Radarmeteo

Professional weather services

Hypermeteo

Climate & weather grids

Company profile

Radarmeteo

Professional weather services

Professional weather services
for operative support:

- 24/7 weather support services
- Applications for data visualization
- DSS

Hypermeteo

Climate & weather grids

Meteorological data and services on
high resolution digital grids :

- Historical, real-time and forecast data
- Early warning systems / push notifications
- Weather and climate risk indexes
- Climate scenarios

for the management and optimization of
activities affected by meteorological
phenomena and climate change

About

Italian-based company specialized in professional weather services

Team includes about 20 people specialized in Physics, Atmospheric Physics, Data Science. Forestry and Agricultural Sciences, Environmental Engineering

Operative on the B2B market only

ISO 9001:2015 certified company for Provision of professional weather services

ISO 9001
BUREAU VERITAS
Certification

Industries

UTILITY

Weather data visualization applications

Provision of near real-time and forecast data for early warning purposes (e.g. rain, lightning)

24/7 operational weather support

LAND RECLAMATION AUTHORITY

Weather data visualization applications

24/7 operational weather support

Ex-post analysis with historical data

TRANSPORT & ROAD

24/7 operational weather support

Weather data visualization applications

Ex-post analysis with historical data

OIL & GAS, MARITIME

24/7 operational weather support

Probabilistic long-term forecasts (ensemble methodology)

Alert and notifications of lightning and severe weather

Industries

AIRPORTS

24/7 operational weather support

Alert and notifications of lightning and severe weather

Weather data visualization applications

SMART AGRICULTURE

Weather data integration (historical, real-time, forecast) for DSS

Consultancy for installation and integration of IoT sensors

INSURANCE

Supply of historical data for risk assessment and policy pricing

Development of risk index

Supply of on-demand reports to operative groups

CIVIL PROTECTION

Weather data visualization applications

24/7 operational weather support

Industries

ENERGY

Integration of historical weather data for climatological analysis

Integration of real-time and forecast data for plant producibility

Alerts and notifications on severe events to minimize impact on infrastructure

RETAIL

Integration of forecast data to supply purchase proposals in line with weather conditions (website, e-commerce)

Customization of in-store messages, adapting the contents according to real-time weather conditions

Cross-analysis of weather-sales data to optimize marketing campaigns

Predictive support for analyzing demand

References

e-distribuzione

GSE Gestore Servizi Energetici

e-geos UNA SOCIETÀ ASI/TELESPAZIO

a2a Ciclo Idrico

IRETI

unareti

GRUPPO HERA

Terna

Adriatic LNG

EDISON Exploration & Production

Allianz

GENERALI

CATTOLICA SOCIETA' CATTOLICA DI ASSICURAZIONE DAL 1896

UnipolSai ASSICURAZIONI

GRUPPO ITAS ASSICURAZIONI

ISMEA Istituto di servizi per il mercato agricolo alimentare

SOMPO

RFI RETE FERROVIARIA ITALIANA

anas

SIAS

Aeroporti di Roma

Cagliari Airport SOGAER

Comune di Milano

TORINO METROPOLI

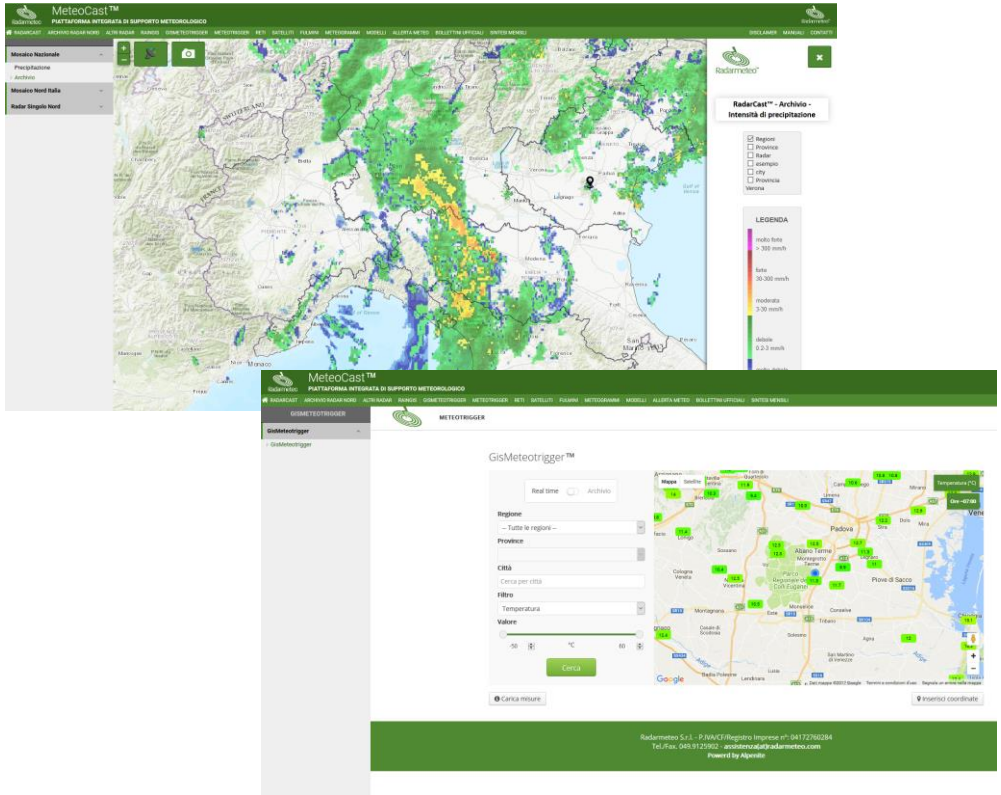
The Floating Piers

Meteorological Decision Support System

MeteoCast®

The platform, accessible via a web-app, collects the whole available meteorological information:

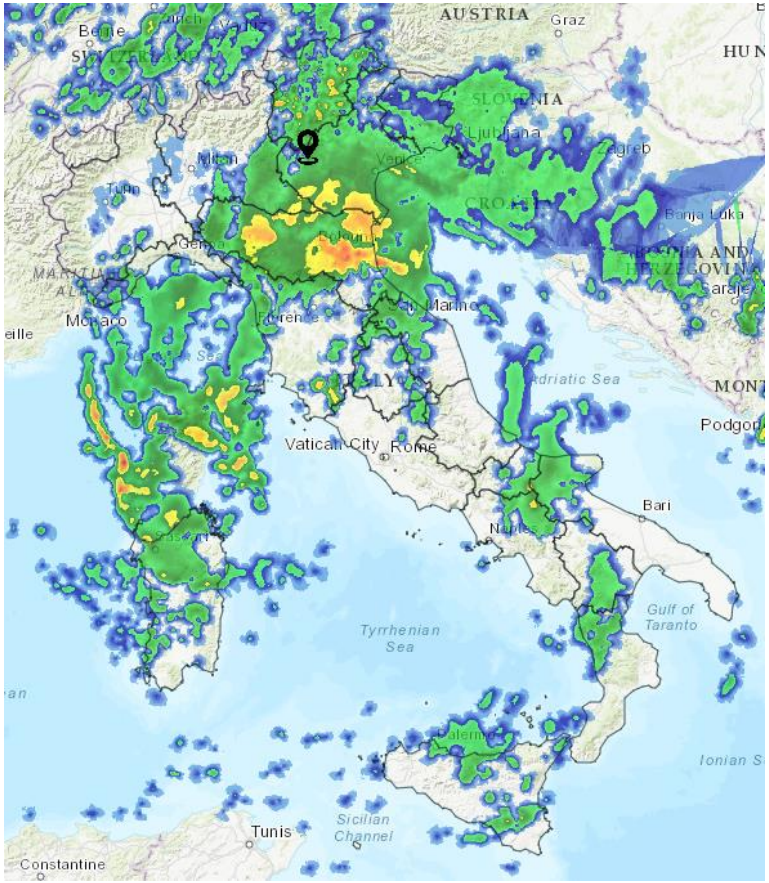
- RadarCast®
- RainGis® /SnowGis®
- GisMeteotrigger®
- Meteotrigger®
- Lightning and thunderstorm monitoring
- Nowcasting and forecasting bulletins
- Forecast maps and graphs
- Satellite images



