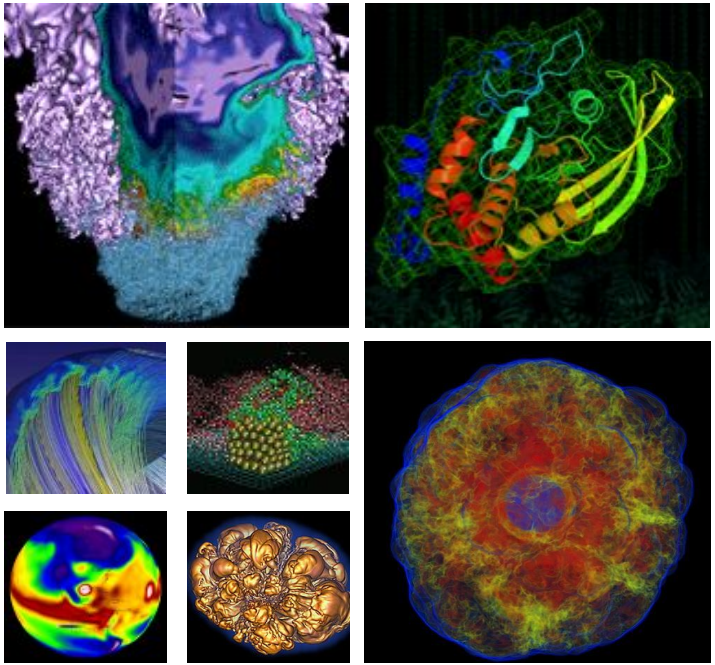
NUG Monthly Meeting



NERSC

19 May, 2022

U.S. DEPARTMENT OF ENERGY | Office of Science

BERKELEY LAB

Today's plan

- Interactive - please participate!
  - Raise hand or just speak up
  - **NERSC User Slack** (link in chat), **#webinars** channel

- Agenda:
  - Win-of-the-month
  - Today-I-learned
  - Announcements/CFPs
  - Topic of the day: **The NERSC Annual Survey -** an overview of some of the 2021 survey outcomes
  - Coming meetings: topic suggestions/requests?
  - Last month's numbers

Win of the month

Show off an achievement, or shout out someone else's achievement, e.g.:

- Had a paper accepted
- Solved a bug
- A scientific achievement (maybe candidate for Science highlight, or **High Impact Scientific Achievement award**)
- An **Innovative Use of High Performance Computing** (also a candidate for an award) (https://www.nersc.gov/science/nersc-hpc-achievement-awards/)

Please let us know of award-worthy work from you or your colleagues - tell us what you did, and what was the key insight?

Today I learned

What surprised you that might benefit other users to hear about?

(and might help NERSC identify documentation improvements!)

Eg:

- Something you got stuck on, hit a dead end, or turned out to be wrong about
  - Give others the benefit of your experience!
  - Opportunity to improve NERSC documentation
- A tip for using NERSC
- Something you learned that might benefit other NERSC users

"If we knew what it was we were doing, it would not be called research, would it?" - Einstein

Announcements and CFPs

See weekly email for these and more:

- All users now have access to Perlmutter!
  - Default PrgEnv on Perlmutter is now PrgEnv-gnu (since both GPU-accelerated and CPU-only nodes are available)
- NERSC ML users survey
  - Help us optimize Perlmutter and future systems for ML capability and performance

Announcements and CFPs

See weekly email for these and more:

- CfPs:
  - Summer Internships at NERSC
  - Broader Engagement Program at the SIAM Conference on Mathematics of Data Science
  - Third International Symposium on Checkpointing for Supercomputing

Announcements and CFPs

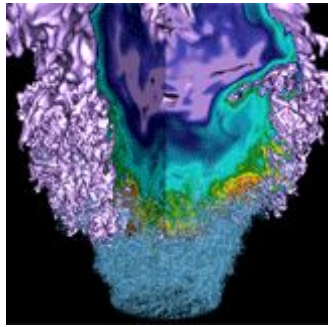
See weekly email for these and more:

