Center for Advanced Computing (CAC)

FY25 Research & Education Impact

Research Impact

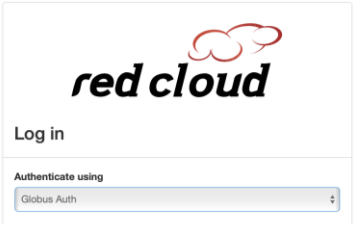
- **443 research projects**
- **1,522 faculty and student users** from Cornell's colleges, schools, research centers, institutes, and labs
- **9,975,192 hours computing on Red Cloud** (+16% compared to FY24). Virtual clusters in the cloud are available. Trial accounts are free for Cornell faculty, staff, and students.
- **31 private faculty compute clusters** hosted and maintained for Anthropology, Applied Physics, Astronomy, BEE, BioHPC, CCSS, CCB, CS, Economics, Human Ecology, Johnson, MAE, MSE, Nutrition, Physics, Plant Science, Praxis, Weill Cornell Medicine
- **11,912 hours of research consulting provided** (+8%)
- **685TBs cloud storage/984TBs archival storage** utilized (+17%)

Grant Impact

- **Current grants:** I-WRF Weather Research & Forecasting Model ($2M PI), Pollinator-Pathogen Dynamics ($433K PI), HPC-ED Pilot ($360K PI), AI for Civil and Environmental Engineers ($7M Co-PI), Orchestration of Multi-Messenger Astrophysical Observations ($3.6M Co-PI), Pathways to Equity in Cyberinfrastructure Utilization for Scientific Discovery ($283K Co-PI)
- **Subawards:** Multi-Host Parasites (Entomology PI McArt/CAC Co-PI), NANOGrav (Astronomy Co-PI Cordes/CAC Cyberinfrastructure Lead), IRIS-HEP Software Innovations (Physics Lead Wittich/CAC Software), NSF Leadership-Class Computing Facility (TACC Training Partner), Jetstream2 Regional Cloud
- **Leadership:** Chair, Coalition for Academic Scientific Computation (CASC), Empire AI Technical Advisory Committee

Education Impact

- **13 research computing webinars**; 1,096 total attendees
- **8 Cornell Virtual Workshop topics** created/updated, including AI/GPU
- **38 instructional videos** available on demand via CAC YouTube
- **3 Data Science/Visualization Certificates** created by CAC generated more than $13M eCornell revenue since launch
- **Classroom teaching** (e.g., ASTRO 6531); postdoc/student mentoring

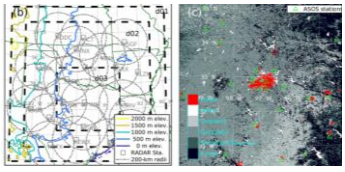


Cornell-wide research breakthroughs are powered by Red Cloud's 4,140 CPUs, plus GPUs. Trial accounts are available from CAC.

NSF LEADERSHIP-CLASS COMPUTING FACILITY
TEXAS ADVANCED COMPUTING CENTER
THE UNIVERSITY OF TEXAS AT AUSTIN

CAC is training partner for the NSF Leadership-Class Computing Facility that when deployed in 2026 will have 10x today's performance (100x AI).

CAC is creating the data management system for the Fred Young Submillimeter Telescope that's being deployed at 18,400 feet in Chile.



CAC's I-WRF project ($2M PI) supports faculty research on the effects of urbanization on the atmosphere and funds EAS postdocs.

The Center for Advanced Computing (CAC) is a core facility of the Office of the Vice Provost for Research. CAC services impact Cornell researchers by accelerating insights and discovery, strengthening grant proposals, and helping researchers meet grant deliverables faster and more effectively. Contact CAC today to explore how we can assist you: **Rich Knepper, PhD, CAC Director, 607-255-0313, rich.knepper@cornell.edu**. Learn more at **www.cac.cornell.edu**.