Italian radar mosaic

RadarCast®

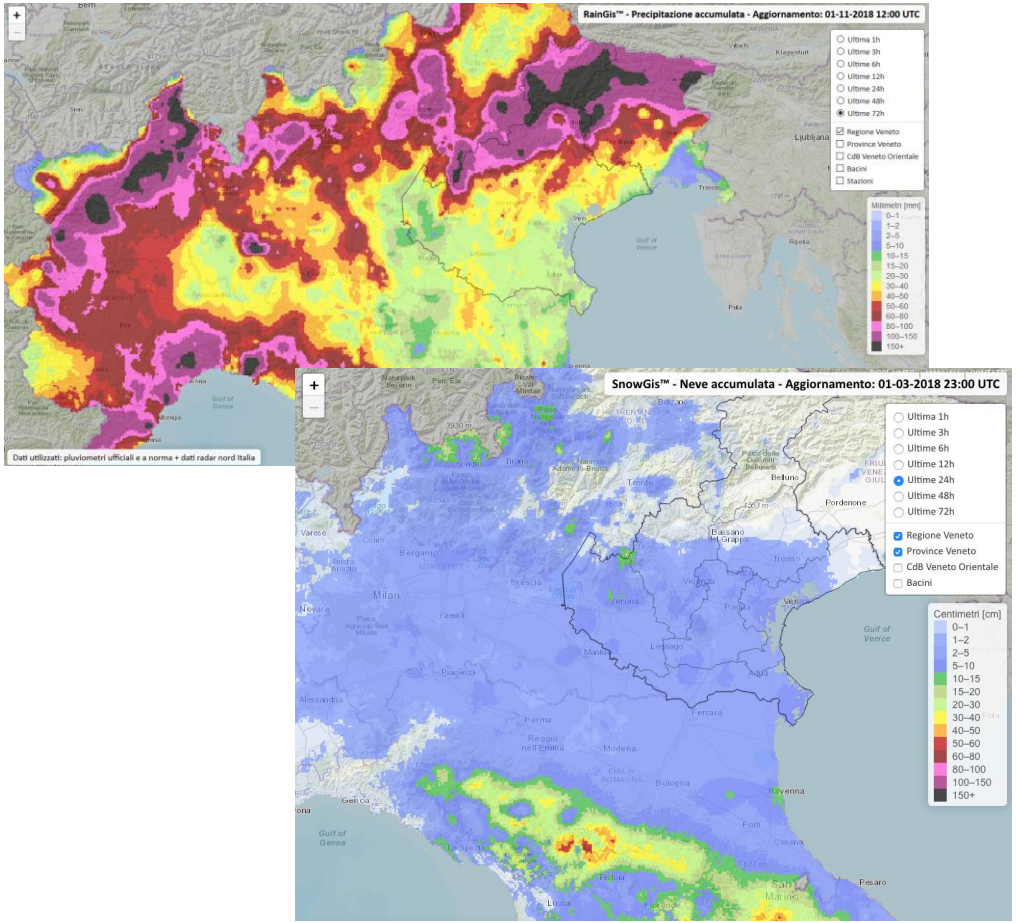
- Includes approximately 40 italian and near countries' weather radars
- 1 km data spatial resolution
- Interactive visualization of precipitation in real time
- Interactive visualization of precipitation type (rain, snow, hail…)
- Nowcasting feature (high precision short-term forecast)
- Historical archive



Real-time & historical accumulated precipitation maps

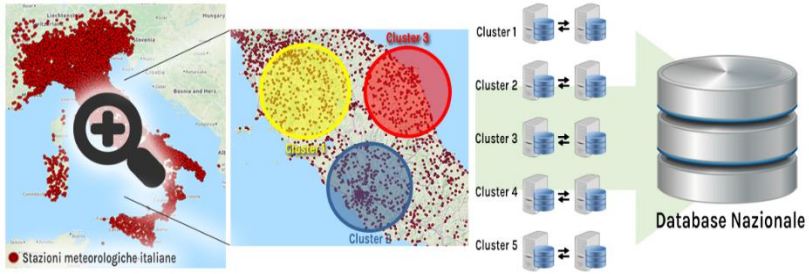
RainGis® & SnowGis®

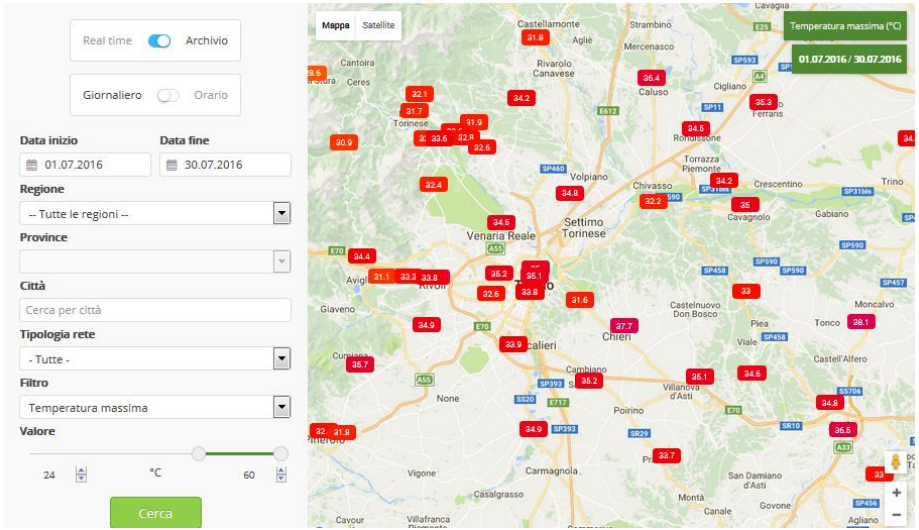
- Accumulated precipitation processed by integrating radar data with weather stations data.
- Visualization of rainfall accumulation on an interactive GIS system.
- Integration of Client-owned data for improved accuracy and quality information.



