National Centre for Atmospheric Science
NATURAL ENVIRONMENT RESEARCH COUNCIL

Computational Modelling Services Help Desk 2017 Statistics

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CMS Help Desk

- This provides NERC scientists ready access to help and advice on running the UM and associated tools, obtaining data, and access to ARCHER and other computers
- Accessible once you have registered for PUMA
- It can be found at http://cms.ncas.ac.uk/wiki/CmsHelpdesk
- It builds and provides a searchable database of solutions to common problems – a FAQ
- So how did we do in 2017?

CMS Help Desk Work Load

- 2017 was our second busiest year in terms of tickets (Figure 1).
- These covered UM 4.5 – 8.6, and 10.1 – 10.9 (Figure 2) and arrived from 17 different institutions.
- Although Reading is the largest institution (Figure 3), it presented an average number of tickets per person (Figure 4).
- In March 2017, the Met Office computer Monsoon was upgraded and became XCS. CMS took on the management of the NEXCS portion of Monsoon.

Response

- 304 tickets resulted in about 1600 responses.
- 85% of tickets are answered within 5 days and closed within 50 days (Figures 5,6)
- Tickets are left to ‘cool’ for three weeks after last response before closing
- Some tickets are very complex and can take many months to resolve (Figures 7,8) – see the GC3.1 coupled performance opposite
- At the end of the year, 19 tickets remained open and 5 were as yet unanswered.

Acknowledgements

The team members doing the real work in achieving these results were:
Rosalyn Hatcher, Annette Osprey, Valeriu Predoi, Charles Roberts, Patrick McGuire, Andy Heaps, Jeff Cole, David Hassell, Grenville Lister,[1] Luke Abraham[2], Marc Stringer[3]

[1] University of Reading, [2] University of Cambridge, [3] Met Office, Exeter

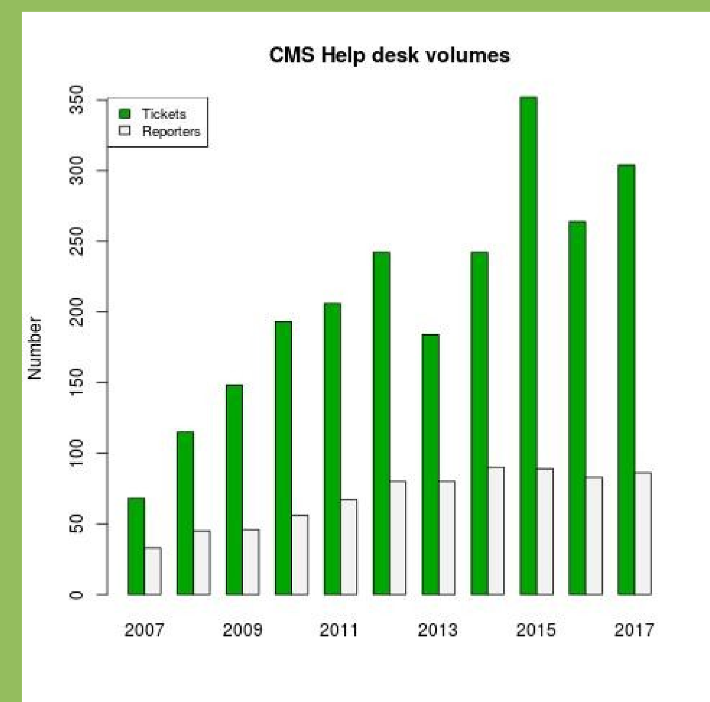

Figure 1: Growth in the number of tickets and reporters

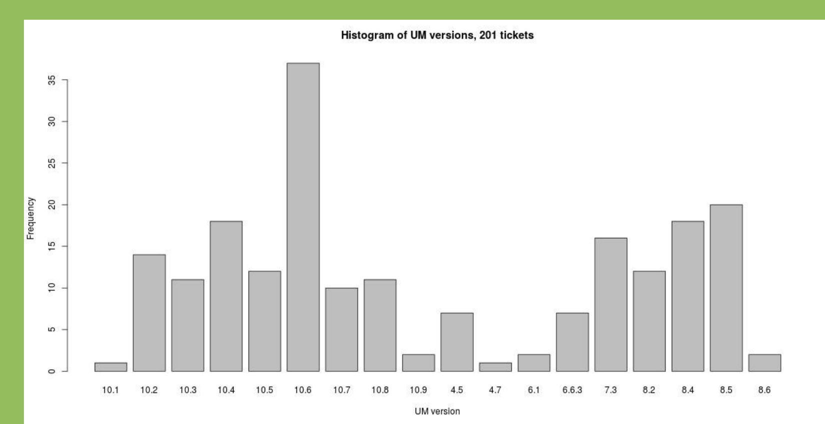

Figure 2: Frequency of UM versions in tickets, showing the dominance of Rose/Cylc (UM ≥ 10) over the UMUI

