



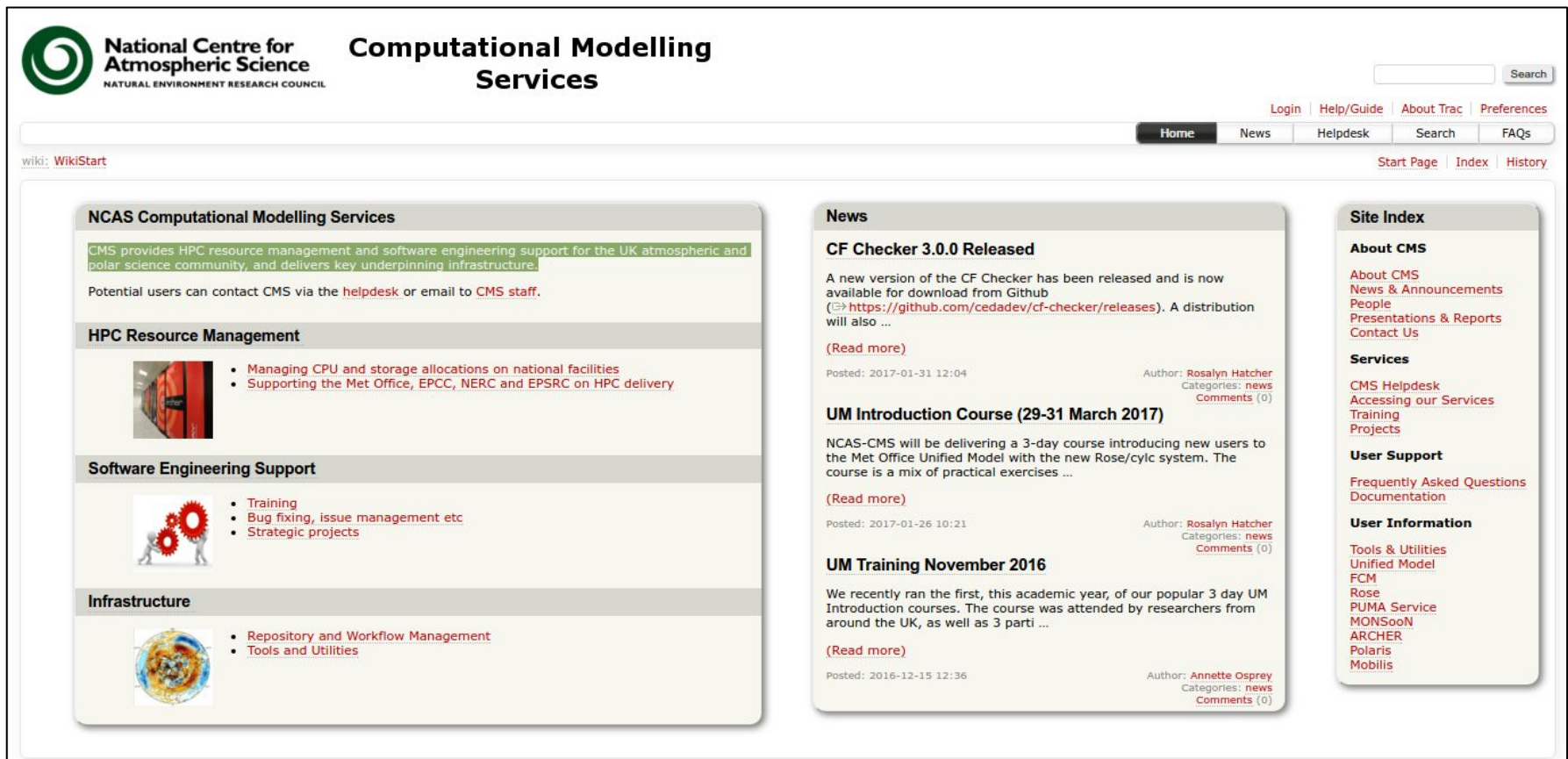
# NCAS Computational Modelling Services

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Osprey, Charles Roberts, Simon Wilson, Bryan Lawrence

ARCHER Champions, Leeds, 10 February 2017

CMS provides **HPC resource management** and **software engineering support** for the UK atmospheric and polar science community, and delivers key underpinning **infrastructure**.

