NCMAS 2021 Call for Applications

Information for Applicants

Revised 8 October 2020

Key Dates

23 September 2020	Applications open
12 October 2020	Optional Compliance Check closes
26 October 2020	Applications close (5:00pm AEDT)
7/8/9 December 2020	Allocation Committee meeting
21 December 2020	Allocations announced

NCI

PAWSEY supercomputing centre

MASSIVE

The University Of Queensland AUSTRALIA

NCRIS National Research Infrastructure for Australia
An Australian Government Initiative

Table of Contents

New for the 2021 Call for Applications

- Applicants must write their Proposal and Computational Details in anonymous third-person style to be compliant
    - These must be submitted as a single PDF file
- Minimum requests have changed
    - Associated changes have been made to word counts for applications
    - These minimums are also the amounts for the ECR and Special Consideration categories

Facility-System	Minimum Allocation (kSU/year)
NCI-Gadi	500
Pawsey-Magnus	250
MASSIVE	50
UQ-FlashLite	20

- ORCID iD use is now mandatory
- Submission is final – there is no option to 'unsubmit' and edit an application
    - Addenda allowed if needed to address updates/corrections

Please read the relevant subsections of this document for complete details. The Frequently Asked Questions section of this document has been updated to reflect experience from previous NCMAS calls.

Introduction

The National Computational Merit Allocation Scheme (NCMAS) 2021 Call for Applications will be open from Wednesday 23 September to Monday 26 October 2020. Applications close at 17:00 (5pm) AEDT on Monday 26 October.

All applicants (Lead CIs) and members of their research groups should read the following application guidelines and reference information in full before preparing an application.

This NCMAS information for applicants may be updated during the 2021 Call for Applications to clarify rules and processes as determined by the Committee Chair, participating HPC facilities and the Secretariat.

Please see the FAQ page if you have queries regarding the application process. If you have further questions about the NCMAS 2021 Call for Applications, they can be submitted by email to ncmas@nci.org.au. Emails to this address will create an issue ticket in the NCMAS Secretariat help system.

The NCMAS Secretariat wishes all applicants success in the 2021 call.

Important Dates – NCMAS 2021 Call for Applications

Key dates	NCMAS Milestone
23 Sep 2020	Applications open
26 Oct 2020	Applications close (5:00pm AEDT)
7/8/9 Dec 2020	Allocation Committee meeting
21 Dec 2020	Outcomes announced

HPC Facilities

NCMAS 2021 computing resources are summarised in the following table.

System	Computing Time (kSU)
NCI: Gadi	250,000
Pawsey Centre: Magnus	100,000
MASSIVE	2,500
UQ: FlashLite	1,930

All references to computational resources in NCMAS supporting documentation will be in units of kilo-service-units; 1 kSU = 1,000 service units (SU). Service units are scaled to be approximately equivalent across all facilities.

Capsule summaries of facility capabilities are provided below.

National Computational Infrastructure (NCI)	
Facility overview	NCI is Australia's national research computing service. Home to Gadi, the nation's most highly integrated and highest performance supercomputer, NCI provides innovative, world-class services to Australian researchers. NCI operates a formal collaboration between Australia's national university - ANU; the national research agency - the Commonwealth Scientific and Industrial Research Organisation; the national meteorological agency - the Australian Bureau of Meteorology; and the national geosciences agency - Geoscience Australia. Since 2007, NCI's collaboration has expanded to include a further 26 Australian universities and research institutes. NCI's infrastructure was established through Commonwealth Government funding. NCMAS allocations for 2021 will be on NCI's new petaflop-scale supercomputer – Gadi. This new system comprises 3024 Intel Xeon Cascade Lake compute nodes, with 24 x 2 cores/node, configured with 192 GB RAM per node. Gadi also provides 50 Cascade Lake nodes with 1.5TB of memory, utilising Intel Optane DC Persistent memory, and 640 NVIDIA V100 GPUs in 160 nodes. Gadi's data interconnect is the latest generation Mellanox HDR InfiniBand, capable of data transfers at 200 Gb/sec. NCI also offers persistent data storage in excess of 50 petabytes. Data holdings include significant national and international data collections. NCI also operates a compute cloud for ancillary computing and data services.
NCMAS computing resources	250 MSU on Gadi.
NCMAS storage resources	1070 TB Lustre disk (/g/data) is available to NCMAS scheme. The Allocation Committee will allocate this capacity according to project requirements. Allocations are limited to the duration of compute allocation – the 2021 calendar year.
Software	NCI maintains many software packages for use on its systems. The NCI application software catalogue is available online at https://opus.nci.org.au/display/Help/Gadi+Software+Catalogue.
User support	NCI operates an expert Service Desk for users during normal business hours, Mon-Fri between 9:00 am and 5:00 pm AEST/AEDT. NCI Academic Consultants can provide assistance with user and project registration and operational issues, and can provide advice on code development and performance, and the use of scientific software in HPC environments.

Pawsey Supercomputing Centre	
Facility overview	The Pawsey Supercomputing Centre (Pawsey) is one of the two tier-1 national supercomputing centres. Pawsey provides services available to all Australian computational researchers through meritorious allocation schemes including NCMAS. Pawsey has an array of scientific computing instruments available for researchers, including the petascale Cray XC-40 system called Magnus, a machine for operational radio astronomy (Cray XC-30 called Galaxy), the commodity cluster Zeus, GPU cluster Topaz, remote visualisation and the cloud platform Nimbus. NCMAS applicants can request time on the Cray XC-40 system Magnus, which has 35,572 Intel E5-2690v3 cores. The processors are arranged in nodes of 24 cores, with 64 gigabytes of memory per node, and there is a scratch file system capable of a sustained I/O bandwidth of approximately 70 gigabytes per second. Magnus has a very high performance Cray network with a dragonfly topology, and Cray's tuned Linux environment and software stack. Magnus is particularly suited for compute problems (i.e. application codes and datasets) that have high network bandwidth requirements, and/or scalable problems that would benefit from the Cray interconnect.
NCMAS computing resources	100 M core hours on Magnus (see Additional notes below for information about the Pawsey Capital Refresh
NCMAS storage resources	Storage is available on a group filesystem which currently has a total of 750 terabytes available for all Pawsey projects. Each project is allocated 1 terabyte by default, and up to 10 terabytes can normally be accommodated. Requests for more than 10 terabytes of storage need to be justified with reference to the files and data to be stored, a capacity plan over the project duration, and any compression techniques and data lifetime purge policies employed.
Software	Most supercomputing-class software that runs on Linux may be installed, with popular packages centrally installed and supported. Licensed software (e.g. Fluent) may be used, with your own licences. Pawsey does not purchase licences for user applications. It is up to you to ensure your licence permits your use of the software at Pawsey. Researchers should clearly articulate their actual requirements in NCMAS submissions. If applying for multiple resources (such as Pawsey and NCI), it should be clearly stated what software will be run at each centre.
User support	The Pawsey Help Desk is available by email between 9am and 5pm AWST daily except for Western Australian public holidays and the extended Christmas closure period. In addition to the general helpdesk, additional application and optimisation support is available, as well as training courses in the use of the Pawsey systems.

Additional notes	Applications for time on Magnus must demonstrate the ability to make effective use of the architecture by running scalable applications and research problems. In 2021 allocation round Pawsey Centre supercomputing resources will be significantly refreshed as part of the PCR project. For details and current schedule please refer to: https://pawsey.org.au/about-us/capital-refresh/ Pawsey staff will be working closely with all researchers to migrate their workflows to new infrastructure. Magnus system is planned to be decommissioned in 2021 after we confirm that all projects have been successfully migrated to Phase1 Pawsey Supercomputing System (PSS). The applicants of all Pawsey allocation schemes will be expected to transition to the new system partway through the allocation with significant help and support from Pawsey staff. Projects which successfully migrate to PSS will receive a 1-1 equivalent of their remaining core hours allocation on the Phase1 PSS. This will be done based on yearly allocation scaled to remaining days and not on usage up to date.

MASSIVE	
Facility overview	MASSIVE is an Australian HPC facility for data processing, analysis and visualisation. MASSIVE provide researchers with the computing resources and tools to apply high-throughput parallel processing and deep learning techniques to solve a broader variety of difficult research questions, and allow researchers to more effectively extract knowledge from scientific data. The impact of the science performed using MASSIVE is broad, and includes basic discoveries in the biological, medical computational, engineering and environmental areas. MASSIVE operates an integrative HPC facility that sits at the nexus of instruments, experiments, new users communities, and data science techniques. For 2021, **MASSIVE is running a specialised call and is accepting NCMAS applications in the following areas**: • **Neuroscience** and applications of neuroimaging; • **Structural biology** including CryoEM processing; and • **Machine learning**, both techniques development and applications. Please see further information about the dedicated server hardware for machine learning; MASSIVE provides easy access through a dedicated remote desktop environment and supports a wide range of users new to HPC. MASSIVE is ISO9001 quality accredited to ensure quality, fairness and consistency in operations. Further technical information: • MASSIVE website: http://www.massive.org.au

	• M3 documentation website: http://docs.massive.org.au
NCMAS computing resources	2.5M core hours on MASSIVE are available through NCMAS. M3 is composed of 6,000 CPU cores, 272 GPU co-processors and a 3PB fast parallel Lustre file system. M3 provides a combination of GPU coprocessors, including the NVIDIA K1 and P4 (for remote scientific desktops), K80, P100, V100, and 10 x DGX1-V. (Detailed information about M3 compute resources is available here: http://docs.massive.org.au/M3/m3users.html#about-m3)
NCMAS storage resources	M3 runs a Lustre parallel file system which is configured into project and scratch partitions. By default, quotas for projects directory will be applied as below: • Default projects for Cryo-Electron Microscopy: 5TB • Default project for MX2 data: 5TB • Other projects: 500GB Increased project quotas may be provided by request. Default quota for scratch directory is 3TB.
Software	A list of software available on MASSIVE is available at: http://docs.massive.org.au/M3/software/software.html
User support	MASSIVE provides extensive user support, with particular focus on: • New HPC communities; • Instrument users - strong capability in developing near-realtime analysis workflows for instruments and experiments; • Data processing and data science techniques including machine learning and deep learning; • Strong experience in data processing, in-particular large cohort data studies, volumetric data and imaging data; • Visualisation: support for a range of visualisation tools accessible through the MASSIVE Desktop, and large-scale multi-node visualisation; • Molecular science: processing workflows for structural biology data, including MX and CryoEM; • Brain research: supports a large selection of brain (both psychological and fundamental) science projects, with a particular emphasis on MRI data processing. MASSIVE is the host of an Australian mirror of the Human Connectome Project; and • General HPC support.

University of Queensland Research Computing Centre (FlashLite)	
Facility overview	FlashLite is a research computer that has been designed explicitly for Australian research to conduct data intensive science and innovation. FlashLite is optimised for data intensive computation and has 1632 cores, 34.8 TB of RAM, 326.4 TB of NVMe storage and 65.28 TFLOP/s (Rpeak) Compute nodes in FlashLite can be flexibly

	aggregated together into larger "supernodes" using ScaleMP's vSMP software. Given the network topology, a supernode of 22 physical compute nodes with 528 cores and 11TB of shared memory is a likely practical limit but larger supernodes are also possible.
NCMAS computing resources	Total core hours for NCMAS on FlashLite is 1.93 MSU.
NCMAS storage resources	There is a limited amount of network attached GPFS filesystem storage available within FlashLite. FlashLite is co-located with the QRIScloud research data storage. It is envisaged that NCMAS projects would make an application for a research data collection based at QRIScloud.
Software	Details of software available on FlashLite will be published on RCC website and elsewhere as the information becomes available.
User support	Only basic user support will be available for applications and external groups using FlashLite.
Additional notes	The workloads for FlashLite must be demonstrated to be data intensive or very large memory in character.

