ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

Be FAIR with METIS (by EUDAT)

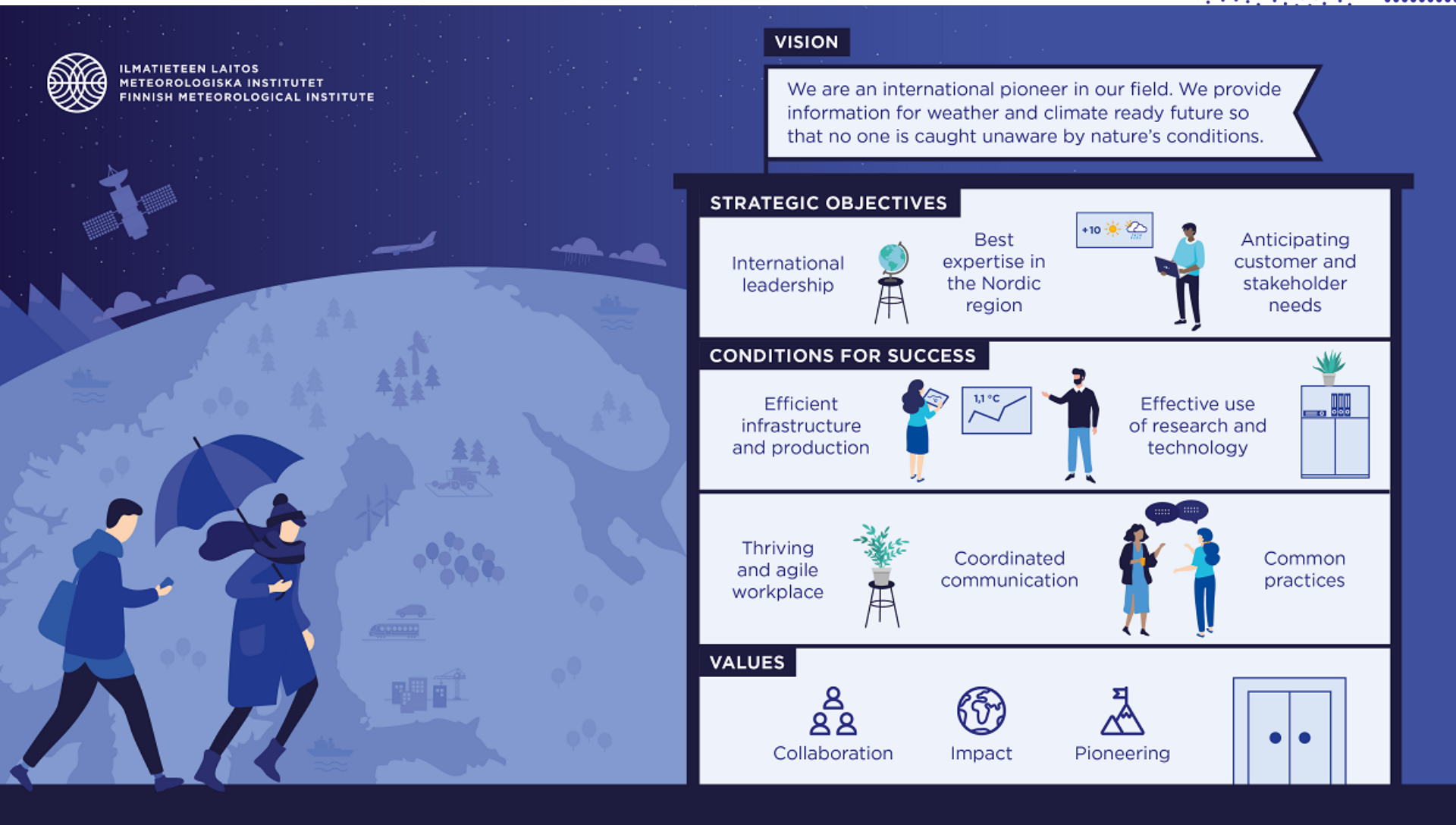
EUDAT 2022

Somewhere in Athens

15.09.2022

Anca Hienola

Finnish Meteorological Institute



Research at FMI

METEOROLOGICAL AND MARINE RESEARCH PROGRAMME

Meteorological Research

Marine Research

Weather and Climate Change Impact Research

CLIMATE RESEARCH PROGRAMME

Climate System Research

Atmospheric Composition

