ENVRI Community

Dashboard for the State of the Environment

Designed, developed and supported by the ENVRIs for the EOSC Future Project

Angeliki K. Adamaki, ICOS Carbon Portal

On behalf of ICOS, SeaDataNet, EMSO, ACTRIS, eLTER, IAGOS

#EOSCSymposium2023, Madrid, Spain

eosc

EOSC Future

EU23 SPANISH PRESIDENCY COUNCIL OF THE EUROPEAN UNION

Funded by the European Union

An extensible collection of Environmental Indicators resulting from ENVRI (FAIR) data and services

https://env-dashboard.eoscfuture.eu/

An extensible collection of Environmental Indicators resulting from ENVRI (FAIR) data and services

- An **EOSC Service**
- Supported by approved **EOSC providers**
- Backed by the quality assurance of the **ENVRIs**

- The Dashboard is universal and **flexible**
- Users can configure their own Dashboard, **customise** the view and choose the indicators of their interest by logging in with their **EOSC credentials**!

An extensible collection of Environmental Indicators resulting from ENVRI (FAIR) data and services

- Environmental indicators provided (so far) by **SeaDataNet**, **ICOS**, **ACTRIS**, **IAGOS**, **eLTER**
- Development of the central service supported by **EMSO**
- Marine Data Viewer developed by **MARIS**

EOSC as enabler – Service Integration

Several **EOSC services** are used to develop the Dashboard on the **EOSC Platform** and support the RI providers.

- ✅ EOSC Marketplace
- ✅ EOSC AAI Federation
- ✅ EGI Cloud Compute
- ✅ EOSC Service Monitoring
- 🟠 EOSC Helpdesk

✅ Achieved
🟠 In Progress

Data Science in the context of Earth and Environmental Science

- Data collection, processing, analysis
- Models, simulations, hypothesis testing
- Monitoring, observations, warning systems
- Ecological research, ecosystem response to changes

Data Science in the context of Earth and Environmental Science

- Risk assessment, decision support systems, policy making
- Data sharing, inclusivity, accessibility, Open Science
- Transparency, collaboration, impactful scientific advancement

Air Quality

Goals for Scientists and Policy Makers

- Develop policies for sustainable transportation
- Enhance air quality monitoring systems
- Support evidence-based urban planning strategies
- Evaluation of emission reduction programs – emission standards
- Public awareness campaigns

Air Quality

EOSC Future
ENVRI Dashboard - State of the Environment
Data in action
LOGIN
ICOS Carbon Portal
Realtime atmospheric concentration of CO/CO2/CH4
Indicator
Information
About
ICOS
Zeppelin
ZEP 15m co2
Sampled 2023-09-13
411.4 ppm mean
411 min Preview
412 max Download
Day Month Year
ICOS
ACTRIS
ACTRIS Near-Realtime equivalent black carbon measurements
Indicator
Information
About
ACTRIS
Zeppelin mountain (Ny-Ålesund)
Zeppelin - equivalent black carbon (eBC)
Sampled 2022-05-24 00:00:00
0.001079 µg/m3 mean
Preview
Download
Day Month Last 3 months
ACTRIS
ACTRIS
ACTRIS Near-Realtime Ultra Fine Particles measurements
Indicator
Information
About
ACTRIS
Zeppelin mountain (Ny-Ålesund)
Zeppelin
Sampled 2022-09-30 00:00:00
64.62 1/cm3 mean
Preview
Download
Day Month Last 3 months
ACTRIS
CONTACT

Air Quality

EOSC Future
ENVRI Dashboard - State of the Environment
Data in action
LOGIN
ICOS Carbon Portal
Realtime atmospheric concentration of CO/CO2/CH4
Indicator
Information
About
ICOS
Zeppelin
ZEP 15m co2
Sampled 2023-09-13
411.4 ppm mean
411 min Preview
412 max Download
Day Month Year
ICOS
ICOS ATC CO2 Release / ICOS ATC NRT CO2 growing time series - co2
Legend
ICOS_ATC_L2_L2-2023.1_ZEP_15.0_CTS_CO2:
ICOS_ATC_NRT_ZEP_2023-04-01_2023-09-13_15.0_1272_CO2:
CO2 mixing ratio (dry mole fraction) [µmol mol-1]
455
450
445
440
435
430
425
420
415
410
405
400
395
390
2018-03-02
2018-10-20
2019-06-08
2020-01-26
2020-09-13
2021-05-03
2021-12-20
2022-08-08
2023-03-28
time instant, UTC
ICOS
© ICOS RI - CC BY

Air Quality

EOSC Future
ENVRI Dashboard - State of the Environment
Data in action
LOGIN
ACTRIS
ACTRIS Near-Realtime equivalent black carbon measurements
Indicator
Information
About
ACTRIS
Zeppelin mountain (Ny-Ålesund)
Zeppelin - equivalent black carbon (eBC)
Sampled 2022-05-24 00:00:00
0.001079 µg/m3 mean
Preview
Download
Day
Month
Last 3 months
ACTRIS
Ground based in situ observations of filter_absorption_photometer at Zeppelin mountain (Ny-Ålesund)
µg/m3 (equivalent black carbon)
0.04
0.02
0
−0.02
−0.04
−0.06
Feb 27
2022
Mar 13
Mar 27
Apr 10
Apr 24
May 8
May 22
Time

Air Quality

EOSC Future
ENVRI Dashboard - State of the Environment
Data in action
LOGIN
ACTRIS
ACTRIS Near-Realtime Ultra Fine Particles measurements
Indicator
Information
About
ACTRIS
Zeppelin mountain (Ny-Ålesund)
Zeppelin
Sampled 2022-09-30 00:00:00
64.62 1/cm3 mean
Preview
Download
Day
Month
Last 3 months
CONTACT
Ground based in situ observations of dmps at Zeppelin mountain (Ny-Ålesund) (NO0042G)
variable
ufp
1/cm3 (ultra fine particles)
2500
2000
1500
1000
500
0
Jul 3
2022
Jul 17
Jul 31
Aug 14
Aug 28
Sep 11
Sep 25
Time

Air Quality

EOSC Future
ENVRI Dashboard - State of the Environment
Data in action
LOGIN
IAGOS
IAGOS near real time atmospheric concentration of O3, CO and H2O
Indicator
Information
About
IAGOS
Paris Charles de Gaulle airport (CDG)
CDG
900 hPa
O3
Sampled 19 November 2022
23.2 ppb mean
12 min
36 max
Preview
DAY
MONTH
YEAR
IAGOS
IAGOS O3 growing time series
* Please select an area to zoom
mean L2
mean L1
200 ppb
175 ppb
150 ppb
125 ppb
100 ppb
75 ppb
50 ppb
25 ppb
0 ppb
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
Time (UTC)

Coastal Management

Goals for Scientists and Policy Makers

- Address the challenges of climate change and marine ecosystem conservation
- Develop policies to regulate coastal development
- Design strategies to mitigate risks
- Preserve marine ecosystems while supporting sustainable economic activities

Coastal Management

Coastal Management

Coastal Management

What is necessary for science and technology today will be crucial for society tomorrow

- Embrace disciplinary and interdisciplinary research approaches
- Support data sharing and integration across disciplines
- Foster collaboration and communication among disciplines
- Engage scientific communities and other stakeholders
- Invest in capacity building for interdisciplinary research

ENVRI Community

eosc

Thank you for your attention!

Visit the EOSC and find out more about the ENVRI Dashboard!

An interactive environment that gives clear and easy access to the **ENVRIs**.

Climate change is a scientific fact and

Science means knowledge, awareness and understanding!

See you at the ICOS booth for more Demos!