



## ITINERIS HUB: un punto unico di accesso alle IR ambientali italiane

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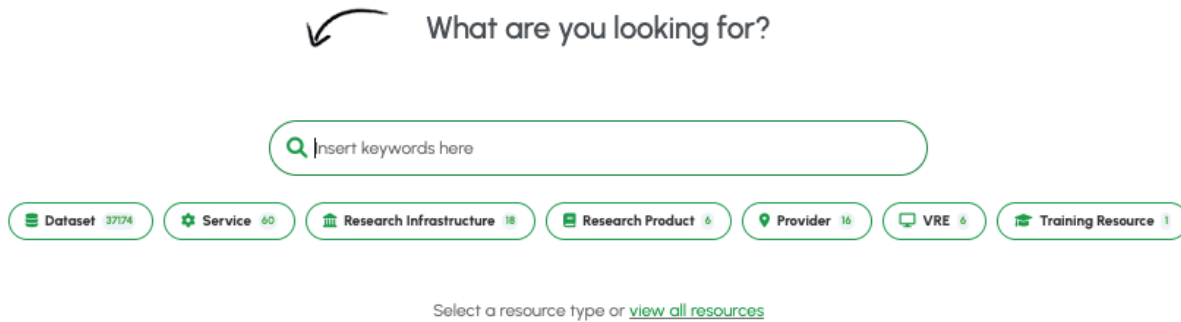
**IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System**  
(D.D. n. 130/2022 - CUP B53C22002150006) Funded by EU - Next Generation EU PNRR-  
Mission 4 “Education and Research” - Component 2: “From research to business” - Investment  
3.1: “Fund for the realisation of an integrated system of research and innovation infrastructures”



# The ITINERIS HUB



<https://hub.itineris.cnr.it/>



The ITINERIS HUB fulfills the core objective of ITINERIS serving as the **single gateway** to Italian ENV Ris, consolidating access to dispersed resources and eliminating the need to navigate multiple entry points.

## Features and applications of the ITINERIS HUB



### MetaData HUB

Explore geospatial-rich metadata and access connected datasets



### Virtual Research Environments

Turn data and models into actionable insight with powerful tools



### Training Platform

Find courses, events and learning resources.



### Access Platform

Discover opportunities to access environmental Ris and their services



### Terminology Service

Search, browse and use standard terminologies in Environmental Sciences

Not simple aggregation. An **integrated digital ecosystem** advanced capabilities.

## Yet another HUB !?

**✗** Not a new repository. Not replicating what already exists Not adding complexity.

# Addressing the existing heterogeneity among RIs



RIs evolved independently — serving their own communities, building their own systems.

Diversity is strength, but fragmentation is a barrier limiting the potential of the research ecosystem.

Comprehensive assessment has measured fragmentation and revealed key findings:

- 🌐 FAIR maturity and readiness very diverse across RIs
- 🌐 Resource inventories fragmented and rarely built for discovery
- 🌐 Inconsistent access rules, fragmented processes, integration blocked

**FRAGMENTATION IS STRUCTURAL AND STRATEGIC — NOT JUST TECHNICAL**

# From evidence to implementation

## **Shared practices across the ecosystem**

Bringing into the Italian ecosystem European best-practice for data management and access.

## **Guidance for emerging RIs**

Sharing FAIR solutions and practices from the most mature RIs to those that are still developing.

## **Capacity building where gaps emerge**

Targeted training and support to remove adoption barriers, with a focus on less mature RIs.

## **User-centred design**

User pain points directly shaped the HUB architecture, resulting in simplified discovery and access pathways

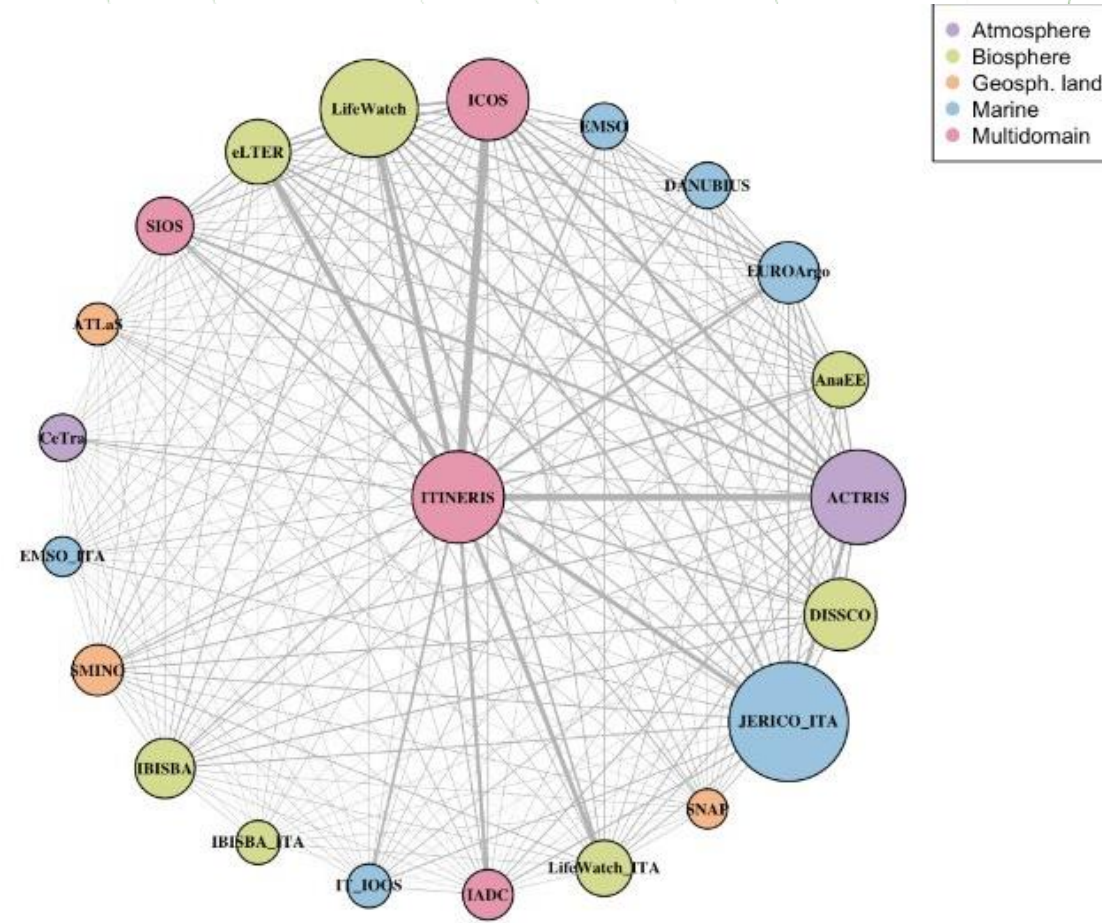
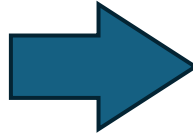
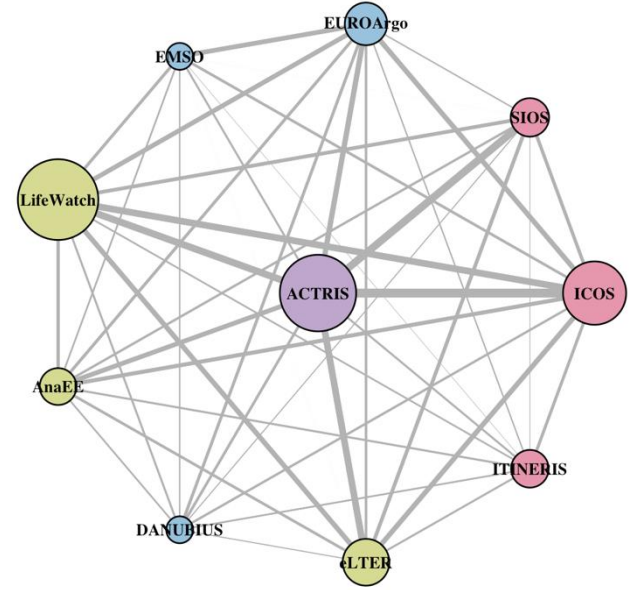
**NO ONE-SIZE-FITS-ALL - SUPPORT TAILORED TO MATURITY LEVEL**