Atmospheric Research Centre of Eastern Finland

SPACE AND EARTH OBSERVATION CENTRE

Earth Observation Research

Space Research and Observation Technologies

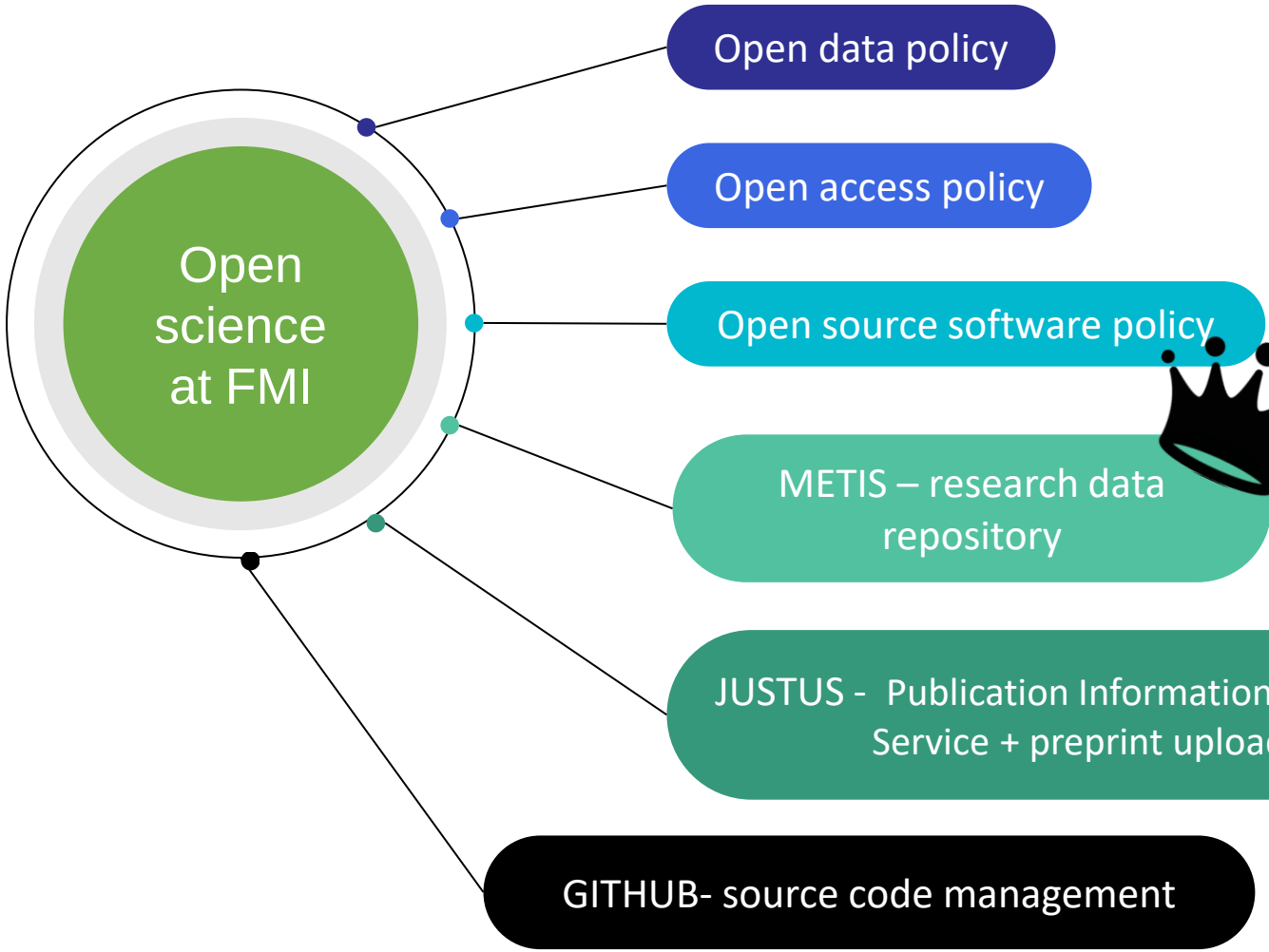
Arctic Space Centre

In situ measurements

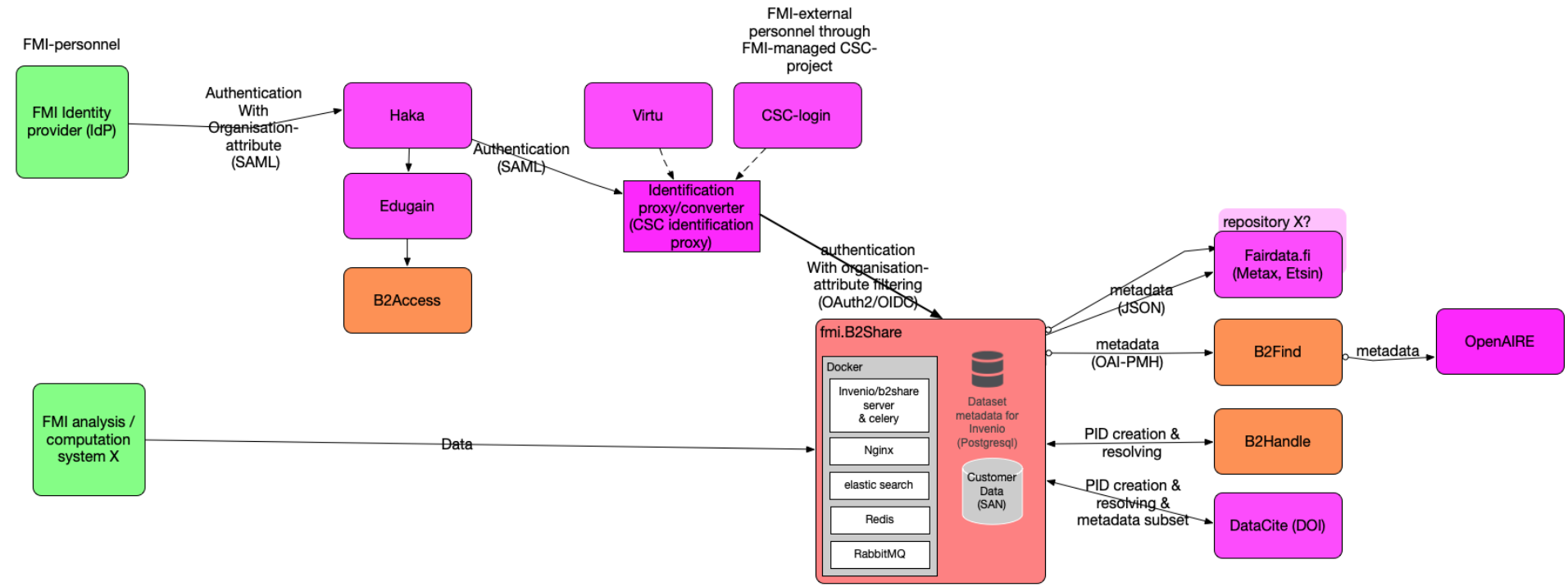
Modelling data

Remote sensing

Let there be ~~light~~ OPEN!!!



FINNISH METEOROLOGICAL INSTITUTE + EUDAT = METIS



Potential CSC Eudat-service or component	Potential customer's service or component	Potential Eudat-partner's service or component	Potential external service or component
Planned CSC Eudat-service or component	Planned customer's service or component	Planned Eudat-partner's service or component	Planned external service or component
Existing CSC Eudat-service or component	Existing customer's service or component	Existing Eudat-partner's service or component	Existing external service or component