Application Categories

NCMAS applications are accepted in three categories: Open, Early Career Researcher, and Special Consideration.

Open

Resource requests are not restricted. Applicants are expected to demonstrate successful utilisation of national HPC facilities at scale and have a track record of research outcomes and independent funding.

Early Career Researcher (ECR)

The ECR category provides an opportunity for researchers who have been awarded a PhD within the last five (5) years (relative to opportunity). Early Career Researcher applications are highly competitive. Applicants are expected to demonstrate a record of independent research funding, such as an ARC DECRA, NHMRC CDA, or similar award.

The ECR allocation is the minimum allocation of the requested facility.

ECR requests must only be made on one HPC facility.

Facility-System	Minimum Allocation (kSU/year)
NCI-Gadi	500
Pawsey-Magnus	250
MASSIVE	50
UQ-FlashLite	20

Special Consideration

A limited number of special allocations are available to other applicants who may otherwise not be competitive in the NCMAS. For example, an individual who has returned to a research role following a significant career interruption.

The Special Consideration allocation is the minimum allocation of the requested facility.

Special Consideration requests must only be made on one HPC facility.

Facility-System	Minimum Allocation (kSU/year)
NCI-Gadi	500
Pawsey-Magnus	250
MASSIVE	50
UQ-FlashLite	20

Eligibility criteria for each of these categories are listed in the section Eligibility and Project Roles.

How to Apply

The NCMAS application process is slightly different for new projects (and applicants) versus established projects. Please read the following sections carefully.

The NCMAS online application system is managed by the NCMAS Secretariat and is hosted on NCI web infrastructure.

All applicants need to register for an NCI user account before starting an application.

New Applicants/Projects

1. An applicant without an NCI account should first register for an NCI user account at https://my.nci.org.au.
    a. Note that the same login credentials are used for my.nci.org.au and ncmas.nci.org.au.
2. All applicants should update their 'About me' at https://my.nci.org.au
    a. Personal/Email, SMS/ORCID iD/Publication Record
3. Complete and submit the merit proposal for your project at https://ncmas.nci.org.au. (***Important: this step must be completed to finalise your application***.)

Existing Projects

Applicants who wish to resource an existing project should:

1. Update their personal and career profiles and project memberships at https://my.nci.org.au; and then,
2. Complete the full merit application for the project at https://ncmas.nci.org.au.

If you currently lead a project created under a Partner scheme (i.e. your university or research organisation) that has not been previously considered for NCMAS, the initial registration steps are not required.

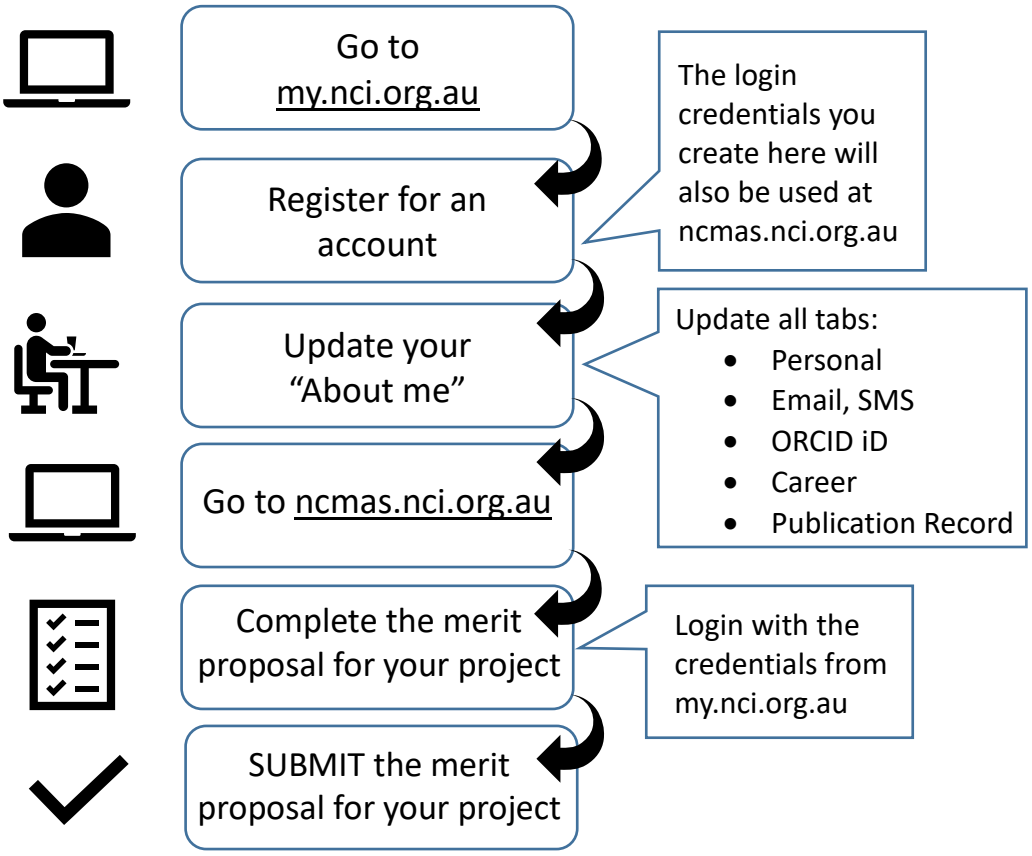
When to use https://my.nci.org.au

- To register for a new user account
- To reset your password
- To update 'About me'
    - Personal/Email, SMS/Career/ORCID iD/Publication Record
- To approve requests to join a project (Lead CI or Delegate Lead CI only)
- To remove a member of the project team (Lead CI or Delegate Lead CI only)

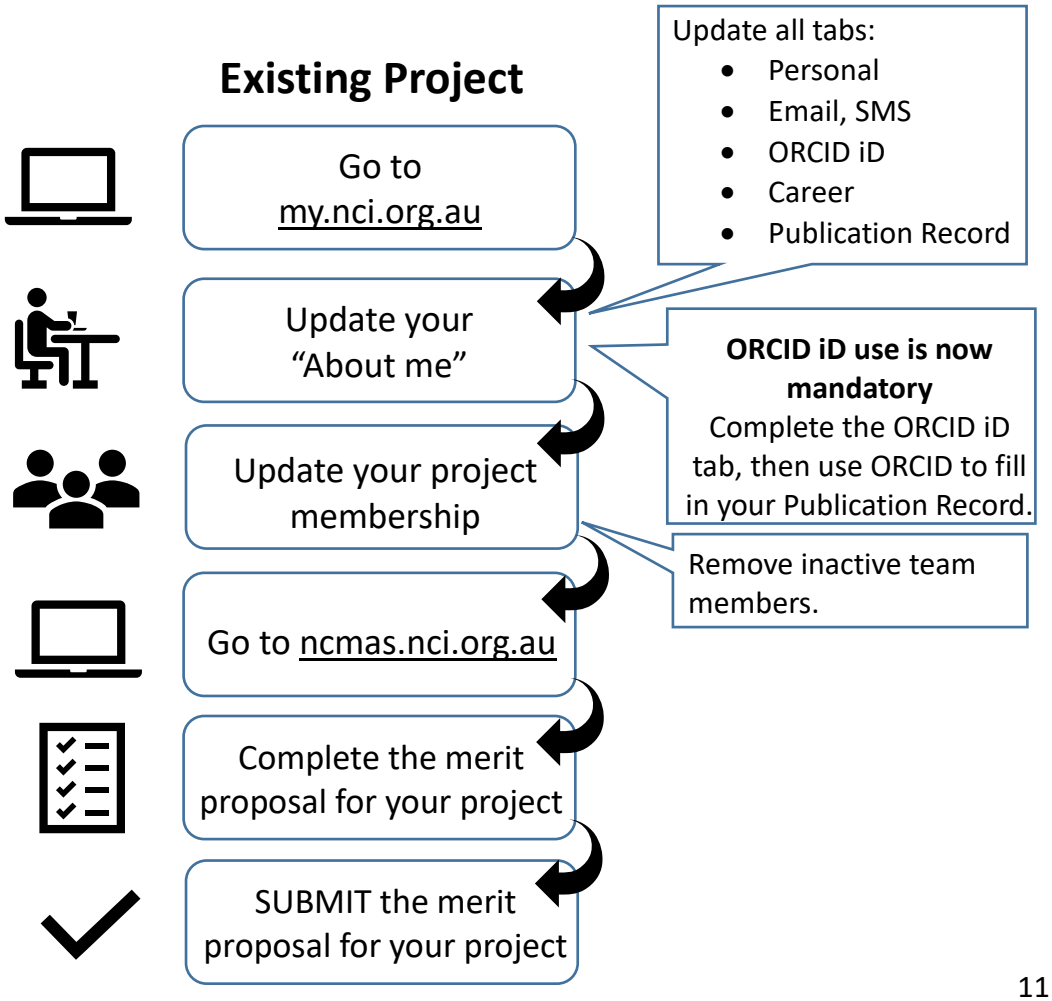
When to use https://ncmas.nci.org.au

- To complete your NCMAS merit proposal
- To submit your NCMAS proposal
    - To submit addenda – if required
- To view your NCMAS outcome (Lead CI only)

