

Open data for weather observations in Europe

A status review

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SCREEN CAPTURE
WELCOME

Open data for weather observations – history & future

- „[Oslo Declaration](#)“ 2009 the directors of EUMETNET National Meteorological Services reached consensus on:
 - „ *The evolution of the basic output of NHMS, [...], should lead to regular reviews at NHMS level, and, when appropriate, to **progressive expansion** of their set of „Essential“ data and products made available on a **free and unrestricted** basis;*“
- The [Open Data Directive](#) by the European Union defines high-value data sets and a subsequent [study executed by Deloitte](#) found meteorological data having the highest economic benefit together with geospatial data when being made available free of charge.

Open data for weather observations – present

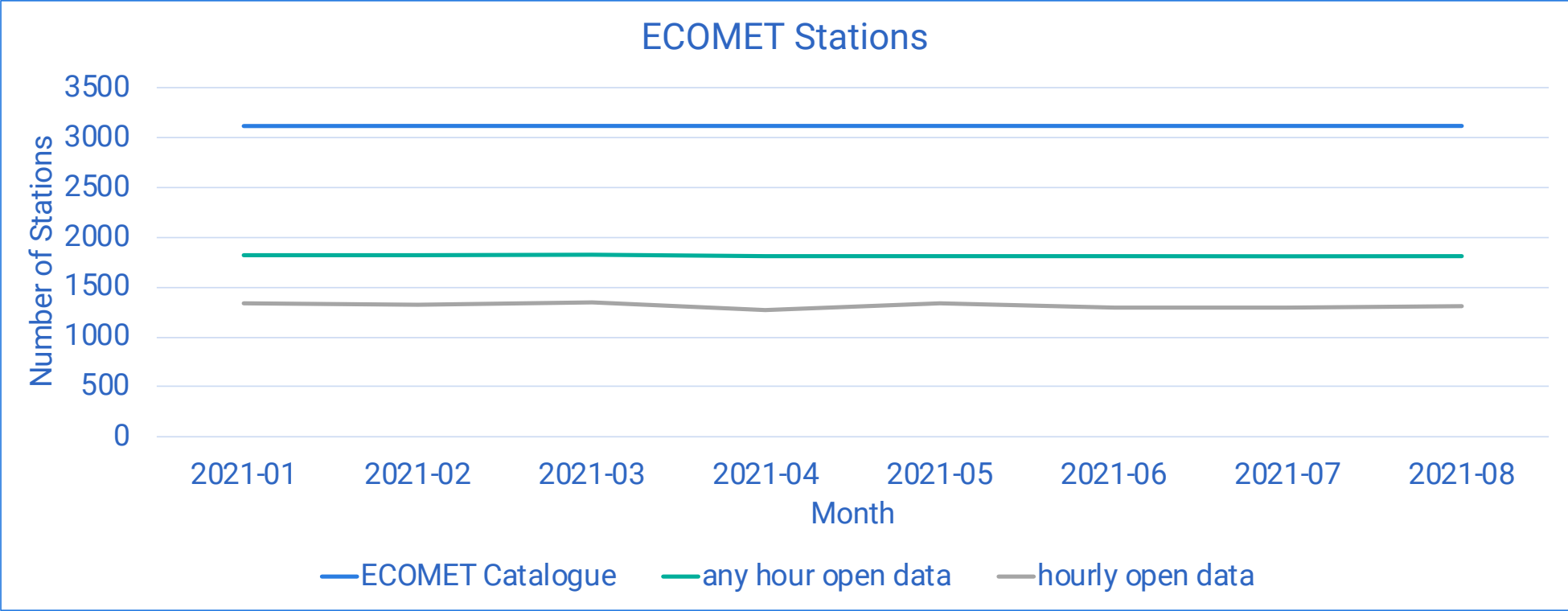
What fraction of weather observations is currently available as Open Data from a “one-stop shop” access point?

From which countries?

For which parameters?