FMI Metadata

Topic category *

Lineage

Lineage

Source data

Add Clear

Process step

Add Clear

Parameters

Depiction

Parameter name

Parameter unit

URL

Add Clear

Parameter

This subfield sets link to the description document of the parameter

Spatial coverage

Resolution

Levels

Level *

Add Clear

Measurements/Model/Experiment

Platforms

Description of platform(s) where the instruments are placed

Add Clear

Model

Supplemental information

Submit draft for publication

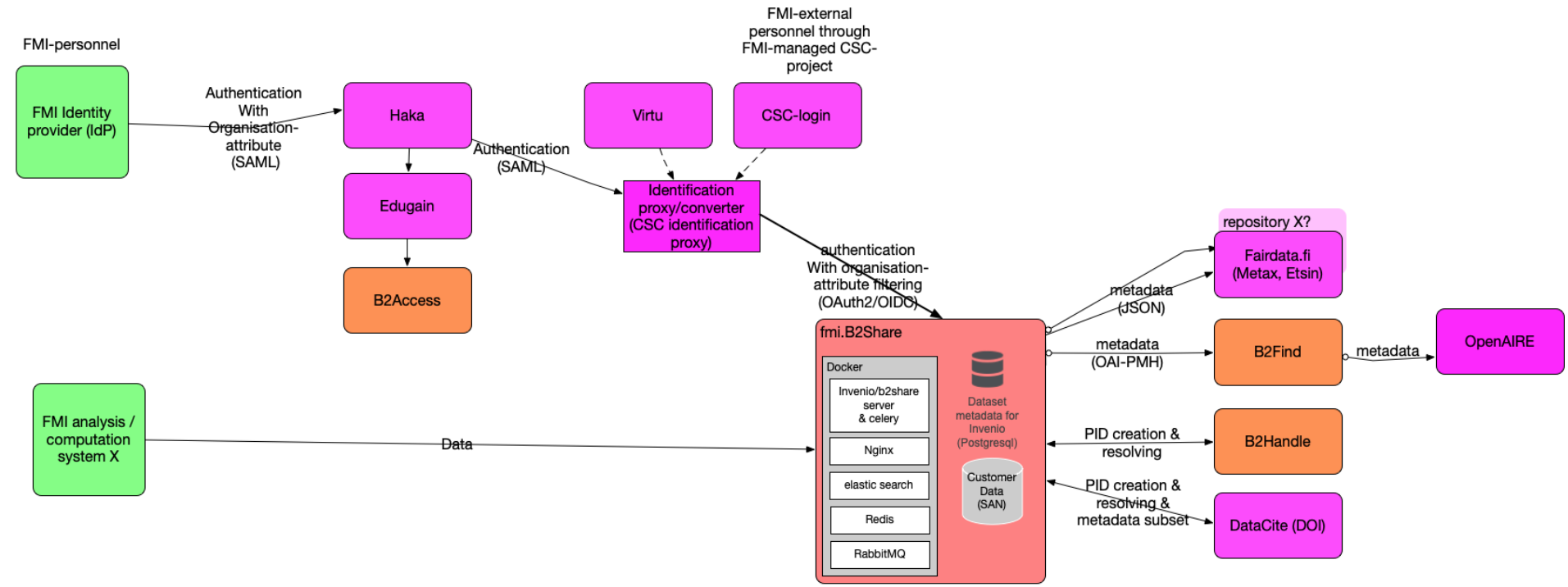
When the draft is published it will be assigned a PID and a DOI, making it publicly citable. Please note that the published record's files can no longer be modified by its owner.

This publication will get the following DOI: 10.23728/fmi-b2share.1b0289099a63472a801b1b6f79277dd5

✔ The draft is up to date

✖ Discard Changes


Editing draft version
Delete draft
Add files
Drop files here, or click to select files
Add B2DROP files
External file URLs
Add
Clear
Basic fields
Community *
FMI
FMI
Titles *
Informative title
Add
Clear
Descriptions *
Type *
Add
Clear
Creators *
Add
Clear
Open access *
True
Embargo date
License
CC-BY
Select License


