# ACCESS-NRI Scientific Advisory Committee Meeting Minutes #23

## Thursday 27th March / 2.00 PM – 3.30 PM

### Attendees

**Chair:** Andy Hogg

**Rapporteur:** Natalia Bateman

**Members:** Charmaine Franklin, Rachel Law, Laurie Menviel, Paul Spence, Claire Vincent, Andrew Robinson, Tilo Ziehn, Oscar Alves, Adele Morrison, Kelsey Druken, Ariaan Purich, Simon Alexander, Martin Dix

**Observers:** Victoria Allen, Tennessee Leeuwenburg, Helen Macdonald

**Apologies:** Victoria Allen, Paul Spence, Simon Alexander

## 1. Welcome & Acknowledgment of Country

Andrew Robinson from NCI is welcomed to the committee. He is replacing Ben Evans

### Previous Minutes of SAC Meeting 13th February

The previous minutes have been approved and uploaded on the ACCESS-NRI website.

## 2. Matters Arising:

- **Release of BoM's PyEarthTools (PET)** to be supported by ACCESS-NRI (Tennessee Leeuwenburg)
  Please see attached document outlining the value of PET, including the formal "model registry" information. We are looking for SAC approval for ACCESS-NRI to support this tool and will then seek formal Board approval at our June Board meeting.
  - It is an open-source tool, the idea is to make it a community project, adapting it more closely and more deeply to the needs of the community.
  - The Bureau has been working on its own software suite for the development of machine learning models-pathway to application.
  - Request to ACCESS-NRI: Open-source repository support. No specific commitment needed from any of the partners. It operates under an open-source license, it's very flexible for people to utilise (Apache 2.0 license, so it's quite permissive)
  - Learning journey for people entering ML area: it comprises tools for loading data, defining machine learning training, provides software documentation and support newcomers to the machine learning area.

  The intention is that ACCESS-NRI will do more than support, particularly on the training we can provide. The workshop is a good venue for this.

  Noting the link to the Momentum Partnership ties nicely to that collaboration and that BoM is releasing an open-source community resource.

  **This item was endorsed unanimously.**

ACTION for ACCESS-NRI: facilitate communication with the community through the Training team- Contact Paige (Andy/Kelsey)

ACTION for ACCESS-NRI: include model registry in June Board papers (Andy)

ACTION for Tennessee:  Interest to the ML Working Group at 21 Century and ACCESS-NRI– suggestion to present it there and at the ACCESS Community Workshop

- **Follow up with each of the WG co-chairs as they might be under-utilising the storage, for an option to help with that problem:**
  Last meeting, access to storage for running models was a noted as a barrier for users. The Merit allocation scheme can provide access, noting that most working groups are underutilising their storage.
  Keep this item as an action and check with WG Liaisons that message is getting through (Kelsey).

## 3. ACCESS-NRI Updates

## 3.1 National Digital Research Infrastructure (NDRI) update

There was a call for an NDRI funding round solely to support HPC facilities. The remainder of the NDRI still looks like it will be postponed until after the election. Kelsey and Clare are working with Andrew to clarify CMIP7 and ESGF support needs – considering a joint proposal from ACCESS-NRI and NCI .

A new interim Director has started at NCI (Andrew Rohl).

## 3.2 CMIP7 update (Tilo Ziehn – verbal update)

- CSIRO is going through some changes and one of the areas affected is IM & T. There is some concern about CSIRO's current share in NCI, and the consequent impact on ACCESS and CMIP. (We are currently using 10 to 15 MSU per quarter on the NCI for ACCESS CMIP work in terms of compute, but we also maintaining 2 PB of disk space though CSIRO projects. There is also Impact on NESP because they are supporting our ACCESS and CMIP submission, but NESP is not providing storage.

- CMIP7 forcings are close to complete. Slight delay for ozone and N but will be available soon. Historical might come a bit later. Martin is testing some changes around solar constant.

- ACCESS-ESM1.6, which is our intended submission to the CMIP 7 FastTrack, now has a new spin up configuration which brings together two different development streams: the ocean biogeochemistry and CABLE3 developments. We already have a long spin up (~1000 years) for the ocean biogeochemistry available. This configuration uses the newer Sapphire rapid nodes, with a faster runtime (roughly an hour now in comparison to one hour 20 minutes)

- The inclusion of Australian-specific plant functional types is planned for CABLE to highlight the fact that ACCESS is tailored towards Australian conditions.
- There's still work that needs to be done around incorporating ILamb and ESMVALtool in in our workflow, and that will become relevant for the next step or next cycle that we are starting now, which is more focused on evaluation and tuning.
- For ACCESS-ESM1.6 development, we're doing weekly stand ups between the CSIRO and ACCESS-NRI staff, and that's been very productive in terms of solving issues early.
- We are organising a data management plan and Peter Dobrohotov is taking the lead on this. He has been in in touch with Clare about his plans.