# Results: FAIR potential connectivity network

- FAIR coverage extended to almost all ITINERIS RIs (+13 new FIP, +30% increase in adoption of basic FAIR practices)
- High degree of shared FAIR practices between ITINERIS HUB and RIs
- Global view enables identification of future improvements and integration pathways

NOW

BEFORE



# A shared language and a scalable technological stack



**Integration and access**



**D4SCIENCE**

Integrated cloud infrastructure: Catalogue · VREs as-a-Service · data hosting · analytics security · software deployment

GeoNetwork (metadata catalogue + CSW) | ERDDAP (federated data access)



**Interoperability**

OGC CSW – federated discovery for automatic harvesting and compliance validation



**Metadata standards**

ISO 19139 - geospatial data  
Darwin Core / EML - ecological & biodiversity data  
OpenAIRE / EOSC – other resources



**Semantic alignment**

Terminology service - controlled vocabularies and semantic alignment across Ris

# Tailored pathways to connect data to the HUB



Each research infrastructure enters the HUB according to its maturity level and technical readiness

- ✓ **Data stays at source** — zero duplication, federated access enabled. HUB collects only metadata
- ✓ **Guided integration** Structured onboarding for other resources and RIs joining later.

CONTINUOUS INTEGRATION

# What you can do within ITINERIS HUB



What are you looking for?

Insert keywords here

Dataset 37174 Service 60 Research Infrastructure 18 Research Product 6 Provider 16 VRE 6 Training Resource 1

Select a resource type or [view all resources](#)

## Features and applications of the ITINERIS HUB



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### Training Platform

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### Access Platform

Discover opportunities to access environmental RIs and their services



### Terminology Service

Search, browse and use standard terminologies in Environmental Sciences

- Discover and access resources across RIs (Catalogue + Access Platform)

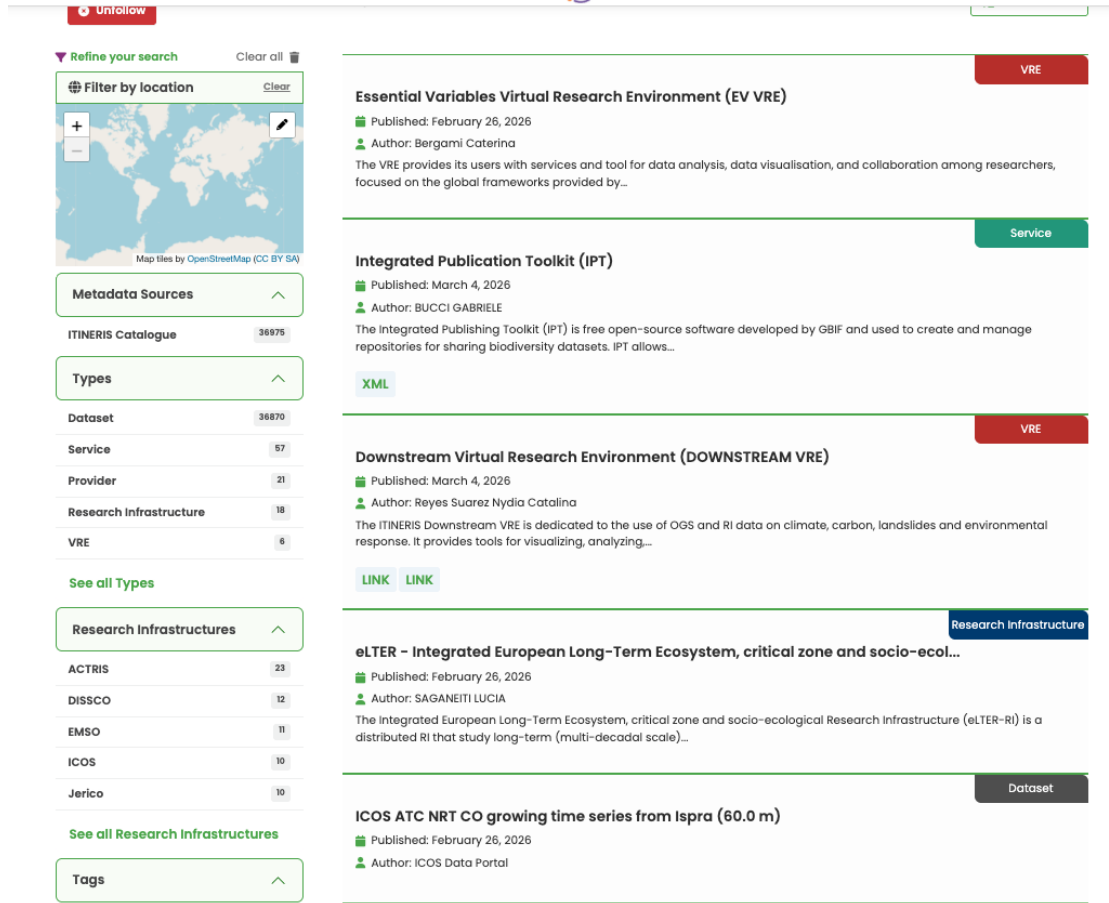
- Work with quality-assured, ready-to-use datasets (Catalogue)

