

Request Management System (RMS) User Guide for Investigators

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Welcome!

NASA High-End Computing (HEC) Allocations

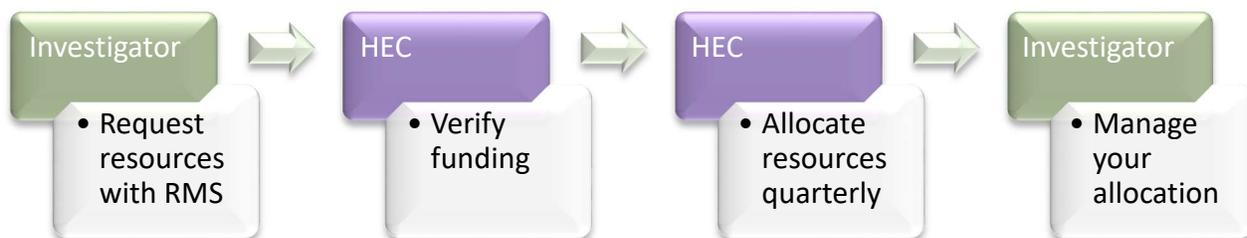
NASA operates two high-end computing (HEC) facilities: the NASA Center for Climate Simulation (NCCS) at Goddard Space Flight Center and the NASA Advanced Supercomputing (NAS) Division at Ames Research Center. If NASA funds your research and you are affiliated with a U.S. organization, you may be eligible to use NASA’s HEC facilities.

Researchers who are funded through NASA’s Research Opportunities in Space and Earth Science (ROSES) grants are guaranteed allocated computing time. Whether through ROSES or another mechanism, NASA your allocation is tightly your NASA funding. The size of the allocation depends on system capacity, overall demand for resources, and other Agency priorities.

Overall Process

NASA’s HEC Program collects multi-year requests covering the entire performance period of your funding. The HEC Program will verify your funding and make a multi-year allocation at its quarterly Allocation Authority meeting. Resources are allocated in keeping with current HEC policy.

The figure below shows the overall process using the new HEC Request Management System (RMS).



Before You Begin

Who needs an account?

- Principal Investigator (PI): whoever holds the funding.
- Computational PI (CPI): whoever is completing the request (if different).

Note: For RMS version 1.0, only the PI can submit a request. The CPI role will be implemented in a future release.

Computer Requirements

Minimum System Requirements & Configuration

- A Desktop PC or Laptop
- Any major web browser: Chrome, Firefox, Safari, Internet Explorer for latest version
- HTML5 support
- Allows JavaScript to run
- Allows popup windows

RMS Entry Point

The internet address for RMS is:

<https://request.hec.nasa.gov>

Create an Account

Before using RMS, you need to create an account. An RMS account is not the same as a NAS or NCCS account. Visit <https://request.hec.nasa.gov> to set up your RMS account and request a computing time allocation.

Note: Public email services (e.g., Gmail, Yahoo, Hotmail, etc.) are not supported due to the system's current security posture. Please use your NASA, institutional, or corporate email address.

1. Open a web browser
2. Enter the URL <https://request.hec.nasa.gov> to go to the RMS login page.
3. From the Account dropdown menu, select "Signup"

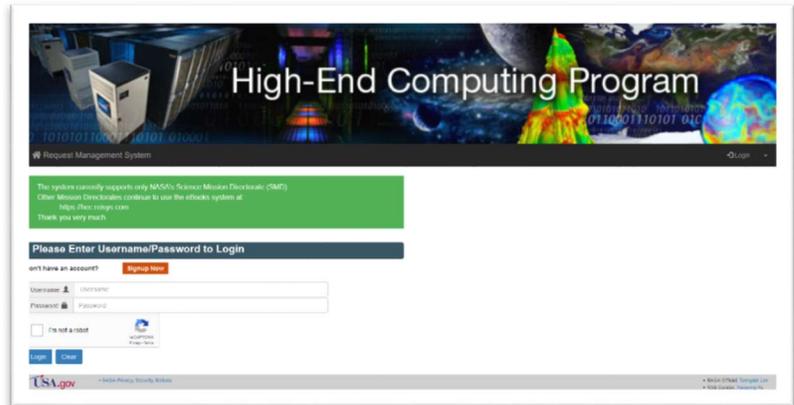
The "Create an Account" form appears

4. Complete the form. Fields marked with an asterisk (*) are required.
5. The system will suggest a username, or you can create your own. Click the "Verify Username Availability" button. A message confirming the username availability appears.
6. Click the "Register" button.
7. Check the email account that you used for RMS account creation. A message from no-reply@request.hec.nasa.gov should appear within 5 minutes. Check your spam/junk mail folder if necessary.

