NASA's Ice, Cloud and land Elevation Satellite-2 (ICESat-2) mission is a mature space-based laser altimeter mission launched in 2018. ICESat-2 continues to collect important observations of ice-sheet elevation change, sea ice freeboard and vegetation canopy height, establishing continuity with the ICESat mission. Owing to the ingenuity of ICESat-2 scientists, additional data products have been and are continuously added to its repertoire, including inland surface water, ocean surface height and bathymetry. The ICESat-2 community questionnaire is an initiative of the ICESat-2 Applications program, which aims to foster the development of currently underrepresented thematic areas that will benefit from ICESat-2 measurements.

Since 2011, The ICESat-2 Applications Team has been engaged in identifying decision processes with direct societal benefits that could be improved by using the mission's data. Through its various engagement initiatives and implementation of an Early Adopter program, the applications team has facilitated dialogue between stakeholders, mission project scientists and science team members to clarify how the science data products can be integrated, improved or leveraged to advance science objectives aligned with or beyond those of the mission and in support of a range of decisions and actions to benefit society. Your participation in this brief questionnaire (~6-8 minutes) will assess the diversity of the stakeholder community and identify the various fields of application for ICESat-2 data. The first set of questions will remain consistent as previous years to assess changes in community data utilization and perspectives. The last set of questions will assess the community's perspectives on data gaps, inter-mission synergies, trainings, and underserved communities.

Information gathered via this questionnaire will be used strictly by the Applications Team and will not be used to solicit funds or activities. To keep abreast of the latest applications developments and activities for ICeSat-2, we encourage you to join the ICESat-2 mailing list by sending an email to: icesat-2-applications-JOIN@lists.nasa.gov.

Paperwork Reduction Act Statement: This information collection meets the requirements of 44 U.S.C 3507, as amended by section 2 of the Paperwork Reduction Act of 1995. You do not need to answer these questions unless we display a valid Office of Management and Budget control number. The OMB control number for this information collection is 2700-0153 and it expires on 8/31/2027. We estimate that it will take about 8 minutes to read the instructions, gather the facts, and answer the questions. You may send comments on our time estimate above to aimee.neeley@nasa.gov. Send only comments relating to our time estimate to this address.

1) What type of institution do you work for?

- ○ Federal government
- ○ State/local government
- ○ Government contractor
- ○ Academic Institution/University
- ○ Non-governmental organization (NGO)
- ○ Private industry
- ○ Other

2) How would you characterize your data use?

- ◯ Science data user (creation or analysis of science data products)
- ◯ Applications developer (create decision products)
- ◯ Applications user (consumer of decision products)
- ◯ Educational/Instructional
- ◯ Knowledge broker
- ◯ Data manager
- ◯ Other

3) Of the following thematic groups, to which does your work apply?

- ◯ Climate
- ◯ Hydrology
- ◯ Water resources
- ◯ Ecological forecasting
- ◯ Cryosphere
- ◯ Emergency management
- ◯ Forestry/land vegetation
- ◯ Other

4) How often, if ever, do you currently use satellite remote sensing data?

- ◯ Hourly
- ◯ Daily
- ◯ Weekly
- ◯ Monthly
- ◯ Annually
- ◯ Seasonally
- ◯ I don't use it
- ◯ Other

5) Do you use altimetry data?

- ◯ Yes
- ◯ No

6) If you use altimetry data, do you use it for:

- ◯ a specific application for decision support
- ◯ a specific scientific research project or analysis, but without a specific application
- ◯ Other

7) From where do you usually download your data?

- ◯ NASA Distributed Active Archive Centers (DAACs; e.g., NSIDC)
- ◯ NASA EarthData search
- ◯ Other government user interface (e.g., USGS EarthExplorer, FEMA, NOAA)
- ◯ International distribution centers
- ◯ Science Team website
- ◯ Product developer site
- ◯ I don't know
- ◯ Other

8) What is your ideal lag time from data acquisition to product delivery?

- ◯ Hours
- ◯ Days
- ◯ Weeks
- ◯ Months
- ◯ Years
- ◯ It's irrelevant
- ◯ Other

9) Please describe the applications that drive your spatial and temporal requirements.

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10) What area of coverage is best for your analysis? Check all that apply.

- [ ] Community (local, town, or village)
- [ ] District (county, city)
- [ ] Province (state, within country/political boundary)
- [ ] Region (either geo-political or ecologicak(
- [ ] Continent
- [ ] Global
- [ ] Other

11) Do you use scripting languages to read data? If so, check all that apply.

- [ ] IDL
- [ ] Python
- [ ] FORTRAN
- [ ] R language
- [ ] MATLAB
- [ ] I don't know
- [ ] Other

12) What is your ideal data format?