GisMeteotrigger®

- Data visualization tool of the database of certified, official and WMO compliant meteorological data
- Collects all available meteorological data continuously
- Easily provides both real time and historical data
- Geolocates the user and shows data related to nearby weather stations
- Recently integrated with historical lightning data

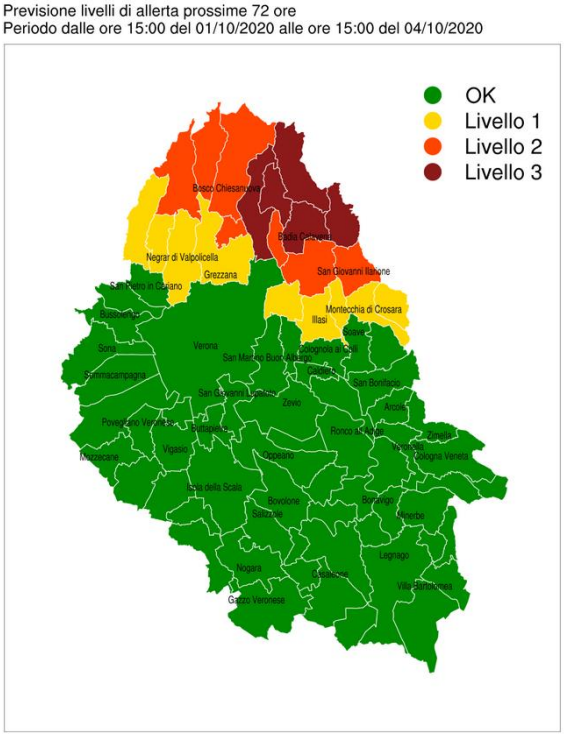


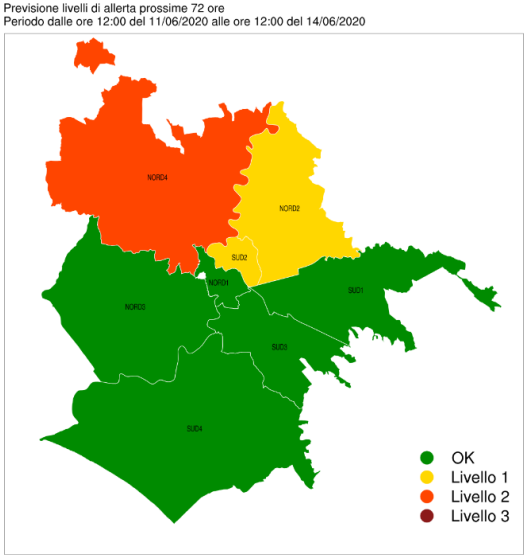


Accurate prediction of precipitation accumulations

RainCast®

- Integration of different forecasting methodologies (nowcasting and models) depending on the time horizon of the forecast;
- Hourly updated;
- Alert thresholds contextualized to the local climatology (e.g. return times) and defined on different time windows of accumulation (1, 3, 6, 12, 24, 48 and 72 hours).



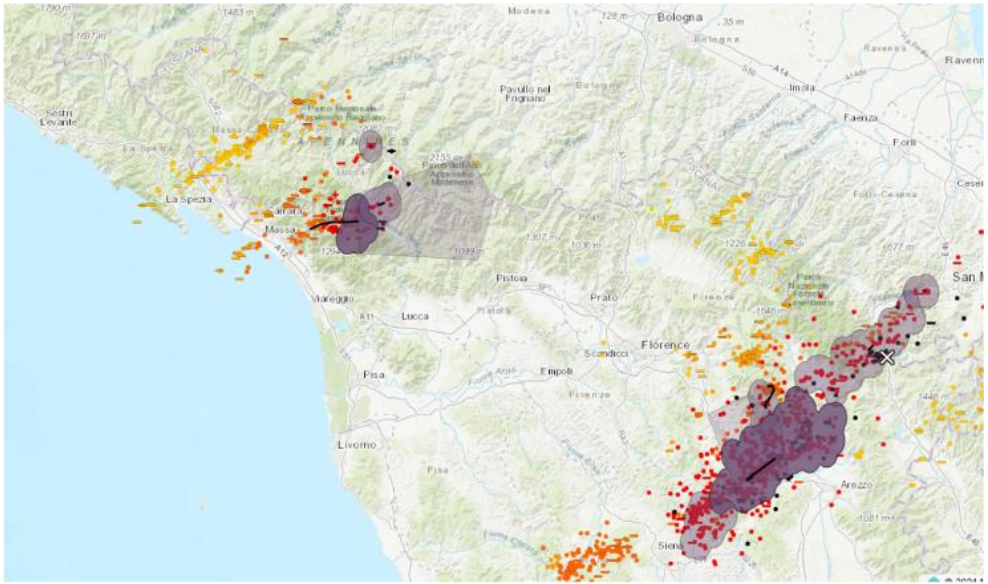


Precision monitoring network and software

Lightnings and thunderstorms moonitoring

Network for the high-precision tracking of storms, with indication of their position, intensity and direction of movement

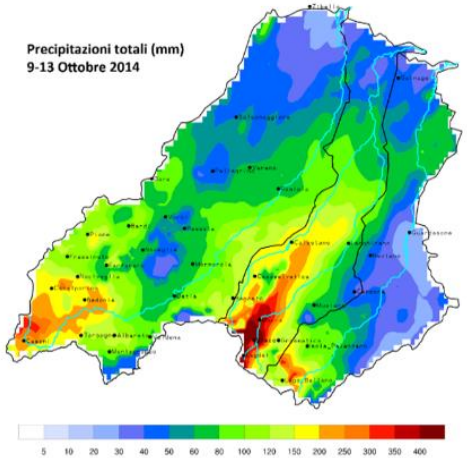
- High detection efficiency (over 98% of all lightning) and high accuracy (about 100m)
- Tracking each storm with:
  - Indication of the areas affected by the storm in the next hour
  - Indication of the position, intensity and direction of movement
- Alert and notification system

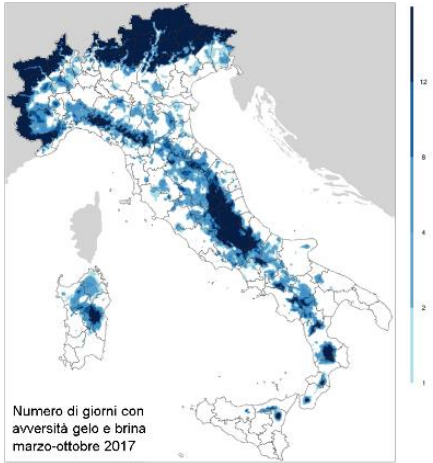


Meteotrigger® & Alert Ex-Post®

- Services for the supply of reports for the verification of severe weather conditions described in insurance contracts, starting from certified, official data and in accordance with WMO
- They also offer support in institutional communication, in relations with media and in any legal disputes