New applicant/project



Existing Project

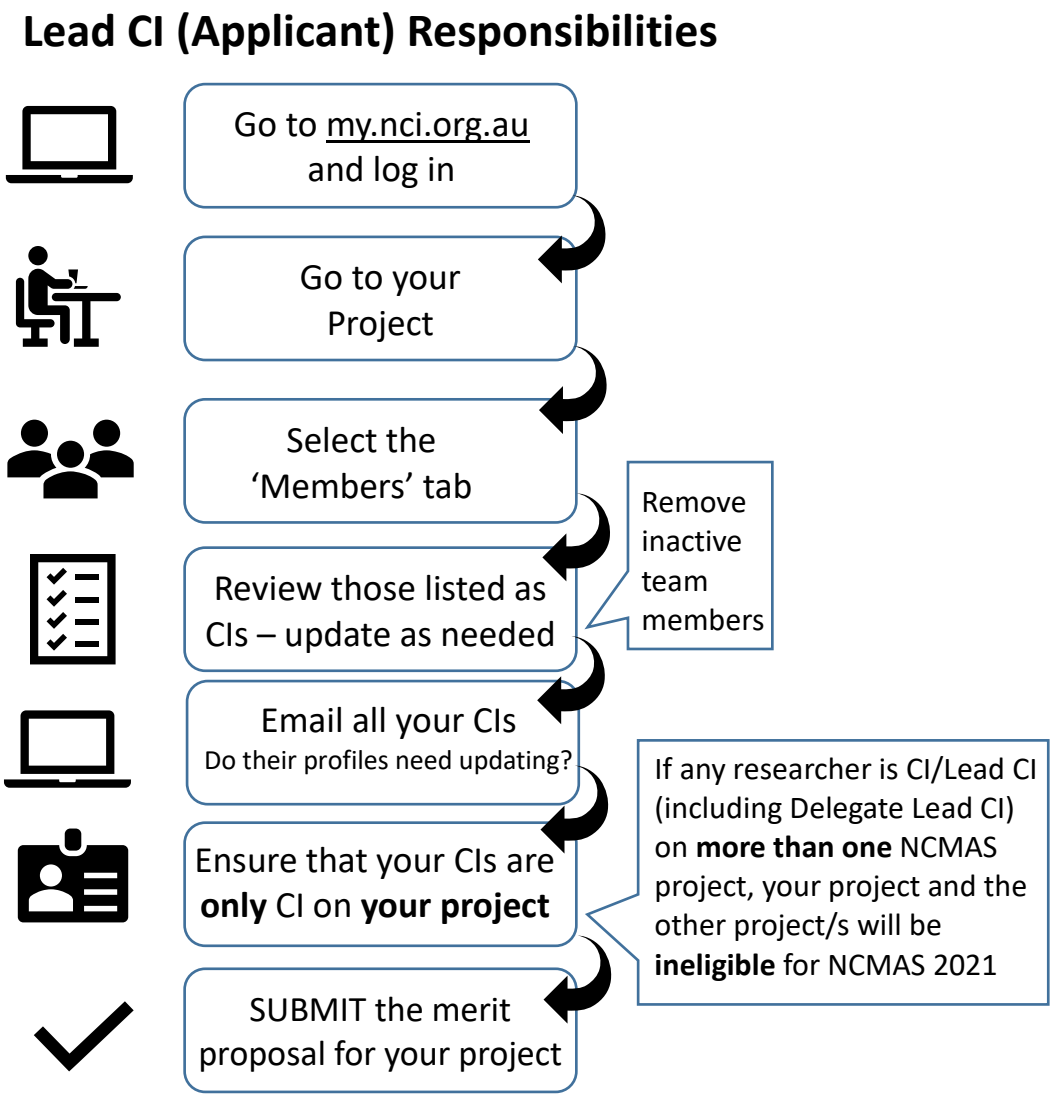


Lead Chief Investigator Responsibilities

The NCMAS Allocation Committee will assess **complete** applications only.

The applicant (Lead CI) is responsible for:

- Staff profile updates
  - Direct project members to https://my.nci.org.au
- Completion of the full NCMAS proposal web form
  - https://ncmas.nci.org.au



Application Deadline

The application deadline for the NCMAS 2021 call is **17:00 (5pm) AEDT Monday 26 October 2020**.

Getting Help

Read supporting documentation including FAQs if you have questions.
Contact ncmas@nci.org.au if you require support with your application.

Proposal Length

The length and rigour of a Proposal should be proportional to the requested allocation. Guidelines for the length of proposals are listed in the table below. Note that 500 words is approximately one page of single-spaced, 12-point type, with 2 cm margins.

Compute Request (kSU)	Recommended Proposal Length (words)
Greater than 5000	3000
2000 - 5000	2000
Facility minimum - 2000	1000

Computational Details Length

Computational Details should be no longer than 10 pages in PDF, or 5000 words excluding references.

Proposal and Computational Details Length

Proposal and Computational Details should be combined into a single PDF file to be uploaded. Guidelines for the length of this combined text are listed in the table below.

Compute Request (kSU)	Recommended Proposal AND Computational Details Length (words)
Greater than 5000	8000
2000 - 5000	7000
Facility minimum - 2000	6000

Acknowledging NCMAS and the National Facilities

A condition of accepting an NCMAS allocation is that applicants acknowledge both NCMAS and the high-performance computing facilities that they have used in all publications and presentations of the associated work. The following is a standard acknowledgement template:

> "This work was supported by computational resources provided by the Australian Government through ***<facility name>*** under the National Computational Merit Allocation Scheme."

Eligibility Criteria

In accordance with guidelines for access to Commonwealth-funded research infrastructure and relevant Australian Government legislation, Chief Investigators (CI) and Lead Chief Investigators (Lead CI) of NCMAS projects must hold at least a 0.2 FTE research position at an Australian higher-education institution, research institute or publicly-funded research agency, and be based in Australia.

If an applicant (Lead CI) holds a fixed duration contract for at least 0.2 FTE for the calendar year 2021, they are eligible to apply to NCMAS.

An individual may be named as a Chief Investigator or Lead Chief investigator on only one NCMAS 2021 application.

Lead Chief Investigators and Chief investigators on a NCMAS application must provide evidence of independent research funding, for example, grants from the ARC or NHMRC. Any grants referenced by a Lead CI or CI must name that applicant as a primary recipient.

Applications citing grants on which the applicants are not primary (named) grant recipients will be disqualified for non-compliance.

A person holding a Postdoctoral appointment at an Australian institution or publicly-funded agency is eligible to apply as a Lead CI. A postdoctoral fellow applying in the Open category is expected to demonstrate competitiveness with more experienced, senior researchers in their field, as well as a track record of independent research funding. The Committee recommends that postdoctoral fellows first consider applying in the Early Career Researcher category.

A person undertaking a higher degree by research is **not eligible** to be a Chief Investigator or Lead Chief Investigator on a NCMAS proposal.

The responsibilities for Lead Chief Investigator and Chief Investigator roles are listed in the Glossary.

Early Career Researchers

The Early Career Researcher (ECR) category provides an opportunity for researchers who have been awarded a PhD within the last five (5) years (relative to opportunity). ECR applications are highly competitive. Applicants are expected to demonstrate a record of independent research funding, such as an ARC DECRA, NHMRC CDA, or similar award.

ECR conditions:

- The applicant (Lead CI) must have been awarded a PhD within the previous five (5) years (relative to opportunity)
- The applicant **should not be nominated** as a Researcher, CI or Lead CI on another NCMAS application.
- The body of an ECR proposal should be no longer than 1000 words, or approximately two pages in length.
- The ECR allocation is the minimum allocation of the requested facility.
- ECR requests must only be made on one HPC facility.

Facility-System	Minimum Allocation (kSU/year)
NCI-Gadi	500
Pawsey-Magnus	250
MASSIVE	50
UQ-FlashLite	20

Special Consideration

A limited number of special allocations will be made available to other applicants who may otherwise not be competitive in the NCMAS, for example, an individual who has returned to a research role following a significant career interruption.

Special Consideration conditions:

- The applicant (Lead CI) must have been awarded a PhD within the previous nine (9) years (relative to opportunity)
- The applicant **should not be nominated** as a Researcher, CI or Lead CI on another NCMAS application
- The body of a Special Consideration proposal should be no longer than 1000 words, or approximately two pages in length
- The Special Consideration allocation is the minimum allocation of the requested facility.
- Special Consideration requests must only be made on one HPC facility.

Facility-System	Minimum Allocation (kSU/year)
NCI-Gadi	500
Pawsey-Magnus	250
MASSIVE	50
UQ-FlashLite	20

- An individual may apply for Special Consideration allocation for a maximum of three (3) consecutive years

Anonymous Third-Person (A3P) Writing Style

The NCMAS process will move to an anonymous review process, in which applicants' identities are concealed from committee members/reviewers in the primary/mandatory review stage.

Provided here are guidelines to assist applicants in preparing their applications to comply with anonymous third-person style.

The anonymous review does not mean applications will be accepted from anonymous sources. As with previous cycles, applicants must still enter the names and affiliations of all investigators into the submission portal. The NCMAS Secretariat will not include names or affiliations in the versions generated for the reviewers for the primary/mandatory review stage.

While the NCMAS Secretariat will largely obscure the proposing teams' identities in cover materials, they will not change or alter information contained in the submission.

It is also necessary for applicants to take additional steps to further anonymise their content in the Proposal and Computational Details before they are submitted.

To support applicants in making this change, an optional A3P compliance check is available. Draft Proposal and Computational Details can be submitted before **5:00pm AEDT 12 October 2020** for this review, and feedback on A3P compliance will be provided.

This is not considered a final submission, and if suggested changes are not made to the draft, the application may be found noncompliant.

Below are some guidelines to follow:

- Do not include author names or affiliations anywhere in the Proposal or Computational Details.
    - This includes but is not limited to, page headers, footers, diagrams, titles, figures, or watermarks.
- Referencing is an essential part of demonstrating knowledge of the field and progress. When citing references within the proposal, use third person neutral wording.
    - **This especially applies to self-referencing**.
    - For example, replace phrases like:
      "as we have shown in our previous work (Doe et al. 2010)"
      with
      "as Doe et al. (2010) showed..."
    - Do not refer to previous projects using NCI/Pawsey/MASSIVE/Flashlite or other HPC/D resources in an identifying fashion.
        - For instance, rather than write
          "We utilised 5 MSU on Gadi to determine under NCI project XXXX,"
          instead write
          "Previous research has determined"
- Do not include acknowledgements, or the source of any grant funding in the proposal document itself.

It takes some effort by authors to anonymise their submissions. As the guidelines show, grammar and structure are expected to be different from previous NCMAS submissions.

Take sufficient time to prepare your application, especially if you plan to resubmit a proposal from a previous cycle or other submissions.

The anonymous third-person style for application is not optional for this round and is applied to ALL applications.

If an application is found to quite obviously and blatantly disregard the anonymising guidelines, it is noncompliant, and are withdrawn from further consideration.

Applicants should make an effort to describe the past work in their field, and how this proposal will improve, build-upon, or complete that past work. Many successful applications have a clear discussion of research aims, methods, and anticipated outcomes. Applications may also include descriptions of anticipated advances on previous work.

Examples of the kinds of changes required are:

Here is an example of text from a sample proposal:	Over the last five years, **we have used** infrared photometry from 2MASS to compile a census of nearby ultracool M and L dwarfs (Cruz et al, 2003; 2006). **We have identified** 87 L dwarfs in 80 systems with nominal distances less than 20 parsecs from the Sun. We propose to target the remaining sources *via* the current proposal.
Here is the same text, re-worked following the anonymising guidelines:	Over the last five years, 2MASS infrared photometry **has been used** to compile a census of nearby ultracool M and L dwarfs (Cruz et al, 2003; 2006). 87 L dwarfs in 80 systems **have been identified** with nominal distances less than 20 parsecs from the Sun. We propose to target the remaining sources *via* the current proposal.

Here is another example of text from a sample proposal:	In Rogers et al. (2014), **we concluded that** the best explanation for the dynamics of the shockwave and the spectra from both the forward-shocked ISM and the reverse-shocked ejecta is that a Type Ia supernova exploded into a preexisting wind-blown cavity. […] **If our model from Rogers et al. (2014)** is correct, then the single-degenerate channel for SNe Ia production must exist. We propose here for a second epoch of observations which we will compare **with our first epoch** obtained in 2007 to measure the proper motion of the shock wave.
Here is the same text, again re-worked following the anonymising guidelines:	**Rogers et al. (2014) concluded that** the best explanation for the dynamics of the shockwave and the spectra from both the forward-shocked ISM and the reverse-shocked ejecta is that a Type Ia supernova exploded into a preexisting wind-blown cavity. […] **If the model from Rogers et al. (2014)** is correct, then the single-degenerate channel for SNe Ia production must exist. We propose here for a second epoch of observations which we will compare **with a first epoch** obtained in 2007 to measure the proper motion of the shock wave.

Team Expertise and Background

The expertise, background, and experience of your research team is collected through the MyNCI (https://my.nci.org.au) system in both the ORCID iD, Career and Publication Record tabs, as well as within the My Application form.

