

# Module 5: Data Management

EVA meeting, Bergen 8 May 2014

Ingo Bethke



# Data Storage

## Resources in EVA

- EVA depends on the national data storage facilities (NorStore)
- NorStore allocations are per calendar year
- requested storage in Tb (**without backup**):

	2014	2015	2016	2017
DISK	159	180	334	769
TAPE	334	+278	+798	+1614

- **uncertain that NorStore can meet EVA's storage demands**

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## Current availability with "dusage -p ns2345k"

```
=====
```

Project	Account	Resource	Type	Usage	Limit
NS2345K	PROJECT	norstore_osl	Disk	147TB	200TB
NS2345K	PROJECT	tapestore	Tape	130TB	334TB
NS2345K	PROJECT	norstore_osl	Files	3264780	None
NS2345K	PROJECT	tapestore	Files	8170	33400

```
-----
```

→ plan to move Earthclim legacy data to new National Data Archive

# Data Storage

How do we internally manage the resources?

- allocation per project requires discipline from users
- keep your WP leader updated on your storage needs
- communicate storage issues as follows:  
researchers → WP leaders → project leader → NorStore
- reduce **DISK** storage where possible:  
1) consciously select output parameters, 2) use compression,  
3) migrate data to tape, 4) delete obsolete data

# Data Storage

How do we internally manage the resources?

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- reduce **DISK** storage where possible:
  - 1) consciously select output parameters,
  - 2) use compression,
  - 3) migrate data to tape,
  - 4) delete obsolete data

Tape and compression guides

<http://wiki.met.no/noesm/norstoretape>

<http://wiki.met.no/noesm/noesm2nc4mpi>

# Data Services

**Bjerknes Centre**  
for Climate Research

Home : [Research](#) : [Projects](#) : [EVA](#) : [Data](#) :

## Data Services

### Data Portal



(click on image)

### Data Overview

List of model runs by NoESM

Parameter	Simulation	Contact	Start	End	Keywords	Notes (click for additional info)	Project
atmos	AMIP	AMIP	2007	2010	AMIP		AMIP
atmos	AMIP	AMIP	2007	2010	AMIP		AMIP
atmos	AMIP	AMIP	2007	2010	AMIP		AMIP
atmos	AMIP	AMIP	2007	2010	AMIP		AMIP
atmos	AMIP	AMIP	2007	2010	AMIP		AMIP
atmos	AMIP	AMIP	2007	2010	AMIP		AMIP
atmos	AMIP	AMIP	2007	2010	AMIP		AMIP
atmos	AMIP	AMIP	2007	2010	AMIP		AMIP
atmos	AMIP	AMIP	2007	2010	AMIP		AMIP
atmos	AMIP	AMIP	2007	2010	AMIP		AMIP

(click on image)

### Simulation Diagnostics

Model	Variable	Resolution	Start	End	Project
AMIP	AMIP	AMIP	2007	2010	AMIP
AMIP	AMIP	AMIP	2007	2010	AMIP
AMIP	AMIP	AMIP	2007	2010	AMIP
AMIP	AMIP	AMIP	2007	2010	AMIP
AMIP	AMIP	AMIP	2007	2010	AMIP
AMIP	AMIP	AMIP	2007	2010	AMIP
AMIP	AMIP	AMIP	2007	2010	AMIP
AMIP	AMIP	AMIP	2007	2010	AMIP
AMIP	AMIP	AMIP	2007	2010	AMIP
AMIP	AMIP	AMIP	2007	2010	AMIP

(click on image)

### Contact

[noresm-ncc@met.no](mailto:noresm-ncc@met.no)

or

[eva@uib.no](mailto:eva@uib.no)



UiO : University of Oslo

Meteorologisk institutt

**CICERO**  
Senter for klimaforskning

**NILU**

[Printable version](#)

[E-mail this to a friend](#)

EVA homepage: <http://www.bjerknes.uib.no/pages.asp?kat=192&lang=2>

# Data Services

Data Portal <http://noesg.norstore.no>



Home Search Tools Login Help

#### Current Selections

- [remove all](#)
- [\(x\) project:CMIP5](#)
- [\(x\) model:NorESM1-M](#)


 Search

Examples: *temperature*, *"surface temperature"*, *climate AND project:CMIP5 AND variable:hus*.  
To download data: add datasets to your Data Cart, then click on *Expand* or *wget*.