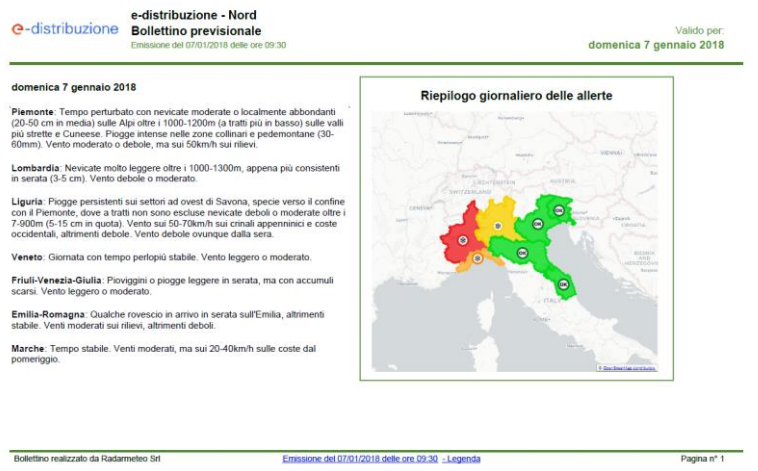
Località	Accumulo precipitativo in 3h			Info superamento soglia	
	Massimo	*Minimo*	*Media*	*Porzione comunale*	*Zona*
Soave	52 mm	35 mm	45 mm	75 %	Centro-Sud
Monteforte d. A.	41 mm	34 mm	37 mm	6 %	Sud
San Bonifacio	49 mm	40 mm	43 mm	100 %	-
Arcole	43 mm	37 mm	40 mm	47 %	Nord-Est
Colognola	53 mm	35 mm	43 mm	57 %	Est
Caldiero	47 mm	36 mm	41 mm	50 %	Est
Illasi	45 mm	30 mm	34 mm	8 %	Sud-Est





24/7/365 weather support service

- Weather forecast bulletins from 72h ahead the occurrence of severe weather phenomena, supported by interactive maps with territorial focus and highlighting the areas on which the severe weather is expected.
- Bullettins are sent via email and is available on a dedicated web-app.
- Continuous support to the operating room, operators, decision makers in the delicate phases of severe weather, in particular to correctly inform on the intensity and evolution of the meteorological situation



e-distribuzione

e-distribuzione - Nord
Bollettino previsionale
Emissione del 07/01/2018 delle ore 09:30

Valido per:
domenica 7 gennaio 2018

domenica 7 gennaio 2018

Piemonte: Tempo perturbato con nevicate moderate o localmente abbondanti (20-50 cm in media) sulle Alpi oltre i 1000-1200m (a tratti più in basso) sulle valli più strette e Cuneese. Piogge intense nelle zone collinari e pedemontane (30-60mm). Vento moderato o debole, ma sui 50km/h sui rilievi.

Lombardia: Nevicate molto leggere oltre i 1000-1300m, appena più consistenti in serata (3-5 cm). Vento debole o moderato.

Liguria: Piogge persistenti sui settori ad ovest di Savona, specie verso il confine con il Piemonte, dove a tratti non sono escluse nevicate deboli o moderate oltre i 7-900m (5-15 cm in quota). Vento sui 50-70km/h sui crinali appenninici e coste occidentali, altrimenti debole. Vento debole ovunque dalla sera.

Veneto: Giornata con tempo perlopiù stabile. Vento leggero o moderato.

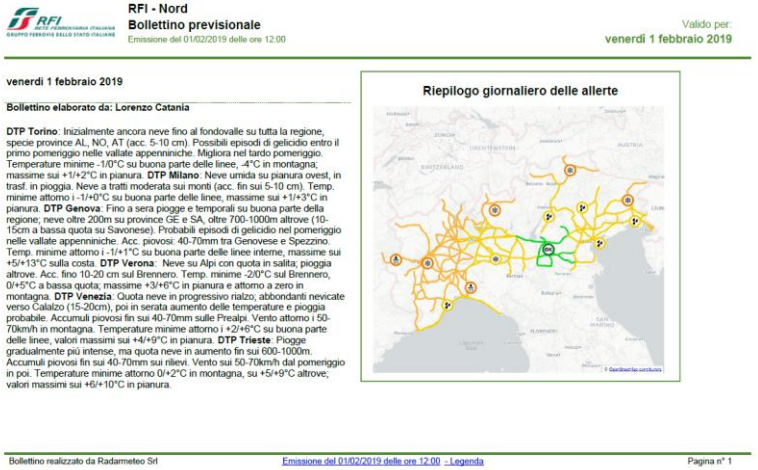
Friuli-Venezia-Giulia: Pioviggini o piogge leggere in serata, ma con accumuli scarsi. Vento leggero o moderato.

Emilia-Romagna: Qualche rovescio in arrivo in serata sull'Emilia, altrimenti stabile. Venti moderati sui rilievi, altrimenti deboli.

Marche: Tempo stabile. Venti moderati, ma sui 20-40km/h sulle coste dal pomeriggio.

Riepilogo giornaliero delle allerte

Bollettino realizzato da Radarmeteo Srl — Emissione del 07/01/2018 delle ore 09:30 : Legenda — Pagina n° 1



RFI

RFI - Nord
Bollettino previsionale
Emissione del 01/02/2019 delle ore 12:00

Valido per:
venerdì 1 febbraio 2019

venerdì 1 febbraio 2019

Bollettino elaborato da: Lorenzo Catania

DTP Torino: Inizialmente ancora neve fino al fondovalle su tutta la regione, specie province AL, NO, AT (acc. 5-10 cm). Possibili episodi di gelicidio entro il primo pomeriggio nelle vallate appenniniche. Migliora nel tardo pomeriggio. Temperature minime -1/0°C su buona parte delle linee, -4°C in montagna, massime sui +1/+2°C in pianura. **DTP Milano**: Neve umida su pianura ovest, in trasf. in pioggia. Neve a tratti moderata sui monti (acc. fin sui 5-10 cm). Temp. minime attorno i -1/+0°C su buona parte delle linee, massime sui +1/+3°C in pianura. **DTP Genova**: Fino a sera piogge e temporali su buona parte della regione; neve oltre 200m su province GE e SA, oltre 700-1000m altrove (10-15cm a bassa quota su Savonese). Probabili episodi di gelicidio nel pomeriggio nelle vallate appenniniche. Acc. piovosi: 40-70mm tra Genovese e Spezzino. Temp. minime attorno i -1/+1°C su buona parte delle linee interne, massime sui +5/+13°C sulla costa. **DTP Verona**: Neve su Alpi con quota in salita; pioggia altrove. Acc. fino 10-20 cm sul Brennero. Temp. minime -2/0°C sul Brennero, 0/+5°C a bassa quota; massime +3/+6°C in pianura e attorno a zero in montagna. **DTP Venezia**: Quota neve in progressivo rialzo; abbondanti nevicate verso Calalzo (15-20cm), poi in serata aumento delle temperature e pioggia probabile. Accumuli piovosi fin sui 40-70mm sulle Prealpi. Vento attorno i 50-70km/h in montagna. Temperature minime attorno i +2/+6°C su buona parte delle linee, valori massimi sui +4/+9°C in pianura. **DTP Trieste**: Piogge gradualmente più intense, ma quota neve in aumento fin sui 600-1000m. Accumuli piovosi fin sui 40-70mm sui rilievi. Vento sui 50-70km/h dal pomeriggio in poi. Temperature minime attorno 0/+2°C in montagna, su +5/+9°C altrove; valori massimi sui +6/+10°C in pianura.