- Copy and paste the URL provided into your browser to verify the account. Do not include the single quotes. The “Password Setting” screen appears.
- Enter a password that complies with the rules specified in the Note box. Click the “Set New Password” button. Remember this information!

Log In

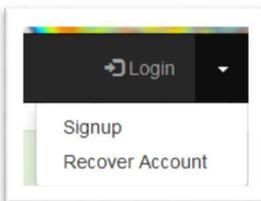
- Open a web browser.
- Go to <https://request.hec.nasa.gov>. The RMS application login page appears.
- Enter the username you selected earlier.
- Enter the password you selected earlier.
- Click the checkbox “I am not a robot.” A popup screen appears, asking you to select items on the screen.
- Click “Verify.” The popup screen closes, and you return to the login screen.
- Click “Login.” You will



see a home page titled “Welcome to the Request Management System for High-End Computing Needs.”

Lost or Forgotten Username or Password

If you forget your username or password, click the Login menu and select “Recover Account.”



Enter either your RMS Username or your email address and click the “Recover Password” button.

The

Taskboard

The taskboard is your landing page after you log in. It shows you

- Your current allocations
- Which of your requests are set to expire in the next 90 days
- Your submitted requests
- Your draft requests

Clicking the RMS Home link  Request Management System will return you to the taskboard.

Request an Allocation

The request form is divided into 6 sections:

1. **Computational Project Information:** About your project.
2. **Funding Information:** This lets the HEC program confirm your project's eligibility and duration.
3. **Desired Resource Information:** Your requested allocation.
4. **Application Information:** About your applications or models; extra support you may need. Staff are available at both NAS and NCCS to help you with code optimization, visualization, and other technical opportunities.
5. **Data Security Information:** Is your data classified? export controlled? What support do you need for disaster recovery?
6. **Data Storage:** Your requested nobackup and mass storage.

Section I: Computational Project Information

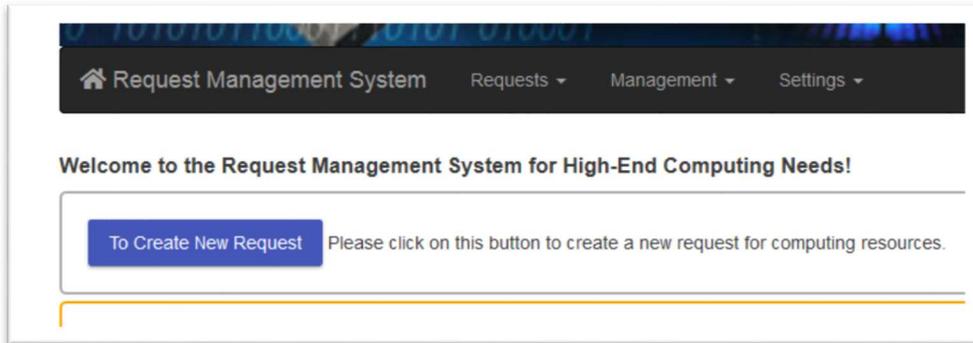
The first step in requesting an allocation is to enter information about your computational project.

How you create a request depends on whether you have a Group Identifier (GID).

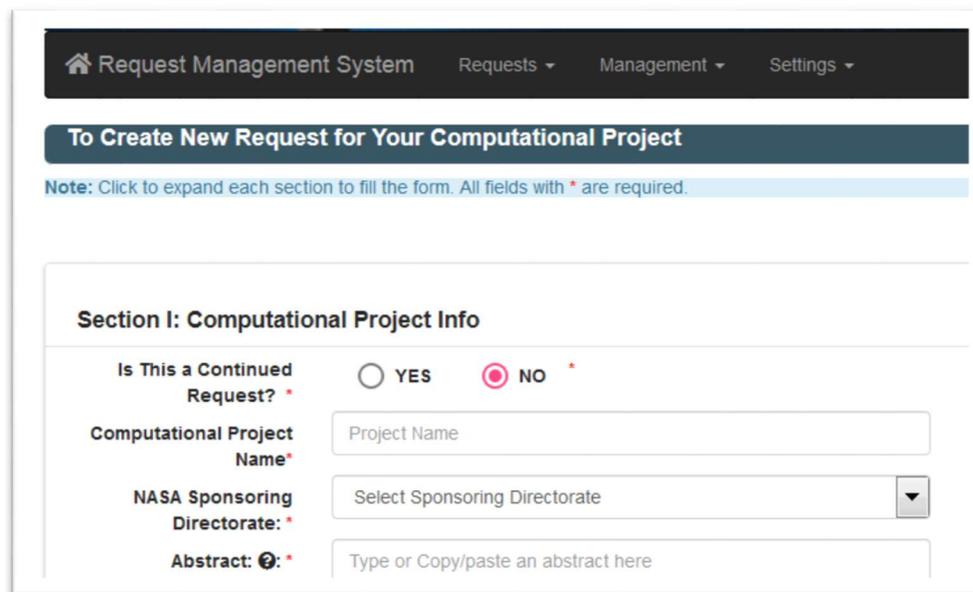
- If you have an existing GID and the science and team are essentially the same, identify the request as a Continuation.
- If you do not have a GID for this science and/or team, create a New Request. A GID will be assigned to your computational project with the first allocation.