FMI-personnel
FMI Identity provider (IdP)
Authentication With Organisation-attribute (SAML)
Haka
Edugain
B2Access
Authentication (SAML)
Virtu
FMI-external personnel through FMI-managed CSC-project
CSC-login
Identification proxy/converter (CSC identification proxy)
authentication With organisation-attribute filtering (OAuth2/OIDC)
repository X?
Fairdata.fi (Metax, Etsin)
metadata (JSON)
fmi.B2Share
Docker
Invenio/b2share server & celery
Nginx
elastic search
Redis
RabbitMQ
Dataset metadata for Invenio (Postgresql)
Customer Data (SAN)
metadata (OAI-PMH)
B2Find
metadata
OpenAIRE
PID creation & resolving
B2Handle
PID creation & resolving & metadata subset
DataCite (DOI)
FMI analysis / computation system X
Data
Potential CSC Eudat-service or component
Potential customer's service or component
Potential Eudat-partner's service or component
Potential external service or component
Planned CSC Eudat-service or component
Planned customer's service or component
Planned Eudat-partner's service or component
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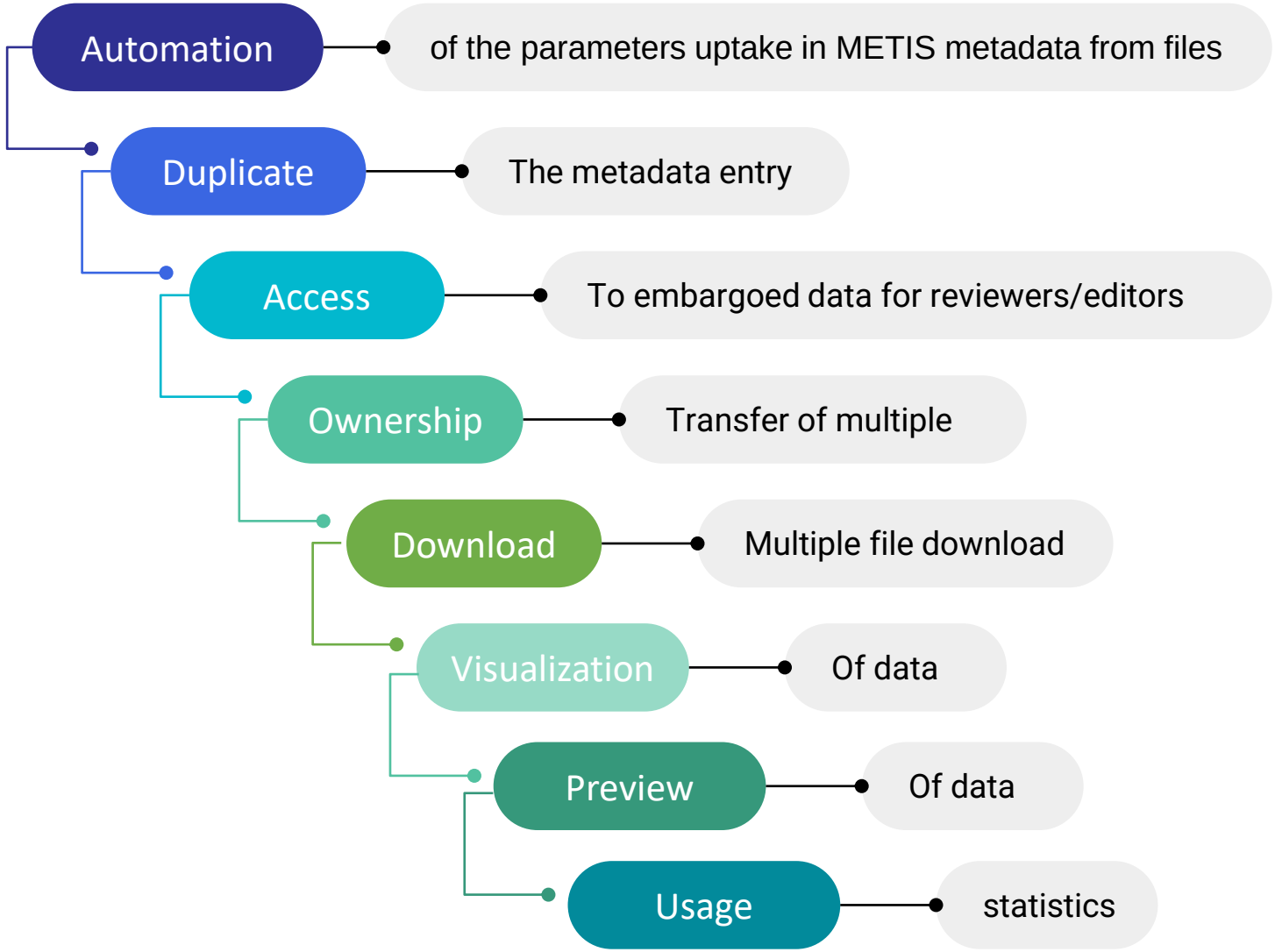
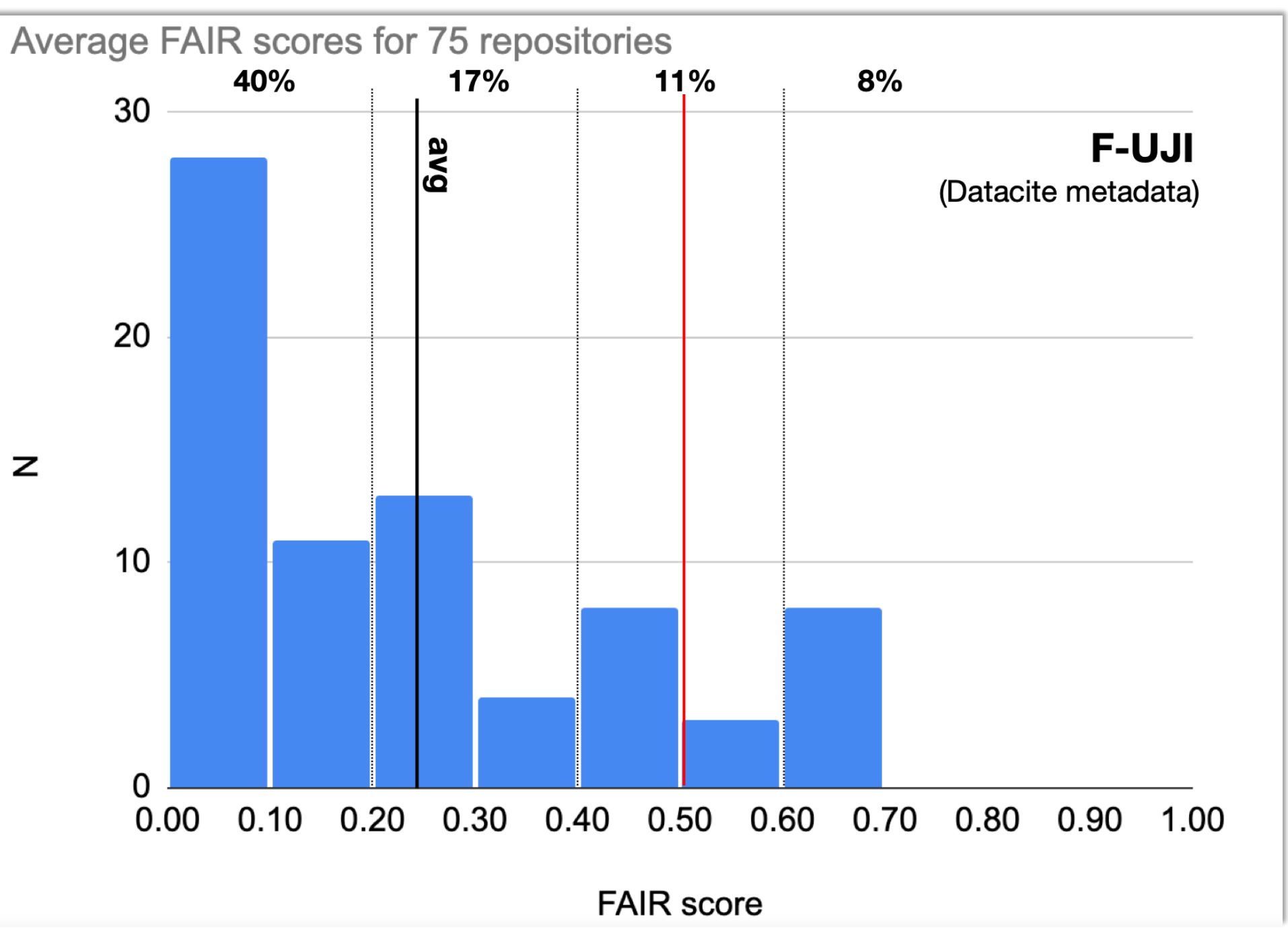
Existing customer's service or component
Existing Eudat-partner's service or component
Existing external service or component


