

RACS Newsletter

CEOAS - Oregon State University

Fall Quarter 2023-2024



Fall Update

It was a great summer around research and academic computing with researchers and students doing field work collecting and processing data. The RACS group has some exciting changes including new staffing, new technologies and new services. Some of these new services are still coming online but will be deployed within this next quarter. Please keep an eye out for emails letting everyone know as they come online.



Wayne Wood has joined the RACS computing group as our new Senior IT Systems Specialist. Wayne has been on campus for over 20 years and was previously the Assistant Director for the ROOTS

computing group that manages the College of Ag Science computing resources. Wayne has a background in research work as well as computing having done work in the Jane Lubchenco and Bruce Menge Lab here at OSU in Integrated Biology. Wayne has worked with GIS technologies including ArcGIS for many years and is looking forward to working with Cory on supporting research using these tools. Another area Wayne has a great deal of experience is around 3D printing. Because of his background in this area the RACS group has brought online a 3D printing service with a [Prusa i3 Mk3S+](#) printer. See information later in this newsletter around this new service. Wayne will be supporting users by helping fill in any gaps between the work that Thomas and Cory are doing. Please help me welcome Wayne to the CEOAS.

ECC Update

The ECC server room made it through the summer however there were several times we needed to reduce load in the room due to increased heat outside. Because of this the campus facilities group is installing portable temporary liquid cooling units into the ECC server room. These units will reside outside in the Burt courtyard area with hose lines running into the Burt 2 and 3 buildings. The liquid cooling lines will need to run across the hallway in the Burt 3 area near the ECC access doors. We are working with facilities to minimize impact to this area to ensure access. The OSU Capital Planning with OSU Facilities have an open discussion with our Chief Information Office (CIO) and Vice President for Research (VPR) around a larger upgrade of this server room space to ensure our computing infrastructure can be supported for the next 20+ years. This discussion has increased the costs, and we are waiting to see if the campus has the needed funding around these upgrades. Finally, the Uninterruptable Power Supply (UPS) was in need of new batteries and I am happy to report the replacement of the batteries was done without issues.



Cloud Storage (Google, Box, OneDrive) Update

We continue to work with the campus on how CEOAS users should be using and interacting with cloud storage offerings. Our college has done an amazing job migrating off Google drive for most of the research data that was using that space and continue to migrate groups as we move forward. OSU UIT continues to ask users to use Microsoft SharePoint or OneDrive as the main cloud-based storage for sharing and collaboration. We are aware of the issues users are having around collaboration using the Microsoft solution and have communicated that to the powers above. We do not see a change in the provide pathways in the foreseeable future so please continue to let RACS know about the issues so we can let UIT and Microsoft know. The campus has no new information around the Box access; however, it appears the Box service was not heavily abused and is leveraged across many administrative groups. At this time, we have not heard any more about changes to the OSU Box service.



Research Computing

by Thomas Olson and Chris Sullivan



High Performance Computing (HPC)

We continue to work with the College of Engineering to bring online our new DGX-H100 server. The supercomputer to be housed in the Jen-Hsun and Lori Huang Collaborative Innovation Complex (CIC) will bring incredible capabilities to Oregon State University research and education. In anticipation, the Colleges of Engineering and Earth, Ocean, & Atmospheric Sciences have partnered to purchase new High-Performance Computing (HPC) servers available for Oregon State faculty and graduate students to use starting this fall.



[Thomas Olson Helping Install the CEOAS DGX-H100.](#)

Three new [NVIDIA DGX H100](#) servers and other recent upgrades to the HPC environment will allow us to explore the computing potential of using a supercomputer, empowering our community of world-class researchers to get up to speed now so they can hit the ground running when the supercomputer for the CIC is installed in 2026.

