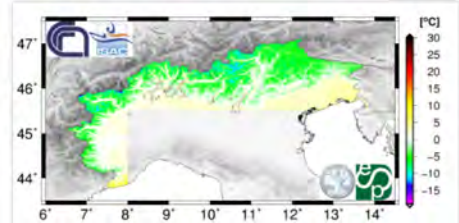
Categories

- Atmosphere & Climate
- Climatology, meteorology, atmosphere
- Geoscientific information

Keywords

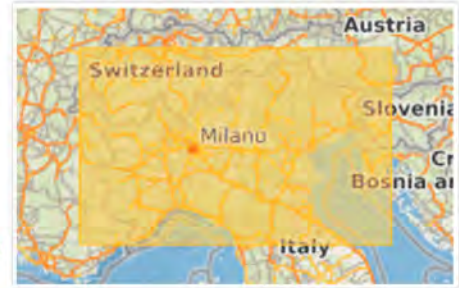
- Mean Temperature
- Climatology
- Atmosphere
- Climate change
- NEXTDATA
- Italian Alpine Region

Overview



January Mean Temperature 1961-1990 Climatology


Spatial extent



Temporal extent






Publication date
2018-07-18

Provided by



Updated:
3 months ago

Share on social sites

Search results: Series + Atmosphere & Climate

TYPE OF RESOURCES

☒ Series (32)

CATEGORIES

☒ Atmosphere & Climate (32)

☐ Hydro-Meteo (1)

KEYWORDS

☐ Climatology, meteorology,... (31)

☐ Environment (32)

☐ Geoscientific information (32)

☐ Italy (31)

☐ NEXTDATA (32)

[10 more](#)

CONTACT FOR THE RESOURCE

☐ Chieti University (2)

☐ CNR-ISAC (6)

☐ ENEA (2)

☐ National Research Council... (26)

☐ RSE SpA (3)

[6 more](#)

FORMATS

☐ Csv (1)

☐ Davide Putero (1)

☐ Near surface ozone... (1)

REPRESENTATION TYPES

☐ Vector (32)

UPDATE FREQUENCIES

☐ As needed (32)

STATUS

☐ Completed (2)

☐ On going (30)

SCALE

☐ 1/1 (2)

☐ 1/10000 (1)

☐ 1/5000 (3)

Sorted by relevancy 1 - 20 on 32

Categories

Plateau Rosa WMO/GAW regional station

The monitoring station of Plateau Rosa is situated in the Western Italian Alps (45.9353408813°N, 7.7073101997°E, 3480m). It belongs to the Italian National Research Council (CNR). The measurement programme of the CO₂ has been run by CESI RICERCA (now RSE SpA) since April 1989 (at beginning by means of biweekly samplings until...

Francesco D'Assisi Apadula

Categories

NDIR CO analyser (Monte Cimone)

From June 2012: Thermo Scientific TEI 48C-TL #0517111935 Ambient air is drawn in the instrument using the internal pump at 1.0 l/min and the instrument (Thermo Tei48C) is connect to a glass manifold with approx. 1.5 m of Teflon tube. The glass manifold is part of the trace gases glass inlet (main flux: 40 l/s), extending 1.5 m above the roof of the...

Francescopiero Calzolari

Paolo Cristofanelli

Categories

UV absorption analyser (Plateau Rosa)

Environnement 41M since 2007 up to June 2011. Starting from July 2011 by means of THERMO 49i with internal calibrator.

Francesco D'Assisi Apadula

Categories

Italian Climate Observatory "Ottavio Vittori" Monte Cimone (Italy)

The Italian Climate Observatory "O. Vittori" (ICQ-OV), is a research infrastructure managed by the Institute of Atmospheric Sciences and Climate (ISAC) of the National Research Council (CNR). It is the only high mountain station for atmospheric researches both South of the Alps and the Po basin (44.1666679382°N, 10.6833333969°E, 2165 m a.s.l.) and it represents a...