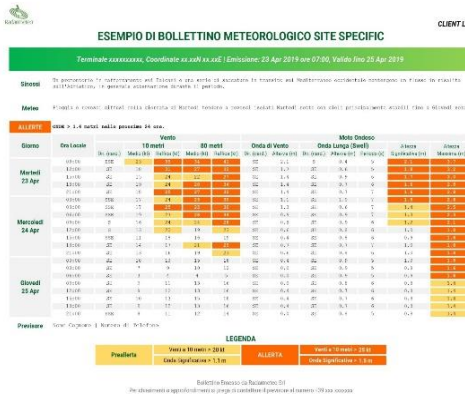
Riepilogo giornaliero delle allerte

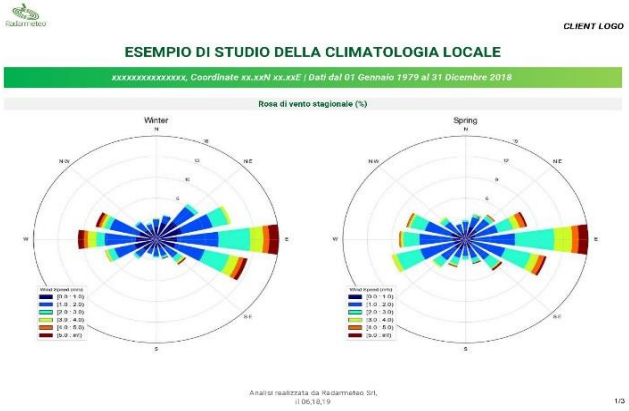
Bollettino realizzato da Radarmeteo Srl — Emissione del 01/02/2019 delle ore 12:00 : Legenda — Pagina n° 1

Weather support for marine operations

SeaCast®

- Weather support 24/7/365 for single sites (offshore platforms, harbors, etc.) or for ship routing
- Long-term ensemble forecast up to 10 days
- Post-event consultation
- Study of local climatology

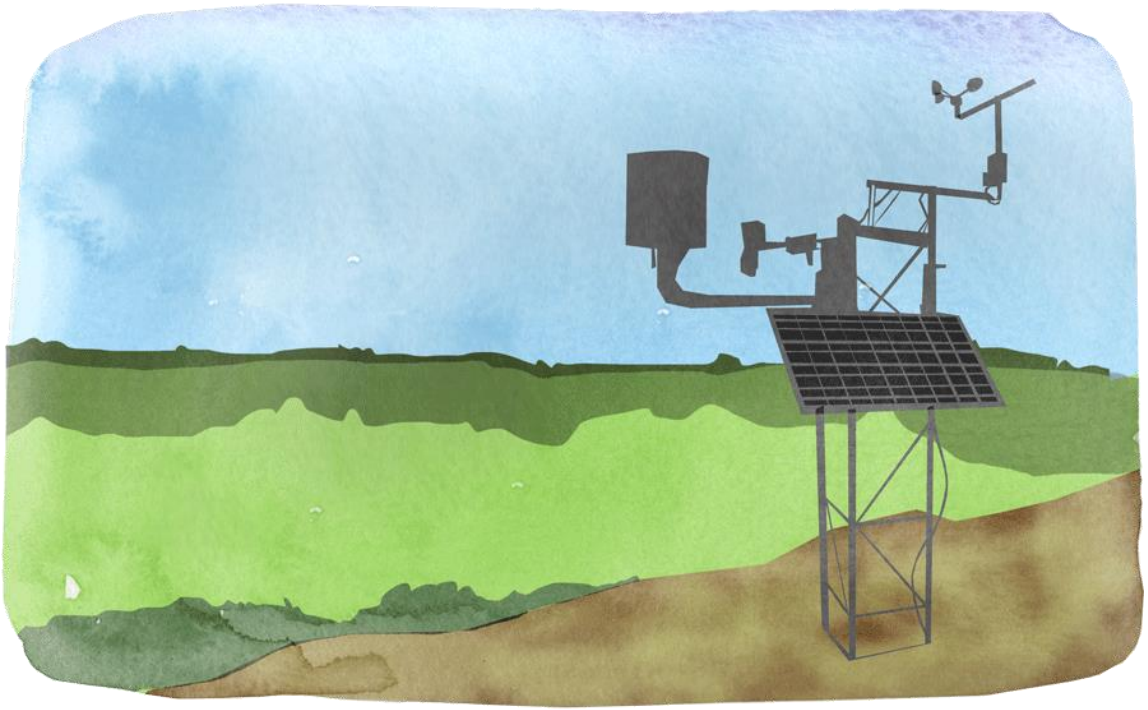

ESEMPIO DI BOLLETTINO METEOROLOGICO SITE SPECIFIC


ESEMPIO DI STUDIO DELLA CLIMATOLOGIA LOCALE

Designing support and certification of weather networks

- Support service in order to analyze, adjust and certificate the weather network in compliance with World Meteorological Organization (WMO) guidelines

- Designing support service for new monitoring networks or for existing networks



Hypermeteo

Climate & weather grids

Historical, real-time and forecast meteorological data on high resolution grids

Complete and homogeneous

Data are provided for all european/global territory and are subjected to verification, control and validation processes