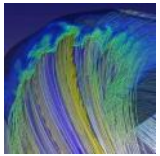
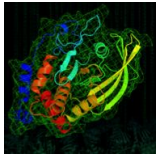
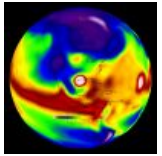
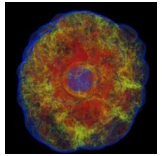
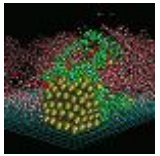
- Training events:
  - ECP Webinar on How to Be a Great Mentor, May 24
  - ALCF Computational Performance Workshop, May 24-26
  - LLVM/OpenMP Ecosystem, May 25
  - Introduction to NERSC Resources, June 9
  - Crash Course in Supercomputing, June 14
  - IDEAS-ECP Webinar on "Normalizing Inclusion by Embracing Difference", June 15

Announcements and CFPs

Others?

NERSC Annual User Survey



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Survey overview

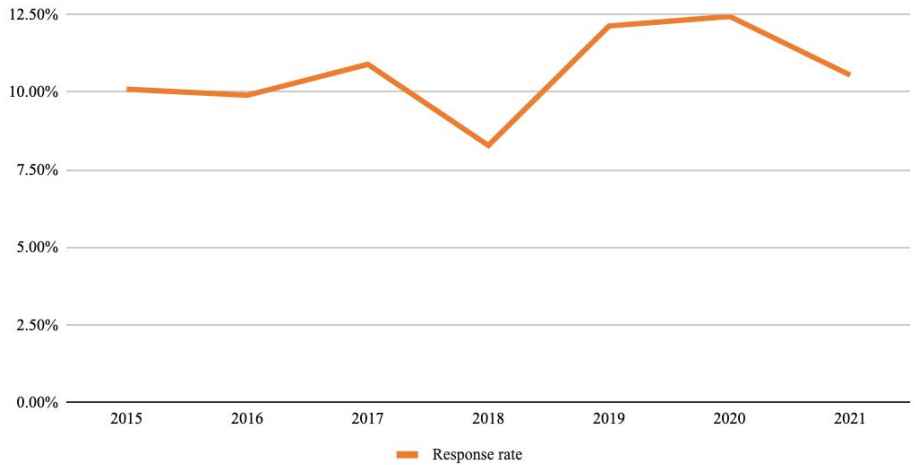
- Survey of NERSC users each year since 1998
- Few changes over the years:
  - Mostly: shorter and simpler
  - Recently: Survey run by NBRI, move to a 6-point scale for most questions
- Consists of:
  - 18 ranking questions ("Very Dissatisfied" -> "Very Satisfied")
  - 3 free-form questions:
    - "What does NERSC do well?"
    - "How could NERSC serve you better?"
    - "Other comments"
  - 1 category question: "How do you primarily use NERSC services"
- Two primary purposes:
  - Identify user needs (informs NERSC planning)
  - Reporting to DOE
    - Public money == public accountability!
    - Demonstrate that NERSC is providing a necessary and valuable service

Who fills it out?

- Goal is to get input from:
  - at least 10% of users
  - at 50% of NERSC-hours used
- Challenges:
  - people are a bit surveyed-out - eliciting responses is increasingly difficult
  - quality analysis of results is complex
- Contracting with NBRI to perform the survey helps with both of these

