UKCA Code Management Meeting, Thursday 6th Sept 2012 (tele-conference).

Participants: Met Office: Nick Savage (NS), Colin Johnson (CJ), Mohit Dalvi (MD),

Cambridge : Luke Abraham (LA), Alex Archibald (AA)

Leeds : Graham Mann (GM)

Oxford : Zak Kipling (ZK)

Not present but on CMG; Sandip Dhomse (Leeds, SD), Paul Telford (Cambridge, PT)

Summary of action points arising in the meeting

- *Action: GM to circulate minutes for approval and then send round full UKCA group*
- *Action: GM to email out to gather info for science plan ahead of 11th Oct UKCA meeting.*
- *Action: LA to check admin on email lists & add extra person(s?)to cover whilst he is on leave*
- *Action: NS to update on rationalisation of tracers at next meeting.*

- *Action – NS to circulate full ticket list for v8.4 code-freeze and put on PUMA UKCA Trac.*

- *Action – NS to update on additional resource for Gmode nitrate implementation & testing*

- *Action: MD to contact SD for other required bits of code/obs. Aim still to put together post-processing package by end Sept.*

- *Action – MD to check again on GM IDL code and contact GM if still problem.*

- *Action: NS to circulate doodle poll for date of next CMG meeting around 25th Oct.*

- *Action: LA/PT, MD & GM to update standard release UKCA aerosol jobs in next few weeks.*

- *Action: NS to add "Tips & Tricks" page off front page of UKCA website*

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              Leeds   : Graham Mann (GM)

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1) Appoint Minute Taker – GM agreed to take minutes for this meeting.
   Action: GM to circulate minutes for approval and then send round full UKCA group.

2) Review action items from last meeting:

http://www.ukca.ac.uk/wiki/index.php/Minutes_of_the_code_management_group_meeting_19/7/2012

- NS correct typo in minutes and check people happy with sub-section code-owners – Done.
- Living science plan → At UKCA Exec meeting Fri Jul 6th , LA had asked for each group to send points for inclusion – mainly just as groups had presented at that mtg. No-one sent him anything yet. LA explained he was going on parental leave from Wed 12th Sept until mid-January 2013. GM offered to take over this gathering this information ahead of next UKCA mtg 11th Oct. *Action: GM to email out to gather info for 11th Oct UKCA meeting*.
- PUMA UKCA Trac → NS had populated PUMA UKCA Trac with set of tickets for v8.3 freeze and emailed round about this (Sep 5th 2012). Those v8.3 tickets for minor bug-fixes and updates rather than current developments. Only 2 significant changes→ bug-fixes and ENDGAME-compliance. Those v8.3 tickets will be lodged the next week (10th -14th Sep). NS explained there is a separate set of tickets for v8.4 freeze (Jan13) *Action: NS to add v8.4 tickets to PUMA UKCA Trac and send email out.*
- MO provision of global model configurations → NS explained that GA4 basis job now available on PUMA.
- Evaluate suite: GM has sent MD IDL code & obs datasets for basic aerosol checks/evaluation. SD has also sent MD some strat obs datasets → also need code & other bits. *Action: MD to contact SD for other required bits of code/obs.* *Aim still to put together post-processing package by end Sept.*
- Email lists: Currently only LA has access – need to add others (needed while he is on leave *Action: LA to check this and add extra person(s?) to admin list for email lists*
- Removal of unused UKCA tracers: NS scoped this with input from others & is doing this. *Action: NS to update on this at next meeting.*
- Strat-extended-CFC : LA reported that this is no longer candidate for v8.4 code-freeze.

3) Progress on standard jobs at v8.2

    i.   CheT+achem+GLOMAPmode+ACTIVATE in GA4
        CJ has job running but failing after 6 months-- currently investigating cause.

    ii.   Offline-oxidants+achem+GLOMAPmode+ACTIVATE in GA4
        CJ has got 1-month job for this and evaluated gas phase fields – looks good.

    iii.   Job that runs CheT+achem+GLOMAPmode with CLASSIC turned off
        CJ has basic job for this running but seems to be going slower! Investigating cause.

    iv.   Modal dust + primary emissions extension to CheT+GLOMAPmode+ACTIVATE in GA4
        CJ has got job but needs de-bugging and checking code in OK.

    v.   AQUM v8.2 job
        NS has ported basic AQUM job from v8.1 to v8.2 – will port to MONSOON for Oct and
        Richard Pope (Leeds) will run this on visit to MO in October.

    vi.   CheST+aSchem+GLOMAPmode
        Fiona O'Connor has basic job up & running for this and happy notwithstanding low-aerosol.

