IS-ENES services on ESMs, models and tools: benefits and limitations

S. Valcke, CERFACS

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SMHI:	**EC-Earth** (R. Doescher, U. Fladrich)	
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MetO**:**	**HadGEM2** (J. Teixeira)	
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- Summary of services offered
- How to evaluate these services
- Benefits and limitations

Summary of services offered

Level 1 services on all European Earth System Models used in CMIP5

- ❖ Maintain and extend the model documentation: All CIM links for all ESMs are effective!
- ❖ Identify a contact person for each ESM : All contacts are updated and reactive!

Level 2 services on EC-Earth and Met Office UM climate models

Level 1 services +

- ❖ wiki, forums, source management, info on compiling and runtime environment
- ❖ in-person expertise to help to set-up, run, make diagnostics for the ESM

Example for EC-Earth

- 2 versions released (3.2.0 & 3.2.1)
- 42 new users registered (213 in total)
- 95 new issues reported - 28 issues closed
- 33 new or updated wiki pages
- 182 forum messages posted

Example for Met Office climate models

- HadGEM3 installation support
- UKESM porting and installation on associated systems
- UM User Workshop (150 attendees in 2016)
- UM User Tutorial (17 part. from 9 organisations in 2016)
- Bespoke on-site training for
  - Korean Meteorological Administration (30 part. in 2016)
  - South Korea Nat. Instit. of Met. Sciences (25 part. in 2016)
  - Nat. Centre for Medium Range Weather Forecasting (India, 45 participants In 2016)

Services on NEMO ocean model component (CNRS-IPSL)

❖ help to the community to build and share expertise on CMIP6 configurations

- set up shaconemo forge project to share expertise through wiki pages and tickets
- organised regular workshops for groups to share their experience (3 during the last year)

Services on OASIS (CNRS-IPSL, CERFACS)

❖ Free download of the software, documentation, tutorial, FAQs, forums
❖ User support through mail exchange
❖ Expert direct user support for use on specific platforms and configurations
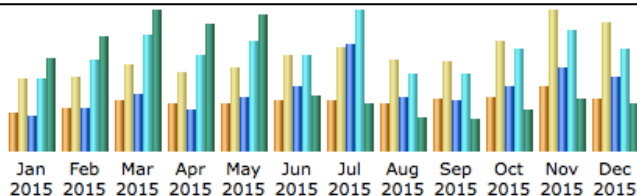
Services on CDO (MPI-M)

❖ Helpdesk and webserver, up-to-date documentation, FAQ, help form
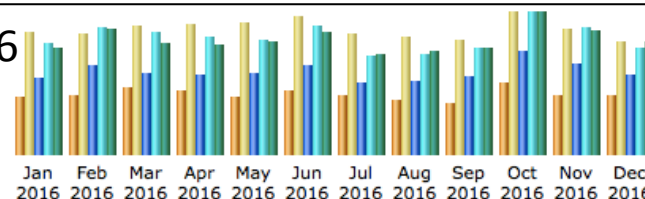
How to evaluate these services?

For services on models: statistics on hits for the ESM pages on ENES portal

2015

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2015	569	1,056	1,828	3,841	405.00 MB
Feb 2015	628	1,081	2,256	4,760	500.70 MB
Mar 2015	742	1,261	2,990	6,076	613.93 MB
Apr 2015	694	1,159	2,170	4,989	557.11 MB
May 2015	703	1,234	2,810	5,788	593.73 MB
Jun 2015	743	1,398	3,366	5,016	239.33 MB
Jul 2015	743	1,514	5,610	7,360	210.18 MB
Aug 2015	692	1,342	2,781	4,054	148.98 MB
Sep 2015	768	1,316	2,655	4,056	140.32 MB
Oct 2015	786	1,610	3,433	5,320	182.92 MB
Nov 2015	945	2,062	4,339	6,338	231.71 MB
Dec 2015	770	1,901	3,856	5,351	207.96 MB
Total	8,783	16,934	38,094	62,949	3.94 GB