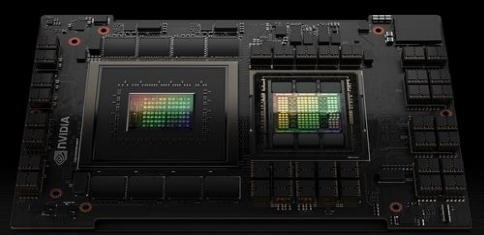
For more information on this new computing capability and how to get involved, [visit this website](#). It will guide you on requesting access, making an account, registering for training, and connecting with the servers both on and off campus. You will also find a growing list of resources, including self-paced training videos and live online classes. We invite you to share this news with any Oregon State colleagues who could benefit from the new compute resource.

The RACS group working with Ken Lett in the CQLS have deployed a new HPC infrastructure called the “Wildwood Cluster” with multiple schedulers to help users migrate workloads. The new cluster has a version of Grid Engine as well as Slurm for helping users schedule processing jobs. New processing machines are being added to this new infrastructure and will be installed with Rocky 9 operating system which is a derivative of Red Hat Enterprise Linux (RHEL). We have successfully moved several groups onto this new resource and are working to compile tools used by CEOAS researchers like FVCOM, ROMS, Julia (GPU enabled), R and NetCDF. Please contact RACS support if you need help getting access to the new HPC systems or need specific software installed. The new HPC does have dedicated resources for CEOAS researchers and we are adding more all the time.

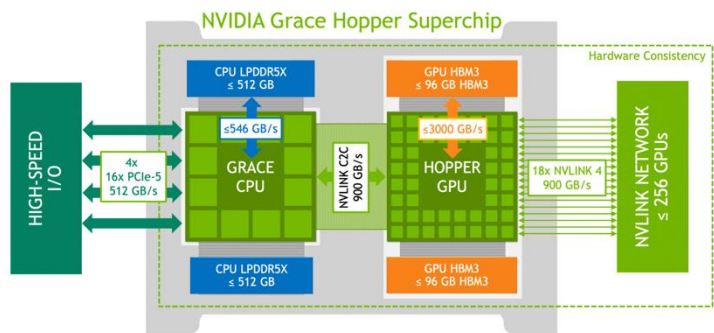
The NVIDIA GH200 Grace Hopper Superchip is a breakthrough accelerated CPU designed from the ground up for giant-scale AI and high-performance computing (HPC) applications. The superchip delivers up to 10X higher performance for applications running terabytes of data, enabling scientists and researchers to reach unprecedented solutions for the world’s most complex problems. RACS group has purchased a new Grace Hopper Server and hope to see it

NVIDIA Grace Hopper Superchip

The breakthrough accelerated CPU for giant-scale AI and HPC applications.



start shipping to customers in later October or early November. We will be adding the system to the new Wildwood cluster once it has been tested. If you are looking to use HPC but are not sure where to start please contact the RACS group. We have many tools and pathways to bring new users onto the infrastructures.



Academic Computing

by Cory Langhoff and Wayne Wood

Getting Started: GIS Workshop for TA's and Post-docs without prior GIS Knowledge

The RACS group has created a quick workshop around getting Teaching Assistants (TA) and Post-docs new to the college up to speed quickly using tools like ArcGIS. The goal of this workshop is to ensure a hands on “how-to” with ArcGIS is provided prior to TA’s helping with a course or enable post-docs to understand the tool better for research work. This workshop will be held on October 10, 12, 17, 19 at 12:00 noon in Burt 128.

New Webpage to Navigate GIS Resources



The RACS group has setup a new [ArcGIS Access Flow Chart](#) for classes to use when starting with new students. This new page currently has several links provided in contiguous order along with a visual workflow diagram.

Computer Labs

The teaching lab software image has been deployed with current software versions for this year's classes. Please check the software stacks needed for your courses prior to using them. If you are having issues, please contact the RACS support group (hopefully before the class needs the resource).

Printing Services

The RACS group is now providing 3D printing for prototyping and production parts. Thanks to Emily Eidam lab for loaning the RACS group a **Prusa i3 Mk3S+** Fused Deposition Modeling (FDM) based 3D printer. The FDM type of printer builds parts layer by layer through selectively depositing melted material in a predetermined path. It uses thermoplastic polymers that come in filaments to form the final physical objects. This type of 3D printer is the most widely used worldwide and has become the industry standard. The RACS group is testing this service and is asking groups needing some 3D printing to contact our support team so we can help with your project. Please see our new [3D Printing section](#) on the RACS website.