Create a New Request (No existing GID)

1. Click the “To Create New Request” button at the top of the page. The Create New Request screen appears



2. Make sure the Continued Request “no” radio button is checked.

A screenshot of the "To Create New Request for Your Computational Project" form. The header is identical to the previous screenshot. Below the header, a dark blue bar contains the title "To Create New Request for Your Computational Project". A light blue note states: "Note: Click to expand each section to fill the form. All fields with * are required." The main form area is titled "Section I: Computational Project Info" and contains the following fields:

- "Is This a Continued Request?*" with radio buttons for "YES" and "NO". The "NO" button is selected and has a red asterisk next to it.
- "Computational Project Name*" with a text input field containing "Project Name".
- "NASA Sponsoring Directorate:*" with a dropdown menu showing "Select Sponsoring Directorate".
- "Abstract: ⓘ:*" with a text area containing "Type or Copy/paste an abstract here".

Create a Continuation Request

1. Click the “To Create New Request” button. The Create New Request screen appears
2. Click the “Yes” radio button for a continued Request. A Group ID field appears.
3. Enter a valid Group ID (GID). The HEC program assigns GIDs when a computational project receives its first allocation. The database will verify that this is a valid GID.

NOTE: If the database does not recognize a GID that was assigned by the HEC program, make sure that your sponsoring Mission Directorate is the Science Mission Directorate (SMD). Please email support@hec.nasa.gov for further help.

Save Request as a Draft

You can build your request in stages by saving it as a draft at any time before submitting it.

Scroll to the bottom of the screen and click the “Save as Draft” button. The success banner above Section 1 at the top of the request lets you know that the draft was saved.

Add Co-Investigators

Add team members as necessary to describe your computational project.

1. Click the “Management” menu. A dropdown menu appears.
2. Click the “Team Members” option. The “Team Members...” screen appears
3. For the Computational Project for which you would like to add a Co-Investigator (Co-I), click the “...Add Member” button. Fields for entering the Co-I’s contact information appear.
4. Enter information for all four fields (all are required).
5. Click the “Add Member as Co-I” button. A confirmation popup appears.
6. Click “Yes.” A success banner appears.

Identify Your NASA Sponsoring Organization

1. From the NASA Sponsoring Directorate dropdown menu, select the NASA Mission Directorate that funds this computational project. The “NASA Sponsoring Program” dropdown appears.
2. Select your sponsoring program or SMD division from the dropdown. A list of programs (SMD divisions) appears.

Note: SMD uses the term “Division” while the other Mission Directorates use the term “Program.”

Describe the Computational Project

1. Enter an abstract for y computational project. If you plan to submit this request as part of a proposal, please use the same abstract that you use for the proposal.
2. Enter the justification for using HEC resources. In this field, describe how using HEC resources will support your science. Why do you want to use NASA supercomputing resources for this work?
3. Enter the “Codes to be Run.” This may include custom code that you created, existing models or modeling frameworks, or other software tools that you will use in your computational project. NAS and NCCS have licenses for several popular packages.

Identify the Period of Performance (PoP)



The image shows a form with three main input areas. The first is 'Requested Start Date' with a placeholder 'mm/dd/yyyy' and a calendar icon. The second is 'Project Duration (in years)' with a placeholder 'Years #'. The third is 'End Date'. A red arrow points from the text 'Calendar tool' to the calendar icon in the first field.