Paolo Cristofanelli

Categories

Capo Granitola WMO/GAW regional station

Capo Granitola WMO/GAW station (CGR) is located along the southern Sicily coastline (37.6667°N, 12.8500°E, 5 m a.s.l.) facing the Strait of Sicily, at Torretta Granitola (12 km from Mazara del Vallo, 52,000 inhabitants), within the scientific campus of the Institute for the Marine-Coastal Environment (CNR-IAMC). The atmospheric observatory was started in...

Paolo Cristofanelli

Paolo Bonasori

Categories

Automatic Weather Station (Capo Granitola)

A virtual time series of meteorological parameters and solar radiation at the Capo Granitola WMO/GAW observatory is integrated by measurements from a Vaisala WXT520 integrated weather station and a net radiometer Kipp & Zonen CNR-4

Paolo cristofanelli

Maurizio Busetto

Geonetwork 3.2.1- Metadata sheet -ISO19115/19139

➤ Abstract

➤ Link to resources

➤ Associated resources

➤ Keywords

➤ Legal constrain

➤ Dataset point of contact

➤ Update frequencies

➤ Representation

➤ Coordinate system

➤ Lineage

➤ Metadata point of contact

The Differential Mobility Particle Size (DMPS) was installed at ICD-OV in November 2005, in collaboration with Knapto University (Finland). The system includes a Differential Mobility Analyser (DMA) to select a narrow particle size followed by a condensation particle counter (CPC) to count individual particles. By setting different voltages in the DMA, particles of different mobility are selected and their concentration are measured.

Download and links

- SHADE Dataset
- This dataset is published in the open version (VMS)
- http://www.eva2010.org/6060/geonetworks/with-open-name-ge-share_station
- http://geonetwork.eva2010.org/6060/geonetworks/with-open-name-ge-share_station
- SHADE Data Storing and Publication Policy
- SHADE Atmospheric Data Storing Form

Associated resources

- Italian Climate Observatory "Ottavio Vittor" Monte Cimone (Italy)

About this resource

Categories

- Climatology, meteorology, atmosphere
- Geoscientific information
- Environment

Keywords

- SHADE
- Network
- Station
- High Altitude
- DAV
- EUSAR
- ACTUS
- Amstel

Legal constraints

Data Storing and Publication Policy at DISTRIBUTION SECTION

Contact for the resource

Point of contact

National Research Council (CNR - Consiglio Nazionale delle Ricerche), Institute for Atmospheric Science and Climate (ISAC - Istituto di Scienze dell'Atmosfera e del Clima)

Physics Department, via Gobetti, 101, Bologna, BO, 40129, Italy

Cell: +39 051 2690900

Point of contact

National Research Council (CNR - Consiglio Nazionale delle Ricerche), Institute for Atmospheric Science and Climate (ISAC - Istituto di Scienze dell'Atmosfera e del Clima)

Physics Department, via Gobetti, 101, Bologna, BO, 40129, Italy

Cell: +39 051 2690900

Status

- On going

Technical information

Update frequency

- "As needed", "As needed"

Update frequency

- "As needed", "As needed"

Representation

- Representation type: Vector
- Scale: 1/25000
- Coordinate reference system: WGS 1984
- Lineage: The system was upgraded in 2009, following the recommendations of EUSAR EU-project (Wiedensöfner et al., 2011). The system participated in the EUSAR H43 workshops, that took place in November 2009 and March 2009, where it was intercompared with similar systems and calibrated with 100 nm and 200 nm latex standard spheres. Its setup follows the EUSAR specifications for DMPS systems.

Metadata information

Contact

Point of contact

Italian National Research Council (CNR)

Guido Negrati (Research Institute for Geo-physical Protection (IRPP))

Strada delle Case, 73, Torino, 10135, Italy

Cell: 011 3977924

Metadata language

- English

Identifier

70a77454-6a06-4021-becc-6bdf1130f8f8

Conclusions

- ☐ The first Italian digital archive on climatic/environmental data on mountains and on past climate reconstructions
- ☐ GeoNetwork catalogue
- ☐ Spatial datasets and time series are available for download
- ☐ Datasets described with a common metadata standard ISO19115/19139.
- ☐ The archives could be linked to European/International repositories of environmental data and metadata (e.g., Copernicus, GEOSS) by means of OGC web-services

Thank you for your attention

e.trumpy@igg.cnr.it

