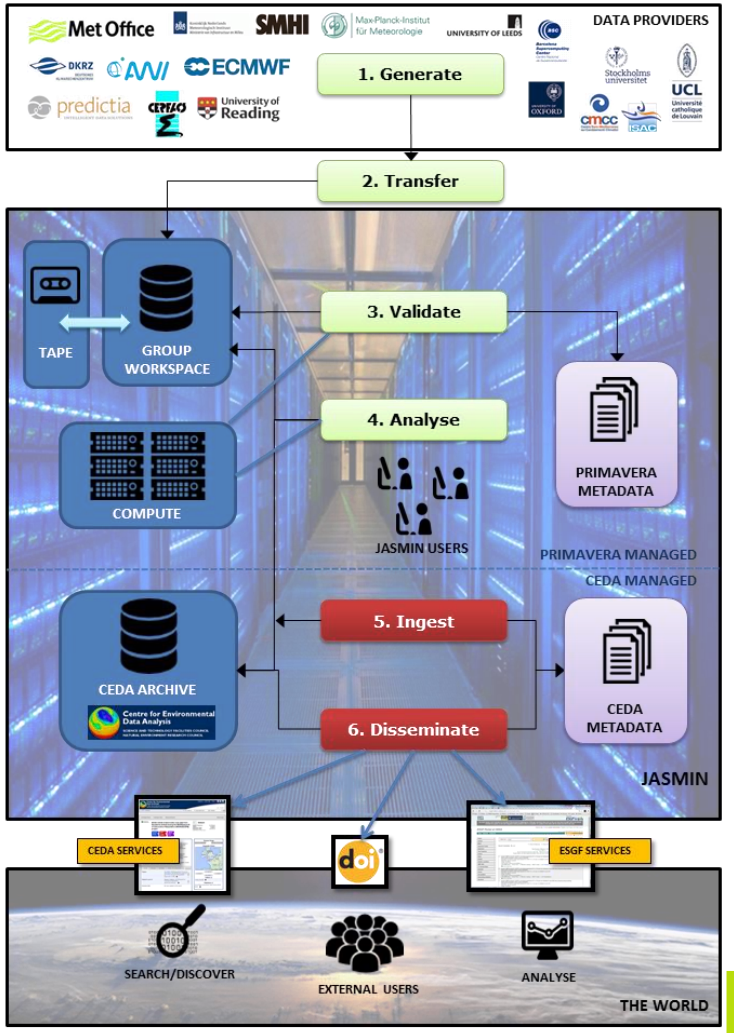
Met Office Hadley Centre

The PRIMAVERA Project

- AMIP and coupled, historic and future simulations, at standard and high resolution from 7 different models submitted to HighResMIP and the CEDA archive (/badc/cmip6 at JASMIN)

- Almost 2 PB of data required the development of the Data Management Tool (DMT)



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PRIMAVERA Data Management Tool

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The following data has been received:

Project	Institute	Climate Model	highres-future
Amon	Variant Label	rsut	Variable Name

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Project	Institute	Climate Model	Experiment	MIP Table	Variant Label	CMOR Name	Start Time	End Time	Online Status	# Data Files	# Data Issues	Tape URLs	File Versions	Data Size	Request Retrieval?
CMIP6	CMCC	CMCC-CM2-HR4	highres-future	Amon	r1i1p1f1	rsut	2015-01-01	2050-12-31	online	432	0	et:...	v20190509	86.8 MB	☐
CMIP6	CMCC	CMCC-CM2-VHR4	highres-future	Amon	r1i1p1f1	rsut	2015-01-01	2050-12-31	online	432	0	et:...	v20190509	969.0 MB	☐
CMIP6	CNRM-CERFACS	CNRM-CM6-1-HR	highres-future	Amon	r1i1p1f2	rsut	2015-01-01	2050-12-31	online	3	0	et:...	v20190920	270.7 MB	☐
CMIP6	CNRM-CERFACS	CNRM-CM6-1	highres-future	Amon	r1i1p1f2	rsut	2015-01-01	2050-12-31	online	4	0	et:...	v20190314	37.2 MB	☐
CMIP6	EC-Earth-Consortium	EC-Earth3P-HR	highres-future	Amon	r1i1p1f1	rsut	2015-01-01	2050-12-31	partial	36	1	et:...	v20190412	704.8 MB	☐
CMIP6	EC-Earth-Consortium	EC-Earth3P	highres-future	Amon	r1i1p1f1	rsut	2015-01-01	2049-12-31	offline	420	1	et:...	v20190909	260.0 MB	☐
CMIP6	MOHC	HadGEM3-GC31-HM	highres-future	Amon	r1i1p1f1	rsut	2015-01-01	2050-12-30	online	36	0	mo...	v20190301	839.4 MB	☐

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https://github.com/MetOffice/cube_helper

cube_helper

- Carrying out analysis on CMIP data can be difficult due to inconsistencies in metadata across the datasets.
- Equalising metadata with Iris requires first identifying the inconsistency.
- Iris provides a couple functions for equalising attributes and time units, but it is up to the user how and when to use these.
- cube_helper is a Python module that acts as a wrapper for many common Iris functions, including removing inconsistent attributes.

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The two scenarios show the steps needed to load an entire dataset of cubes, with the two different approaches:

With Iris:

```
import iris
from glob import glob
fnames = glob('path/to/cubes/*.nc')
cubes = iris.load(fnames)
iris.equalise_attributes(cubes)
iris.unify_time_units(cubes)
cube = cubes.concatenate_cube()
```

With cube_helper:

```
import cube_helper as ch
cube = ch.load('path/to/cubes')
```

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