### 2022 NERSC Users Across US and World

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>States, Washington D.C. &amp; Puerto Rico</td>
<td>50</td>
</tr>
<tr>
<td>Countries</td>
<td>53</td>
</tr>
</tbody>
</table>

#### Annual Users from Institutions + National Labs

- **~10,000** Annual Users
- **~800** Institutions + National Labs

#### User Types

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Students</td>
<td>32%</td>
</tr>
<tr>
<td>Postdoctoral Fellows</td>
<td>19%</td>
</tr>
<tr>
<td>Staff Scientists</td>
<td>15%</td>
</tr>
<tr>
<td>University Faculty</td>
<td>13%</td>
</tr>
<tr>
<td>Undergraduate Students</td>
<td>8%</td>
</tr>
<tr>
<td>Professional Staff</td>
<td>5%</td>
</tr>
<tr>
<td>Universities</td>
<td>60%</td>
</tr>
<tr>
<td>DOE Labs</td>
<td>29%</td>
</tr>
<tr>
<td>Other Government Labs</td>
<td>5%</td>
</tr>
<tr>
<td>Industry</td>
<td>4%</td>
</tr>
<tr>
<td>Small Businesses</td>
<td>1%</td>
</tr>
<tr>
<td>Private Labs</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>
Top Science Disciplines (By computational hours used)

- High Energy Physics
- Chemical Sciences
- Nuclear Physics
- Materials Sciences
- Fusion Energy
- Biosciences
- Geosciences
- Small Business Innovation Research
- Chemical Sciences, Geosciences, and Biosciences
- Plasma Science
- Climate and Environmental Science
- Biological Systems Science
- Biological Systems Science

Breakdown of Compute Used by DOE Program

- 20% High Energy Physics
- 19% Materials Sciences
- 17% Chemical Sciences, Geosciences, and Biosciences
- 14% Fusion Energy and Plasma Science
- 13% Nuclear Physics
- <1% Small Business Innovation Research Program
- 1% Scientific User Facilities – Basic Energy Sciences
- 2% Biological Systems Science
- 5% Advanced Scientific Computing Research
- 10% Earth and Environmental Systems

~1,000 Projects

110 MILLION COMPUTE HOURS USED IN 2022

>2,000 Refereed Publications cited NERSC

382 Petabytes

Data Stored
NERSC Systems 2022

**Perlmutter**

- 1,536 NVIDIA A100 accelerated nodes
- 4 A100 GPUs & 1 AMD “EPYC” CPU per node
- 384 TB (CPU) + 240 TB (GPU) memory
- HPE Cray Slingshot high speed interconnect
- World’s 5th most powerful supercomputer
- 140 PF Peak
- Pre-production system

- 5 TB/s Ethernet & IB Fabric
- 35 PB Scratch
- DTNs, Spin, Gateways
- ESnet 2 x 100 Gb/s SDN

**Cori**

- 9,600 Intel Xeon Phi “KNL” manycore nodes
- 2,000 Intel Xeon “Haswell” nodes
- 700,000 processor cores, 1.2 PB memory
- Cray XC40 / Aries Dragonfly interconnect
- 30 PF Peak

- 1.5 TB/s HPSS Tape Archive ~200 PB
- 50 GB/s LAN
- 100 GB/s 120 PB /cfs
- 275 TB /home
- 5 GB/s Ethernet & IB Fabric
- Science Friendly Security
- Production Monitoring
- Power Efficiency

- 700 GB/s Burst Buffer
- 2 PB Scratch
- 2 PB Burst Buffer
- 100 GB/s 120 PB /cfs
- 5 GB/s 275 TB /home

**top 5 DOE Labs by Users**

- Oak Ridge National Laboratory
- Argonne National Laboratory
- Lawrence Livermore National Laboratory
- Pacific Northwest National Laboratory
- Los Alamos National Laboratory

**top 5 Universities by Users**

- Stanford University
- Berkeley University of California
- Massachusetts Institute of Technology
- Carnegie Mellon University
- University of Washington