Security Information and Updates

by Wayne Wood and Chris Sullivan

The Office of Information Security (OIS) has provided some new guidelines and policies to help keep the university safe and secure. Below is information being provided by OIS about changes to the campus policies around patching computers and reducing campus vulnerabilities. The RACS group will be helping groups manage these changes. If you have concerns, please contact RACS support or OSU Helpdesk.

From OIS:

As part of the Smart Access program and OSU's ongoing commitment to protecting our digital assets, we are initiating a new program that will help strengthen our vulnerability efforts through swift and timely security patching. By improving our cyber vulnerability efforts, we can help make the university and the OSU community more resilient to cyber threats, allowing for data to be freed for those who need it and still protected from inappropriate uses.

What is happening?

Moving forward, workstations and servers that have known vulnerabilities that are critical or high severity must be updated to apply available patches or obtain an exception within a set amount of time.

What is the plan?

Workstations with outstanding vulnerabilities that are critical or high severity will need to be patched or be given an exception by a target date:

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- *Devices with critical and high severity vulnerabilities older than 5 years: Sept. 30, 2023*
 - *Devices with critical and high severity older than 3 years: December 31, 2023*
 - *Devices with critical and high severity older than 1 year: March 30, 2024*
 - *Devices with critical and high severity older than 45 days: June 30, 2024*

We will provide you the lists of workstations and servers that have outstanding critical and high severity vulnerabilities, as well as vulnerabilities with existing exploits. The Office of Information Security will also share target lists of devices that must either be patched or granted an exception by a particular date.

What will happen if my machine isn't patched or excepted by the deadline?

If devices are not patched or have not received an exception by the deadline, the machine will be isolated from the network.

How do I get an exception?

To request an exception, submit a ticket to the Office of Information Security. The Governance, Risk and Compliance Manager will review and approve requests and work with system owners to develop compensating controls as appropriate for those systems.

An exception will also be required if additional time is being requested to patch systems

From OIS:

As part of our continual efforts to ensure that Oregon State University and its community are protected from cyber threats, we will be changing certain default settings for how information hosted on SharePoint can be shared with guests that are external to OSU.

What is happening?

We will be changing certain default settings within SharePoint that will affect how files are shared with guests external to OSU.

- *Currently, anyone with a link can access shared files without first signing in to a Microsoft account or providing a verification code. With this change, external guests must be signed in to their Microsoft account or provide a verification code to be able to access any shared files. They must also be signed in to the account that the sharing invitation was sent to.*

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- External guests will no longer be able to share any files within SharePoint that they do not own.
 - Guest access to a SharePoint site or OneDrive will expire after 60 days. Access may be granted again at that time if needed.
 - Guests who use a verification code will be asked to reauthenticate after 30 days.
 - The default permission granted when sharing a file will be changed from “Edit” to “View”; permissions to edit a document will need to be granted.

Please note that SharePoint files **can still be shared** with guests external to Oregon State University. This change will also have no impact on how SharePoint files are shared with others who are internal to the university.

When will this happen?

These changes will begin on September 25, 2023.

How will this impact me?

This change does not directly affect members of the OSU community — how we share links and files internally within the university will remain the same. It will, however, affect the way our external guests interact with the information we share: to access any shared files, guests will either need to enter a verification code or be signed in to the same Microsoft account to which the sharing invitation was sent. They also will not have permissions to share any items that they do not own.

Why are you doing this?

Cyber threats are becoming increasingly sophisticated and the current landscape indicates that higher education institutions are highly targeted. It is crucial for us to protect the university by tightening its security boundary and limiting the number of ways someone outside of the institution can gain access.

Protecting the university includes protecting its people, its data (from individual data to research data to institutional data), and its reputation as a credible teaching and learning institution.

I have questions or concerns about this maintenance.

If you have any questions or concerns regarding this maintenance, please contact the Service Desk at beav.es/help or by calling 541-737-8787.