ORCID

ORCID is an independent non-profit organization that provides a persistent identifier — an ORCID iD — that distinguishes you from other researchers, and a mechanism for linking your research outputs and activities to your iD. ORCID is integrated into many systems used by publishers, funders, institutions, and other research-related services. Learn more at orcid.org.

It is now required to use ORCID to populate your researcher publication record on MyNCI (https://my.nci.org.au) for your NCMAS application.

The ORCID interface allows researchers to select publications from their ORCID record for inclusion in their personal career profile. Note, however, that in the Project Progress Report section of the application form publications must still be manually entered.

ORCID is the only method for populating career profiles.

Please note that the *Publication Record* tab has two sections – 'Most Significant' and 'Last 5 Years'.

Awards, honours and prizes should be entered in the field called *Non-publication Research Performance Evidence* under the Career tab.

Brief instructions

If you already use ORCID the process for NCMAS is as follows.

1. Connect your ORCID iD to your profile https://my.nci.org.au/mancini/about-me/orcid/connect
2. Import publications you choose into your *Most Significant* and *Last 5 Years'* publication lists. https://my.nci.org.au/mancini/about-me/publications/top

Your ORCID iD and imported publications will then automatically appear in the track record section of your NCMAS grant application. **Each CI in your project must use ORCID.**

If you are not already using ORCID you will need to:

a. Register for an ORCID iD https://orcid.org/register
b. Populate your new ORCID record https://orcid.org/blog/2013/12/05/i-claimed-my-orcid-id-now-what
c. Follow steps 1-2 above for existing ORCID users to connect your ORCID iD to your MyNCI profile and import your publications into MyNCI.

Review Stage 1 – Anonymised and Mandatory

Team information will be captured (as previously) through the MyNCI system. Investigator metrics will be derived from the combined team record and presented to assessors in an anonymised summary form.

In the primary/mandatory stage, reviewers will be presented with an anonymised summary of track record along with the anonymous third-person Proposal and Computational Details components of the applications. They will be required to submit a score based on this information.

Only after submission of this first stage score will reviewers have the option to proceed to the second/identifiable stage. Reviewers will provide a justification to proceed to the second stage.

Anonymised Track Record

Reviewers will see a summary containing the following information:

- M-index for each CI:
  - M-index = H-index divided by the CI's years of service
  - Years of service = Years since PhD minus time for career interruptions
    - Career interruptions, e.g. medical, carer responsibilities
    - Note – NHMRC has adjusted their Relative to Opportunity policy to include the pandemic – NCMAS will do the same
  - Order of the M-indices will be randomised
- Journals published in and frequency for each journal (for active years - not counting career interruptions as defined above):
  - In current year to date
  - In previous calendar year
  - and in previous five years
- Category 1 grants, as defined by Department of Education:
  - number of grants active at time of application and during award period (calendar year 2021)
  - number of grants awarded in previous five calendar years.
- Category 2 grants, as defined by the Department of Education:
  - number of grants active at time of application and during award period (calendar year 2021)
  - number of grants awarded in previous five calendar years.
- Number of refereed journal publications in previous five years
- Number of refereed conference publications in previous five years
- Number of other significant publications, e.g. books
- The total number of **active** people in the research group.
  - This may help to determine the capacity of the group to use the requested resources.
  - Examples of **not currently active** group members that **should not be included** in the total:
    - Members no longer using resources, but have papers under review.
    - Members no longer working on the project but hold potential for further/future collaboration.
- Awards and Honours – number
  - University Research Awards
  - Professional Society Awards/Medals (e.g. AIP, RACI)
  - ARC Fellowships

Review Stage 2 – Identifiable and Optional

This second stage gives reviewers the option to reveal the identifiable track record of a team. They will also be able to see the Progress Report and previous use of NCMAS allocated resources if applicable, or previous HPC Experience at other facilities/through other schemes, which will contain identifiable details of previous HPC/D use.

Reviewers will have the option to adjust the score for the application based on the identifiable information. If a reviewer wants to change their score based on this additional information, they will provide a justification.

Assessment Criteria and Scoring

NCMAS applications will be scored on the following criteria:

Project quality and innovation (40%)

- Significance of the research
- Originality and innovative nature of the computational framework
- Advancement of knowledge through the goals of the proposed research
- Potential for the research to contribute to Australian science, research and innovation priorities

Investigator records (30%)

- Research record and performance relative to opportunity (publications, research funding, recognition and esteem metrics)

Computational feasibility (20%)

- Adequacy of the time commitment of investigators to undertake the research and utilise the resources successfully
- Suitability of the nominated system(s) to support the research, and the appropriate and efficient use of the system(s)
- Capacity to realise the goals of the project within the resources request
- Appropriate track record in the use of high-performance computing systems, relative to the scale of the resources requested

Benefit and impact (10%)

- Ability of the project to generate impactful outcomes and produce innovative economic, environmental and social benefits to Australia and the international community

Proposal

Describe the research to be supported.

1. Provide sufficient background to clearly define the goals of the project.
2. Emphasise the significance, impact and innovation of the research.
3. Describe the significance and impact in the **scientific domain**.
4. Describe the significance and impact on **society and industry partners** (if applicable).
5. The length and rigour of the proposal should reflect the level of resourcing requested.
6. Be specific and concise. Avoid broad general statements, such as "This research is significant to Australia".

Compute Request (kSU)	Recommended Proposal Length (words)
Greater than 5000	3000
2000 - 5000	2000
Facility minimum - 2000	1000

Computational Details

Provide details on:

- Scalability on each nominated facility:
  - For software with **multi-node** capability, scalability tables and plots should present data relative to **single node** performance, not **single core** performance.
- Compute job resources at each nominated facility.
  - Provide details on typical job configurations for your workflows, including
    - expected wall times
    - number of nodes/cores
    - data dependencies
    - expected throughput, and so on.
- Storage
  - Describe data storage requirements and data life cycle for your project.
- Algorithms and Workflows
  - Describe parallelism in your application(s) and how this relates to mathematical algorithms used. Describe data movement and lifecycle.
- Provide a clear justification for use of supercomputer resources.
  - This justification might elaborate on, for example, a requirement for large scale parallel jobs, high throughput workflows, or data-intensive workflows using large data sets.
- If previous resource usage at a facility has had low efficiencies, explain why, and describe your strategies to improve efficiency.
  - One example of inefficiency is an application with a large memory per core requirement. This can lead to underuse of reserved cpus.

Computational Details should be no longer than 10 pages in PDF, or 5000 words excluding references.

Proposal and Computational Details Format

Guidelines for proposal formatting follow general ARC conventions.

- Use plain English and comply with the proposal format and submission requirements.
- Use Australian English spelling.

The anonymous third-person style for application is not optional for this round and is applied to ALL applications.

- More detail can be found above in the **Anonymous third-person writing style** section**.**

Proposal and Computational Details must be provided as a PDF upload (**one file only – both components should be included**).

A PDF will give you more control over formatting and presentation, including any tables, titles, illustrations or graphs.

Proposal and Computational Details PDF

Proposal and Computational Details should be combined into a single PDF file to be uploaded. Guidelines for the length of this combined text are listed in the table below.

Compute Request (kSU)	Recommended Proposal AND Computational Details Length (words)
Greater than 5000	8000
2000 - 5000	7000
Facility minimum - 2000	6000

All pages of additional text (uploaded in PDF form) must be as follows:

- Black type, or occasional coloured type for highlighting purposes
- Single column
- White A4 size paper with at least 0.5 cm margin on each side, top and bottom
- Text must be size 12 point Times New Roman or an equivalent size before converting to PDF format and must be legible to assessors.
    - Otherwise, a highly legible font type must be used: Arial, Courier, Palatine and Helvetica subject to them being an equivalent size to 12 point Times New Roman.
    - Variants such as mathematical typesetting languages may also be used.
- References can be in 10 point Times New Roman or equivalent
- Applicants should note that colour graphs, colour photographs, detailed graphics, and grey scale objects may be reproduced in black and white.
- Additional text uploaded as PDF may appear slightly reduced in size due to NCMAS formatting of attachments.
    - Additional text uploaded in PDF form should be directly generated rather than scanned to maximise the quality of reproduction.
- The NCMAS Secretariat reserves the right to seek an original electronic copy of the Proposal to determine that the text meets these requirements.

Progress Report

If your project is currently supported by an NCMAS grant, describe research highlights and notable outcomes for your project in the calendar year (2020) to date in the Progress Report.

These may be cited, with your consent, to promote the scheme.

The effectiveness of the usage of any NCMAS resources previously provided may be assessed through the productivity and outcomes generated by previous allocations. This might include papers in high-impact journals, patents or other outcomes of impact and/or national benefit.

If you are successful in your NCMAS 2021 application, you will be required to submit a Progress Report in Quarter 1 of 2022.

HPC Experience

If you did not receive an NCMAS grant for 2020, describe your previous experience with HPC, including:

1. a general overview of your experience,
2. systems used, and
3. application codes, algorithms and workflows.

Computing Request and Allocation

Minimum

Each facility has set a minimum threshold (cpu-hours per year) for resource requests – these are also the minimum for NCMAS 2021 allocations.

Proposals assessed as not requiring at least the minimum allocation at a selected facility will not be awarded NCMAS resources at that facility.

Applicants requiring less than the NCMAS minimum allocation are encouraged to approach their home institution, regional or state-based HPC consortia (i.e. Intersect, QCIF, TPAC), or partner schemes on the national facilities held by their institution with their resource request.

Facility-System	Minimum Allocation (kSU/year)
NCI-Gadi	500
Pawsey-Magnus	250
MASSIVE	50
UQ-FlashLite	20

Maximum

Resource requests for NCMAS are not subject to a maximum limit (cap). Unbounded resource requests allow researchers to prepare a single proposal that can be considered by multiple allocation schemes, and which reflects their actual demand for HPC resources. A request for more than 5000 kSU per year on any one facility would normally be associated with a team of experienced researchers who clearly demonstrate a track record of efficient and productive use of HPC resources. Note that any proposal deemed not to have fully justified the resources requested will be rejected by the National Computational Merit Allocation Committee (NCMAC).

Administrative Assessment

Before the Facility and Merit Assessment phases, each application goes through Administrative Assessment. This specifically looks at the completeness, compliance and eligibility of an application as it is submitted.

The Administrative Assessment is intended to minimise cases of outright rejection due to completeness and/or compliance issues. The NCMAS Secretariat manages this phase of assessment, with oversight from the NCMAS Committee Chair. The Administrative Assessment does not provide feedback or advice on scientific or technical components of an application.

NCMAC 2021 – About the NCMAS Committee

Resource allocations are made by an independent peer-review committee – the National Computational Merit Allocation Committee (NCMAC). The NCMAS Secretariat services are provided by NCI from its base at The Australian National University in Canberra.

Committee members will be appointed for a **four-year term**, with approximately half of the NCMAC being renewed every two years. A Deputy Chair and Chair are appointed for a two-year term from the NCMAC's membership.

The NCMAC considers project applications according to the Assessment Criteria.

Appeal Process

All decisions of the NCMAC are final. Appeals will be considered only against administrative or procedural issues and not against decisions of the Committee or against assessor ratings and comments, in a manner consistent with the practices of the Australian Research Council.