- Collaborate and run analyses leveraging advanced computing resources (Virtual Research Environments)

- Build skills through training services (Training Centre)

..... Generate actionable research outcomes

# The Catalogue - What you can discover



The screenshot displays the ITINERIS Catalogue interface. On the left, there is a sidebar with search filters: 'Filter by location' (with a map), 'Metadata Sources' (ITINERIS Catalogue: 36975), 'Types' (Dataset: 36870, Service: 57, Provider: 21, Research Infrastructure: 18, VRE: 6), 'Research Infrastructures' (ACTRIS: 23, DISSCO: 12, EMSO: 11, ICOS: 10, Jerico: 10), and 'Tags'. The main content area shows search results for 'VRE' (Virtual Research Environment) and 'Service'. The first result is 'Essential Variables Virtual Research Environment (EV VRE)' published on February 26, 2026, by Bergami Caterina. The second is 'Integrated Publication Toolkit (IPT)' published on March 4, 2026, by BUCCI GABRIELE. The third is 'Downstream Virtual Research Environment (DOWNSTREAM VRE)' published on March 4, 2026, by Reyes Suarez Nydia Catalina. The fourth is 'eLTER - Integrated European Long-Term Ecosystem, critical zone and socio-ecol...' published on February 26, 2026, by SAGANEITI LUCIA. The fifth is 'ICOS ATC NRT CO growing time series from Ispra (60.0 m)' published on February 26, 2026, by ICOS Data Portal.

- Over **500,000** environmental datasets
- VREs, digital infrastructures and computational resources
- Facilities, observatories, specialized labs, advanced instrumentation, research vessels, mobile platforms, monitoring networks, specimen collections — spanning the entire Italian territory
- Analytical and validation services to enhance data processing and research outcomes
- Research products and training resources
- **...and more!**

From the deep sea to the atmosphere, from field stations to digital labs — all in one place  
No need to navigate multiple entry points - all resources of Italian ENV RIs in one place!

# Virtual Research Environment

Advanced digital platforms designed to empower users with cutting-edge tools for cross-disciplinary environmental analysis. ITINERIS VREs integrate data, models, and computational resources from multiple RIs, enabling researchers, policymakers, and stakeholders to address complex environmental challenges through collaborative and innovative approaches.

## Thematic VREs



Critical Zone  
Services



Aquatic Biomass  
Services



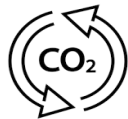
Crops, Plants,  
and Pests



Essential  
variables



Aerosol-  
Biosphere



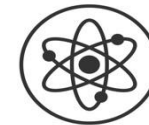
Carbon Cycle  
Services



Climate Change  
Indicators and Impacts



Downstream  
Effects



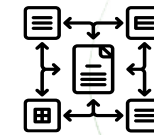
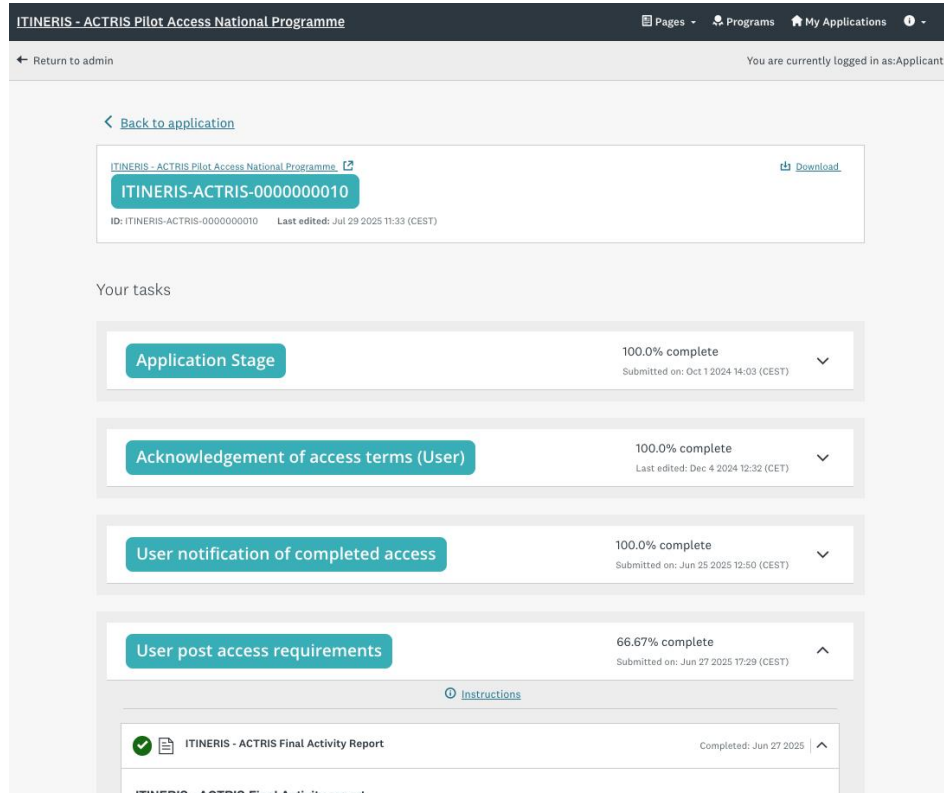
Isotope Database

# Access platform and strategic framework



A dedicated platform to manage the end-to-end workflow for accessing physical RIs - validated through a pilot call and ready for use in future access programmes.