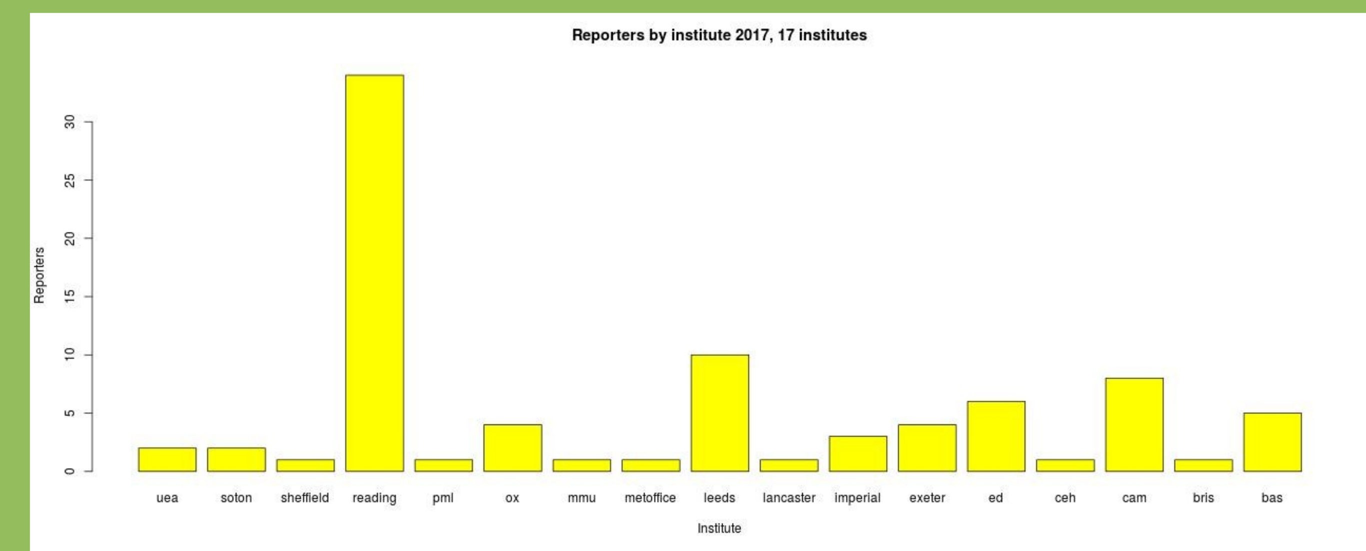

Figure 3: Number of reporters at each institute

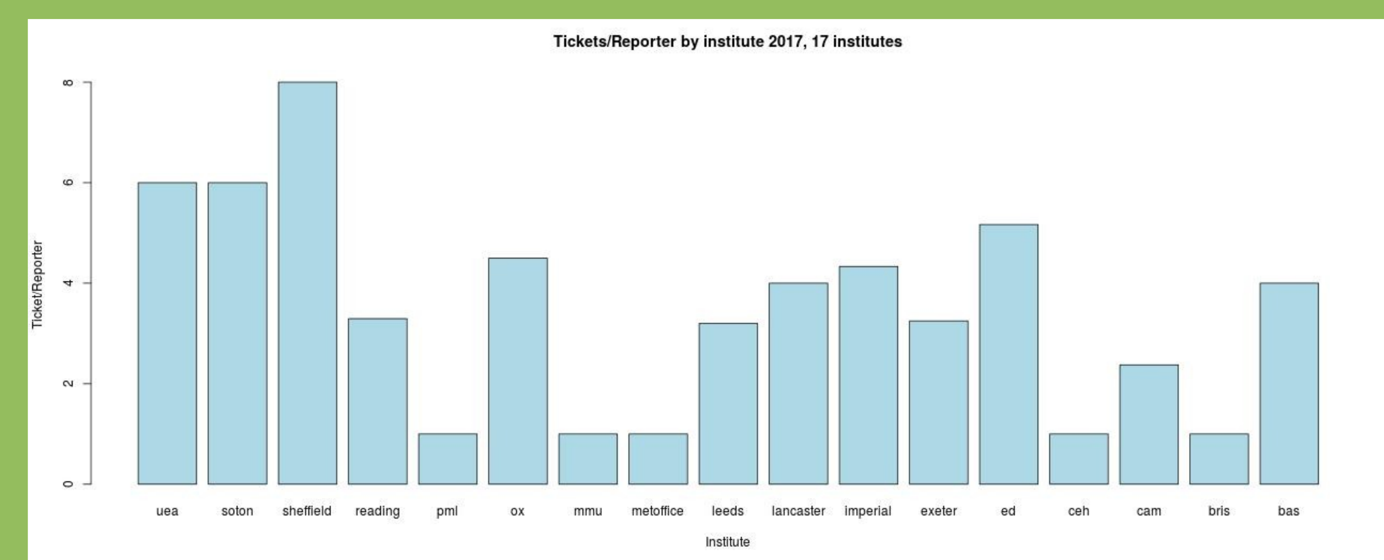

Figure 4: Average tickets per reporter at each institute

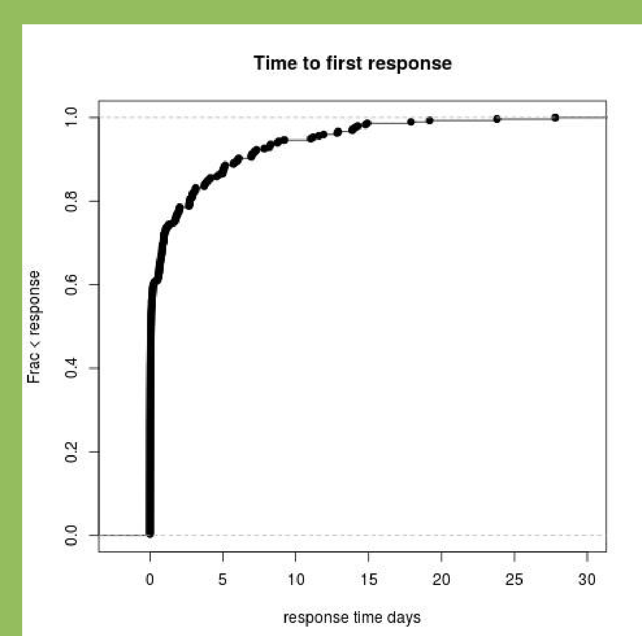

Figure 5: Proportion of tickets answered in T days

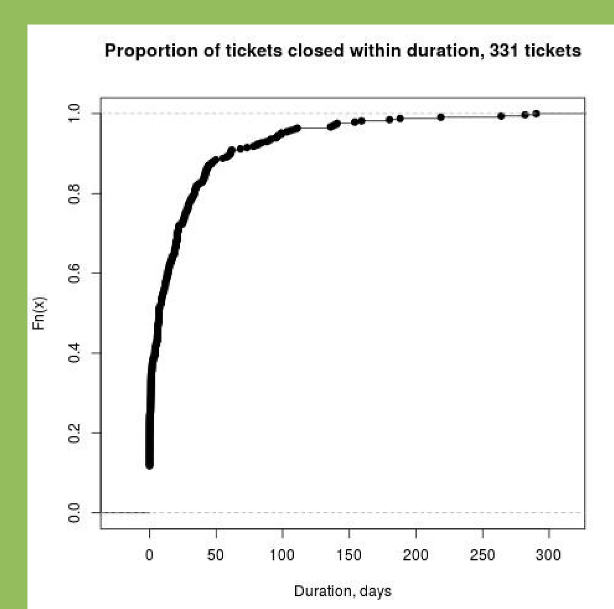