2016

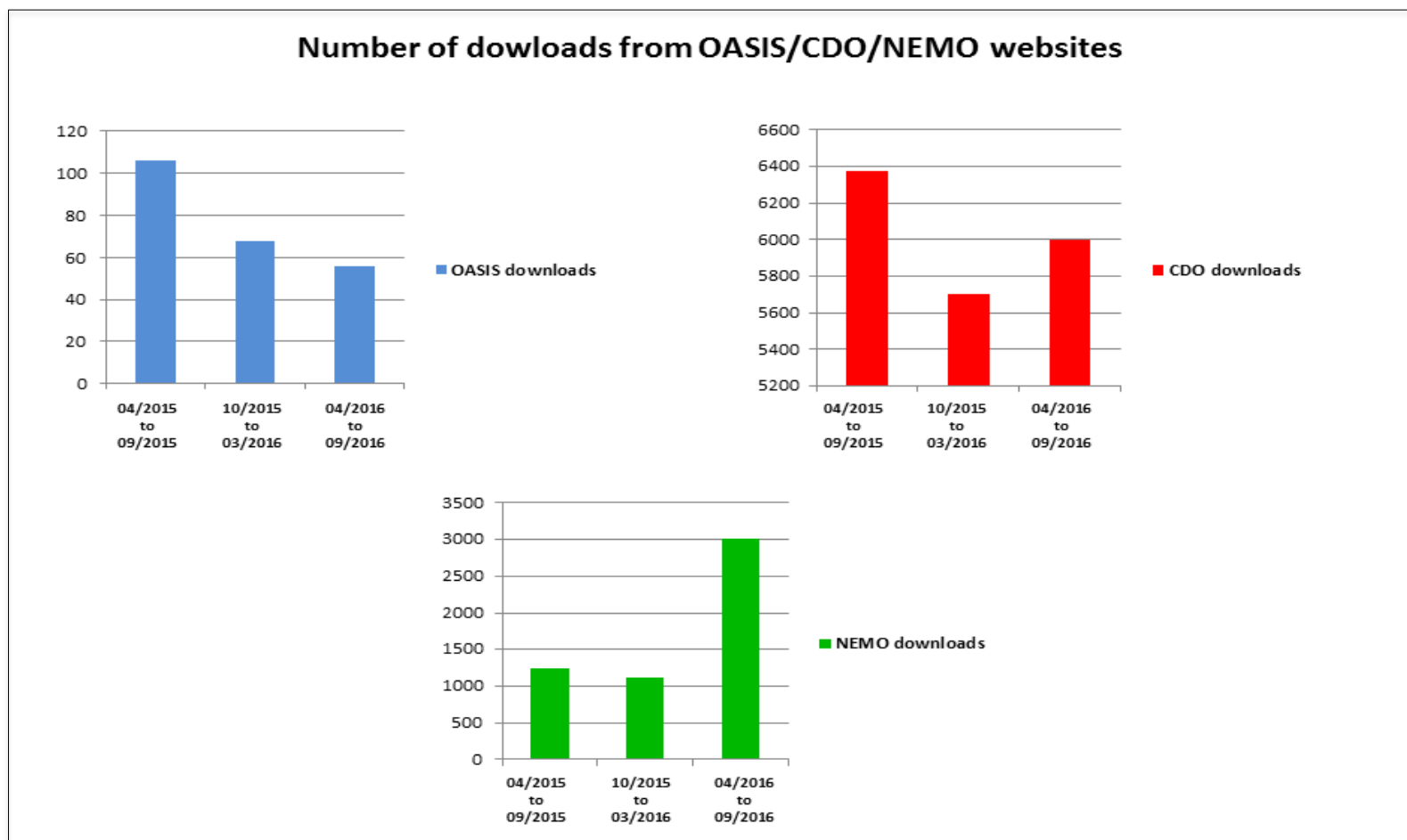| Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2016	1,040	2,182	4,359	6,262	233.47 MB
Feb 2016	1,069	2,178	5,067	7,172	273.55 MB
Mar 2016	1,191	2,300	4,562	6,893	241.72 MB
Apr 2016	1,134	2,332	4,471	6,650	240.58 MB
May 2016	1,033	2,377	4,550	6,495	246.04 MB
Jun 2016	1,158	2,474	5,069	7,282	267.43 MB
Jul 2016	1,057	2,155	4,018	5,564	218.51 MB
Aug 2016	963	2,099	4,138	5,695	227.47 MB
Sep 2016	916	2,052	4,386	6,033	234.47 MB
Oct 2016	1,276	2,549	5,814	8,015	310.69 MB
Nov 2016	1,067	2,263	5,078	7,186	270.89 MB
Dec 2016	1,074	2,026	4,467	5,978	247.24 MB
Total	12,978	26,987	55,979	79,225	2.94 GB

⇒ Clear increase of accesses in 2016 compared to 2015:
- number of unique visitors: from 8783 to 12978 (+48%)
- number of visits: from 16934 to 26987 (+59%)

⇒ Confirms that the portal is found to be useful by users (?)

How to evaluate these services?

For services on tools: KPIs for NEMO, OASIS and CDO for 6-month periods

– Number of downloads, discussions and mails exchanged, tickets opened/closed

Number of dowloads from OASIS/CDO/NEMO websites

⇒ Hard to interpret over the (too-short) project period

How to evaluate these services?

For services on models and tools: 2nd review report by Dr Kamal Puri (BOM, Au)

> MS7.6 Second review report on the ENES Earth System Model Resources

- ✓ All the points/issues raised in the first review have been addressed:
  - all the links now work
  - contacts listed for the ESMs are current
  - all contacts approached for the second review responded
  - the major point about the visibility of IS-ENES2 is being followed up

- ✓ ENES portal provides useful access to various publications, presentations and documents:
  - European models providing Level 1 and Level 2 services to users
  - NEMO site with reference manual, NEMO components, list of the projects, …
  - OASIS site with User Guide, training sessions and tutorials, list of the projects, …
  - Welcome new addition on Cylc

Recommendations:

- For the ENES portal, reduce the number of steps to get to a desired page !

- **Increase the visibility of IS-ENES2 among potential European users**. The **number of users** that **contacted the service** providers directly through the IS-ENES2 portal (around 10) is rather **low**.
  - have a session at EGU or a similar dedicated to showcasing IS-ENES2
  - write an article about IS-ENES2 in a reputable journal (e.g. BAMS) ;
  - further develop the IS-ENES2 newsletter to increase the visibility of the project.

Benefits

- Advanced services on tools and component models (NEMO, OASIS, CDO) are clearly useful and effective
- Level 2 services on ESMs are also clearly useful and effective

Limitations

- Level1 sevices on ESMs (description of all EU ESMs with CIM documentation and contact) provides useful information but are:
    - difficult to maintain (e.g. update with CMIP6 models is needed)
    - underused (as stressed by the review), even if the statistics on hits show that there is progress
- Level1 sevices on ESMs could work better if:
    - **ESMs developers** would feel **ownership of their group page** on the ENES portal
    - **Visibility of ENES portal** would be increased (cf the review recommendation)

How to deal with this given the end of the IS-ENES2 project ???