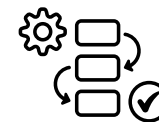
A component of a broader framework — designed to govern and harmonise access across the entire Italian research landscape



**Data Management Plan**  
Standard framework for data preparation & integration



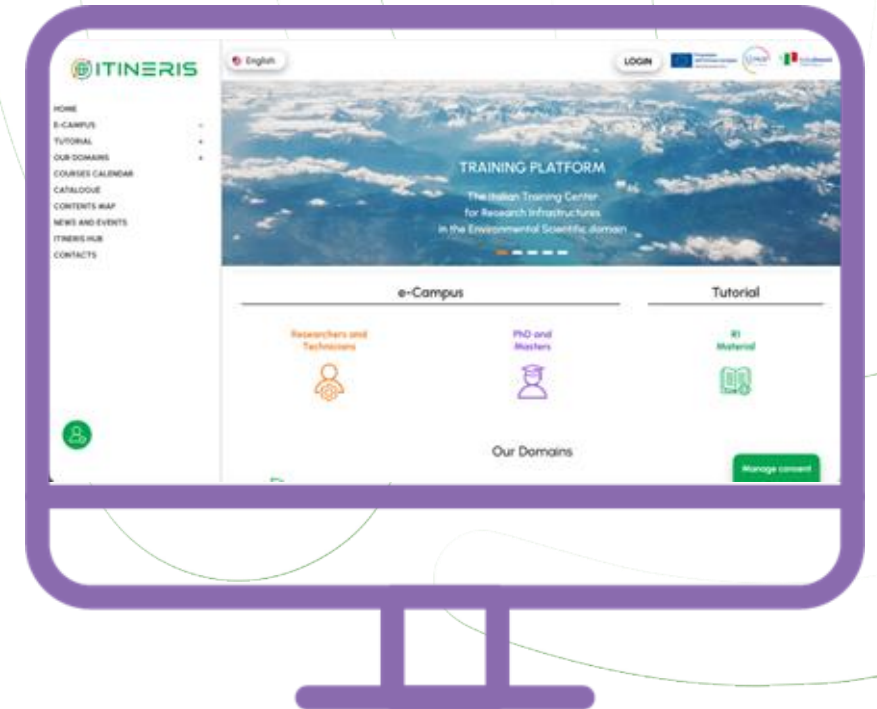
**Access Policy**  
Shared elements and guidelines for RIs to define consistent access policies



**Operational procedures and technical support to coordinate access across national research programmes**

# Itineris Training Platform

- **E-Campus:** list of courses with dedicated sections for research infrastructure personnel and PhD students;
- **Our Domains:** a thematic area where courses and digital training objects (DTOs) are grouped by scientific domain;
- **Tutorial:** hub for sharing resources like user manuals, installation guides, and technical specifications for new equipment and research instruments;



**603**  
uploaded  
resources



**800**  
users

# Federated Service to enhance Semantic Interoperability



<https://terminologyservice.itineris.cnr.it/#/home>

- A **unique access point to semantic artefacts** managed and/or used by Italian environmental RIs
- Search, access and use semantic artefacts distributed across **28 catalogues**
- Widgets and APIs for integration into (meta)data management systems – search and annotation tasks