## 3.3 Data update (Kelsey Druken)

Summary of the reference data supported by ACCESS-NRI merit allocation scheme. Further detail, including proposals and dataset list, can be found in the SAC SharePoint site: ACCESS-NRI supported reference data

**Storage usage:**

- Total Approved (TB): 546
- Unallocated (TB): 654

Scheme total for FY2024-25 is 1200 TB.  (Reference datasets)

**New releases:**

- Nil

**Upcoming data releases:**

- ISMIP6 Ice Sheet Model Data Collection (8 datasets) – publication of datasets is in progress.
- Operational Sea Surface Temperature and Ice Analysis (OSTIA) Sea Surface Temperature (1 dataset)- publication in progress, awaiting final checks for release by NCI.
- ACCESS-OM2 0.1 degree repeat year forcing simulation (1 dataset)- publication is in progress.

**New approvals:**

- Evaluation datasets for OM3 (11 datasets, 10TBs) – the request is for two years of support using a new project set up for making data available for evaluation, temporary access or as a starting point for higher levels of curation. As the first use case for this type of support, we will be evaluating how the request fits with the data management lite concept and will report back to the SAC at future meetings.

The process is on the ACCESS-NRI website:

ACCESS-NRI Merit Allocations for Reference Datasets- ACCESS-NRI

ACCESS-NRI merit allocation guidelines


## 3.4 Software update

**Recent releases (December – March):**

- ACCESS-rAM3 (alpha)
- ACCESS-ESM1.5 v1.2
- ACCESS-NRI Intake v1.1.1
- ACCESS-Vis
- ACCESS-Visualisation-Recipes 1.0.0
- um2nc v1.0.0
- Payu v1.1.6

**Upcoming releases:**

- ACCESS-rAM3 (beta), targeting end of March
- ACCESS-OM3 0.25deg (alpha), targeting end of March
- ACCESS-AM3 (alpha)
- ESMValTool v2.12
- ENSO Evaluation Recipes (beta)

We have settled on a name for rAM3 – recognising that currently this is simply an Australian implementation of the UM regional nesting suite, but that it will incorporate CABLE in the future. This naming scheme is consistent with the ocean regional modelling.

## 3.5 ACCESS Community Workshop

We have formed a Program Committee for the ACCESS Community Workshop which will be held in September in Melbourne. The Program Committee is currently considering input from the community on the makeup of the program and suggestions for parallel sessions. We hope to present a draft program to the SAC by our next meeting.

# Item 4: Presentation on Coastal & Regional Ocean Modelling (Helen Macdonald)

Introduction to regional and coastal modelling at ACCESS-NRI to start supporting ANCOMS and COSIMA communities.
Access Helen's Presentation

Challenges

- Have different models' large diversity of processes and scales that are important, have evolved separately from each other.
- No single model code to cover all these processes. We need a system of model rather than one.
- Efforts to maintain a configuration is large
- Not complete spatial coverage of all scales and processes
- More consistency in metrics and processes, shared workflows, better coverage, keep the diversity.
- ANCOMS goal: more integrated model system and share model systems
- ACCESS-NRI: model agnostic, workflow to lower barrier of entry.

# Item 5: Working Group Updates

## Land Surface (no presentation today)

## Coupled & ESM (Tilo Ziehn)

Maintaining fortnightly meetings, continue to incorporate updates in CMIP7 and provide output for spin up for the community and do some of these in a working groups meeting looking at the output.

## Atmosphere Modelling (Charmaine Franklin)

- Meeting monthly tech and science talks. Pretty good representations rotate between BoM, Universities and CSIRO. Last one was Paul Gregory UM provide doc have some links with ACCESS-NR, so we don't have duplicates. Martin updates in AM3 aerosol and chemistry modelling.

## Ocean-Sea Ice Modelling (Adele Morrison)

Everything is going smoothly, no comments.

## Cryosphere

Couple of people in ACCESS-NRI working on that team talking with US based people manage to get ISSM working with Spack and now testing cases, lots of activity lately. Monash and UTAS are appointing people to interact with that team.

## Machine Learning (Tennessee Leeuwenburg)

Monthly meetings. Some focus on understanding role of ML in ACCES-NRI during the workshop some training, discussion people involved testing and tutorials and examples of interest to the community. Invited speaker each time, quiet time for people.

## Item 6: Any Other Business

Discussion on possible reforms or changes to this committee, including:

- Representation of Working Groups on the SAC
- Purpose of the SAC and the range of agenda items
- Chair arrangements (is it time to consider an independent chair?)
- Frequency and length of meetings

We need to think about what the goals of the SAC are and, if we are meeting these goals as an effective forum. Can we do better? This could include closer links between SAC and WG, as some WGs don't have a representative in SAC .

### Comments

- ACCESS-NRI doesn't get a lot of feedback from this group; would this be more effective with an external Chair? We are thinking of sending a questionnaire to SAC members about next steps based on our terms of reference
- Are we just box ticking? Maybe this is about WG level, more targeted and useful updates.
- The goals of SAC are different to those of the Board, which provides independent advice.
- What are the questions ACCESS-NRI need the SAC to help answer? Currently people are coming directly to Andy, but some people feel more empowered to talk to him and some don't, so this is not the best operating model. We would like the committee to have a say and to know which things are working and which ones need improvement.
- ACCESS-NRI may not be providing the SAC with the right information/questions to engage.
- Feel free to contact Andy about this.

**ACTION:** Andy to get your opinions and thoughts and discuss at the next SAC

## Item 7: Next Meeting
For Discussion

15th May 2025 2.00 – 3.30pm