

Jetstream Engineering Needs Assessment – Data Collection Instrument

1. Of the following computational needs, please indicate which are current needs in your research, teaching, training, and/or outreach activities, and which you anticipate needing in the future.
 - Publish data to the community
 - Sufficient data storage
 - Share data with colleagues
 - Updated analysis software
 - Training on data management and metadata
 - Support for managing sensor and/or satellite data
 - Support for managing "big data"
 - Search for data/discover relevant datasets
 - Multi-step analysis workflows and pipelines
 - High-performance computing
 - Training on integration of multiple data types
 - Cloud computing
 - Training on scaling analysis to cloud and/or high performance computing
2. What are the major data types used in your research, teaching, training, and/or outreach activities?
Select all that apply
 - Large numbers of small files
 - Fewer numbers of massively-large files
 - NetCDF/HDF
 - Relational databases
 - Objects in an object store
 - Instrument data (e.g. stress/strain gauge data)
 - CAD data
 - Input meshes for CFD/FEM
 - Simulation output data
 - Time series data
 - Images
 - Stochastic models (used to model chemical reactions and simulations)
 - Other (specify): _____

3. Which presently describes your current status with regard to the use of cloud resources in your research, teaching, training, and/or outreach activities?
- I currently use cloud resources. **[go to #4, then #6, then #8-13]**
 - I currently do not use cloud resources, but have in the past. **[all]**
 - I have explored the use of cloud resources and intend to use them in the future, but have not used them yet. **[go to #5, then #7, then #8-13]**
 - I have explored the use of cloud resources, but decided they are not necessary and/or suitable for my work at present time. **[go to #5, then #7, then #8-13]**
 - I am not inclined to explore or use cloud resources in my work, now or in the future. **[go to #5, then #8-13]**
4. What sort of cloud resources do you use (or have you used) in your research, teaching, training, and/or outreach activities? *Select all that apply*
- Commercial Cloud Services (e.g., Amazon Web Services, Microsoft Azure, Google Cloud, etc.)
 - Academic Cloud Resources (provided by your academic or research institution)
 - National Cyberinfrastructure Cloud Resources (e.g., Cloud resources available through NSF-funded projects, such as XSEDE, etc.)
 - I don't know/ I'm not sure
 - Other: _____
5. Please indicate why you are presently **not** using cloud resources for your work. *Select all that apply.*
- Concerns about the security of my data
 - Concerns about reliable access (connectivity) to my data
 - Concerns about maintaining control of my data
 - Effort required to transition my work to the cloud outweighs the benefit
 - My institution does not offer or support cloud resources
 - Too expensive/I don't have funding to acquire cloud services
 - My current mechanisms and work flows satisfy my needs
 - I don't need these resources for my work
 - I really haven't ever considered this option
 - I am not familiar with using cloud resource and don't have time to learn
 - Other: _____

6. How are you currently using (or have you in the past used) Cloud resources in your research, teaching, training and/or outreach activities? *Select all that apply.*

- Uploading data
- Storing data and/or collections
- Distributing information
- Simulation
- Data analysis
- Virtual machines for my research and/or course work
- Collaboration space
- Platform for citizen scientists' contributions
- Other: _____

7. If you were to adopt the use of cloud resources for your research, teaching, training and/or outreach activities in the future, in what activities would you anticipate them being useful? *Select all that apply.*

- Uploading data
- Storing data and/or collections
- Distributing information
- Simulation
- Data analysis
- Virtual machines for my research and course work
- Collaboration space
- Platform for citizen scientists' contributions
- Other: _____

8. Do you use any third-party/ISV codes in your work that require a license?

- Yes
- No
- Not sure

9. Please indicate your **primary** engineering discipline.

- Aeronautics and Astronautics
- Agricultural
- Biological
- Biomedical
- Ceramic
- Chemical
- Civil
- Computer
- Construction and Management
- Electrical

- Engineering Management
- Environmental and Ecological
- Engineering Education
- Industrial
- Interdisciplinary
- Manufacturing
- Materials
- Mechanical
- Mining and Mineral (Processing)
- Marine and Naval Architecture
- Nuclear
- Ocean
- Optics
- Petroleum
- Surveying and Geomatics
- Software
- Systems
- Telecommunications
- Transportation
- Other: _____

10. From which National Science Foundation divisions do you receive funding? *Select all that apply*

- Division of Chemical, Bioengineering, Environmental and Transport Systems (CBET)
- Division of Civil, Mechanical and Manufacturing Innovation (CMMI)
- Division of Electrical, Communications and Cyber Systems (ECCS)
- Emerging Frontiers and Multidisciplinary Activities (EFMA)
- Engineering Education and Centers (EEC)
- Industrial Innovation and Partnerships (IIP)
- Other: _____

11. Please describe the institution with which you are primarily affiliated? *Select all that apply.*

- Institution located in an EPSCoR state
- Minority-Serving Institution (MSI)
- Associate's College (all degrees are at the associate's level)
- Baccalaureate College/University
- Master's College/University
- Doctorate-Granting University
- Teaching-Focused Institution
- Research-Focused Institution
- Government Lab or Center
- High performance computing resource provider (e.g. NCSA, TACC, etc.)
- Non-Profit Organization (non-academic)
- Corporate/Industrial Organization

12. Are there any general comments on the use of Cloud resources that you would like to share, or more broadly on your computational needs?

[Open text]

13. May we contact you for additional insights on the use of Cloud resources in your research, teaching, training and/or outreach activities?

Yes [if yes, go to #13a]

No [if no, go to end page]

Thank you for your willingness to take part in a follow-up discussion. Please provide your name and preferred contact information.

a. Name: _____

b. Email: _____

c. Phone: _____

THANK YOU FOR SHARING YOUR VIEWS!
Your responses to the survey were successfully submitted.
Questions or comments? Contact us by visiting:
<https://jetstream-cloud.org/>

For security purposes, please close this browser window to exit the survey.