## Metrics

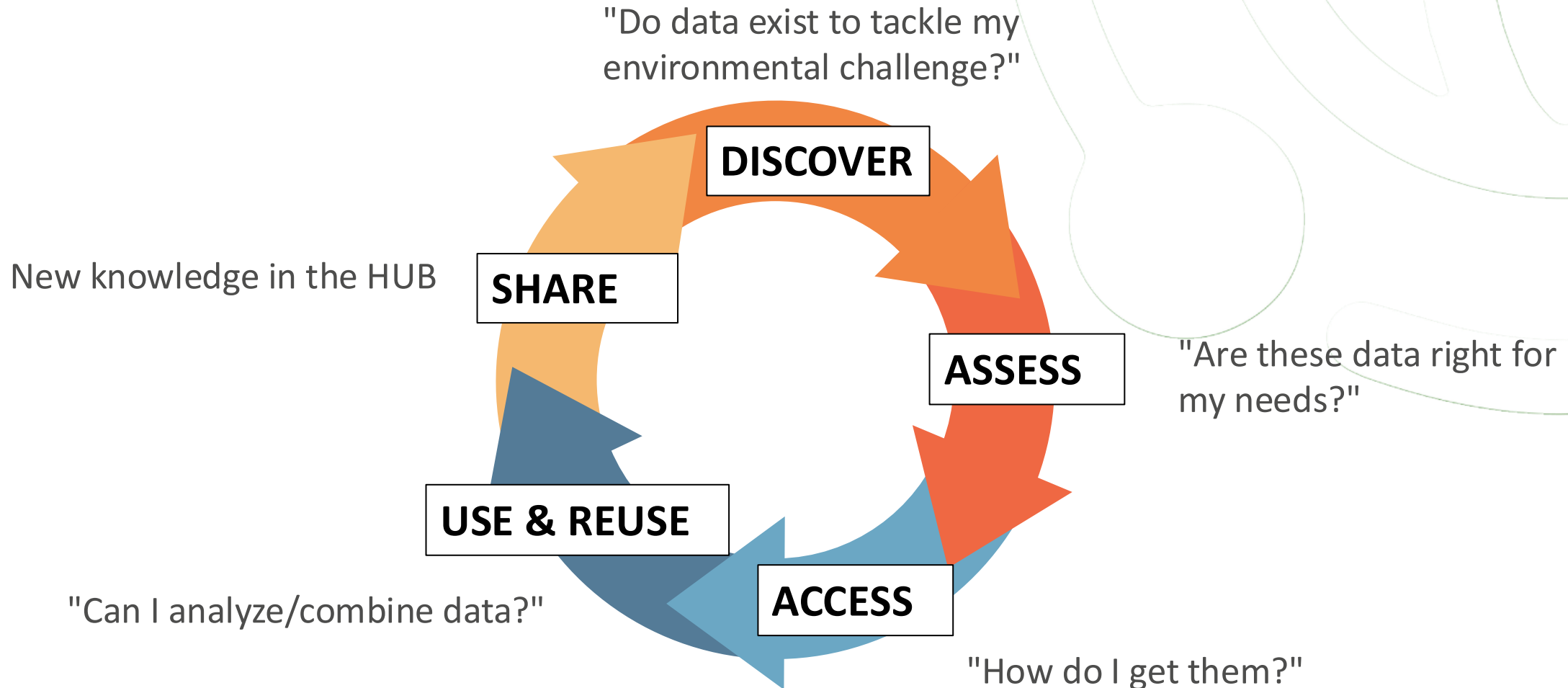


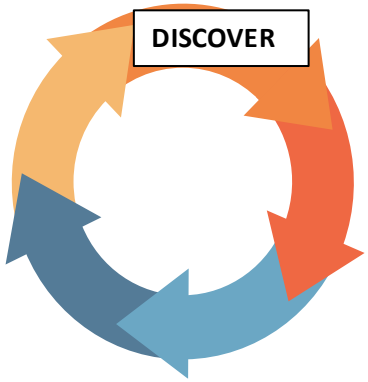
## Catalogues of SAs connected to the Terminology Service

 A framework for ontology-based access to biological data and semantic resources.	 Repository of ontologies and semantic artefacts in agr-food domains.	 Research Vocabularies Australia helps you find, access, and reuse vocabularies.	 Database of Knowledge Organization Systems.
 Repository of ontologies for biodiversity domains.	 The world's most comprehensive repository of biomedical ontologies.	 Open source curated registry and identifier resolver.	 Ontologies for Earth System and environmental domains.
 Semantic resources for ecology domains.	 Access to the latest ontology versions.	 Central access to European open data.	 Single access point to biological terminologies.
 Terminologies for semantic variable descriptions.	 A common ontology portal for industry and related domains.	 Multidisciplinary terminological resources.	 Linked Open Vocabularies for standardized descriptions.
 The ontology repository for materials science.	 Chinese biomedical terminologies repository.	 Create, update, access, map ontologies.	 Centrally managed terms in marine science domains.
 Interoperable ontologies for biological sciences.	 Linked data server and browser for ontology terms.	 A vocabulary and ontology repository for astronomy and related domains.	 Ontologies for engineering and technology.
 Controlled vocabularies for data discoverability.	 Terminologies from multiple science domains.		

# A user journey through ITINERIS HUB

## From research question to data use





Q desert dust

Dataset 37174   Research Product 316   Service 66   Research Infrastructure 22   Provider 21   VRE 8   Training Resource 1

9 Metadata Sources   37.6k Items   23 Research Infrastructures   7 Types

Refine your search Clear all

Filter by location Clear



Metadata Sources ^

ITINERIS Catalogue 5

Types ^

Dataset 1

Research Product 3

VRE 1

Research Infrastructures ^

ACTRIS 2

ITINERIS 2



### 5 items found for "desert dust"

Relevance

Dataset

#### Desert dust profiling product over Ispra, Italy 2015 - 2021

Published: March 25, 2026

Owner: Catalogue Manager ITINERIS

This dataset provides the dust backscatter and extinction coefficient profiles at 532 nm and their respective errors, obtained at Ispra station, Italy, between the years 2015...

ZIP



Research Product

#### Saharan dust transport event characterization in the Mediterranean atmosphere...

Published: March 18, 2026

Owner: Catalogue Manager ITINERIS

VRE

#### Aerosol - biosphere Virtual Research Environment (AERO VRE)

Published: March 24, 2026

Owner: Catalogue Manager ITINERIS

The aerosol-biosphere Virtual Research Environment (AERO VRE) provides services for visualizing climatological charts of the aerosol types occurred at the different sites;...

Research Product

#### Characterization of atmospheric aerosol and its carbonaceous components at a...

Q desert dust

Dataset 37174

Research Product 316

Service 66

Research Infrastructure 22

Provider 21

VRE 8

Training Resource 1



## Desert dust profiling product over Ispra, Italy 2015 - 2021

Created March 25, 2026 Updated on March 25, 2026

Item

Research Infrastructures

Approved



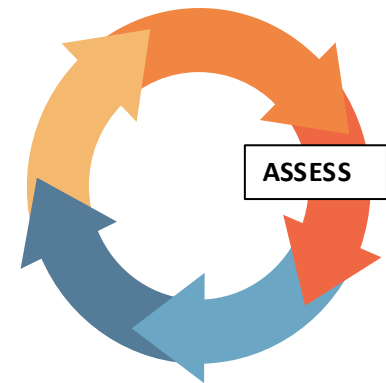
This dataset provides the dust backscatter and extinction coefficient profiles at 532 nm and their respective errors, obtained at Ispra station, Italy, between the years 2015 and 2021. The dust profiles have been retrieved using ACTRIS/EARLINET Level 2.0 quality assured data and applying the methodology of Tesche et al. (2009; <https://doi.org/10.1029/2009JD011862>). This methodology uses the particle backscatter coefficient and the particle depolarisation ratio at 532 nm, therefore the present dataset depends on the availability of these products in the ACTRIS/EARLINET database. The errors of the dust backscatter and extinction coefficient were calculated by applying the law of error propagation to the retrieval equations. The four new parameters were added written to the same file as the data used to retrieve them, so each file in the present dataset contains the original ACTRIS/EARLINET data as well.