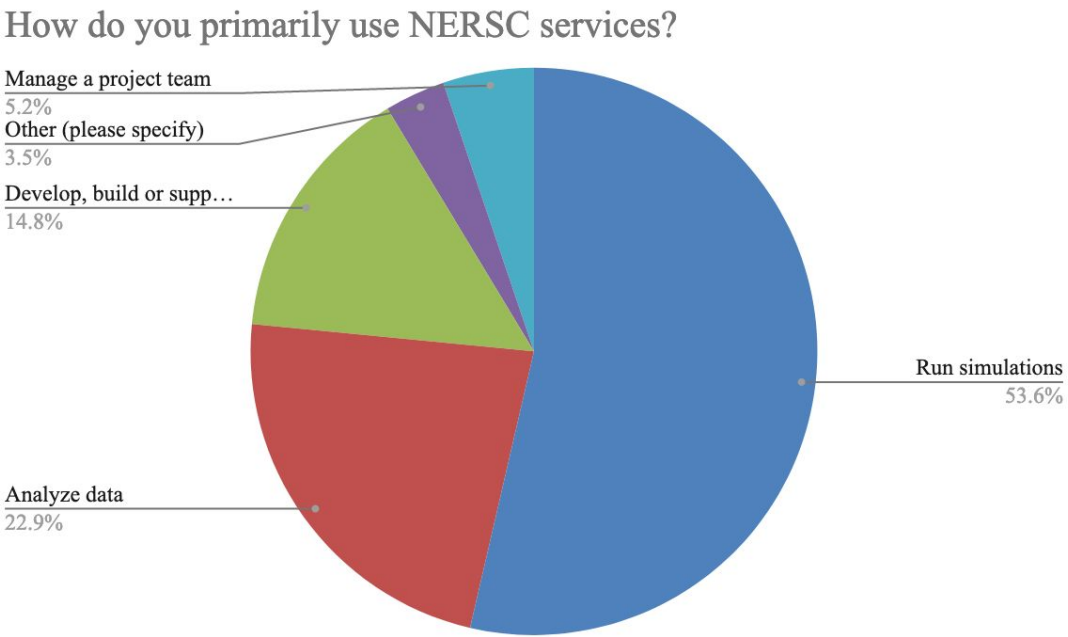
Survey sent to 8,776 active users	2020 Target	2020 Actual	2021 Target	2021 Actual
Number of users surveyed	8,118	8,118	8776	8776
Total number of responses	812	1,010	877	926
% of all active users responding	10%	12.4%	10%	10.5%
% of NERSC hours represented by survey respondents	50%	51.2%	50%	39%

Table 1-3. 2021 NERSC user survey response rate.



How do our users use NERSC?

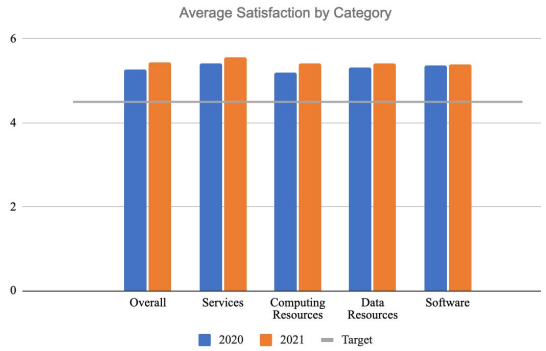
New question

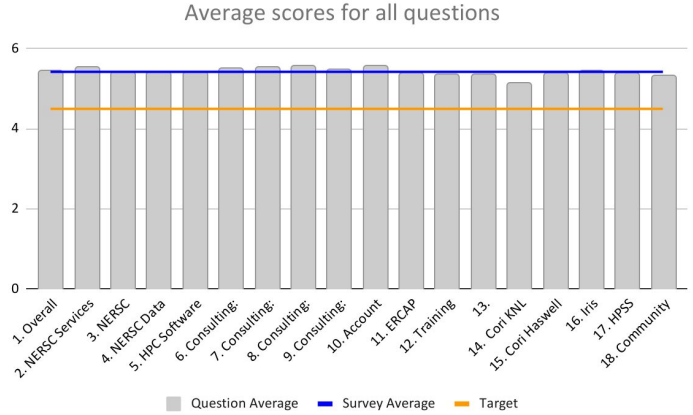


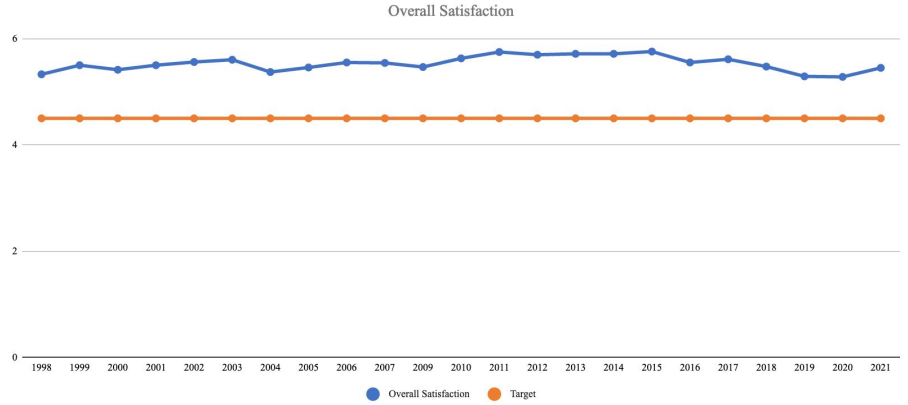
What did we learn?