The Administrative Assessment phase of the NCMAS process for the 2021 call gives applicants a timely opportunity to correct errors or address non-compliance issues in their applications, and submit their application for consideration, instead of being rejected outright. The Administrative Assessment process effectively eliminated administrative appeals in the NCMAS 2020 call.

Administrative appeals must be submitted by the project Lead CI, via email to ncmas-secretariat@nci.org.au. The deadline for submission of an administrative appeal is 5:00 pm AEDT Friday 05 February 2021.

Administrative appeals will be considered by the NCMAC Chair and Deputy Chair, and processed within 28 working days. Appellants will be notified of their outcome by email as soon as possible following a final decision by the Chair.

The administrative appeal process is intended to:

- Determine whether administrative or procedural errors have occurred in NCMAS processes;
- Determine whether any such errors affected decision making by the NCMAS Secretariat and/or NCMAC;
- Determine whether to uphold or dismiss an appeal;
- Provide feedback to the NCMAC and NCMAS Secretariat in relation to how NCMAS processes could be modified or improved.

Conditions of Use

Autonomous Sanctions and the Defence Trade Controls Act

All Lead CIs on NCMAS applications are required to certify (via a question on the NCMAS application form) compliance of their project with recent Commonwealth legislation, in particular, the Autonomous Sanctions Act (2011, Cth) and the Defence Trade Controls Act (2012, Cth). These articles of legislation impose additional requirements for supporting documentation and certification of project researchers in some circumstances. Applicants should review the current conditions of use on the websites of each of the participating HPC facilities:

- National Computational Infrastructure (NCI)
- Pawsey Supercomputing Centre
- Specialised Facility in Imaging and Visualisation (MASSIVE)
- University of Queensland Research Computing Centre

Compliance with Commonwealth legislation is managed through your institution's research office. Consult your research office if you have specific questions about Autonomous Sanctions or DTCA compliance.

Email Addresses

To ensure compliance with relevant Australian Government legislation, all researchers named in NCMAS applications must register and use an official institutional email address for all correspondence. Chief Investigators and Researchers who currently use a non-institutional email address (for example, @gmail.com or @yahoo.com) must register an official institutional email address. It is the responsibility of the project Lead CI to ensure that all project staff register and use official email addresses.

HPC Resourcing Alternatives

Facility partner schemes and start up schemes offer an opportunity to supplement your NCMAS allocation or provide alternatives to NCMAS for projects which are gaining experience and developing HPC capabilities. An application to a partner or start up scheme will usually be less onerous than an application to a merit scheme, such as NCMAS. Partner schemes, in many cases, can allocate resources on a more flexible schedule to accommodate developing workflows.

Partner and start up scheme allocations are determined by the Partner Scheme Manager for each partner. The Scheme Manager is the responsible allocation authority for the partner institution.

The following sections describe start up and partner scheme options to obtain national facility resources independently of NCMAS.

Start-up and Introductory Schemes

Projects that are developing experience, or that require less than the minimum NCMAS allocation available on the national HPC facilities should consider applying to a facility start up scheme.

Scheme	Facility	Resources Available / Information	Email
NCI Start-up	NCI/ Gadi	5 kSU/year (Gadi). Default /scratch allocation of 72 GB. Start-up projects are not eligible for /g/data or massdata allocations. Apply at https://my.nci.org.au/	help@nci.org.au
Pawsey	Pawsey/ Magnus	Contact Pawsey's Helpdesk	help@pawsey.org.au
MASSIVE Start-up	MASSIVE	MASSIVE considers trial projects requests. Please email help@massive.org.au for more information.	help@massive.org.au
FlashLite Start-up	UQ/ FlashLite	https://rcc.uq.edu.au/flashlite	m.hankel@uq.edu.au

Partner Schemes - NCI Gadi

NCI partner schemes contacts are listed on the Scheme Managers page. Scheme eligibility generally depends on your home institution.

NCI User Services (help@nci.org.au) can answer general questions about partner scheme eligibility and help you to contact scheme managers.

Partner and Energy&Resources Schemes – Pawsey Magnus

Information about the Pawsey Partner Schemes can be found here and information about the Energy&Resources schemes is available here.

The Pawsey user support service (help@pawsey.org.au) can answer general questions about your eligibility and can provide guidance in obtaining resources for your project.

Recommendations for Applicants

The NCMAS 2021 Call for Applications is expected to be highly competitive. For the NCMAS 2020 call:

- Over 350 million SU in total were awarded to applicants at the four HPC facilities: NCI, the Pawsey Supercomputing Centre, MASSIVE and UQ/RCS.
- Allocated resources were only 1/3 of the total requested resources.
- 241 of 329 applications (73%) received allocations on one or more of the HPC facilities.

The recommendations below are provided as general advice to help you improve your NCMAS application. These recommendations address questions received and the experiences of applicants, the Secretariat and the Allocation Committee in previous NCMAS calls. The NCMAS 2021 FAQ page may also provide information to help you complete your application.

All Applicants

- Read all NCMAS announcements and supporting documentation in full. Watch for updates from the NCMAS Secretariat throughout the Call for Applications period.
- You must provide the year of award for your highest degree (PhD) in your applicant profile (my.nci.org.au/mancini/about-me) and in the application form
- Ensure that personal profiles and research track records of the Lead CI and all CIs on your application are fully up to date.
- Respect the length guidelines (for word count and degree of detail) for each question in the application form.
- Ensure your Proposal and Computational Details are written in **Anonymous Third-Person style**
    - These will be uploaded together – as a single PDF file
- Provide a comprehensive justification of your request for HPC resources.
- Successful applications will demonstrate an ability to use the HPC facilities at scale, and leverage efficient multi-CPU jobs, data interconnects and high-performance storage.
- Cite publications which acknowledge NCMAS and the participating HPC facilities.
- Cite only those research grants that are directly attributed to the Lead CI or CIs on the application.
    - *Citing a grant on which the Lead CI or a (regular) CI from the project is not directly named is a breach of the rules.* ***This will disqualify your application.***
- Submit your application before the final submission deadline.
    - **Submission is final** – no changes or corrections can be made to the application once submitted, except by supplying addenda for:
        - Newly announced funding, or
        - Additional information as requested by Administrative or Technical Reviewers
- Late submissions will not be accepted.

New Applicants - New Projects

- Describe your previous experiences with HPC in as much detail as possible. Assessors expect to see:
    - a summary of your previous HPC experience
    - systems and facilities used
    - experience with other resourcing/allocation schemes, e.g. facility Start-up or Partner schemes – demonstrate expertise and capability
    - details of application codes, algorithms and workflows
- Ensure your Proposal and Computational Details sections are written in **Anonymous Third-Person style**
    - These will be uploaded together – (as single pdf file)
- Align your resource request with the scope of work and your HPC Experience.
    - An application with very large requests, for example 10,000 kSU/year, should clearly demonstrate sustained, expert utilisation of HPC at scale.
- All applicants – including Early Career Researcher - must cite evidence of independent research funding
- The minimum compute allocation available from the NCMAS is based on the facility/ies requested

Facility-System	Minimum Allocation (kSU/year)
NCI-Gadi	500
Pawsey-Magnus	250
MASSIVE	50
UQ-FlashLite	20

    - If you require less than these minimums for your project, consider making an application to facility start-up or partner schemes.
    - See the section - HPC Resourcing Alternatives – for more information.
        - Partner schemes generally have more flexibility to provide smaller allocations and have less onerous proposal requirements than NCMAS.
        - A partner scheme allocation is an ideal vehicle for gaining experience and growing a project to a level where it can be competitive in the NCMAS.

Returning Applicants - Existing Projects

- Assessors will expect to see a detailed justification of your resource request.
    - Requests for **increased** allocations in 2021 should provide as much detail as possible justifying the additional resources.
        - This will only be revealed in the secondary/identifiable review stage
- If your project has used less than 90% of your 2020 allocation at 2020 Q3 (pro rata), you should provide an explanation for under-utilisation of your current allocation.
    - Applications that do not address under-utilisation of a current allocation have a low probability of success.
- Ensure your Proposal and Computational Details sections are written in **Anonymous Third-Person style**
    - These will be uploaded together – as a single file (PDF)
- Update all scientific and technical components of the Proposal to reflect the current scope of work and methods.
- Provide compelling evidence for code performance and scaling in your application.
- If your 2020 NCMAS application was **not successful**, you are welcome to apply again.
    - A demonstration of lessons learned and advancement of your experience and capability will work in your favour.
- Provide a Progress Report
    - This is status update on your experiences and outcomes in 2020 (to date) as a result of your NCMAS allocation.
    - Describe notable outcomes and changes to the project.
    - The content of this report will only be shared with the NCMAC as part of Stage 2 merit assessment (Open/Identifiable) and therefore does not need to be anonymised.

Project Roles and Responsibilities

Lead Chief Investigator (Lead CI)

- Leads and manages the project research team.
- Approves or rejects project team membership requests.
    - At each NCMAS call, the Lead Chief Investigator **must remove any project members who will no longer be associated with the project**.
- Provides a track record of research output and funding support in the NCMAS application.
- Approves and submits the final NCMAS application for the project.
- Acts as the official point of contact between the project, the NCMAS Secretariat and the NCMAC.
- Provides confirmation and consent for participating in the WISA Trial of Anonymising Research Funding Proposals
    - This only relates to use of anonymised data in the trial – data about Lead CI and your project's grant outcome
    - Anonymisation of application content in Proposal and Computational Details is required for compliance

Chief Investigator (CI)

- Supports the Lead Chief Investigator in preparing the NCMAS application and managing the project.
- Provides a track record of research output and funding support for the NCMAS application.
- Can be promoted to a Delegate Lead CI role in cases where the Lead CI wishes to delegate project management responsibilities (see below).
- Cannot see the application in the system until after submission

Delegate Lead Chief Investigator

- Appointed by Lead CI to **actively manage a project and NCMAS application**.
    - Expectation that the Lead CI will appoint a CI as Delegate.
- Responsibilities are those of the Lead CI, including:
    - Provides confirmation and consent for participating in the WISA Trial of Anonymising Research Funding Proposals
        - This only relates to use of anonymised data in the trial – data about Lead CI and your project's grant outcome
        - Anonymisation of application content in Proposal and Computational Details is required for compliance

Researcher

- Member of the project research team.
- A researcher’s track record is not included for consideration in the NCMAS application.

NCMAS Process Outline

The NCMAS allocation process comprises the following stages:

1. Call for applications announced (Secretariat)
2. Applications accepted (Secretariat)
3. Administrative Assessment – Completeness, Eligibility and Compliance verification (Secretariat)
4. Technical Assessment (by nominated Facilities and Secretariat)
5. Merit Assessment (NCMAC)
6. Allocation Committee meetings (NCMAC, supported by Secretariat and Facilities)
7. Notification of outcomes (Secretariat).

The Secretariat will review all applications for compliance as soon as possible following the application deadline.

- Potentially non-compliant applications will be referred to the NCMAC Chair for a final decision.
- The Secretariat will notify the Lead CIs of all applications confirmed as non-compliant within fourteen (14) days of the application deadline.

Nominated HPC facilities will assess each application for suitability/fit for its HPC systems in the technical assessment.

- A facility may contact an applicant for further information as part of the technical assessment.
- Technical assessments are provided by the facilities as advice to the NCMAC.
- The NCMAC may also recommend that an applicant consult a nominated facility for further technical advice during merit assessment or after an allocation is awarded.

Assessment and Allocation Protocol

Assessment of proposals will be based on a combination of technical and scientific merit (see Assessment Criteria) based on material provided in the application.