Tags: Atmospheric Aerosol Dataset Desert Dust Dust Profiles

### Item URL



[https://data.d4science.org/ctlg/ITINERIS-HUB/desert\\_dust\\_profiling\\_product\\_over\\_ispra\\_italy\\_2015\\_-\\_2021](https://data.d4science.org/ctlg/ITINERIS-HUB/desert_dust_profiling_product_over_ispra_italy_2015_-_2021)



## Basic

### LANGUAGE

English

### MAINTITLE

Desert dust profiling product over Ispra, Italy 2015-2021

### ORIGINAL IDS

- [https://doi.org/10.71763/CNR-IMAA/ITINERIS/DESERT\\_DUST\\_PROFILING\\_PRODUCT/IPR\\_2015-2021](https://doi.org/10.71763/CNR-IMAA/ITINERIS/DESERT_DUST_PROFILING_PRODUCT/IPR_2015-2021)
- [https://commons.datacite.org/doi.org/10.71763/cnr-imaaitineris/desert\\_dust\\_profiling\\_product/ipr\\_2015-2021](https://commons.datacite.org/doi.org/10.71763/cnr-imaaitineris/desert_dust_profiling_product/ipr_2015-2021)

### RESEARCH INFRASTRUCTURE

- ACTRIS
- ITINERIS

### SUBTITLE

Version 2

### TYPE

dataset

### BESTACCESSRIGHT

OPEN

### CONTRIBUTORS

National Research Council-Institute Of Methodologies For Environmental Analysis

### COUNTRIES

Italy

## Creator/Author

### FULL NAME

- Mona, L.
- Mytilinaios, M.
- De Rosa, B.
- Trippetta, S.
- Gumà-Claramunt, P.
- Di Fiore, G.
- Ripepi, E.
- Putaud, J. P.

## Other

### DESCRIPTION


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### PUBLICATION DATE

2024-10-01



## Data and Resources

Download data 

[🔗 Desert dust profiling product over Ispra,... \(ZIP\)](#)

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Analytics Engine (CCP)

Run your Methods/Algorithms on the Cloud [Learn more](#)

Methods List

Methods ↻

Search

- Uncategorised 0 0 ↓
- Aerosol Typing Tools 0 5 ↓
- Desert Dust Tools** 0 3 ↓

Method Editor

New Method 📄 🔗

Title: New Method Version: 1.0.0

Description: New empty method

Keywords: Categories:

Compatible infrastructures: Not executable without infrastructure

▶ Inputs Not executable without ccpimage 📄 🔄 ⬆️ ⬆️ +

▶ Outputs 📄 🔄 +

▶ Deploy script

▶ Execute script

Renest Summit



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Methods List

Methods

Search

- Unategorised
- Desert Dust Tools
  - DOD 2D map 1.0 Emilio Lapenna
  - Dust Profiles 1.0 Emilio Lapenna
  - DOD time series 1.0 Emilio Lapenna

screenshot



Method execution form

Dust Profiles 1.0 Emilio Lapenna

This utility uses Desert dust profiling dataset to compute vertical profiles at 532nm obtained at Potenza and Ispra stations between the years 2015 and 2021.

Inputs

\* Runtime

The image of the runtime to use for method execution. This depends on the infrastructure specific protocol for interacting with registries.

python:3.10

\* Obs site

ISP

\* Obs date

30/07/2017

\* Obs hour

18:00

Options

Select what you like to archive automatically when the execution is completed.

Automatically archive whole execution provenance

Executions Monitor

Execution Monitor

Search

Live executions

Archived executions

Dust Profiles

1.0 successful

Accepted 25/03/2026 @ 16:03:18. Started 25/03/2026 @ 16:03:18

Last update 25/03/2026 @ 16:05:51: Runtime removed

```
D4Science production Infrastructure python:3.10
Observational site: ISP
Target date: 2017-07-30
Target hour: 18:00
Ispra EARLINET
Method completed.
Synchronizing with S3 ...
Synchronizing with S3 ...
Output uploading ...ok.
Starting cleanup ...ok.
Runtime removed ... ok
Tmp folder removed ... ok
```

Show metadata

outputs

- ccp\_entrypoint.sh application/x-sh 246 B
- ccpenv application/octet-stream 1.09 kB
- method.yaml application/octet-stream 2.11 kB
- stderr.cg986cj8c3i5.txt text/plain 362 B
- stdout.cg986cj8c3i5.txt text/plain 4.81 kB

Generate code for Python 3

Direct link

1.0 successful

Accepted 25/03/2026 @ 15:29:26. Started 25/03/2026 @ 15:29:26

Last update 25/03/2026 @ 15:31:27: Runtime removed

1.0 successful

Accepted 25/03/2026 @ 14:56:12. Started 25/03/2026 @ 14:56:12



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Methods ↻

Search

- Unategorised 0 0 [↓](#)
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  - DOD 2D map 1.0 Emilio Lapenna [▶](#) [↓](#) [📄](#) [shared](#)

This utility uses WMO Multi-Model and MONARCH data to produce territorial maps of dust optical depth...

aerosol remote sensing lidar visualization

[D4Science production Infrastructure](#)
  - Dust Profiles 1.0 Emilio Lapenna [▶](#) [↓](#) [📄](#) [shared](#)

This utility uses Desert dust profiling dataset to compute vertical profiles at 532nm obtained at Po...tenza and Ispra stations between the years 2015 and 2021.

aerosol remote sensing lidar visualization

[D4Science production Infrastructure](#)
  - DOD time series 1.0 Emilio Lapenna [▶](#) [↓](#) [📄](#) [shared](#)

This utility uses AERONET, WMO and MONARCH data to visualize hourly dust optical depths measurements...

aerosol remote sensing lidar visualization

[D4Science production Infrastructure](#)

screenshot

Method execution form

Dust Profiles 1.0 Emilio Lapenna

This utility uses Desert dust profiling dataset to compute vertical profiles at 532nm obtained at Potenza and Ispra stations between the years 2015 and 2021.