Figure 6: Proportion of tickets closed within T days

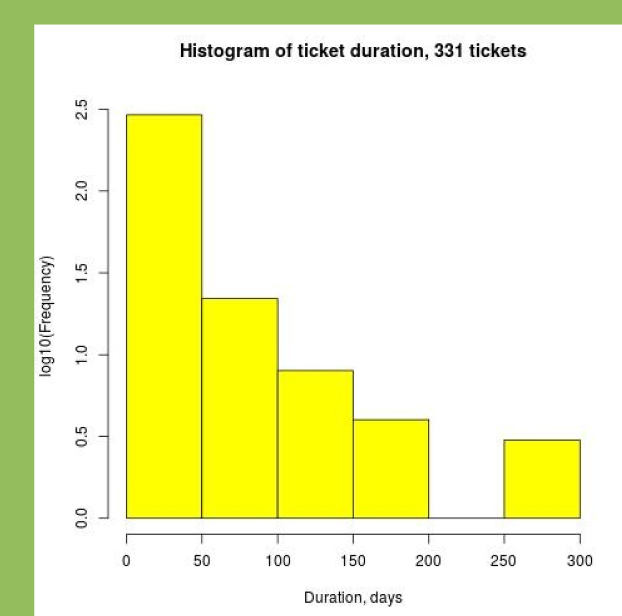

Figure 7: Histogram of ticket durations

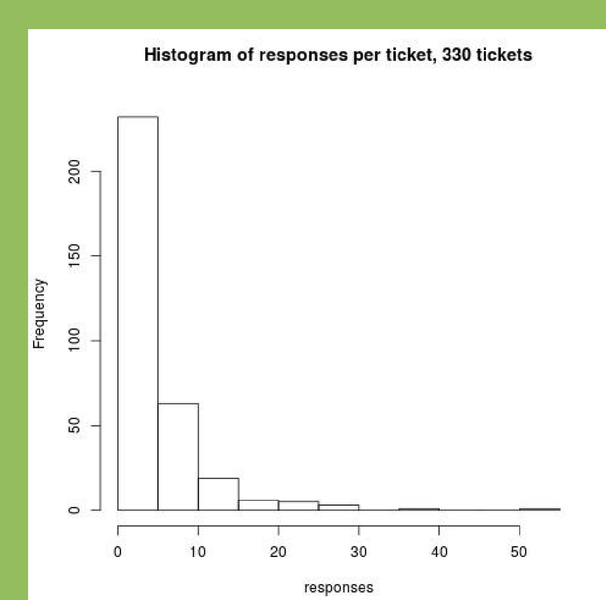

Figure 8: Distribution of the number of responses to tickets

GC3.1 Coupled Model Performance On ARCHER

- Work done triggered by issues raised during a ticket.
- U-as037 was assessed as a function of the atmosphere processor decomposition.
- Each decomposition was run for two model months, giving two points on the graph.
- The model speed is shown in Figure 9 and the cost of achieving that speed is shown in Figure 10.
- The graphs took 31 hours of computing and 440kAU to complete.