All these GLOMAPmode jobs atv8.2 suffering from problems already identified with aerosol at v8.2 -- getting much lower aerosol mass and number than at v7.3 – not acceptable at present. CJ/Andy Jones (AJ) have been working on this & have isolated cause to UKCA_RAINOUT routine → due to current approach which determines grid-boxes to scavenge based on different in rain rates. This worked OK at v7.3 (although still not good because not properly linked up with precip variables). CJ/AJ have coded up revised UKCA_RAINOUT that uses autoconversion & accretion variables from large-scale precip scheme to determine where to scavenge and rate of removal. Work ongoing on this but looking promising.

ZK asked about whether there would be a merged branch that takes each of the GLOMAPmode updates (a, b, c, d, f) or whether just separate branches. NS explained that each would lodged each as separate branch+job but then those that lodged would be combined into full merged branch used by each of the jobs.

4) Code being lodged for v8.3 (including package of bug-fixes for HadGEM3-ES prototype).

    i.   Clean up UKCA interface and add TKE input to macro (Nick)

    ii.   Namelist variables moved to module (Nick)

    iii.   Rationalisation of ukca_photolib modules (Nick)

    iv.   Package branches for all bug-fixes (incl. NOy bug-fix, FAST-JX bug-fix, strat-trop filenames) and also other minor technical changes -- e.g. formatting: (Fiona)

    v.   Enabling UKCA to run with ENDGAME for GA5 (Mohit)
        includes – wind-speed components on box-centres (192x144 rather than 192x145)
                -- new surface level for q and tracers
                -- arrays re-sized with inputs for BL mixing

These tickets all in good shape to be lodged next week (10-14th Sept 2013) for v8.3 code-freeze

5) ENDGAME status

For info: may be able to test using UKCA with ENDGAME in GA5 ~spring 2013 (GA5 release Jan13).

6) Tickets aimed at v8.4 code freeze (Jan 2013)

There are currently 20 tickets open for this → major challenge to get all this in for v8.4 deadline (mid-Jan13). Some are small (e.g. Vehkamakki nucleation [Fiona] or RADAERv2 [Nicolas]) but others are much bigger and challenging to get done by Jan 2013 – particularly nitrate – there is now a significant risk that the nitrate extension to GLOMAP-mode might not be ready in time. NS may need to request additional personnel to help with this. Other tickets include Newton-Raphson-solver-updates (FO'C?), ibVOC code linked to JULES (Gerd), lightning-NOX-updates (Gerd), Newton-Raphson-solver optimisation work (Andy Malcolm?)

Action – Nick to circulate full ticket list for v8.4 code-freeze and put on PUMA UKCA Trac.

Action – Nick to update on getting additional resource for Gmode nitrate implementation & testing

Note – GM agreed to be sci-tech reviewer for Fiona's Vehkamakki nucleation ticket.

7) Validation suite progress

MD explained that he has IDL code from AA and GM and files from SD. When tested GM code got problem with memory – GM explained it worked OK for him on postproc01 but did have problems initially – think that is temporary problem with machine being very busy at that time.

MD aiming to combine these codes into a single automatic post-processing package in tIDL – aiming to have this ready in basic form by end-September.

Action – MD to check again on GM IDL code and contact GM if still problem.

Note that package may later need to be re-written in Python but get basic tIDL package sorted first.

8) Date of next meeting

Aim to have next CMG meeting around 25th Oct ~ 2 weeks after UKCA mtg on 11st October.

Action: NS to circulate doodle poll for date of next CMG meeting around 25th Oct.

9) Any Other Business

- Original plan was to make v8.2 the 1st "shared development platform" for UKCA. However, due to the problems we've been having with aerosol at that version, NS proposed that we instead aim to make v8.4 the 1st "shared development version" (SDV) instead. Have annual SDV cycle beginning with v8.4 in March 2013. Aim for all users & developers to all use the current SDV version where possible. Plan then to update current latest SDV ~ March each year.

- There will be a period of a 1-2 weeks where UKCA team will need to work together to make sure standard jobs in agreed configurations are available in new SDV. Also preparation work will need to be done on internal-release that comes out a bit earlier than external release.

- Current UKCA aerosol release job on UKCA website needs to be updated. Still based on prelim-HG3 v7.3 BE-StdTrop+aerchem+Gmode ~Feb 11. Much improved results (low-sulphate and low-marine-aerosol biases much better) with current v7.3 NR-CheT+achem+Gmode jobs with back-ported v7.3 merged-branch. Agreed to update UKCA aerosol job to v7.3 NR-CheT+achem+Gmode+RADAER+ACTIVATE using back-ported v7.3 merged-branch – need job for this on MONSOON-II. *Action: LA/Paul,MD & GM to do the necessary to get this done in next few weeks.*

- Discussed how best for UKCA users to share best practice and things they've done with other users. Could there be somewhere on the UKCA website for users to contribute, share and improve communication between different groups at different Universities. NS offered to add additional "Tips and trick" page on UKCA website that folks could add to. *Action: NS to add "Tips & Tricks" page off front page of UKCA website*

Minutes drafted by Graham Mann, Monday 17th Sept 2012, finalised 24th Sept 2012.