- ○ Gridded Binary (GRIB)
- ○ Georeferenced raster imagery (GeoTIFF)
- ○ Network common data form (NetCDF)
- ○ Hierarchical data format (HDF)
- ○ Geospatial data files (WMS, KML/KMZ)
- ○ Raw point data (cms)
- ○ LAS binary
- ○ I don't know
- ○ Other

13) One a scale from 1 to 5 (with 1=irrelevant and 5=critical), how important are the following data attributes for the majority of your target applications?

Spatial resolution

Irrelevant	1	2	3	4	5	Critical
	○	○	○	○	○	

Data latency

Irrelevant	1	2	3	4	5	Critical
	○	○	○	○	○	

Accuracy

Irrelevant	1	2	3	4	5	Critical

Record length

Irrelevant	1	2	3	4	5	Critical

14) Since its release on May 28, 2019, have you accessed ICESat-2 data?

- ◯ Yes
- ◯ No

15) How would you describe your use of ICESat-2 data?

- ◯ Educational/Instructional
- ◯ Exploratory (discovering data and establishing feasibility of use)
- ◯ Active (initial integration, verification and validation of use)
- ◯ Operational (approved for operational deployment and use in decision making)
- ◯ Other

16) what ICESat-2 data products do you use? Check all that apply.

- ☐ ATL03 - Global Geolocated Photons
- ☐ ATL04 - Normalized Relative Backscatter
- ☐ ATL06 - Land Ice Height
- ☐ ATL07 - Sea Ice Height
- ☐ ATL08 - Land and Vegetation Height
- ☐ ATL09 - Atmospheric Layer Characteristics
- ☐ ATL10 - Sea Ice Freebord
- ☐ ATL12 - Ocean Surface Height
- ☐ ATL13 - Inland Surface Water
- ☐ ATL14 - Gridded Annual Ice Height
- ☐ ATL15 - Gridded Land Ice Height Change
- ☐ ATL16 - Weekly Gridded Atmosphere
- ☐ ATL17 - Monthly Gridded Atmosphere
- ☐ ATL19 - Monthly Gridded Ocean Topography
- ☐ ATL20 - Daily/Monthly Gridded Sea Ice Freeboard
- ☐ ATL21 - Daily/Monthly Gridded Sea Surface height Anomaly
- ☐ ATL22 - Gridded Inland Surface Water
- ☐ ATL23 - Monthly Composite Gridded Ocean Topography

17) Would ICESat-2 data be more useful to you if it were bundled by the data center, in common format and projection, with data from other missions or ground data? If 'yes', specify other data products.

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18) What type of ICESat-2 documentation or data outreach have you found most helpful in the past? Check all that apply.

- [ ] User Guide
- [ ] Data Product Algorithm Theoretical Basis Document (ATBD)
- [ ] Data Dictionary
- [ ] Known Issues/Data Gaps Documentation
- [ ] NSIDC DAAC Data Access Jupyter Notebook
- [ ] ICESat-2 Hackweek Jupyter Notebook Tutorials
- [ ] Journal Publications
- [ ] Other

19) Did you use the ICESat-2 pre-launch data (MABEL) available via the ICESat-2 website prior to launch?

- ( ) Yes
- ( ) No

20) Have you attended an ICESat-2 and ICESat-2 Applications workshop/tutorial/focus session describing the data products, algorithms, and Applications strategy?

- ( ) Yes
- ( ) No

21) What topics would you like to see covered in a future workshop, focus session or tutorial? (e.g., atmosphere or ocean topics, software or data tool tutorial)

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22) What visualization tool(s) have you used to discover ICESat-2 data? (learn more: https://nsidc.org/data/icesat-2/tools)

- [ ] OpenAltimetry
- [ ] NASA Earthdata Search
- [ ] icepyx
- [ ] Sliderule
- [ ] I have not begun data discovery.
- [ ] Other

23) Which Quicklook products (low latency) do you use? Check all that apply.

- [ ] ATL07QL - Sea Ice Height
- [ ] ATL08QL - Land and Vegetation Height
- [ ] ATL09QL - Atmospheric Layer Characteristics
- [ ] ATL10QL - Sea Ice Freeboard
- [ ] I don't use quick look products.
- [ ] I did not know they existed.

24) What other Quicklook or standard data products would you like to see that do not currently exist?

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25) Have you identified underrepresented/underserved communities that may benefit from ICESat-2 data products and applications?

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26) Do you know of any applications that the community should develop that includes data from multiple missions?

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If you would like more information or have other comments, please contact us at: icesat-2-applications@lists.nasa.gov.

Submit Survey