Automation
of the parameters uptake in METIS metadata from files
Duplicate
The metadata entry
Access
To embargoed data for reviewers/editors
Ownership
Transfer of multiple
Download
Multiple file download
Visualization
Of data
Preview
Of data
Usage
statistics



A. Jaunsen EOSC-Nordic [presentation]

Abstract: Daily values of automatic weather station data from Sunderdhunga glacier valley, India, 22.09.2015-31.10.2017.

Disciplines: 3.3.2 → Earth sciences → Environmental science

Keywords: Automatic weather station, snow albedo, light-absorbing particles;

DOI: 10.23728/fmi-b2share.9b887cbe454d42b5b9dd50127b7eaf1f

PID: http://hdl.handle.net/11304/414c9a4c-493e-47a4-a186-7b2b153f1d61

The citation is not available at this moment.

Files

Name	Size
AWS2015-2017dailyvalues.csv	101.74 KB

FMI Metadata

Topic category	climatologyMeteorologyAtmosphere	
Resolution	0	
Levels	**Level**	4700

Basic metadata

Open access	True ✔	
License	CC-BY	
	License URI	http://creativecommons.org/licenses/by/4.0/
Contact email		
Publication date	March 21, 2022	
Resource type	**Type**	Dataset
Publisher	Finnish Meteorological Institute	
Languages	English	
	Identifier	eng
	Scheme	ISO-639-3
	Scheme URI	https://www.iana.org/assignments/language-subtag-registry/language-subtag-registry

by Räisänen, Petri;

Aug 4, 2022

Abstract: This dataset presents results from experiments, in which the dependence of black carbon (BC) radiative forcing on emission location and season has been systematically evaluated with the NorESM1-Happi climate model. Also provided are GrADS scripts and fortran programs employed to generate the results in the manuscript (Räisänen et al. 2022, submitted to ACP) in which these data are used. A related resource (a fortran-based tool for estimating the BC global-mean radiative forcing and associated temperature response based on the region and annual or monthly BC emission rates given by the user) is provided at https://doi.org/10.5281/zenodo.6461647 (Räisänen 2022).

REFERENCE TO THE MANUSCRIPT (please refer to the final accepted version if/when the paper will be accepted!):
Räisänen, P., Merikanto, J., Makkonen, R., Savolahti, M., Kirkevåg, A., Sand, M., Seland, Ø., and Partanen, A.-I.: Mapping the dependence of BC radiative forcing on emission location and season, Atmos. Chem. Phys. Discuss. [preprint], https://doi.org/10.5194/acp-2022-288, in review, 2022.

REFERENCE TO THE TOOL AVAILABLE AT ZENODO:
Räisänen, Petri: BC radiative forcing and climate response tool, version 1.0.0, Zenodo (code), https://doi.org/10.5281/zenodo.6461647, 2022.

Methods: NorESM1-Happi (Graff et al., https://doi.org/10.5194/esd-10-569-2019) was run at a horizontal resolution of ca. 1.9 x 2.5 deg (144 x 96 grid points) with 26 levels in the vertical. The model was run for years 2012-2017, and data is provided for 2013-2017. The experiments used prescribed sea surface temperature and sea ice. The model aerosol scheme was run in an offline mode, which means that the meteorological conditions are not influenced by the assumed aerosol emissions. This allowed for an essentially noise-free evaluation of the radiative forcing (RF) associated with changed BC emissions. To investigate how the BC RF depends on emission region and season, a very large number of experiments (960) was made, in which a fixed BC emission rate (1.E-12 kg m-2 s-1) was assumed separately for 192 regions (ca. 11.4 x 30 deg latitude-longitude boxes) and for five seasonal distributions of emissions. Evaluation of the methodology given in the manuscript showed that this approach works reasonably well for the BC direct RF and for the RF due to BC in snow, but not for the BC indirect effects on clouds. It should also be understood that NorESM1-Happi, like any climate model, is subject to model-specific biases that may influence the derived BC RF.

TableOfContents: The contents of the data files are described in the file "README_data.txt". The contents of the file containing code "fortran_programs_and_GrADS_scripts.zip" are described in "README_code.txt" as well as in README files included in the zip file.
The terms of use for the data and the code are given in the files "License_data.txt" and "License_code.txt", respectively.

Disciplines: 3.3.2 → Earth sciences → Environmental science

Keywords: black carbon, radiative forcing, climate model, NorESM, NorESM1-Happi;

DOI: 10.23728/fmi-b2share.37e9742a67b8415e8f8102a8d9757f6b
PID: http://hdl.handle.net/11304/ef36f52c-3213-4ced-a963-a98c3786808d

The citation is not available at this moment.

Files

Name	Size
ANN_experiments.zip	2.43 GB
DJF_experiments.zip	2.42 GB
emissions_2D.zip	2.60 MB
fortran_programs_and_GrADS_scripts.zip	14.77 MB
JJA_experiments.zip	2.42 GB
License_code.txt	1.44 KB
License_data.txt	441 B
MAM_experiments.zip	2.42 GB
other_experiments.zip	296.21 MB
README_code.txt	2.00 KB
README_data.txt	5.93 KB
REAL_experiment_all_data.zip	4.03 GB
SON_experiments.zip	2.42 GB