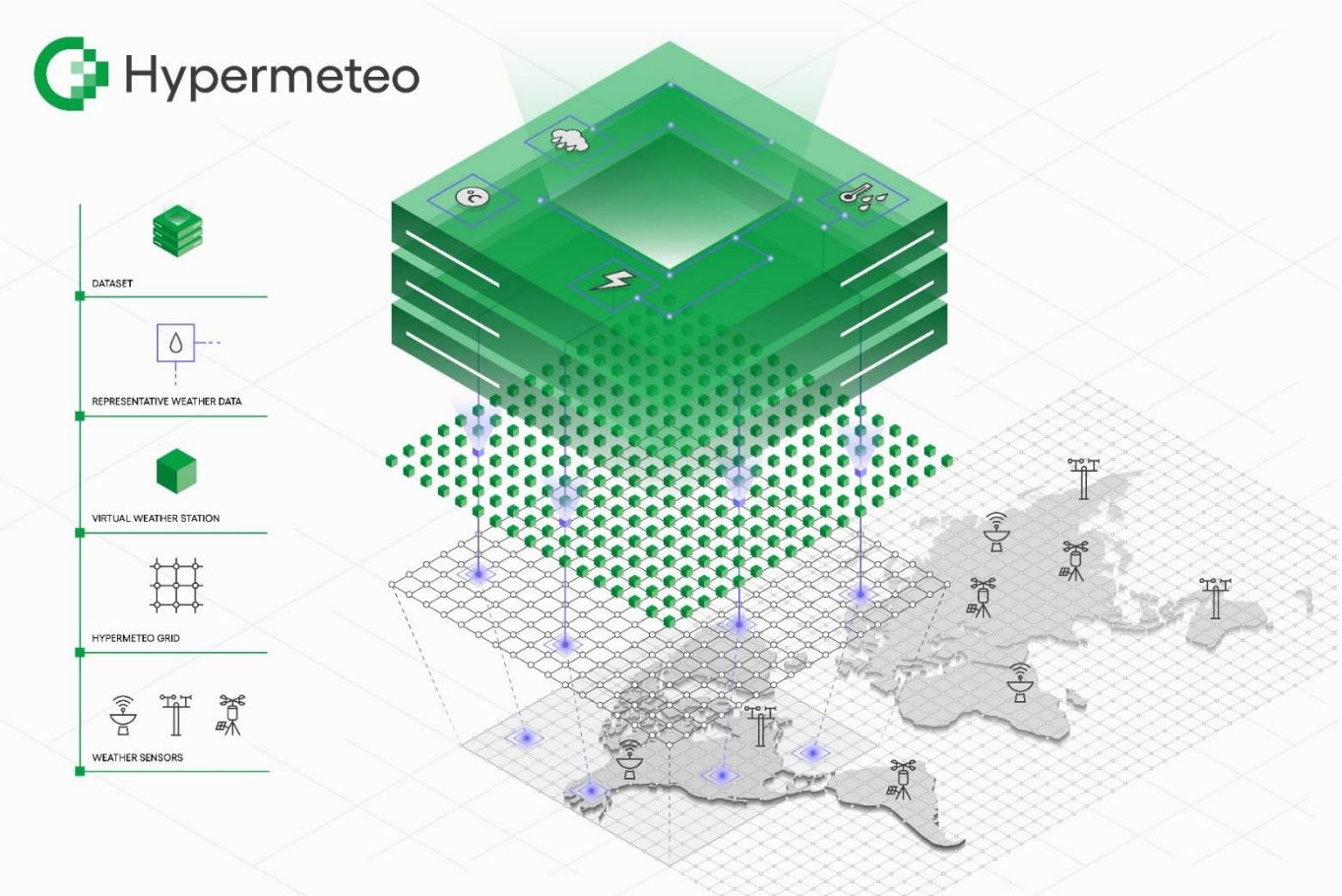
Independent

Data derive from certified, official and WMO compliant weather monitoring networks that meet specific quality, objectivity and transparency criteria.

Easily «pluggable»

Hypermeteo datasets are develped to easily interface with third-party services / systems / applications.

Hypermeteo



Hypermeteo
Climate & weather grids

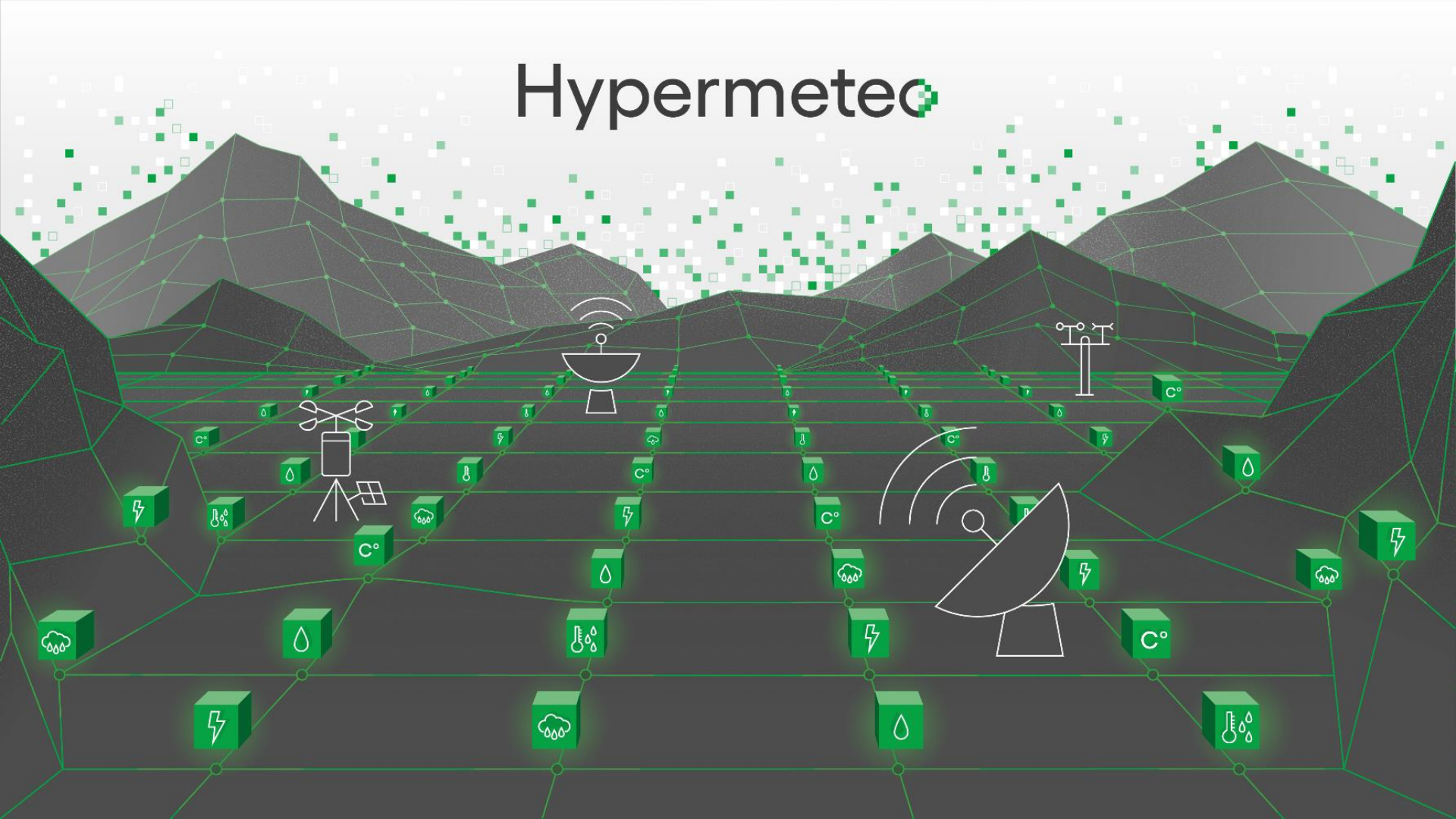
Aggregation of value to existing open data

Use of re-analysis (or retrospective analysis) methods

Integration of data of various types (stations, radar, lightning, satellites, ...)

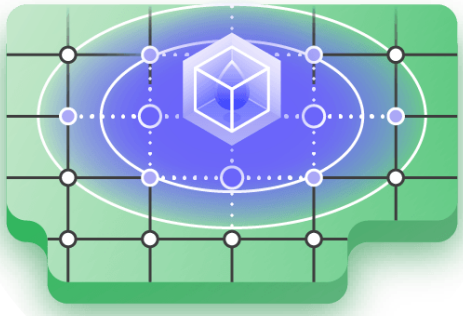
High representativeness of the data on the entire globe