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python:3.10

\* Obs site

ISP

\* Obs date

30/07/2017

\* Obs hour

18:00

Options

Select what you like to archive automat

Automatically archive whole exec

Outputs

Standard output

[Execute](#)

Executions Monitor

Execution Monitor ↻

Search

Live executions

Archived executions

Dust Profiles 0 0 3 0

1.0 successful [📄](#) [📄](#) [Re-submit](#) [🗑️](#)

Accepted 25/03/2026 @ 16:03:18. Started 25/03/2026 @ 16:03:18

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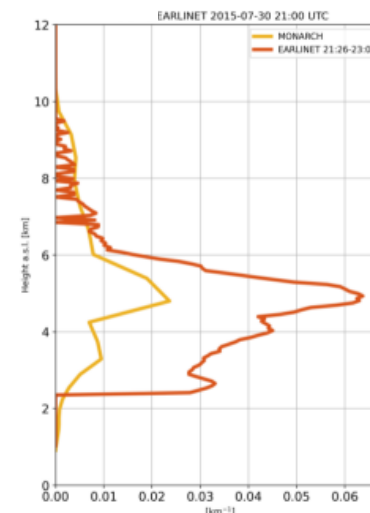
[D4Science production Infrastructure](#) [python:3.10](#)

Observational site: ISP

Products: None

Image output (if any): Yes

Image example:



- [copy](#) [↓](#)
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- [copy](#) [↓](#)

enerate code for  [📄](#)  
[Direct link](#)

[📄](#) [📄](#) [Re-submit](#) [🗑️](#)

026 @ 15:29:26

oved

1.0 successful [📄](#) [📄](#) [Re-submit](#) [🗑️](#)

Accepted 25/03/2026 @ 14:56:12. Started 25/03/2026 @ 14:56:12



Aerosol Remote Sensing



Active filters ✕  
**any** Aerosol Remote Sensing

Filter and Collapse  
TYPE OF RESOURCES  
 Training (6)  
GROUPS  
 ITINERIS (6)



<< < 6 Results > >>

Sorted by relevancy ⌵ ☰



Aerosol Remote Sensing data center: ARES overview

Category: Training



Aerosol Remote Sensing Data Processing: Future Developments

Category: Training



Aerosol Remote Sensing data center: ARES overview - VIDEO

Category: Training



Aerosol Remote Sensing Data Acquisition, Processing, and Submission - Course

Category: Training





<b>Authors</b>	<ul style="list-style-type: none"><li>• Giuseppe D'Amico</li><li>• Ina Mattis</li><li>• Nikolaos Siomos</li><li>• Pilar Gumà Claramut</li><li>• Claudio Dema</li><li>• Lucia Mona</li></ul>
<b>URL</b>	<a href="https://training.itineris.cnr.it/en/categories/researchers-and-technicians/resource/atmospheric_data_acquisition_remote_sensing/">https://training.itineris.cnr.it/en/categories/researchers-and-technicians/resource/atmospheric_data_acquisition_remote_sensing/</a>
<b>Description</b>	<p>Landing page of the training course ACTRIS Aerosol Remote Sensing Data Acquisition, Processing and Submission. The course will provide information on modalities of data submission, processing and curation for the ACTRIS aerosol remote sensing component. The course is mainly addressed to people dealing with aerosol remote sensing observations, even outside ACTRIS. It is open for any interested student from final year of Master to Postdoc level; but engineers and scientists are welcome as well. This course objective is to provide the scientific and technical background needed to be part of the Aerosol Remote Sensing component of ACTRIS. This includes being able to deal with standard operative procedures to maintain high quality, accessible, well documented, and traceable Aerosol Remote Sensing data products, including digital tools for data submission, data processing, and quality control. Resource provided by IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System (D.D. n. 130/2022 - CUP B53C22002150006) Funded by EU - Next Generation EU PNRR- Mission 4 "Education and Research" - Component 2: "From research to business" - Investment 3.1: "Fund for the realisation of an integrated system of research and innovation infrastructures"</p>
<b>Keywords</b>	<ul style="list-style-type: none"><li>• aerosol</li><li>• remote sensing</li><li>• data analysis</li></ul>
<b>License</b>	<a href="https://creativecommons.org/licenses/by-nd/4.0/">https://creativecommons.org/licenses/by-nd/4.0/</a>
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## ACTRIS Aerosol Remote Sensing Data Acquisition, Processing, and Submission

> Introduction

Expand all

▼ **VIDEORECORDINGS**



["Welcome and logistics" Day 1 11112024](#)

["Aerosol Remote Sensing data standardization ACTRIS approach and SCC overview" Day 1 11112024](#)

["ACTRIS Aerosol Remote Sensing instrumental quality assurance" Day 1 11112024](#)

["Lidar data pre-processing" Day 1 11112024](#)

["SCC web interface/API" Day 1 11112024](#)

["Raw data conversion and submission tools" Day 1 11112024](#)

["ACTRIS\\_ARS\\_instrumental quality assurance" Day 2 12112024](#)

["Depolarization calibration: SCC implementation" Day 2 12112024](#)

["Optical processing of lidar data" Day 2 12112024](#)



# ACTRIS Aerosol Remote Sensing Data Acquisition, Processing, and Submission

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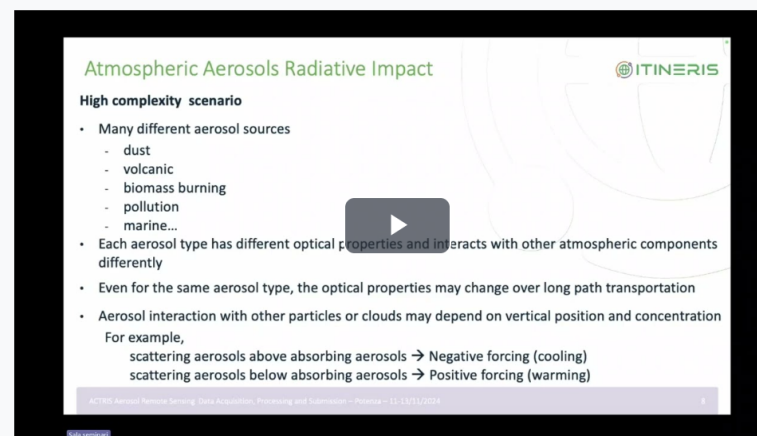
/ "Aerosol Remote Sensing data standardization ACTRIS approach and SCC overview" Day 1 11112024