- All applicants are expected to provide a detailed justification of the resources requested and are expected to demonstrate the capacity to utilise the requested HPC resources effectively.
- All requests must be proportional to the scientific merit of the proposal. The NCMAC reserves the right to allocate all or part of the resources available, and all or part of any specific request.

Assessment and allocation decisions are made by the NCMAC only. The NCMAS Secretariat and HPC facilities provide advice or supporting information to the NCMAC but are not otherwise involved in determining allocations.

Frequently Asked Questions

The questions and answers presented in this section reflect actual enquiries and situations from previous NCMAS calls. The Committee and Secretariat recommend that all applicants read this FAQ section in full.

General

1.0	I have a question about NCMAS 2021 and can't find an answer in this FAQ. How do I get more information?
	Email ncmas@nci.org.au if you have any questions about NCMAS. This email will reach the Secretariat, who will contact you with further information.
1.1	What is the deadline for application?
	The application deadline is 5:00 pm AEDT Monday 26 October 2020.
1.2	Can I request an exception to the application deadline if it overlaps with a travel or work commitment, such as a conference?
	Unfortunately, no. If you have commitments at or near the deadline you are advised to submit your application as soon as possible during the call.
1.3	If I have a draft application in the NCMAS system at the time of the submission deadline will I be allowed extra time to finish and submit my application?
	No. Applications **cannot** be submitted after the deadline.
1.4	Can I resubmit my application from the previous NCMAS call (2020) with minor changes and updates?
	No. Resubmission of an application as-is from the previous call without updates to reflect progress **is not recommended** and may not be compliant. Applications from the NCMAS 2020 round can be viewed at https://ncmas.nci.org.au/2020/ Note, also, that all CI's on your project should update their career profiles and research track records to reflect recent developments or changes. Compliance for NCMAS 2021 includes anonymous third-person style for the Proposal and Computational Details components. Applicants can submit these components for an optional pre-submission review by the NCMAS Secretariat through the NCMAS form to receive feedback before final submission.

Grants

1.5	The outcome of my **ARC or NHMRC grant proposal** is expected to be announced during the NCMAS call. • How do I include this outcome in my NCMAS application?
	Research funding outcomes announced in the September-December time frame are relevant to your application. • You may submit an addendum to add recently announced funding via email to ncmas@nci.org.au until the Merit Assessment begins.
1.6	What period is covered by the "previous five (5) years" requirement for publications and grants?
	The "previous five years" period extends from 2015 to the present, inclusive.

Lead Chief Investigators, Chief Investigators, Researcher roles

1.7	Is it possible to transfer my project to another Lead Chief Investigator?
	Yes. The recommended process is: • The new Lead CI should register and join the project using the https://my.nci.org.au system. • If you (as current **Lead CI**) wish to leave the project, you should promote another project member to the **Delegate Lead CI** role, and then leave the project. Leaving the project will elevate the **Delegate Lead CI** to the (full) **Lead CI** role. • If you (current **Lead CI**) wish to remain in the project in a (regular) **CI** or **Researcher** role then submit an NCI support request to change your project role. The support request can be submitted by email to help@nci.org.au. Please provide the project code, your request and the new **Lead CI**'s information in the support request.
1.8	I'd like to include as many researchers as possible on my project to demonstrate its significance and impact. • Can I include former members of my group, with whom I still collaborate?
	A Lead Chief Investigator should update their project memberships to include personnel who will actively contribute to the project during the next calendar year. • Inclusion of former group members who will no longer contribute to the research is **not recommended**. • Retention of a previous Chief Investigator could inadvertently breach eligibility rules if that CI is now listed on another NCMAS application. • The key rule to observe is: **An investigator can be named as a Lead CI or (regular) CI on one project only**
1.9	I am a research student, and my supervisor has asked me to complete the NCMAS application for our research group. What do I do?
	Your supervisor needs to change your project role to **Delegate Lead CI** to enable you to access the online NCMAS application form. • Your supervisor can do this through the NCI registration system (https://my.nci.org.au) or by emailing NCI support at help@nci.org.au. • Note that as **Delegate Lead CI** you become the responsible agent for the application. You will need to keep your supervisor informed through the call for applications period.
1.10	Why do I need to update memberships of my NCMAS project?
	The members of you project should include only those who actively contribute to the project. Prior members of you research team who will no longer contribute should be removed from your project. Note that removing former team members is also required under **Conditions of Use** for NCI and other HPC facilities.
1.11	My research team includes people who will not be involved in computational work for my project. Should these non-computational team members be included in my NCMAS application?
	Team members who are not part of computational activities are not required to be listed on your application. Note that if you do wish to include such persons, they will need to register for an NCI user account and join your project.

Application process, proposal components

1.12 Does the word length limit for the Proposal apply to both the Proposal body and references?

The recommended length is for the body of the Proposal. NCMAS recommendations are rough guidelines, which are intended to capture appropriate levels of detail and ensure that larger resource requests have sufficient scientific and technical justification.

Proposal and Computational Details should be combined into a single PDF file to be uploaded. Guidelines for the length of this combined text are listed in the table below.

Compute Request (kSU)	Recommended Proposal AND Computational Details Length (words)
Greater than 5000	8000
2000 - 5000	7000
Facility minimum - 2000	6000

The online form does not enforce a word limit in the PDF upload.

1.13 Can I request fewer than 500 kSU per year in the 2021 NCMAS call?

Yes – if you are requesting resources on Magnus, FlashLite, or MASSIVE.

Facility-System	Minimum Allocation (kSU/year)
NCI-Gadi	500
Pawsey-Magnus	250
MASSIVE	50
UQ-FlashLite	20

The minimum compute request on Gadi is 500 kSU.

Applicants with smaller requests are advised to contact facility and/or partner allocation schemes.

1.14 Can I attach my CV instead of entering publication and grant information on the application form?

No. It is not possible to attach a CV to the application. Please enter relevant publication and grant information on the online form.

1.15 Our NCMAS Proposal contains graphs and images. How do I include figures in my application?

Submission of the Proposal and Computational Details via PDF upload in your application gives you more control over proposal format and content, including figures and graphs.

1.16 My project requires HPC resources for two types of work

1. Research and development, and
2. Ongoing operations, for example, a data analysis service.

Can I use NCMAS to obtain resources for both types of work?

NCMAS should be used to obtain resources for your **research and development** work.

Facility and/or partner schemes are usually the appropriate resourcing channels for operational or service HPC workloads.

1.17	Can I modify or correct errors in my NCMAS application after submission?
	Submission is considered final, as noted in the Information for Applicants, so an application cannot be modified following submission. You may submit an addendum to add recently announced funding via email to ncmas@nci.org.au.
1.18	How can I make my application more competitive?
	First, make sure you are applying in the category appropriate to your level of experience. • Postdoctoral fellows who are establishing themselves in the field are advised to submit an ECR application. All applicants should read the Information for Applicants in full, pay attention to detail, and demonstrate to the fullest extent their ability to use national facility HPC resources at scale.
1.19	Why is the application process so complex?
	NCMAS is very competitive and resources are limited. Applications must capture detailed information needed by the Committee to assess scientific merit and the ability to use HPC resources at scale.
1.20	Why don't I receive detailed feedback about my application?
	NCMAS receives approximately 250-300 applications in each yearly call. Committee workloads are such that detailed feedback for each application is not possible; each member of the NCMAC will assess between 20 and 50 applications. The NCMAC will, however, try to provide brief suggestions to the applicant in as many cases as possible. The NCMAC will also record comments raised during the allocation meeting for inclusion in your outcome.
1.21	Can I get advice on how to write my NCMAS application?
	Unfortunately, the Secretariat and Committee are not able to provide specific advice to individual applicants. All applicants are advised to: 1. Make sure to read all supporting documentation, including rules and guidelines. 2. Read through the example Proposal and Computational Details provided – this was a highly ranked submission from the 2020 round. 3. Check your eligibility. If you have questions about eligibility contact the Secretariat as soon as possible. 4. Update your profile and research track record and contact the CIs in your research team to ensure they have completed updates. 5. Make a compelling case for your proposed research. 6. Demonstrate your ability to use the national HPC facilities at scale. 7. Include references for all research funding over the previous 5 years. 8. Submit your application through the optional compliance check for A3P. It is the responsibility of the applicant to make any suggested changes before final submission 9. Write clearly. Pay attention to detail. 10. Respect the guidelines and the submission deadline. 11. Review the example application provided

1.22 My NCMAS 2020 application was unsuccessful. Why didn't I receive an allocation?

In most cases NCMAS applications are not successful for one of the following reasons:
1. Eligibility issues;
2. Non-compliant or incomplete application;
3. Poor conception or development of proposal;
4. Insufficient demonstration of peak-scale HPC requirement;
5. Inadequate justification of HPC resource request;
6. Ambit claims for large-scale resources.

New applicants to NCMAS should, if possible, demonstrate a track record of effective HPC utilisation through partner or facility resourcing schemes.

1.23 Why do some projects receive large NCMAS allocations?

NCMAC will consider allocation of more than 5 MSU/year to applications which demonstrate exceptional and sustained track records or HPC utilisation, and which make a compelling case for HPC resources at large scale.

- Projects in this category typically present well documented resource requests with compelling justification, and with extensive details of methodology, workflows, application performance, and scalability.
- These projects also have strong records of successful grant proposals and research output.

1.24 What is the proper length and level of detail for a NCMAS Proposal?

Recommendations for Proposal length are listed in the Instructions for Applicants document. Length guidelines are stated as word counts for the Proposal and word count/page limit for the Computational Details.

It is important to note that the level of detail in a Proposal is expected to be proportional to the resource request. An application which makes a large resource request and has a short proposal with sparse details is unlikely to be successful.

Compute Request (kSU)	Recommended Proposal Length (words)
Greater than 5000	3000
2000 - 5000	2000
Facility minimum - 2000	1000

Computational Details should be no longer than 10 pages in PDF, or 5000 words excluding references.

Proposal and Computational Details should be combined into a single PDF file to be uploaded. Guidelines for the length of this combined text are listed in the table below.