Hypermeteo

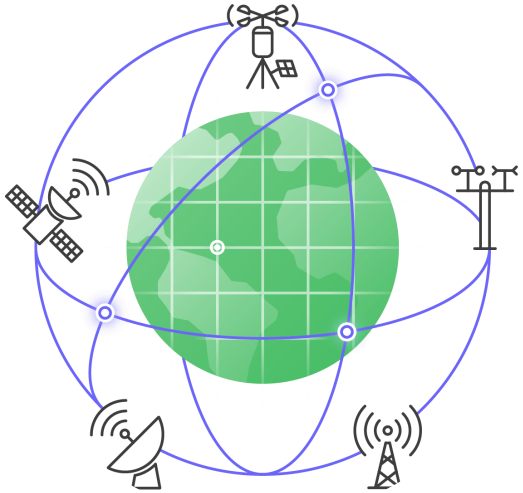


Hypermeteo
Climate & weather grids

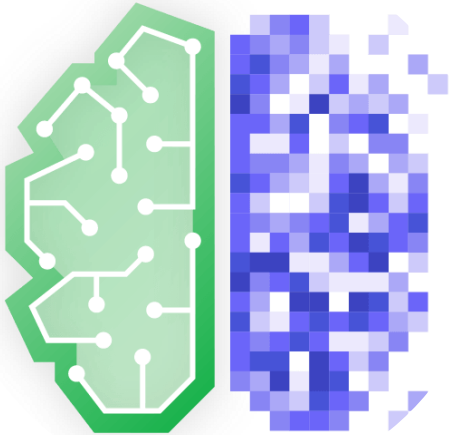
Paradigm shift



01 «Virtual» weather station



02 Data integration

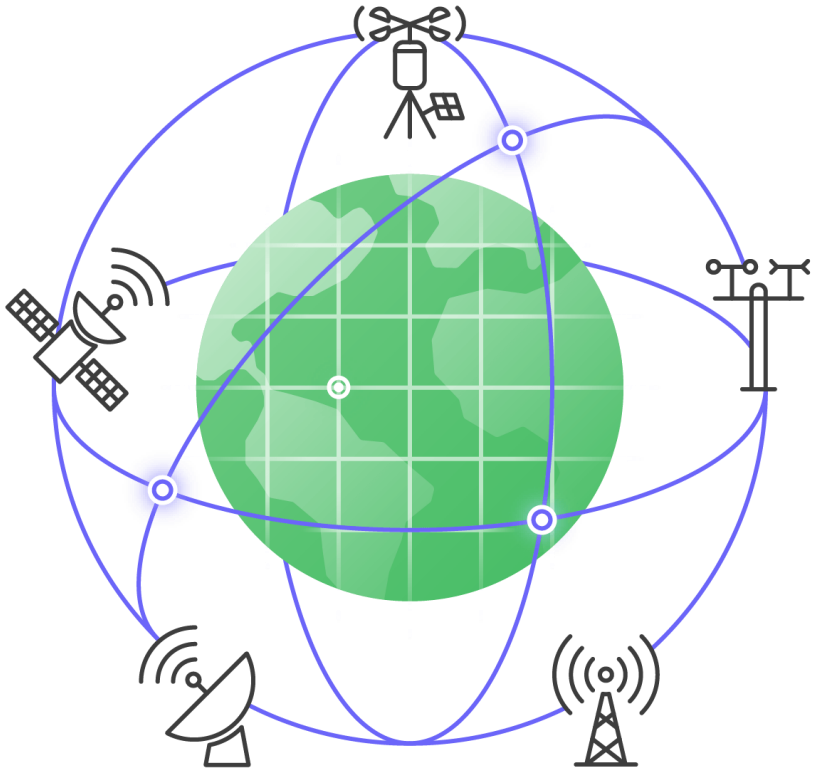


03 Machine learning

The observation set

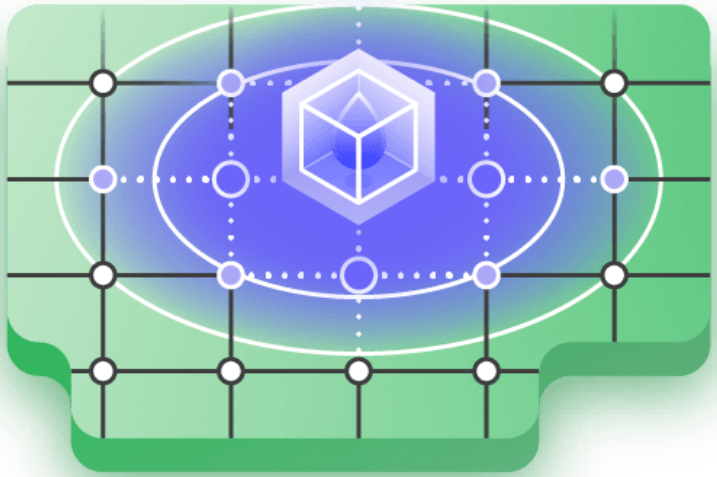
Hypermeteo collects and archives meteorological data originating from an observation set of 11,000 sensors.

These are both public and private official WMO-compliant meteorological monitoring systems



Meteorological reanalysis

Method for "re-analyzing" historical data and observations in order to develp homogeneous datasets (in space and time)



HRS – Hypermeteo Reanalysis System

Name	Spatial coverage	Spatial resolution	Temporal coverage
HRS ITA_1KM	Italy	1 km	1990-today
HRS EUR_5KM	Europe	5 km	1990-today
HRS WOR_25KM	Global	25 km	1979-today

Nowcasting

Optimized forecast for the very short term (next 0-6 hours)

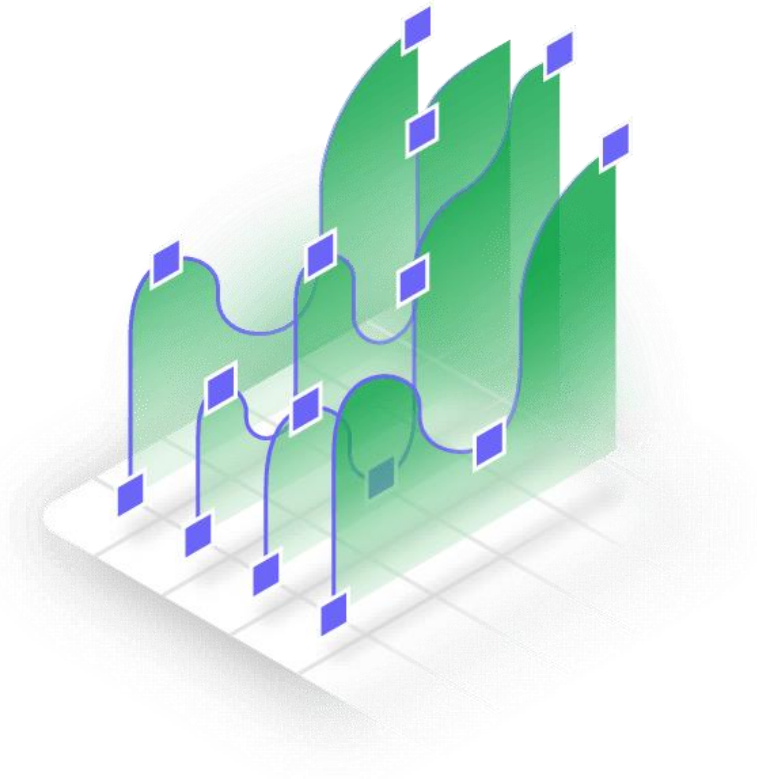
The main feature of the method is that it can be performed with a high refresh rate (up to 5 mins).