Basic metadata

Open access	True ✔
License	CC-BY
License URI	http: 4.0/
Contact email	petri.raisanen@fmi.fi
Publication date	August 4, 2022
Contributors	Merikanto, Joonas
Given name	Joor
Family name	Meri
Affiliations	Finn
Contributor type	Proj
	Makkonen, Risto
Given name	Rist
Family name	Mak
Affiliations	Finn
	Univ
Contributor type	Proj
	Savolahti, Mikko
Given name	Mikk
Family name	Savo
Affiliations	Finn
Contributor type	Proj
	Kirkevåg, Alf
Given name	Alf
Family name	Kirkevåg
Affiliations	Norwegian Meteorological Institute
Contributor type	ProjectMember
	Sand, Maria
Given name	Maria
Family name	Sand
Affiliations	CICERO Center for International Climate Research
Contributor type	ProjectMember
	Seland, Øyvind
Given name	Øyvind
Family name	Seland
Affiliations	Norwegian Meteorological Institute
Contributor type	ProjectMember
	Partanen, Antti-Ilari
Given name	Antti-Ilari
Family name	Partanen
Affiliations	Finnish Meteorological Institute
Contributor type	ProjectMember
Resource type	**Type** Dataset
Publisher	Finnish Meteorological Institute
Languages	English
Identifier	eng

Publisher	Finnish Meteorological Institute	
Languages	English	
	Identifier	eng
	Scheme	ISO-639-3
	Scheme URI	https://www.iana.org/assignments/language-subtag-registry/language-subtag-registry
Spatial coverages	**Place**	global
	Point	**Longitude** 180
		Latitude 90
	Boxes	**Westbound longitude** -180
		Eastbound longitude 180
		Northbound latitude -90
		Southbound latitude 90
Temporal coverages	**Ranges**	**Start date** Tuesday, January 1, 2013 12:00 AM
		End date Sunday, December 31, 2017 12:00 AM
Funding references	**Funder name**	European Union's Horizon 2020 research and innovation programme
	Funder name	Academy of Finland
	Funder name	Business Finland
	Funder name	Nordic Council of Ministers
	Funder name	Research Council of Norway

FMI Metadat

Topic category

Source data

Process step

Parameters

	Depiction	swabs_all
	Parameter name	Layer all-sky SW absorption (effect of BC included in both snow and air) (for 26 model layers)
	Parameter unit	W/m^2
	Depiction	swabs_nobcair
	Parameter name	Layer all-sky SW absorption (effect of BC included in snow but not in air)
	Parameter unit	W/m^2
	Depiction	emiss_bc
	Parameter name	BC emissions used as input to NorESM1-Happi
	Parameter unit	kg m-2 s-1
Resolution	13824	
Levels	**Level**	surface, top of atmosphere, or 26 hybrid vertical coordinate levels, depending on variable
	Level unit	sigma pressure levels (from toa to surface)
Model	NorESM1-Happi (Graff et al. 2019; https://doi.org/10.5194/esd-10-569-2019).	
Supplemental information	This version was created when revising the paper (4 Aug 2022), to accommodate some changes in the fortran programs and GrADS scripts used to produce the figures. Two files have been modified (fortran_programs_and_GrADS_scripts.zip, README_data.txt) and one new file added (emissions_2D.zip). CC-BY license applies to the data, MIT licence to the software.	

THE 5 STAGES OF METADATA DESPAIR

I CAN DO THIS!

Ha? Whaz that?

This is impossible!

How the heck does this work?

At least I'll never fill in metadata templates ever again!

ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

In our FMI's little world, EUDAT B2rocks!

THANK YOU!

anca.hienola@fmi.fi

Disciplines

3.3.2 → Earth sciences → Environmental science

Identifier *

3.3.2 → Earth sciences → Environmental science

Add Clear

Keywords *

Add Clear

Contact email

email@example.com

Publication date

2022/03/21

Hide details

Contributors

Contributor type *

Add Clear

Instruments

Add Clear

Resource type

Type *

Dataset

Add Clear

Alternate identifier

Type *

Add Clear

Related identifiers

Type *

Relation *

Add Clear

Version

Publisher

Finnish Meteorological Institute

Languages

English [eng]

Identifier *: eng

Add Clear

Spatial coverages

Place

Point

Longitude *

Latitude *

Boxes

Westbound longitude *

Eastbound longitude *

Northbound latitude *

Southbound latitude *

Polygons

Polygon

Longitude *

Latitude *

Add Clear

Internal point

Longitude *

Latitude *

Add Clear

Add Clear

Temporal coverages

Ranges

Start date *

End date *

The end date and time of the range covered by the resource.

Add Clear

Spans

Add Clear

Funding references

Funder name *

Add Clear