Compute Request (kSU)	Recommended Proposal AND Computational Details Length (words)
Greater than 5000	8000
2000 - 5000	7000
Facility minimum - 2000	6000

New projects

1.25	Is the project description in the NCI new project application the same as the Proposal for NCMAS in the application form at https://ncmas.nci.org.au?
	No. The description in the NCI new project registration (at https://my.nci.org.au) is treated as a proposal abstract for the purposes of NCMAS. The full, detailed proposal must be submitted in the NCMAS online application form – https://ncmas.nci.org.au.
1.26	Does the NCI new project request submitted through https://my.nci.org.au need to be **approved** before the project is available in the NCMAS application system at https://ncmas.nci.org.au?
	No. New projects registered for NCMAS at https://my.nci.org.au remain in "pending approval" state until their NCMAS outcome is determined. NCI will approve project registrations for successful applications after NCMAS outcomes are finalised.
1.27	Last year I made a mistake and completed a project registration in the https://my.nci.org.au system **but did not complete the full NCMAS proposal** in the https://ncmas.nci.org.au system and missed out. How can I make sure to complete a full application in the 2021 call?
	Read the instructions in the Information for Applicants document in full and ensure that you complete your new project registration and your full merit proposal. Contact ncmas@nci.org.au if you run into any difficulties during the application process.
1.28	How do I use the ORCID functionality in my NCMAS application?
	Applicants must import publication references from ORCID via the interface in the NCI online registration system, https://my.nci.org.au. The ORCID interface allows the user to nominate publications from their ORCID record for inclusion in an NCMAS application. (Note that the my.nci.org.au ORCID implementation gathers data from ORCID only; it is not an alternative tool for managing your ORCID record.) Detailed instructions for using ORCID are provided in supporting documentation via the NCMAS website. ORCID will be the only method for managing publications in your NCMAS application. **All applicants should read supporting documentation for ORCID functionality in full.**

New NCMAS Form

1.29	Can I add/update project members to my NCMAS application after submitting?
	No. The NCMAS system will take a snapshot of the project membership at the time of application submission. Adding/updating project members after the submission will not be reflected in the NCMAS application.
1.30	Can I add/update career profiles and publications for all CI's to the NCMAS application after submitting?
	No. The NCMAS system will take a snapshot of the project members' career profiles and publications at the time of submission. Adding/updating career profiles and publications after submission will not be reflected in the application.
1.31	How can I request an A3P compliance check for my draft Proposal and Computation Details document?
	A 'Request a compliance check' button is located on the 'My Application' tab in the online submission form. The NCMAS Secretariat will provide feedback on whether your writing style complies with A3P requirements. Compliance checks must be submitted by 5pm AEDT 12 October. It is the applicant's responsibility to adopt any suggested changes before final submission.
1.32	I have drafted a new project proposal for the NCMAS scheme (proposal-XXXXXX) and want to add people to this project proposal. How do I add people to my new project?
	Anyone who wants to join the new project proposal (proposal-XXXXXX) should visit https://my.nci.org.au/mancini/project/proposal-XXXXXX/join to request the project membership. Then the Lead CI of this proposed project will be able to approve the membership request using the https://my.nci.org.au system. However, please note that, this needs to be done before submitting the application as adding/updating project members after the application submission will not be reflected in the submitted NCMAS application.
1.33	I am a Delegate Lead CI and have discovered the project I'm applying for no longer has a Lead CI. What should I do?
	You should get a suitable Lead CI on the project as soon as you can. You will not be able to submit an application for the project unless the Lead CI role is filled. As a Delegate Lead CI you can use the invitation function in the my.nci.org.au system to invite a Lead CI on board, or ask the new Lead CI to register at my.nci.org.au and request to join the project. You will have privileges to approve the new Lead CI's membership.

Allocations

2.1	I was unable to utilise most of my 2020 NCMAS allocation due to unforeseen circumstances or external dependencies. Can I still apply to NCMAS for 2021?
	Yes. Your application should clearly explain the circumstances leading to under-utilisation of your 2020 allocation. Your application should provide a strong justification of your 2021 resource request.
2.2	My project expects to use its NCMAS allocation at specific periods during 2021, and to have some corresponding periods of low usage. • Can I request that my allocation be provided non-uniformly across quarters in 2021 to accommodate this operational requirement?
	Non-uniform installation of a compute allocation is at the discretion of the HPC facility. Generally, facilities can accommodate small variations in quarterly allocations. They will not, however, be able to install an allocation into just one or two quarters, for example. Applicants who have scheduling dependencies and expect to have seasonal or varying usage are advised to engage directly with the facilities to discuss their options.
2.3	In 2020 I consumed my allocations before the end of each quarter. Can I request supplemental allocations if I face a similar situation in 2021?
	No. Unfortunately, NCMAS is unable to provide supplemental allocations because it is heavily oversubscribed. Supplemental allocations are best sought from partner schemes if additional resources are needed during the year.
2.4	Why have my previous NCMAS allocations been less than the amount requested?
	NCMAS allocations are highly competitive; demand for cpu-hours has exceeded supply by a factor of 2-3. The Committee determines each allocation based on the merit of the proposal and track record of the project and its CIs. The Committee must also adjust allocations to attempt to optimise usage of the NCMAS resource shares.
2.5	Can I appeal if I am not satisfied with my NCMAS outcome?
	Allocation decisions by the Committee are final. Appeals are accepted only in cases of administrative error on the part of the Secretariat, Facilities or the Committee. Administrative appeals are decided by the NCMAC Chair, with the assistance of the Secretariat.
2.6	Can I apply for a Pawsey/Magnus allocation and use Topaz resources?
	Resources are allocated on the nominated NCMAS systems via the NCMAS allocation application process. The facilities do have access to other technologies and services, and access to these resources may be requested if needed. These other systems may be leveraged after the allocation on the main systems has been awarded if there is capacity and the researcher requests to do so with the facility.

.

Eligibility

3.1	I am a research student, and my supervisor has asked me to submit an application to NCMAS. What should I do?
	As a research student you are not eligible to apply for NCMAS. You should advise your supervisor to check their eligibility and apply.
3.2	As a Lead CI, I want to delegate preparation of my NCMAS application to a senior member of my research group. How do I do this?
	Promoting a team member to a Delegate Lead CI role on your project will grant them access to the NCMAS online application system. Promotion is done through the online registration system at https://my.nci.org.au : 1. Log in to https://my.nci.org.au 2. Go to your project listing (click on project name - in blue) 3. Select your delegate's name (click on name) 4. Use the Change tab to change the person's role to Delegate Lead CI 5. Submit the change.
3.3	I am a Lead Chief Investigator on my own project, and I also collaborate closely with a research group at another university. • Can I be included as a (regular) Chief Investigator on my collaborator's NCMAS application?
	No. • **An individual can be a Chief Investigator or Lead Chief Investigator on one NCMAS application only.** • Membership as a Chief Investigator or Lead Chief Investigator in more than one NCMAS application **will render all such applications noncompliant**.
3.4	I have recently started a Postdoctoral appointment and wish to submit an application to NCMAS. • What should I do?
	You are eligible to apply to NCMAS, however, you will be expected to demonstrate that you have independent research funding support, such as an ARC DECRA or similar award. • Applications which do not provide evidence of independent research funding will be disqualified before merit assessment. • There is also an expectation that Lead CIs with recent Postdoctoral appointments will apply in the Early Career Researcher category.
3.5	I have recently resumed my research career after a period of interruption. • Am I eligible to apply to NCMAS?
	You are eligible to apply in the **Special Consideration** category provided your research work has resumed within the last five (5) years, and your PhD was awarded within the previous nine (9) years. • Please also note that Special Consideration applications are expected to demonstrate independent funding support.

3.6	I am a Research Scientist employed at an Australian Government science agency (e.g. ANSTO, BoM, CSIRO, DST, Geoscience Australia). Am I eligible to apply?
	Yes, however applicants from Australian Government agencies are expected to hold a position of CSOF5 (or equivalent) or higher.
3.7	Our research group pursues several related compute-intensive research projects, with each research thread is led by a different member of the group. Can we submit individual NCMAS applications for each body of work in the combined research effort?
	No. The group should submit a single, combined application to NCMAS. Note that an individual may be Lead CI or CI on one application only, so individual applications submitted in this case would be ruled non-compliant.
3.8	I am an experimentalist who wishes to use NCMAS supplement my research with theory/computation. Am I eligible to apply?
	Yes. Your application should aim to demonstrate HPC expertise of your group and clearly describe how computation will contribute to your research plan.
3.9	I am a new research faculty/Postdoctoral appointment, but do not yet have a track record of funding support. Am I eligible to apply?
	NCMAS applicants are expected to demonstrate a record of independent funding support. NCMAS recommends that you investigate HPC resourcing through your local institution, which may have an active partnership with one or more of the NCMAS facilities: NCI, Pawsey, MASSIVE, and UQ/FlashLite. A resource allocation from your institution can be a vehicle for development of HPC expertise, with a view toward a future NCMAS application.
3.10	If a Researcher on a project is promoted to a Delegate Lead CI role to manage the project's NCMAS application, can that Researcher also be a Delegate Lead CI or (regular) CI on another NCMAS application?
	No. • A person who is a Researcher on two projects cannot be promoted to a Delegate Lead CI role on both projects for the purposes of completing the applications. • If any person is a (regular) CI on one project, and a Researcher on another, the Lead Cis on both projects should exercise care about personnel roles.

3.11	A Postdoctoral Fellow will be joining my project in January 2021 (formal job offer has been accepted) and I would like to include them as a CI on my NCMAS application. The future Postdoc will not receive their PhD until December 2020. • Can I include this Postdoc as a (regular) CI on my NCMAS application?
	A PhD candidate may be included as a (regular) CI on an NCMAS application. • Note, however, that the Committee will review research track records of the Lead CI and all (regular) CIs as part of the assessment process. • If the PhD candidate has outstanding research outputs this could be a positive factor for the application. • If there are few or no demonstrable research outputs it might be better for the PhD student to take a Researcher role
3.12	I have an Emeritus position at my institution. Am I eligible to apply?
	A project Lead CI with Emeritus status is eligible to apply to NCMAS. However, there is a general expectation that Emeritus-led projects will have a relatively modest size team and scope, compared to larger projects with top-tier resource requests.
3.13	Does NCMAS use the term 'ECR' in the same way as the ARC, NHMRC, my university, or other grant agencies?
	For NCMAS, the term ECR is used to define a specific application category and set of eligibility criteria. NCMAS does not use the term ECR in the same way as other granting agencies or institutions, so NCMAS applicants should not assume the term has the same meaning. All applicants are advised to read NCMAS supporting documentation in full for further information.
3.14	I am an early career researcher who would like to apply in the ECR category and also be included in my group leader's NCMAS open category application. Is this possible?
	Unfortunately, NCMAS rules state that you can be a CI on only one application. If you wish to apply for your own ECR project you cannot be listed on your group leader's project as a CI. You can, however, remain on your group leader's project in a Researcher role. As a Researcher, your track record information will not be considered in the assessment process.

Anonymisation

4.1	Why is NCMAS moving to double-anonymous reviews?
	NCMAS places a high value on the equity and integrity of the proposal review process. The goal is to minimise potential sources of bias. Several studies have shown that a reviewer's attitude toward a submission may be affected, either consciously or unconsciously, by the identity of the lead author or principal investigator (for more information - see the Women in STEM Ambassador Research Project). Reviews of other resource allocation schemes has shown that proposals led by women have systematically lower success rates than those led by men. Studies suggest a double-anonymous process would significantly reduce the potential for bias, whether by gender, affiliation, or country of origin. Such a process may also level the playing field between new and established researchers.
4.2	Are truly anonymous submissions even possible?
	Even in the relatively small community of computationally- and data-intensive research fields, it is not as likely as one might believe to correctly guess the authorship of a proposal. While it is possible to correctly guess the authorship, studies from other similarly small fields suggest the Lead CI's identity would remain unknown 60% to 75% of the time. So, while a system that provided perfectly unbreakable anonymity would be ideal, our goal is simply to **obscure identity**, to **discourage guessing**, and to **reduce unconscious bias**, and not make authorship a focus of the evaluation of a proposal.
4.3	How will you know if the experiment was successful or not?
	The Facilities do not consider the move to a double-anonymous process to be an 'experiment'. It is one in a progression of changes that are being implemented to improve the equity and integrity of the proposal review process. NCMAS will continue to evaluate the review process, with attention to fairness and balance over several factors. If you would like to be sent the published results from the Women in STEM Ambassador's Trial, you can check the box in the consent section of the application form.