HNS – Hypermeteo Nowcasting System

Name	Spatial coverage	Spatial resolution	Forecast time window	Refresh rate
HNS ITA_1KM	Italy	1 km	0-6 hours	Up to 5 mins

Ensemble Multimodel Forecast

Medium-term probabilistic forecast that exploits the simulation of several models (up to 15/30 days)



HFS – Hypermeteo Forecasting System

Name	Spatial coverage	Spatial resolution	Forecast time window	Refresh rate
HFS ITA_4KM	Italy	4 km	0-288 hrs	2 times a day
HFS EUR_12KM	Europe	12 km	0-288 hrs	2 times a day
HFS WOR_25KM	Global	25 km	0-288 hrs	2 times a day

HFS-LT – Hypermeteo Forecasting System - Long Term

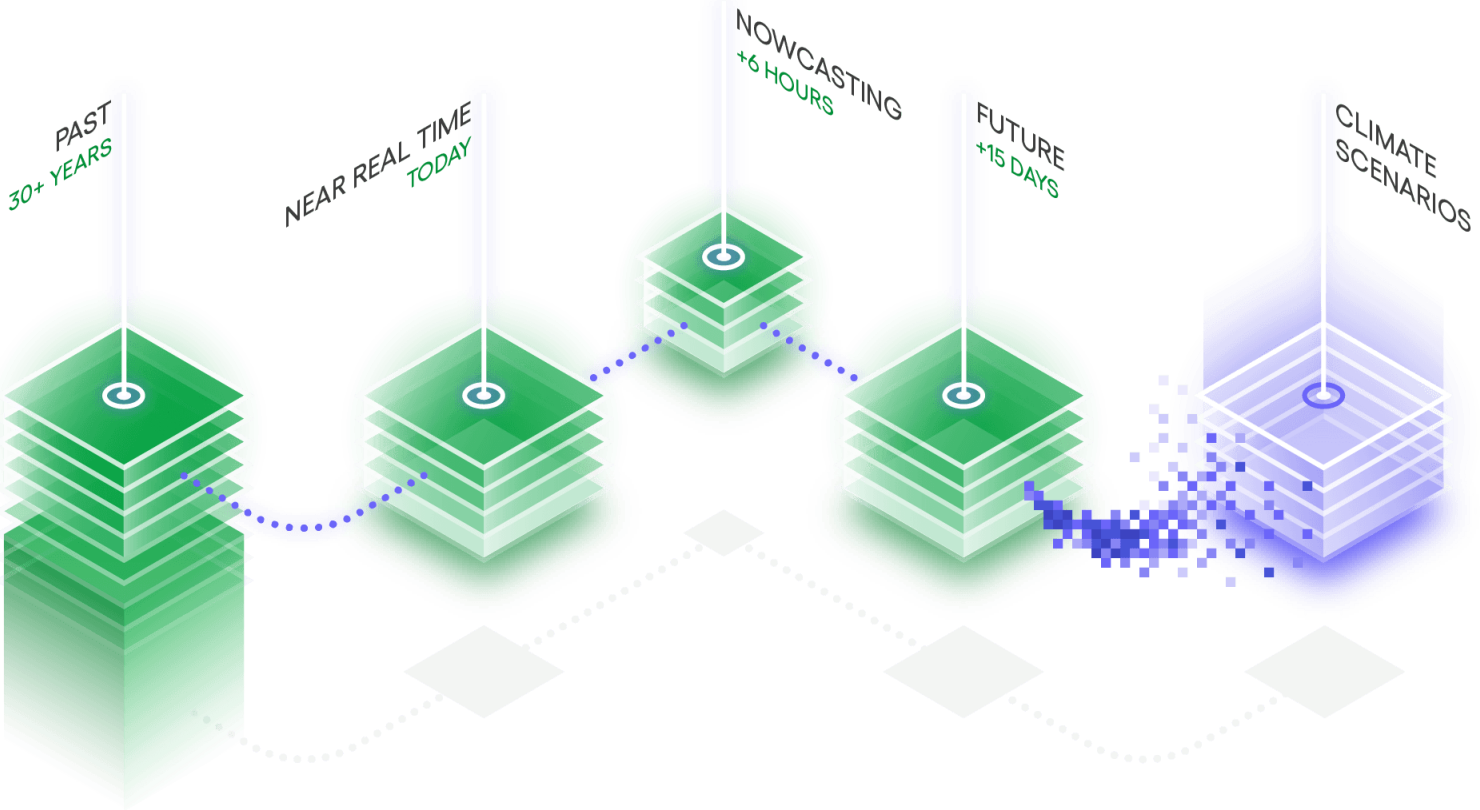
Name	Spatial coverage	Spatial resolution	Forecast time window	Refresh rate
HFS-LT ITA_10KM	Italy	10 km	0-720 hrs (30gg)	2 times a day

Data quality, control and validation

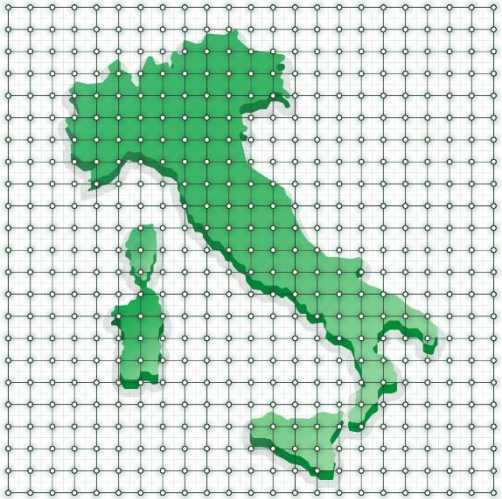
Procedures for:

- Increase the resolution
- To correct
- Reprocess the output variables of the reanalysis

Hypermeteo
Climate & weather grids

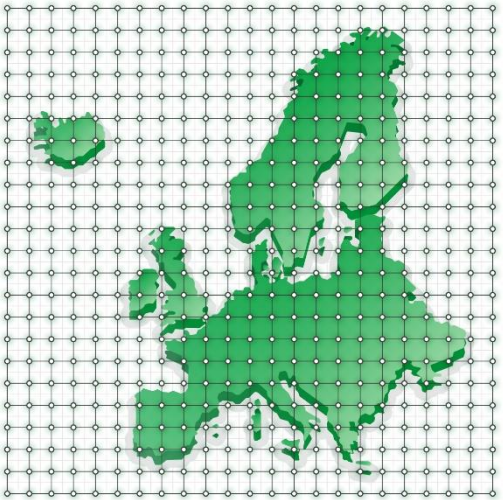


Hypermeteo
Climate & weather grids



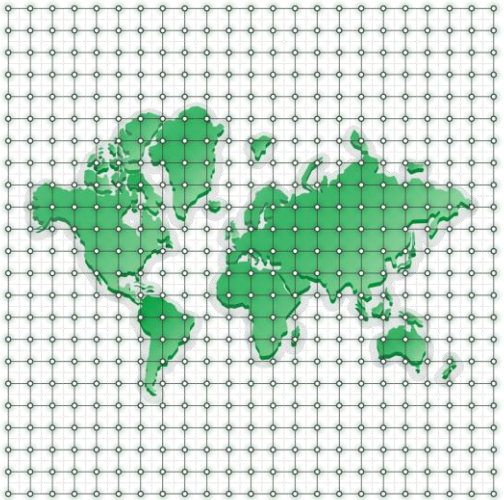
Domain Italy

Up to 1 km of spatial resolution



Domain Europe

Up to 5 km of spatial resolution



Domain World

Up to 25 km of spatial resolution

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