Open data availability development 2021

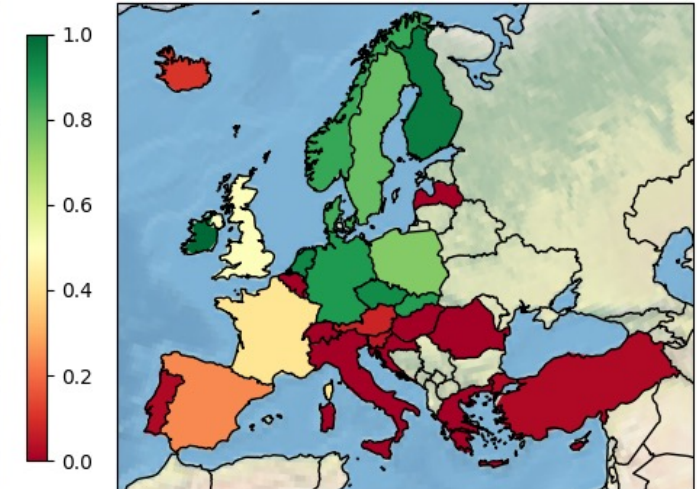
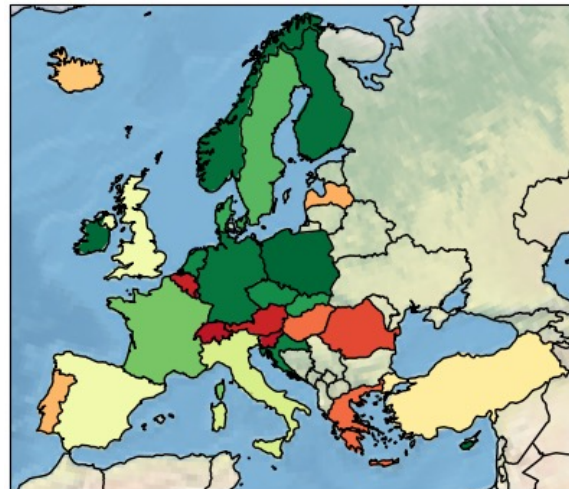
Open Data Statistics Aug 2021:
Catalogue: 3'116
Available (any): 1'811
Available (hourly): 1'313



Data availability in ECOMET Status from a user perspective

This analysis was performed based on data in Aug 2021 retrieved from opendata.dwd.de

The maps show the fraction of stations for which *any* parameter was found vs. stations listed in the ECOMET catalogue in August 2021 (left = anytime, right = hourly). Low values mean that either many stations are missing on the GTS or are declared as additional. Left: also for main hours (00,06,12,18), right mainly for hourly data.



Wind gusts:	
Stations with wind:	1'735
6-hourly gusts:	854
Hourly gusts:	720

Precipitation:	
Stations with RR12:	1'355
Hourly precipitation:	690

Global Radiation:	
Any radiation obs:	347
Hourly radiation:	222

ES, SE, FR, RO, IS, PT, IT, DK, HR, HU, SI, LV, SK, IE, CY, LU

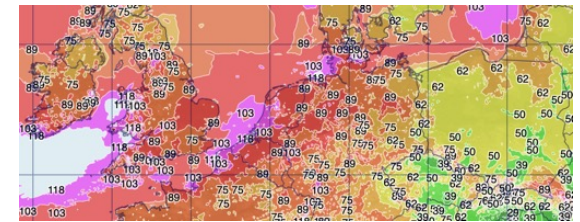
ES, UK, AT, DE, RO, CH, TR, GR, PT, IT, PL, HR, HU, BE, SK, LV, SI, IE, CY, LU

European-wide concern

Data availability in ECOMET

Impacts of missing parameters

Non-available hourly wind gusts measurements:
Warnings may be issued later as intensity of storm is underestimated. Insurances have more disputes on claims.



Non-available hourly precipitation measurements:
Lower quality of cross-border (flash) flood warnings, decreased quality of calibrated radar & agriculture



Non-available hourly global radiation measurements:
PV power production forecasts are less accurate, grid integration of renewable energy more difficult



With nowadays bandwidth and BUFR coding it should be possible to increase availability of wind gust and hourly precipitation observations at no cost by removing legacy filters which may still prevent international distribution.

Thank you!

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