4.4	Is there scientific evidence that anonymising proposals results in a reduction of bias?
	Yes. While this process may be new to computationally- and data-intensive research fields, there is an abundance of literature on this topic from many different fields. The Women in STEM Ambassador's Research Project – National Trial of Anonymising Research Funding Proposals -has reviewed the literature on this topic, and the results are clear: the removal of names and affiliations results in reduced bias in the review process. Some relevant journal articles on this are available in the **Anonymous-Double Blind Review Bibliography**.
4.5	How difficult will the changes be on applicants?
	The double anonymous proposal review process will require some changes in the way applicants write their proposals. The Information for Applicants document describes these changes and aid in the proposal preparation. The changes are mostly in the style, structure, and grammar used in describing the work. While not a lot of work, it will not be as simple as resubmitting previous versions of the same manuscript. If you are re-applying, the previous version of your application will be available as read-only for you to use as a reference. Please pay particular attention to the inclusion of career interruptions. This information will be used to create an anonymised track-record for your team that will be available to the NCMAC as part of their review.
4.6	What changes will be made to the review process?
	For the mandatory review phase, the reviewers will not know the identity of the applicants. The first stage of review is mandatory for all reviewers. The NCMAC members are encouraged to focus on the scientific merit of the Proposal and the technical justification describing the use of HPC/D resource to address the science proposed as described in the Computational Details. The reviewers will also see an anonymised set of track-record metrics to help determine the capacity of a team to conduct the proposed research. A second stage will be optional for NCMAC members. If a reviewer decides they need more information, they will be able to reveal the identifiable track record of a team. They will also be able to see the previous use of NCMAS allocated resources if applicable, or previous HPC experience at other facilities/through other schemes, which will contain identifiable details of previous HPC/D use and research outcomes.

4.7	How do the reviewers assess the applicant's responsible use of the HPC/D resource, or likelihood of scientific return?
	As with all prior NCMAS reviews, the NCMAC must use their expert judgement to determine whether each proposal would result in the proper use of the HPC/D resource and a scientific return on the project. Each proposal will still have a facility technical assessment. We encourage applicants to take extra care to sufficiently justify the technical requirements of the project, such that the facility staff can review and appropriately report on feasibility.
4.8	How can we be sure that accepted NCMAS proposals are actually feasible if the NCMAC can't assess the team's past experience?
	As part of the review of applications, NCMAS facilities provide a technical assessment of projects. Technical staff from the facilities are highly experienced and will flag potential technical challenges in proposals. It is the responsibility of the NCMAS Custodians to ensure that the community has equal opportunity for the use of HPC/D resources, regardless of previous experience.
4.9	As a reviewer, how can I be sure that the applicants are being ethical when discussing their expertise and/or access to other facilities? What if we allocate time to the wrong people?
	First, the NCMAC committee members review applications after facility technical review has occurred. The NCMAC makes recommendations for allocations based on the merit of the science proposed. The Chair and Deputy review all allocations, and will have access to all identifying details of the applicants for use in this review, including names and affiliations.
4.10	How will this affect ECR Proposals?
	All applications will be subject to this change and should be anonymised – the Proposal and Computational Details need to be written in an anonymous third-person style. ECR applications will need to follow the same anonymisation to be compliant.

4.11	When will this change be implemented?
	Now. The process will be implemented beginning in NCMAS 2021 – the call for applications for use in the 2021 calendar year, assessed by the NCMAC in late 2020.
4.12	What will happen to proposals that are not sufficiently anonymised?
	Anonymisation of the Proposal and Computational Details is mandatory for compliance, and applicants must follow the guidelines laid out in the *Information for Applicants*. If an application is found to quite obviously and blatantly disregard the anonymising guidelines, the application will be deemed noncompliant and will be withdrawn from further consideration. To support applicants in making this change, an optional A3P compliance check is available. Draft Proposal and Computational Details can be submitted before **5:00pm AEDT 12 October 2020** for this review, and feedback on A3P compliance will be provided. This is not considered final submission, and if suggested changes are not made to the draft, the application may be found noncompliant. If an applicant submits Proposal and Computational Details documents that do not comply with anonymous third-person style, the application will be judged non-compliant.
4.13	I've followed the guidelines, but my work is so niche (or my methods so unique) that I fear reviewers may be able to determine my identity. Will I be flagged as non-compliant?
	If applicants follow the guidelines for A3P style, their application will be compliant with anonymisation. It is not necessary to "water down" or obscure your science, methods, or tools, it is simply your responsibility to write about them in the third-person, in a way that does not intentionally identify yourself.
4.14	**How will the process deal with Conflicts of Interest?**
	In some respects, the reviewer COI with a given proposal are a bit simpler. If the reviewers do not know who the applicants are, how can they be conflicted? As always, reviewers can (and should) identify issues not identified by our system, personal conflicts. NCMAC members will not be assigned their own proposal for review.

4.15	Won't this change make it harder to be awarded HPC/D resource?
	No. NCMAS is allocating approximately the same amount of resource as in the previous cycle. If the number of submitted proposals were to rise, this would affect the oversubscription rate, but this has always been the case. The same is true if the requested allocation amount increases across individual applications, and therefore the total requested amount could increase. This process is not about making it harder for some people or easier for others to get HPC/D resources; it is about ensuring that the **best proposals are selected**. Your best chance of being awarded HPC/D resource is the same it has always been: think of a great idea, and write a great proposal.
4.16	Instructions within the form state not to use author names in the Proposal and Computational Details, but also state that referencing is essential. Where do references go if I can't use names in the text?
	The intention of the statement about the author name is to write application documents such that they cannot be matched to an identifiable author/applicant. It is fine to write "As Doe et al. (2018) showed..." within the text as long as the writing is such that it is not obvious that the author of the application is Doe. If you review pages 16 and 17 of the Information for Applicants, this may help you with how referencing, with names, should look. Please also make use of the optional compliance check before 12 October if you would like feedback on your application's A3P compliance - as outlined on page 4 of the Application Form Overview. A reference list can still appear at the end of your document and it is acceptable for the references in this list to include names, including the application author's name. This is not seen as identifiable as a new project in the same field of science might have a similar reference list.

NCMAS 2021 Application Checklist

Task	Comments	Done
Download and read -- *NCMAS 2021 Information for Applicants*	This document contains important rules and guidelines for the 2021 call.	
Complete the NCMAS 2021 online information course	https://learning.hpc-australia.org.au/courses/ncmas-2021-call-for-applications	
All project members update contact information and career profiles at https://my.nci.org.au	Personal information for all team members should be up to date.	
Lead CI or Delegate Lead CI should update project personnel at https://my.nci.org.au	Add new team members, and remove members who will no longer contribute to the project.	
Start NCMAS application at https://ncmas.nci.org.au	From 22 Sept 2020 This is your NCMAS application. Draft versions of your application can be saved as needed.	
OPTIONAL Submit Proposal and Computational Details for A3P Compliance Check Before **5:00pm AEDT 12 October 2020**	To support applicants in making this change, an optional A3P compliance check is available. Draft Proposal and Computational Details can be submitted before **5:00pm AEDT 12 October 2020** for this review, and feedback on A3P compliance will be provided. This is not considered a final submission, and if suggested changes are not made to the draft, the application may be found noncompliant.	
Submit final NCMAS application at https://ncmas.nci.org.au ASAP before **5:00 pm AEDT, Monday 26 October 2020**	Early submission avoids the crunch at the deadline.	
Check NCMAS outcome at https://ncmas.nci.org.au	Outcomes will be posted on the NCMAS web site on 21 December 2020	

Glossary

Chief Investigator (CI)	• Supports the Lead Chief Investigator in preparing the NCMAS application and managing the project. • Provides a track record of research output and funding support for the NCMAS application. • Can be promoted to a Delegate Lead CI role in cases where the Lead CI wishes to delegate project management responsibilities.
Computational Details	This written component of your application details the code you intend to use and provides evidence of scalability. It should also provide details of your estimated job resources and any calculations used to come to your total request amount. You can also discuss your storage requirements and details of your workflow. **This component must be written in anonymous third-person - when citing references within the proposal, use third person neutral wording.** Provide details on: • Scalability on each nominated facility: For software with **multi-node** capability, scalability tables and plots should present data relative to **single node** performance, not **single core** performance. • Compute job resources at each nominated facility. Provide details on typical job configurations for your workflows, including expected wall times, number of nodes/cores, data dependencies, expected throughput, and so on. • Storage: Describe data storage requirements and data life cycle for your project. • Algorithms and Workflows: Describe parallelism in your application(s) and how this relates to mathematical algorithms used. Describe data movement and lifecycle. • Provide a clear justification for use of supercomputer resources. This justification might elaborate on, for example, a requirement for large scale parallel jobs, high throughput workflows, or data-intensive workflows using large data sets. • If previous resource usage at a facility has had low efficiencies, explain why, and describe your strategies to improve efficiency. (One example of inefficiency is an application with a large memory per core requirement. This can lead to underuse of reserved cpus.) Computational Details must be provided via a PDF upload (one file containing both Proposal and Computational Details). A PDF gives you more control over formatting and presentation, including any tables, illustrations or graphs.
Delegate Lead Chief Investigator	• Appointed by Lead CI to **actively manage a project and NCMAS application**. • Expectation that the Lead CI will appoint a Chief Investigator as Delegate. • Responsibilities are those of the Lead CI.

Lead Chief Investigator (Lead CI)	• Leads and manages the project research team.
	• Approves or rejects project team membership requests.
	  o At each NCMAS call, the Lead Chief Investigator **must remove any project members who will no longer be associated with the project**.
	• Provides a track record of research output and funding support in the NCMAS application.
	• Approves and submits the final NCMAS application for the project.
	• Acts as the official point of contact between the project, the NCMAS Secretariat and the NCMAC.
	• Provides confirmation and consent for participating in the WISA Trial of Anonymising Research Funding Proposals
	  o This only relates to use of anonymised data in the trial – data about Lead CI and your project's grant outcome
	  o Anonymisation of application content in Proposal and Computational Details is required for compliance

NCMAC	• National Computational Merit Allocation Committee • Group of selected researchers who evaluate applications and determine allocations. • Led by a Chair and Deputy who are selected from committee members.
NCMAS	• National Computational Merit Allocation Scheme • Custodians of NCMAS are NCI Australia and Pawsey Supercomputing Centres
Progress Report	This written component of your application details the work you did in the previous calendar year-to-date – for this round that is 2020. For projects that received NCMAS grants for 2020, this is your report on what research you were able to do with the awarded resource. This component does not need to be written in anonymised style.
Proposal	The written component of your application that details the work you intend to do. You may reference previous research done in the field and how your work will expand on/shift focus/refine what has been done before. **This component must be written in anonymous third-person - when citing references within the proposal, use third person neutral wording.** Describe the research to be supported. 1. Provide sufficient background to clearly define the goals of the project. 2. Emphasise the significance, impact and innovation of the research. 3. Describe the significance and impact in the **scientific domain**. 4. Describe the significance and impact on **society and industry partners** (if applicable). 5. The length and rigour of the proposal should reflect the level of resourcing requested. 6. Be specific and concise. Avoid broad general statements, such as "This research is significant to Australia". Proposal must be provided via a PDF upload (one file containing both Proposal and Computational Details). A PDF gives you more control over formatting and presentation, including any tables, illustrations or graphs.
Researcher	• Member of the project research team. • A researcher's track record is not included for consideration in the NCMAS application.