1. Enter the requested start date. If your request is based on current funding, this will be the date the funding started. If you are submitting the request as part of a proposal, estimate your starting date based on the information in the solicitation. You can change

it later if you need to. There is a calendar tool at the right of the date field that you can use to select the date.

2. Enter the project duration in years by typing over the “Years #” placeholder text. You can enter partial years as a decimal. RMS will calculate the end date for you.

Section II: Funding Source Information

In this section, you will enter information about your project’s NASA funding. The HEC program uses this information to verify whether the request is eligible to be allocated.

RMS supports a variety of NASA-supported funding sources including:

- Chandra X-ray Observatory
- Contracts
- Cooperative Agreement Notices (CANs)
- NASA Emeriti (including LaRC Distinguished Research Associates)
- HQ or Center Directed (including work packages)
- Hubble Space Telescope
- James Webb Space Telescope
- Research Opportunities in Space and Earth Science (“ROSES”—NASA’s omnibus science solicitation)

IMPORTANT: You must have current NASA funding in order to receive an allocation.

NOTE: For funding sources not included above, please email support@hec.nasa.gov and provide a full description of your NASA funding source.

Select a funding type that best describes your work’s funding. Depending on your funding type, you will be prompted for additional information as described in Table 1.

Table 1: Request information for each Funding Type

Funding Type	Additional Information	Description
Chandra X-Ray Observatory	Funding Name	Select your cycle number. If it is earlier than Cycle 10, choose "Chandra Legacy."
	Proposal #	Enter the number of your selected Chandra proposal.
	Funding Manager	Select Carol Dzengelewski.
Contract Number	Contract Number	Your NASA contract number. If you are a subcontractor, you can get this information from your prime contractor.
	Funding Manager	Select the Technical Officer for your contract.
Cooperative Agreement Notice (CAN)	Funding Year	The fiscal year in which the CAN was solicited.
	CAN Name	Select the name of the CAN that funds your work.
	Funding Manager	Select your funding manager.
Emeriti	Funding Name	Examples include GSFC Emeritus and LaRC Distinguished Research Associate.
	Funding Manager	Select the funding manager whose area of expertise best corresponds to your work. Refer to the website https://science.nasa.gov/researchers/sara/program-officers-list for a list of funding managers and their areas of responsibility.

Funding Type	Additional Information	Description
Fellowship	Funding Year	The fiscal year your fellowship was solicited
	Fellowship Name	The name of your fellowship.
	NASA Postdoctoral Program only: Affiliation Center	Select the center that supports your work.
	Funding Manager	Select the funding manager for your fellowship.
Graduate Student Research Program	Funding Year	The fiscal year your fellowship was solicited.
	Funding Name	Currently only NASA Earth and Space Science Fellowship (NESSF) is available.
	Funding Manager	Select the funding manager for your supporting SMD Division.
HQ or Center Directed	Funding Name	Whichever of the following best identifies your funding: <ul style="list-style-type: none"> • Your Work Breakdown Structure (WBS) number • Your work package identifier • The NASA Mission that funds your work (e.g., TESS, DSCOVR, MMS, MAVEN, etc.)
	Funding Manager	Select the name of your Program Officer or Program Scientist.

Funding Type	Additional Information	Description
Hubble	Funding Name	Select your cycle number. If it is earlier than cycle 23, choose "Hubble Legacy."
	Proposal #	Enter the number of your selected Hubble Space Telescope (HST) proposal.
	Funding Manager	Select the name of the funding manager.
James Webb Space Telescope	Funding Name	Select either <ul style="list-style-type: none"> • JWST Guaranteed Time Observations • JWST Early Release Science
	Funding Manager	Select the name of the funding manager.
Research Opportunities in Space and Earth Science (ROSES)	Funding Year	The solicitation year.
	Funding Name	The name of the program element to which you proposed. NOTE: If your program element is not visible, verify that you have selected the right sponsoring SMD Division in Section I.
	Proposal #	If available.
	Funding Manager	The name of the NASA program officer for that program element.

Section III: Desired Resource Information

In this section, you will enter your desired computing resources for the computational project. The HEC program uses the Standard Billing Unit (SBU), an architecture-independent measure of computing capacity. Refer to <https://www.hec.nasa.gov/user/policies/sbus.html> for a complete description of the SBU concept.

