Supporting Science Through Advanced Cyberinfrastructure

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Advanced Cyberinfrastructure Coordination Ecosystem: Services & Support

Overview

ACCESS is a program established and funded by the National Science Foundation to help U.S. based researchers and educators, with or without supporting grants, to utilize the nation's advanced computing systems and services – ***at no cost***.

Single entry point for over 20 compute, cloud, storage, and networking systems, including:

- Computing systems
  - Varying core counts & memory sizes
- Accelerators
  - GPUs, vector processors, FPGAs
- Data storage systems
  - Archival, object, tiered
- Data repositories
- Software & workflow managers
- High performance networking
- CI Professionals & support tools
- System performance monitoring

Statistics

During the last 1 year, ending at March 31, 2024

- 11,090 users
- 1,977 principal investigators
- 2,340 allocations
- 739 institutions
- 2.4 billion CPU hours

Comprehensive Support Services

In addition to the traditional documentation, ticket system and training, ACCESS provides support via a community driven question/answer system at ask.CI, and affinity groups around many topics.

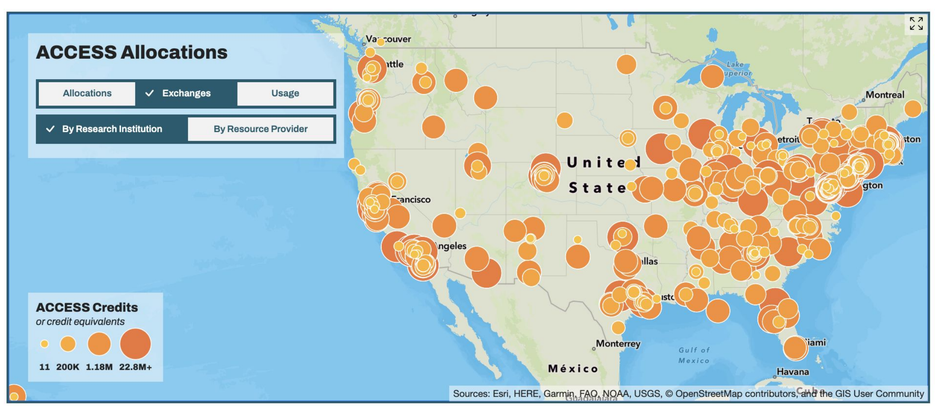
The MATCH services connects researchers with consultants, mentors, and student. The CI expert is assigned to the researcher's project for 6-12 months.

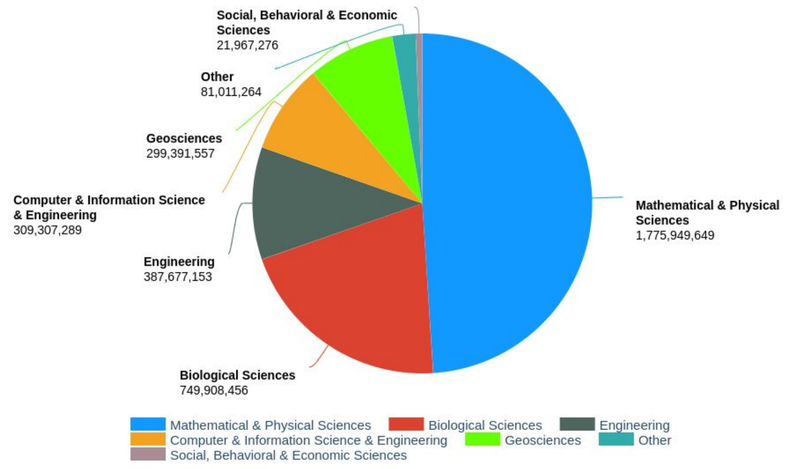
CCEP Travel Grants are available for people that want to contribute to ACCESS Support.

Allocations

ACCESS allocations are available to any researcher or educator at a U.S. academic, non-profit research, or educational institution.

ACCESS welcomes requests not just for traditional high-performance computing (HPC) activities, but for any work that can benefit from resources in the ecosystem, including machine learning, data science, science gateways, software development, and more.





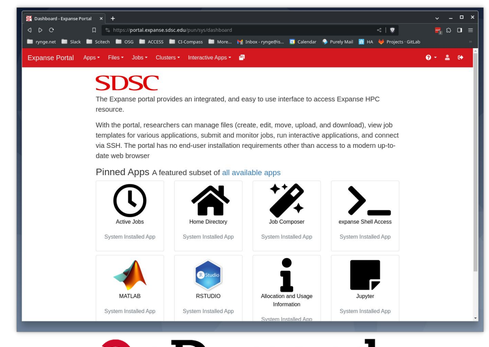
ACCESS credits, by NSF Directorate, 1 year ending at March 31, 2024

Getting an Account

You may use an existing University account to register - this simplifies the signup process, and CILogon is used for authentication. Alternatively you can register without an existing identity, and use an ACCESS-specific username/password/MFA for authentication.

Open OnDemand

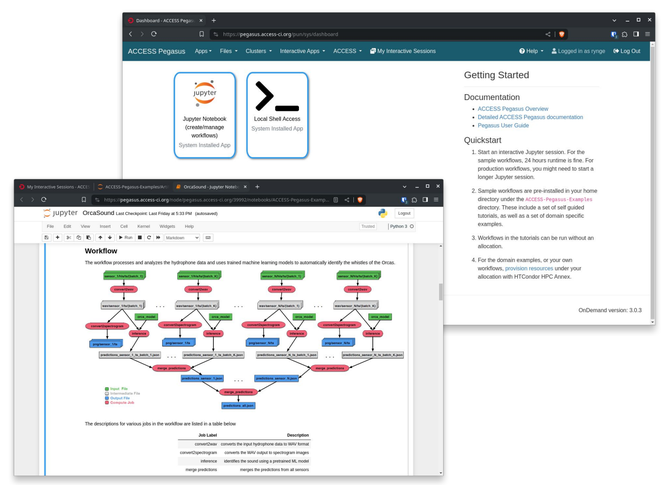
Open OnDemand is an easy-to-use web portal that is being deployed on ACCESS resources to allow researchers to compute from anywhere without client software or command-line interface, and significantly speed up the time to science.



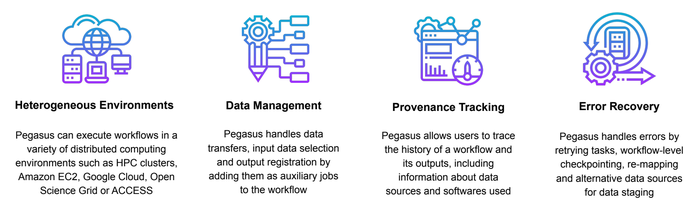
Pegasus Workflows

Pegasus is a scientific workflow tool designed to streamline the submission of high throughput computing workflows of jobs to many ACCESS resources, all from a unified access point. Our user-friendly hosted environment comes equipped with a web interface and Jupyter Notebooks, enabling you to create and execute workflows with ease. The Jupyter setup includes pre-configured sample workflows and comprehensive documentation.

Running workflows with Pegasus on ACCESS involves 1) designing a workflow within a Jupyter Notebook, 2) Provisioning desired resources from ACCESS via a command-line tool HTCondor Annex, and 3) monitoring their execution.



ACCESS Pegasus provides a set of example workflows, including AI (Lung Segmentation, Mask Detection, Orca Sound), Astronomy (Montage), and Bioinformatics (Alphafold, Rosetta, VarientCalling)



https://access-ci.org

Service Providers

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