[Temporal Search](#)  
[Geospatial Search](#)  
[Clear search constraints and datacart](#)  
[Search Help](#)  
[Search Controlled Vocabulary](#)

#### Search Categories

Project

Institute

Model

Instrument

Experiment Family

Experiment

Time Frequency

Product

Realm

Search All Sites  Show All Replicas  Show All Versions

< 1 > displaying 1 to 414 of 414 search results

Display  datasets per page

[Add All Displayed to Datacart](#)

[Remove All Displayed from Datacart](#)

Results

Data Cart

`project=CMIP5, model=NorESM1-M, Norwegian Climate Centre (NCC), experiment=1_percent_per_year CO2, time_frequency=3hr, modeling_realm=atmos, ensemble=r1i1p1, version=20110901`  
 Data Node: [noesg.norstore.uio.no](http://noesg.norstore.uio.no)

**Version: 20110901**

Description: NorESM1-M model output prepared for CMIP5 1 percent per year CO2

Further options: [Add To Cart](#) [Model Metadata](#)

# Data Services

## Data Overview (Alf G.) <http://wiki.met.no/noresm/listofruns>

### List of model runs by NorESM

Table of Contents

#### Performed runs

Edit

- List of model runs by NorESM
- Performed runs
- Codes used in tables

Purpose	Simulation type	Contact	Disk (space)	Ensemble	Name (click for additional info)	Project
SO2 time evolution	C, 20thC	<a href="#">OS</a>	norstore	Y	1850SOx	PEGASOS
CMIP	C, 20thC	<a href="#">OS</a>	norstore	Y	<a href="#">N20TRAERCN_X</a> (3 simulations X)	CMIP5
Aerosols & radiative forcing	AMIP, PD&PI yrs (7)	AK	norstore (289 G) AeroCom disk	N	<a href="#">aerocomA2noresm_r128_X</a> (7 simulations X)	EarthClim/AeroCom
Arctic aerosol optics	AMIP, (3 yrs)	PD	norstore (9 G)	N	<a href="#">NF2006to2008r164</a>	EarthClim/ACCESS

## Diagnostics (Detelina I.) <http://noresg.norstore.no/public>

Project EVA						
Fully Coupled Runs						
Name	Model	Description (click for details)	Diagnostics	Contact	Publications	
<a href="#">N1850_f19_tn11_01_default</a>	NorESM	<a href="#">AMOC sensitivity to isopycnal mixing</a>	<a href="#">N1850_f19_tn11_01_default-Obs, 1-200y:</a> <a href="#">Atm</a> <a href="#">Ocn</a> <a href="#">Ice</a> <a href="#">Lnd</a>	<a href="#">Detelina</a> <a href="#">Ivanova</a>		
<a href="#">N1850_f19_tn11_01_E12</a>	NorESM	<a href="#">AMOC sensitivity to isopycnal mixing</a>	<a href="#">N1850_f19_tn11_01_E12-Obs, 1-200y:</a> <a href="#">Atm</a> <a href="#">Ocn</a> <a href="#">Ice</a> <a href="#">Lnd</a> <a href="#">N1850_f19_tn11_01_E12-default, 1-200y:</a> <a href="#">Atm</a> <a href="#">Ocn</a> <a href="#">Ice</a> <a href="#">Lnd</a>	<a href="#">Detelina</a> <a href="#">Ivanova</a>		
<b>MyExp</b>	MyModel	<a href="#">MyExp Short Description (ReadME with details linked)</a>	Type, Period: <a href="#">Atm</a> <a href="#">Ocn</a> <a href="#">Ice</a> <a href="#">Lnd</a>	MyEmail		



# Data Sharing

Norstore project area

- access limited to members of Earthclim/Eva

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## ESG data portal – standard publication

- default option for model intercomparison projects (e.g., CMIP)
  - strict requirements on post-processing and publishing format
- data duplication, requires time and human resources
- contact: [alfg@met.no](mailto:alfg@met.no) (Oslo), [ingo.bethke@uni.no](mailto:ingo.bethke@uni.no) (Bergen)

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## ESG data portal – simplified publication

- data published "as is" with help of single command (~5 min)
- no need for post-processing → no data duplication
- no access control, i.e., all data freely downloadable
- "unlisted" option = data downloadable but not exposed on portal

## ESG data portal – simplified publication

**Step 1:** choose data folder or file that you want to share and find an acronym for the dataset

Example for data folder: `/projects/NS2345K/noresm/thredds/CORE2/ARCTIC`

Example for dataset id: `CORE2-ARCTIC`

# ESG data portal – simplified publication

**Step 1:** choose data folder or file that you want to share and find an acronym for the dataset

Example for data folder: `/projects/NS2345K/noresm/thredds/CORE2/ARCTIC`

Example for dataset id: `CORE2-ARCTIC`

**Step 2:** run publisher script

Syntax: `esgpublish <path to data> <dataset id> [unlisted]`

Example: `esgpublish /projects/NS2345K/.../CORE2/ARCTIC CORE2-ARCTIC`

## ESG data portal – simplified publication

**Access option 1:** Use wget-script from `http://noesg.norstore.no/thredds/fileServer/esg_dataroot/ns2345k/CORE2-AMOC/wget_CORE2-AMOC.sh`