Overall, NERSC users rate NERSC highly

- And have, consistently, over the history of the survey







Free form questions

What does NERSC do well?

How could NERSC serve you better?

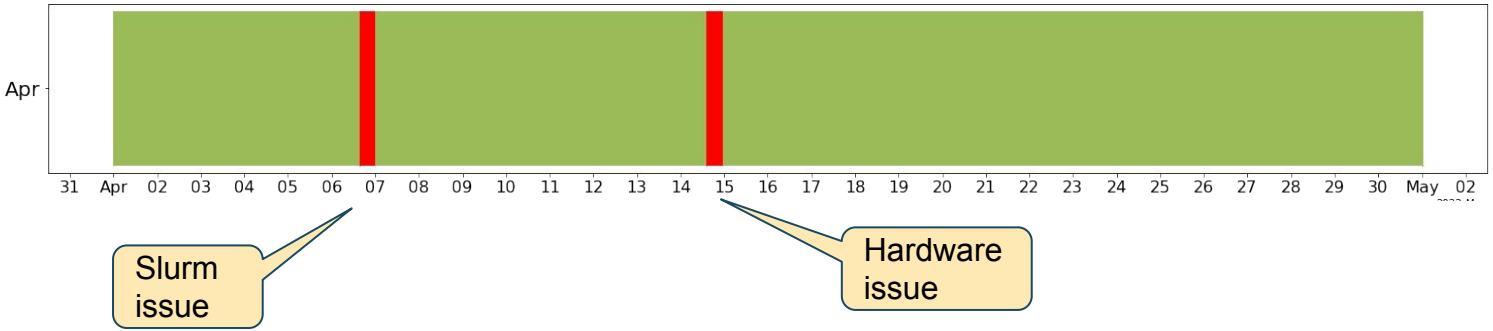
Factors affecting satisfaction

Which themes correlated to high and low overall satisfaction scores?

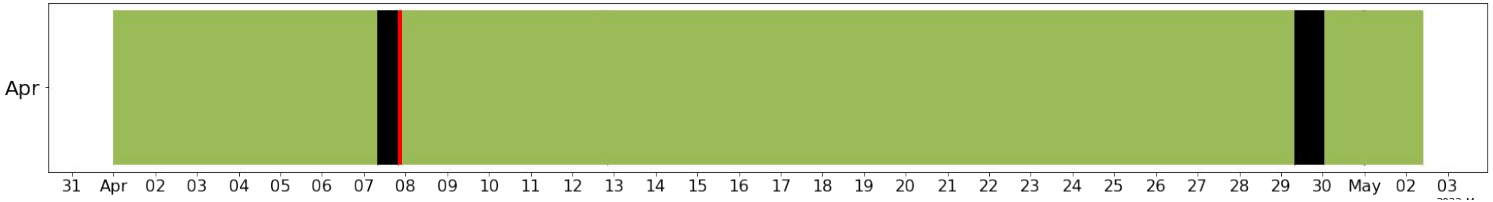
- **Computational Resources**: While users always want more resources, NERSC users are **positive** about the quality and diversity of resources NERSC provides. Some users did report finding downtimes due to scheduled maintenance or unscheduled events too disruptive.
- **Technical Support**: The ability of NERSC staff to quickly and effectively resolve technical issues had a **positive** impact on overall satisfaction, according to NBRI's statistical analysis.
- **Documentation**: NERSC's documentation is considered high quality; however, some users also noted difficulties finding the information they need. NBRI identified opportunities to increase user satisfaction by developing more documentation targeting novice users.
- **Queue Time**: Queue times were cited as an area **users would like to see improved**, but was **only weakly correlated** with lower overall satisfaction. This suggests that users understand that NERSC computational resources are in high demand.

Last month's numbers - Apr

Cori: 2 outages



Perlmutter: 3 outages (1 unscheduled)



Coming up

Upcoming topics:

- HPSS Interfaces
- Data Citation and DOIs

We'd love to hear more lightning talks **from NERSC users** about the research you use NERSC for!

- Nominate a topic at https://forms.gle/WjYx7zV7SAz2CaYz7

Thank You