[cms.ncas.ac.uk](https://cms.ncas.ac.uk)



The screenshot shows the homepage of the NCAS-CMS website. The header includes the NCAS logo and the text 'National Centre for Atmospheric Science' and 'Computational Modelling Services'. A search bar is located in the top right. Below the header is a navigation menu with links for 'Home', 'News', 'Helpdesk', 'Search', and 'FAQs'. There are also links for 'Login', 'Help/Guide', 'About Trac', and 'Preferences'. A 'wiki: WikiStart' link is visible on the left.

The main content area is divided into three columns:

- Left Column:**
  - NCAS Computational Modelling Services:** A summary paragraph followed by contact information: 'Potential users can contact CMS via the [helpdesk](#) or email to [CMS staff](#).'
  - HPC Resource Management:** Includes an image of server racks and a list:
    - Managing CPU and storage allocations on national facilities
    - Supporting the Met Office, EPCC, NERC and EPSRC on HPC delivery
  - Software Engineering Support:** Includes an image of interlocking gears and a list:
    - Training
    - Bug fixing, issue management etc
    - Strategic projects
  - Infrastructure:** Includes an image of a globe and a list:
    - Repository and Workflow Management
    - Tools and Utilities
- Middle Column (News):**
  - CF Checker 3.0.0 Released:** A new version of the CF Checker has been released and is now available for download from Github (<https://github.com/cedadev/cf-checker/releases>). A distribution will also ... (Read more)
    - Posted: 2017-01-31 12:04
    - Author: Rosalyn Hatcher
    - Categories: news
    - Comments (0)
  - UM Introduction Course (29-31 March 2017):** NCAS-CMS will be delivering a 3-day course introducing new users to the Met Office Unified Model with the new Rose/cylc system. The course is a mix of practical exercises ... (Read more)
    - Posted: 2017-01-26 10:21
    - Author: Rosalyn Hatcher
    - Categories: news
    - Comments (0)
  - UM Training November 2016:** We recently ran the first, this academic year, of our popular 3 day UM Introduction courses. The course was attended by researchers from around the UK, as well as 3 parti ... (Read more)
    - Posted: 2016-12-15 12:36
    - Author: Annette Osprey
    - Categories: news
    - Comments (0)
- Right Column (Site Index):**
  - About CMS:**
    - About CMS
    - News & Announcements
    - People
    - Presentations & Reports
    - Contact Us
  - Services:**
    - CMS Helpdesk
    - Accessing our Services
    - Training
    - Projects
  - User Support:**
    - Frequently Asked Questions
    - Documentation
  - User Information:**
    - Tools & Utilities
    - Unified Model
    - FCM
    - Rose
    - PUMA Service
    - MONSooN
    - ARCHER
    - Polaris
    - Mobilis

## Machines & infrastructure:

- Access to & resource management for ARCHER (n02).
- Support for the Met Office weather/climate **Unified Model** & associated software on:
  - National HPC service (ARCHER)
  - Met Office/NERC collaboration HPC service (MONSooN)
- A common platform (PUMA) for UM submission to:
  - ARCHER, MONSooN(?)
  - local/regional computing facilities (e.g. Polaris, Mobilis, HPC Wales, University of Edinburgh).

## User support:

- UM training (2-3 courses a year)
- Modelling helpdesk
- Documentation

## Strategic projects:

- Development and support for visualisation and analysis tools (xconv, xancil, cf-python, cf-plot, cf-view).
- UM developments (e.g. UM-netCDF, post-processing)
- Computational science support for funded projects (e.g. High resolution modelling, UKESM, SWAMMA, VERA, ParaCon)

## Currently recruiting for UKESM team:

<https://jobs.reading.ac.uk/displayjob.aspx?jobid=402>



CMS manages the n02 consortium:

- Around 400 users and 130 groups
- Weather & climate modelling codes:
  - UM, NEMO, WRF, OASIS, MITgcm, CESM
- 2.7BAU resource request for 2016-17

Data usage:

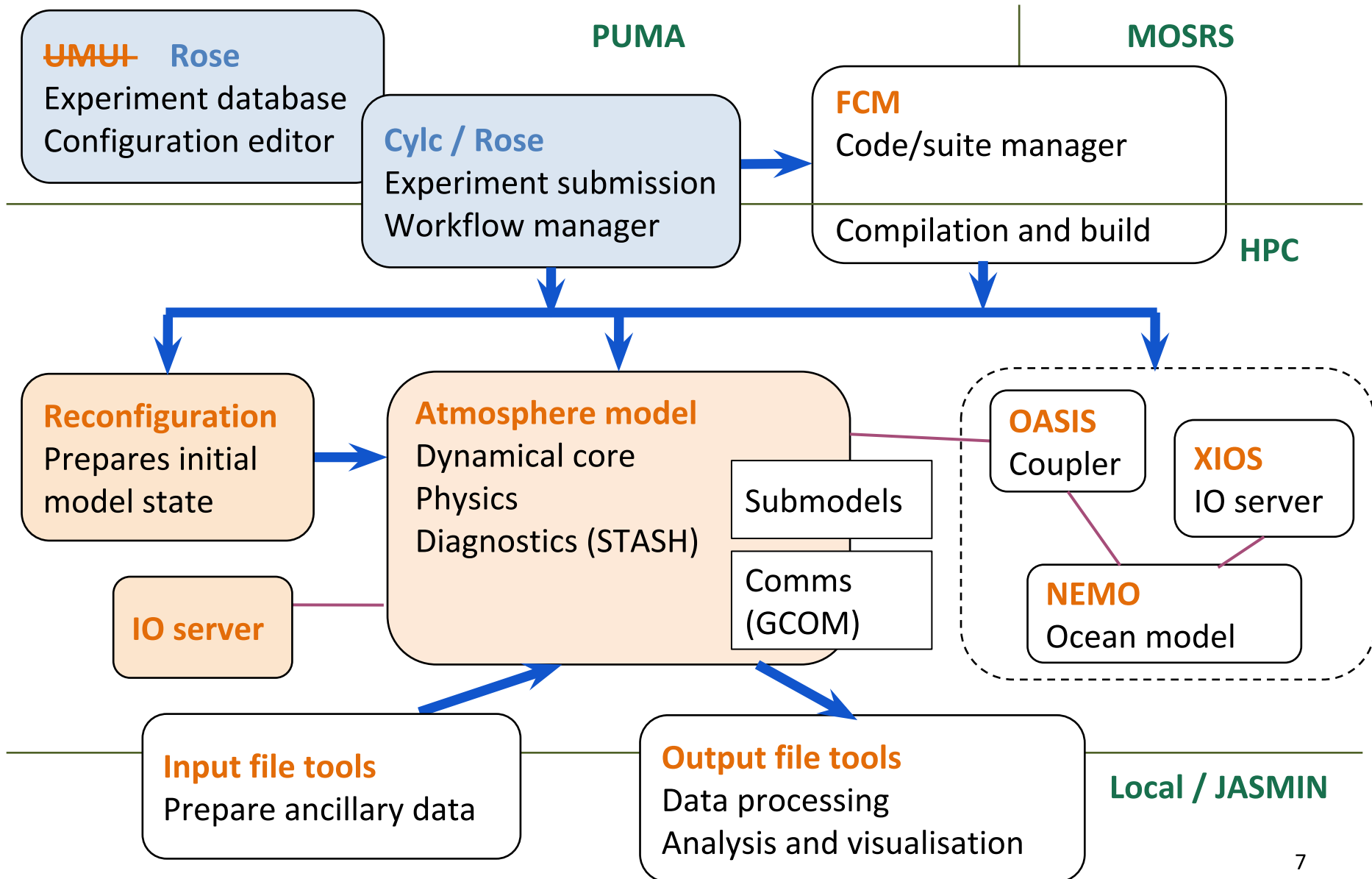
- 4.5PB of data on the Research Data Facility
- Heavy post-processing node use
- JASMIN VM running on the Data Analytic Cluster



CMS maintains the **umshared** package account for UM users (in n02 and n01):

- UM installations (approx 3 per year)
- Supporting software (code management system, experiment & workflow management system, communications & coupling library, IO library).
- Tools & utilities (CMS & Met Office developed) for handling UM format data
- Standard input datasets

# Unified Model software



# UM submission workflow