# ESG data portal – simplified publication

**Access option 1:** Use wget-script from [http://noesg.norstore.no/thredds/fileServer/esg\\_dataroot/ns2345k/CORE2-AMOC/wget\\_CORE2-AMOC.sh](http://noesg.norstore.no/thredds/fileServer/esg_dataroot/ns2345k/CORE2-AMOC/wget_CORE2-AMOC.sh)

**Access option 2:** Visit portal page <http://noesg.norstore.no> and search for dataset with project-id=noesg-ns2345k and dataset-id=CORE2-ARCTIC

The screenshot shows the ESG data portal search results page. On the left is a sidebar with 'Current Selections' showing 'noesg-ns2345k' and a 'Search Categories' menu with options like Project, Instrument, and Variable. The main content area includes a search bar, a 'Search' button, and a list of search results. The first result is 'CORE2-ARCTIC.v20140425|noesg.norstore.uio.no' with a total of 30 files. The page also features navigation links like 'Temporal Search' and 'Geospatial Search' on the right, and a 'Data Cart' section at the bottom.

**Current Selections**

- [\(x\) project:noesg-ns2345k](#)

**Search Categories**

- Project
- Institute
- Model
- Instrument
- Experiment Family
- Experiment
- Time Frequency
- Product
- Realm
- Variable
- Variable Long Name
- CMIP Table
- CF Standard Name
- Ensemble

Search:  [Search](#)

Examples: temperature, "surface temperature", climate AND project:CMIP5 AND variable:hus.

To download data: add datasets to your Data Cart, then click on *Expand* or *wget*.

Search All Sites  Show All Replicas  Show All Versions

< 1 > displaying 1 to 3 of 3 search results

Display  datasets per page

[Add All Displayed to Datacart](#) [Remove All Displayed from Datacart](#)

**Results** **Data Cart**

Show all  Filter over text

[Globus Online All Selected](#) [WGET All Selected](#) [Remove All](#)

CORE2-ARCTIC.v20140425|noesg.norstore.uio.no  
(Total Number of Files for All Variables: 30) [Show Files](#) | [WGET](#) | [Remove](#)


[Temporal Search](#)  
[Geospatial Search](#)  
[Clear search constraints and datacart](#)  
[Search Help](#)  
[Controlled Vocabulary](#)

# ESG data portal – simplified publication

## Access option 3: Browse dataset catalogue on thredds server

<http://noresg.norstore.no/thredds/esgcat/3/CORE2-AMOC.v20140505.html>

Catalogue <http://noresg.norstore.no/thredds/esgcat/3/CORE2-AMOC.v20140505.html>

Dataset	Size
 CORE2-AMOC	
<a href="#">NOIIA_T62_tn11_sr10m60d_01_cice.March.241-300.hi.nc</a>	38.71 Mbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_mid0030_march_241-300.nc</a>	39.26 Mbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_spp_heat_content_241-300.nc</a>	1.104 Kbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_atlantic_wonamean_timemean_281-300.nc</a>	142.1 Kbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_atlantic_meridional_heat_flux_annual_241-300.nc</a>	42.08 Kbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_bering_strait_transport_annual_241-300.nc</a>	1.044 Kbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_micom.hy.241-300.Atlantic.mflx.nc</a>	90.60 Kbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_ast_annual_241-300.nc</a>	39.26 Mbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_cice_september_241-300.nc</a>	39.26 Mbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_gyreindexes_241-300.nc</a>	2.004 Kbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_micom.hy.1-300.Atlantic.mmflxd.nc</a>	27.92 Mbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_micom.hy.297-300.Atlantic.mmflxd.nc</a>	4.932 Kbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_micom.hy.1-300.Atlantic.mmflx1.nc</a>	21.15 Mbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_barotropic_streamfunction_annual_241-300.nc</a>	45.34 Mbytes
<a href="#">wget_CORE2-AMOC.sh</a>	2.769 Kbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_mid0125_march_241-300.nc</a>	39.26 Mbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_depthmean_0-700_timemean_281-300.nc</a>	8.849 Kbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_atlantic_meridional_salt_flux_annual_241-300.nc</a>	42.09 Kbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_micom.hy.297-300.Atlantic.mmflx1.nc</a>	4.704 Kbytes
<a href="#">NOIIA_T62_tn11_sr10m60d_01_micom.hy.241-300.Atlantic.mhflx.nc</a>	90.59 Kbytes

Initial TDS Installation at My Group  
THREDDS Data Server (Version 4.2.10 - 20120417.2151) Documentation

guide at <http://wiki.met.no/noresm/norstoreesg>