



## Cloud Needs Assessment Survey

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### Context

The Digital Research Alliance of Canada (the Alliance) seeks to better understand how Canadian researchers would like to use cloud services (i.e., compute and storage) to inform the development of its National Cloud Strategy. The insights gathered through this survey will serve to identify gaps in service provision (i.e., equity and accessibility) and improve the functionality of the Alliance Cloud (i.e., ease of use and navigability).

This survey is aimed at Canadian researchers (i.e., Professors, Administrators, Undergraduate/Graduate Students, Post-Doctoral Fellows, Research Staff or Research Associates), regardless of their level of engagement with the Alliance Cloud (formerly Compute Canada Cloud) or other cloud services such as Amazon Web Services, Microsoft Azure or storage offerings such as Dropbox.

A summary of the findings will be shared with the community in Spring 2023.

The estimated time to complete this survey is 15-20 minutes. Where applicable, data will be aggregated and anonymized.

Your participation is voluntary. Thank you for your time.

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### Glossary of key terms and acronyms

- **Alliance Cloud** - The Alliance's Cloud Computing offering, formerly known as Compute Canada Cloud. Supports the ability to create Virtual Machines, web-facing resources, and other functionality not available through the Alliance Clusters and Storage services (Cedar, Beluga, etc). More information can be found on the Alliance's website [here](#).
- **Commercial cloud** - Publicly-available vendor-provided cloud (E.g., AWS, Azure, GCP)
- **Community Cloud** - Organizationally-hosted cloud, e.g., Alliance Cloud (formerly Compute Canada Cloud). Please see the NIST term [here](#).



## Demographics

1. Please describe your role(s).

*Check all that apply*

- ☐ Professor
- ☐ Administrator
- ☐ Researcher
- ☐ Student (Undergrad/Graduate)
- ☐ Post-Doctoral Fellow
- ☐ Research Staff
- ☐ Research Associate
- ☐ Government
- ☐ Other (please specify):  
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2. Please select which province or territory you are located in to access cloud services.

<drop-down>

- ☐ Alberta
- ☐ British Columbia
- ☐ Manitoba
- ☐ New Brunswick
- ☐ Newfoundland and Labrador
- ☐ Northwest Territories
- ☐ Nova Scotia
- ☐ Nunavut
- ☐ Ontario
- ☐ Prince Edward Island
- ☐ Quebec
- ☐ Saskatchewan
- ☐ Yukon

3. Please choose your research domain based on the Canadian Research and Development Classification (CRDC) 2020 associated with your cloud experience.

*Check all that apply*



- Natural Sciences
- Engineering and Technology
- Medical, Health and Life Sciences
- Agricultural and Veterinary Sciences
- Social Sciences
- Humanities and the Arts.
- Other (please specify):  
[      Text Box      ]



## General Cloud Usage

4. Do you currently, or have you in the past, use(d) cloud resources (see options in Question 5) to support your research?\*
- ☐ Yes
  - ☐ No
  - ☐ Not sure

5. Please indicate how important these cloud services are to support your research.

<likert scale for each option>

1 = Not at all/don't use —5= Very important / crucial

- ☐ Alliance Cloud (formerly Compute Canada Cloud) 1----5
- ☐ International Community Cloud (e.g., EU-based cloud services)
- ☐ Amazon Web Services (AWS) 1----5
- ☐ Google Cloud Platform (GCP) 1----5
- ☐ Microsoft Azure 1----5
- ☐ Oracle Cloud 1----5
- ☐ Regional cloud offering (e.g., Calcul Québec Juno Cloud): 1----5
- ☐ Provincial cloud offering (e.g., BCNET EduCloud) 1----5
- ☐ Institutional cloud offering: 1---5

6. Feel free to specify other services not listed in Question 5:

[      Text Box      ]

7. For what purpose(s) do you use cloud services to support your research?

*Check all that apply:*

- ☐ Cloud storage (e.g., OneDrive, Dropbox, Google Drive, Sync, etc.)
- ☐ Object storage
- ☐ High-performance computing capabilities
- ☐ Accessing cloud-based software
- ☐ Accessing specialized hardware
- ☐ Interactive computing
- ☐ Analysis
- ☐ SaaS (Software as a Service)



- IaaS (Infrastructure as a Service)
- PaaS (Platform as a Service)
- Other (please specify):  
[      Text Box      ]

8. Please describe how you use cloud services to support your research. For example, what software, type of analysis, workflows and data movement into and out of the cloud is involved with your research using cloud computing in the cloud?

[      Text Box      ]

9. Which method(s) of interacting with cloud resources are you familiar with?

*Check all that apply:*

- SSH connection and/or terminal
- A remote connection to a Graphical desktop (e.g., virtual desktop, remote desktop, etc)
- API (code-level access for applications)
- Web browser
- Software (e.g., OneDrive, Dropbox, Google Drive, Sync, Jupyter, etc.,)
- Not sure
- Not applicable
- Other (please specify):  
[      Text Box      ]

10. What factors do you consider in choosing which cloud platform to use (Alliance or commercial)?

*Check all that apply:*

- Ease of use
- Cost
- Scalability
- Vendor-agnostic features
- Other (please specify):  
[      Text Box      ]



11. Do your cloud needs include storing or processing controlled or sensitive data (e.g., data owned by First Nations, personal data, data subject to a data sharing agreement or specific security requirements)?