Notes:

- RMS uses the SBU2 baseline from October 1, 2018.
 - Requesting computing time at more than one location is outside of the scope of this RMS release. If you need to run at both locations, please email support@hec.nasa.gov and provide the following information:
 - GID
 - Request number
 - Number of SBUs desired at each location
 - Justification for running at both locations
1. Select a preferred location: HECC (the High-End Computing Capability at the NASA Advanced Supercomputing facility at Ames Research Center) or NCCS (the NASA Center for Climate Simulation at Goddard Space Flight Center). The requested resource field(s) appear.
 2. Enter the requested “# of SBUs” for *each* fiscal year of your project. Fields left blank may be interpreted as containing a zero and may be allocated as such. The “Total SBUs” field updates itself to the numbers you entered.
 - a. You can enter the SBU numbers directly in each field and use the TAB key to move from field to field.
 - b. Alternatively, you can calculate the number of SBUs for each year using the convenient S-Calc calculator.

Using the S-Calc

1. Click the s-calc icon  next to any fiscal year of your computational project. The S-Calc popup appears.
2. Enter estimated “Wall clock hours per run” (use a whole number), followed by the TAB key.
3. Enter the “Number of Nodes per run” (use a whole number), followed by the TAB key. The estimated number of SBUs appears in the result field.
4. If you want to use this number of SBUs, Click the “Apply Calculated Result” button. The estimated number of SBUs appears in the “# of SBUs” field.
5. Use S-Calc for each fiscal year for which you want to calculate SBUs.

Section IV: Application Information

This section describes any additional help you might need from NAS User Support or NCCS User Services.

1. MPI Conversion – Do you want help implementing a Message Passing Interface?
2. Scale-up – Do you want help scaling up your project? If yes,

- a. Enter the starting number of cores.
- b. Enter the number of cores you want to scale up to.

3. Optimization – Do you want help optimizing your code?
4. Compiler/Programming Paradigms – HEC facilities provide a variety of compilers. If you are using something not offered at your desired location, enter that information here.

Section IV: Application Info

Need MPI Conversion? YES NO

Need Scale-up (In Number of Cores)? * YES NO

Scale-up From: *

Scale-up To: *

Need Optimization? * YES NO

List Compiler/Programming Paradigms:

List Third-party Software:

Need Support in Porting Codes to HEC Systems? * YES NO

Need Data Analysis? * YES NO

Need Support for Advanced Visualization Techniques? * YES NO

5. Third-party software – Outside software not offered by NAS or NCCS and not developed by you.
6. Porting codes – Do you want help adapting your software to run on HEC systems?
7. Data analysis – Do you want help analyzing your data?
8. Advanced Visualization – Both NAS and NCCS have staff who specialize in visualizing your results as high-resolution graphics and/or video.

Section V: Project Data Security

This section describes the sensitivity of your data and what level of support you will need to recover your data in the unlikely event of a disaster at either NAS or NCCS.

1. The radio buttons refer to several protected classes of data. The link in the NOTE will open a copy of the NASA procedure that explains the meaning of each category.

NOTE: Most data will be considered Scientific, Engineering, or Research information.

Should your data be part of a protected class that is *not* listed, click the “Other” radio button. A text box will appear. Enter an explanation of your other security constraints.

2. Select a Disaster Recovery Level from the drop-down list that corresponds to your recovery needs in the unlikely event of a disaster at either NAS or NCCS.

Should you require a level of service other than those listed, select “Other.” A text box will appear where you can enter your detailed disaster recovery needs.

The screenshot shows a form titled "Section V: Project Data Security". At the top right, there is a note: "For questions on if your data falls under a protected class, please reference: NPR 2190.1". Below this, there are seven radio button questions, each with "YES" and "NO" options. The "NO" option is selected for all questions. The questions are:

- Is This Scientific, Engineering, Research Information? *
- Unclassified, Non-Sensitive? *
- Sensitive but Unclassified? *
- Export Controlled Information? *
- Procurement Integrity Act Information? *
- Trade Secrets Act Information? *
- Privacy Act Information? *
- Other? *

At the bottom, there is a "Disaster Recovery Level? *" question with a drop-down menu labeled "Select Disaster Recovery Level".

TIP: Unusual security requirements?

If you have unusual security requirements and selected “Other” for either security or disaster recovery, we suggest you follow up with either NAS User Support or the NCCS User Services Group. Email them at:

support@nas.nasa.gov

support@nccs.nasa.gov

Section VI: Storage Information

In this section, enter your online (nobackup) and mass storage requirements in terabytes (TB).

NOTE: NAS and NCCS use different schemes for assigning nobackup storage. Harmonizing those schemes is outside the scope of this document.

If you need large amounts of storage, please contact NAS User Support or NCCS User Services to identify a reasonable storage volume for your project.