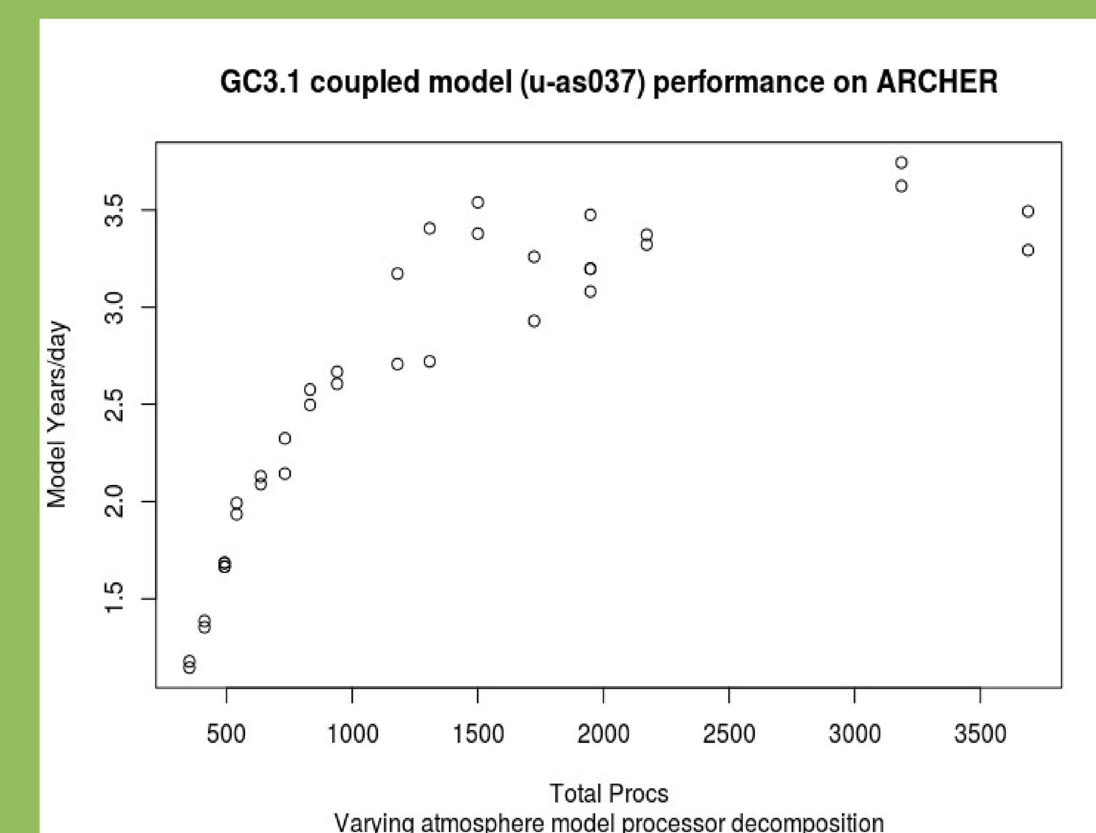

Figure 9: Model speed as function of total number of processors

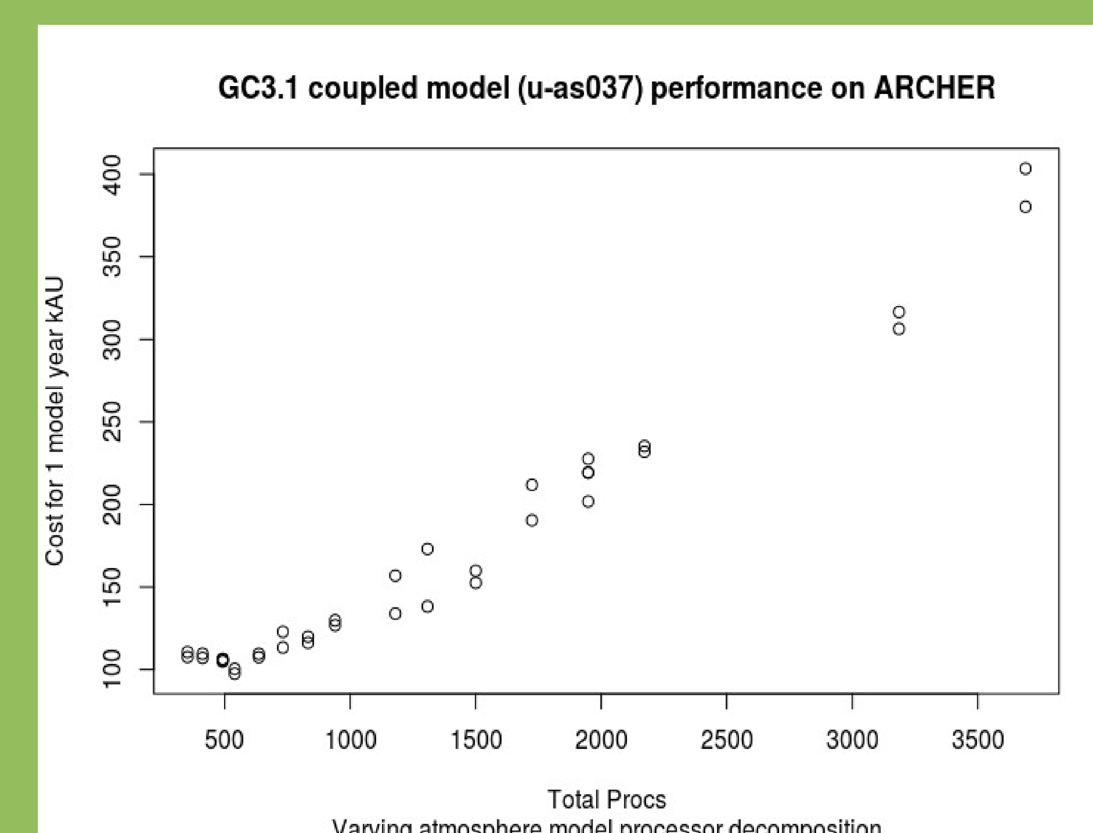

Figure 10: Cost of running the model for one model year