- ☐ Yes
- ☐ No
- ☐ Not sure



## Commercial Cloud Questions

12. Have you used a commercial cloud provider?

- ☐ Yes
- ☐ No
- ☐ Not sure

<Condition> only show if the respondent answered 'yes' to the above

13. Approximately how many dollars (CDN) in **cloud credits or vendor in-kind funds** did your research group consume over the last calendar year on commercial cloud resources?

- ☐ \$0 (none)
- ☐ \$1 to less than \$1,000
- ☐ \$1,000 to less than \$5,000
- ☐ \$5,000 to less than \$50K
- ☐ \$50K to less than \$100K
- ☐ \$100K or more
- ☐ Not sure

14. Approximately how many dollars (CDN) of **research funds** did your research group spend over the last calendar year on commercial cloud resources?

- ☐ \$0 (none)
- ☐ \$1 to less than \$1,000
- ☐ \$1,000 to less than \$5,000
- ☐ \$5,000 to less than \$50K
- ☐ \$50K to less than \$100K
- ☐ \$100K or more
- ☐ Not sure

15. How is your commercial cloud budget funded?

*Check all that apply:*

- ☐ Institutionally
- ☐ Research grants
- ☐ Industry grants or funding



- Personal funding
- Cloud research credits
- Other (please specify):  
[      Text Box      ]

16. What is/was your primary reason for using a commercial cloud?

*Check all that apply:*

- Replicating research study/analysis previously performed on the commercial cloud
- Requirement for accessing data
- Contributing to research work stored on the commercial cloud
- Requiring software not available through the Alliance Cloud
- Additional computational resources
- Additional storage resources
- Faster-performing computational resources
- Flexible storage resources
- Automatic data backup and management tools
- Specialized hardware (e.g., TPUs, GPUs)
- Web hosting
- Ease of use
- Robustness and scalability
- Other (please specify):  
[      Text Box      ]

17. What components of the commercial cloud do you use?

*Check all that apply.*

- Virtual machines
- Instances
- API access
- Software (AWS Sagemaker, Google Colab, Vertex.ai)
- Object storage
- Shared filesystem
- Snapshots
- Containers and container orchestration (Kubernetes)
- Other (please specify):  
[      Text Box      ]





18. Are there particular platforms or software services you currently deploy or wish to deploy in your commercial cloud environments which you feel would be valuable to be offered as a national service for all researchers to access?

- ☐ Yes
- ☐ No

If you selected “yes,” please specify:

[      Text Box      ]

19. Which of the following functions have you used the commercial cloud for?

*Check all that apply:*

- ☐ Storing research data, no sharing involved
- ☐ Sharing research data with collaborators only
- ☐ Sharing research data publicly
- ☐ Other sharing activity (please specify):

[      Text Box      ]

20. Is any of the content stored or shared on the commercial cloud controlled, high risk or sensitive data?

- ☐ Yes
- ☐ No
- ☐ Not sure

21. Do you need to securely share data stored on the commercial cloud with specific collaborators?

- ☐ Yes
- ☐ No
- ☐ Not sure

22. How do you transfer the data stored on the commercial cloud?

*Check all that apply:*

- ☐ Manually using SSH or SFTP
- ☐ Manually using software (e.g., Globus)



- ☐ Automatically using cloud tools
- ☐ Automatically using software (e.g., Globus)
- ☐ Not sure

23. Do you have any concerns about storing data on the commercial cloud (e.g., safety/security, backups, costs of downloading or moving data)?

- ☐ Yes
- ☐ No
- ☐ Not sure

If you selected “yes,” please describe your concerns:

[      Text Box      ]

24. At the end of your research project, where do you transfer data stored on the commercial cloud?

[      Text Box      ]

25. Have you lost access to data stored on the commercial cloud due to lack of continuity of funding for your research?

- ☐ Yes
- ☐ No
- ☐ Not sure

26. Do you get support when using the commercial cloud?

- ☐ Yes
- ☐ No

If you selected “yes,” please describe from which source:

[      Text Box      ]

27. Would you like support from the Alliance when using the commercial cloud?

- ☐ Yes
- ☐ No
- ☐ Not sure



## Alliance Community Cloud Questions

28. Have you used the Alliance Community Cloud?

- ☐ Yes
- ☐ No
- ☐ Not sure

<Condition> only show if the respondent answered 'yes' to the above

29. What is/was your primary reason for using the Alliance Cloud?

*Check all that apply:*

- ☐ Grant or funding requirement
- ☐ Replicating research study/analysis previously performed on the Alliance cloud
- ☐ Contributing to research work currently leveraging the Alliance cloud
- ☐ Requiring cloud software not available on the commercial clouds
- ☐ Additional computational resources
- ☐ Additional storage resources
- ☐ Faster-performing computational resources
- ☐ More flexible storage resources
- ☐ Specialized hardware (e.g., TPUs, GPUs)
- ☐ Web hosting or web portals
- ☐ Ease of use
- ☐ Other (please specify):  
[      Text Box      ]
- ☐ Additional comments:  
[      Text Box      ]