Section VI: Project Data Storage

Please Note: * If you require more than 15 TB of storage, please contact the appropriate User Support Group:

1. HECC: support@nas.nasa.gov
2. NCCS: support@nccs.nasa.gov

Online (No Backup) Storage (TBs) *

Mass (Tape) Storage (TBs) *

Submit Your Request

Almost done! Click the **SUBMIT** button to submit your request. A green success banner indicates that your request has been submitted.

Create a PDF of Your Request

Some NASA solicitations require a HEC request to be attached to a proposal to alert NASA that High-End Computing is part of your project plan. After you submit your request, click the **SAVE CONFIRMATION TO PDF** button to create a PDF copy of your request. The PDF file will appear in a new browser tab. Save the file to your computer.

Keep a copy of your request for your records.

It is also a good idea to keep a copy of your request for your records. You can use this information when you are scoping future projects or creating new proposals.

Make Changes

There are several kinds of changes you can make to your request:

- You can edit the request while it is still unallocated. That lets you fix issues like adjusting your period of performance to match your funding or changing your request after consulting with others.
- You can request an increase to your allocation (post-allocation) if you believe that you will use it all before the end of the fiscal year.
- You can request a decrease to your allocation if you believe that you will not be able to use your entire allocation for the fiscal year.
- You can increase or decrease your future-year requested allocations based on experience gained early in the computational project.
- You can move your entire allocation from one computing center to another.

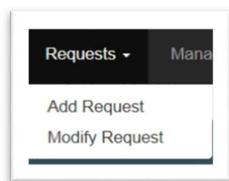
- In rare instances, you can split your allocation between two computing centers. This is handled on a case-by-case basis and must be thoroughly justified to HEC program management.
- You can extend your computational project to accommodate a No-Cost Extension (NCE), project closeout, or other programmatic changes. The latter two situations must be thoroughly justified to HEC program management.

Edit Your Own Data

From the taskboard you can see an edit icon  next to any request that is editable. Clicking this icon will open the request for editing. Remember to save your edits as a draft or submit them!

Increase or Decrease Your Allocation

To increase or decrease your allocation, you need to request the change. You can request a change for any current or future allocations, but you may not request a change for an allocation for past fiscal years.



1. On the menu bar next to the RMS Home icon, select REQUESTS, then MODIFY REQUEST. The “To Modify Allocated Resources” screen appears.
2. Select the title of the request that you want to modify from the drop-down list. The modification screen for that request appears.
3. Click the radio button next to the change you want to make—either an increase or decrease.
4. Enter a value for the *increase* or the *decrease* (the delta). The “New Sub-Total” will show your new requested allocation.
5. Click SUBMIT when you are satisfied with your new request. A green success banner will appear.

Move or Split an Allocation

RMS 1.0 does not currently support either of these operations. Please send an email to support@hec.nasa.gov indicating:

- Your request number.
- Your GID.
- The number of SBUs you wish to have at each location.
- Your justification for the move or split. Please note that moves and splits are at the discretion of the HEC Program and are not automatically approved.

Extending a Project

When you are within 90 days of the computational project's end date, you will see a notice on the taskboard indicating that your project is about to expire and be given the opportunity to extend it. Extensions are at the discretion of the HEC Program.

1. Click the red GO TO EXTEND NOW button. A list of your Expiring Computational Projects appears, along with the extension form.
2. Click the radio button next to the request you would like to extend. The request title appears in the extension form.
3. Select a justification for the extension from the drop-down list. The "Extended Start Date" field shows the day after the end of the original period of performance
4. Next to the "Extended End Date" field, click the calendar icon
5. A calendar appears. Use the navigation buttons to select a new requested end date.

NOTE: The new date must be within 12 months of the original end date.



6. Click the EXTEND MY REQUEST button. A green "success" banner appears.

NOTE: If you are extending your request in response to a NCE, please send a copy of the notification you received from NASA to support@hec.nasa.gov and indicate in the email that you requested an extension via RMS.

Acronyms

GID.....	Group Identifier
HEC.....	(NASA's) High-End Computing (Program)
HECC.....	High-End Computing Capability within the NASA Advanced Supercomputing (NAS) Division at Ames Research Center
NAS.....	NASA Advanced Supercomputing Division at Ames Research Center
NCCS.....	NASA Center for Climate Simulation at Goddard Space Flight Center
NCE.....	No-Cost Extension
RMS.....	NASA High-End Computing Request Management System
SBU.....	Standard Billing Unit
TB.....	Terabytes