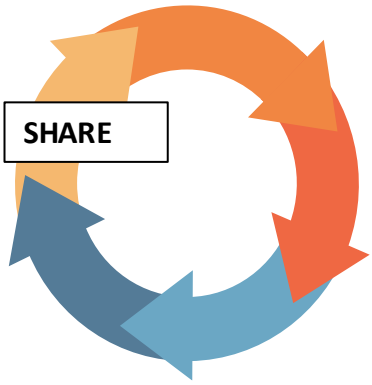


## "Aerosol Remote Sensing data standardization ACTRIS approach and SCC overview" Day 1 11112024

### "Aerosol Remote Sensing data standardization ACTRIS approach and SCC overview" Day 1 11112024

Videorecording of the lecture from Giuseppe D'Amico from CNR IMAA on Aerosol Remote Sensing data standardization: the ACTRIS approach and SCC overview during the ACTRIS Aerosol Remote Sensing Data Acquisition, Processing, and Submission training course as part of activity 3.6 of the ITINERIS project





ITINERIS HOME

[https://doi.org/10.71763/CNR-IMAA/ITINERIS/DESERT\\_DUST\\_PROFILING\\_PRODUCT/IPR\\_2015-2021](https://doi.org/10.71763/CNR-IMAA/ITINERIS/DESERT_DUST_PROFILING_PRODUCT/IPR_2015-2021)  
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## Desert dust profiling product over Ispra, Italy 2015-2021

This dataset provides the dust backscatter and extinction coefficient profiles at 532 nm and their respective errors, obtained at Ispra station, Italy, between the years 2015 and 2021. The dust profiles have been retrieved using ACTRIS/EARLINET Level 2.0 quality assured data and applying the methodology of Tesche et al. (2009; <https://doi.org/10.1029/2009JD011862>). This methodology uses the particle backscatter coefficient and the particle depolarisation ratio at 532 nm, therefore the present dataset depends on the availability of these products in the ACTRIS/EARLINET database. The errors of the dust backscatter and extinction coefficient were calculated by applying the law of error propagation to the retrieval equations. The four new parameters were added written to the same file as the data used to retrieve them, so each file in the present dataset contains the original ACTRIS/EARLINET data as well.

[Download datasets](#)

Data policy:

[Creative Commons Attribution 4.0 International legal code \(CC-BY 4.0\)](#)

[Actris Data Policy](#)

How to cite:

National Research Council-Institute Of Methodologies For Environmental Analysis, Mona, L., Mytilinaios, M., De Rosa, B., Trippetta, S., Gumà-Claramunt, P., Di Fiore, G., Ripepi, E., Joint Research Centre, & Putaud, J. P. (2024). Desert dust profiling product over Ispra, Italy 2015-2021 (Version 2) [Data set]. ITINERIS HUB. [https://doi.org/10.71763/CNR-IMAA/ITINERIS/DESERT\\_DUST\\_PROFILING\\_PRODUCT/IPR\\_2015-2021](https://doi.org/10.71763/CNR-IMAA/ITINERIS/DESERT_DUST_PROFILING_PRODUCT/IPR_2015-2021).

[https://doi.org/10.71763/CNR-IMAA/ITINERIS/DESERT\\_DUST\\_PROFILING\\_PRODUCT/IPR\\_2015-2021](https://doi.org/10.71763/CNR-IMAA/ITINERIS/DESERT_DUST_PROFILING_PRODUCT/IPR_2015-2021)

[https://commons.datacite.org/doi.org/10.71763/cnr-imaa/itineris/desert\\_dust\\_profiling\\_product/ipr\\_2015-2021](https://commons.datacite.org/doi.org/10.71763/cnr-imaa/itineris/desert_dust_profiling_product/ipr_2015-2021)

reenshot



# 280+ new datasets with DOI generated and published through ITINERIS

# VRE: Your research environment



## Skilled users

They are able to clone a github repository and interact with the VRE via notebooks



## Base users

They use APPs but does not know what R/Python are

# From a question to a discovery: inside the ITINERIS VRE



## The Italian Sea Surface Temperature Demonstrator APP

A screenshot of a web application interface. At the top, a green header bar contains the text "Italian Seas Sea Surface Temperature" on the left and a small white circle on the right. Below the header, there is a white panel with a dropdown menu labeled "Dataset" showing "ESA SST Satellite Observations". Below the dropdown is a blue button labeled "Load Data". Underneath that is a grey button labeled "VRE Output Explorer" with a downward arrow. The main content area is empty. At the bottom of the interface, there is a footer with the ITINERIS logo on the left and a block of small text on the right: "IR0000032 - ITINERIS, Italian Integrated Environmental Research Infrastructures System (D.D. n. 130/2022 - CUP B53C22002150006) Funded by EU - Next Generation EU PNRR - Mission 4 'Education and Research' - Component 2: 'From research to business' - Investment 3.1: 'Fund for the realisation of an integrated system of research and innovation infrastructures'".



IR0000032 - ITINERIS, Italian Integrated Environmental Research Infrastructures System (D.D. n. 130/2022 - CUP B53C22002150006)  
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3.1: "Fund for the realisation of an integrated system of research and innovation infrastructures"

## Beyond the project: a lasting Legacy

- ❑ Continuously evolving, grows beyond project feeding back new knowledge as it's generated.
- ❑ Much achieved in standardisation and interoperability - but these activities always ongoing.
- ❑ Ready to integrate missing Ris beyond the project.
- ❑ Scalable to other scientific domains, supporting integration of additional data, enhancing synergy across communities, and strengthening national and international research systems
- ❑ Integrated into the Italian EOSC node, advancing open science and open data to enhance European visibility and accessibility of Italian environmental research.
- ❑ Sustainability of ITINERIS HUB ensures that environmental research data remain accessible, interoperable and reusable beyond the lifetime of individual projects.
- ❑ Consolidation of ITINERIS HUB as a national Research Infrastructure



Carmela Cornacchia, Ilaria Rosati, Ermann Ripepi, Giuseppe Gargano, Canio Colangelo, Claudio Dema, Francesco Izzi, Giuseppe La Scaleia, Lucia Mona, Quinzia Palazzo, Lucia Saganeiti, Vito Salvia, Michele Volini, Pilar Guma, Rosa Petracca, Simone Gagliardi, Francesca Ricciardi, Simona Loperte, Corrado Russo, Enrica Nestola, Gregorio Sgrigna, Andrea Tarallo, Gianmarco Ingrosso, Cristina Di Muri, Alexandra N. Muresan, Davide Raho.

# THANKS!

**IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System**  
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