30. What components of the Alliance Cloud do you use?

*Check all that apply:*

- ☐ Virtual machines
- ☐ Instances
- ☐ Heat orchestration
- ☐ API access



- Object storage
- CephFS
- Snapshots
- Other (please specify):

[      Text Box      ]

31. If you selected “other,” please describe how you use the Alliance Community Cloud:

[      Text Box      ]

32. Are there cloud services which you would like to be able to access on the Alliance Cloud but currently cannot (e.g., Managed Kubernetes, Galaxy, Docker)?

- Yes
- No

If you selected “yes,” what cloud services would you like to be able to access on the Alliance Cloud?

[      Text Box      ]

33. Are there particular platforms or software services you currently deploy or wish to deploy in your own cloud environments which you feel would be valuable to be offered as a national service for all researchers to access?

- Yes
- No

If you selected “yes,” please specify.

[      Text Box      ]

34. How have you used the Alliance Cloud to share data (if at all)?

*Check all that apply:*

- Storing research data, no sharing involved
- Sharing research data with collaborators only
- Sharing research data publicly
- Other sharing activity (please specify):



35. Is any of the content stored or shared on the Alliance Cloud controlled, high risk or sensitive data?

- ☐ Yes
- ☐ No
- ☐ Not sure

36. Do you need to securely share data stored on the Alliance cloud-specific collaborators?

- ☐ Yes
- ☐ No
- ☐ Not sure

37. How do you transfer the data stored on the Alliance Cloud?

*Check all that apply:*

- ☐ Manually using SSH or SFTP
- ☐ Manually using software (e.g., Globus)
- ☐ Automatically using cloud tools
- ☐ Automatically using software (e.g. Globus)
- ☐ Not sure

38. Do you have any concerns about storing data on the Alliance Cloud (e.g., safety/security, backups)?

- ☐ Yes
- ☐ No
- ☐ Not sure

If you selected “yes”, please describe your concerns:

[      Text Box      ]

39. Would it be helpful to have tools that track your cloud data storage and remind you to back up or migrate content?

- ☐ Yes
- ☐ No
- ☐ Not sure



40. On top of the existing resources, which of the following technical support methods would you like to access?

*Check all that apply:*

- ☐ Online real-time chat with cloud support (i.e., Mattermost, Rocket Chat or Slack)
- ☐ Virtual office hours
- ☐ Short video tutorials on basic cloud tasks
- ☐ Topical cloud-related training
- ☐ Accessible manuals (e.g., lay language; PDF)
- ☐ Other (please specify):

[      Text Box      ]



## General Closing Questions

41. What cloud-related training topics would be of interest to you?

*Check all that apply:*

- ☐ Virtual machine backups
- ☐ Using object storage
- ☐ Automating infrastructure creation with tools like Terraform, Ansible, APIs, CI/CD
- ☐ Containers
- ☐ Alliance Cloud platforms (e.g., Jupyter, Galaxy)
- ☐ Cloud-based research data management
- ☐ Commercial cloud usage
- ☐ Commercial cloud platforms (e.g., Sagemaker, RONIN)
- ☐ Not interested in training
- ☐ Other (please specify):
- ☐ Additional comments:  
[      Text Box      ]

42. Should the Alliance allocate part of its budget to provide commercial cloud credits as an alternative to a Rapid Access Service, Resource Allocation Competitions or Research Platforms and Portals award? If you answered “yes”, feel free to provide additional comments.

- ☐ Yes [      Text Box      ]
- ☐ No
- ☐ Not sure

43. What other communication channels/groups/communities discussing/supporting cloud services should we be aware of and engage with?

[      Text Box      ]



44. How often do you store research outputs on cloud platforms (i.e., NextCloud, Dropbox, Google Drive, One Drive etc.)?
- ☐ Always
  - ☐ Sometimes
  - ☐ Never
45. Do you keep content at the end of your research project stored in cloud platforms (e.g., Next Cloud, Dropbox, Google Drive, OneDrive etc.)?
- ☐ Always
  - ☐ Sometimes
  - ☐ Never
46. How often is the content stored in cloud platforms related to a publication?
- ☐ Always
  - ☐ Sometimes
  - ☐ Never
47. Is there anything else not covered in this survey, such as future planning around how the Alliance can improve cloud services for Canadian researchers?
- [      Text Box      ]

<Closing> Thank you for taking the time to complete this Cloud Needs Assessment Survey. If you have any questions or would like to be contacted by the Alliance for further engagement on cloud services, please email [research-recherche@alliancecan.ca](mailto:research-recherche@alliancecan.ca).