Jetstream Field and Marine Station Computational Needs Survey

INFORMED CONSENT: You are invited to participate in the Field and Marine Station Computational Needs Survey conducted by principal investigators of the National Science Foundation-funded Jetstream project. We ask that you read this statement and ask any questions you may have before agreeing to take part in the survey. This study is administered on behalf of the Jetstream project by the Indiana University Pervasive Technology Institute and is funded, in part, by the National Science Foundation.

STUDY PURPOSE: The purpose of the Jetstream Field and Marine Station Computational Needs Survey is aimed at assessing current and future computational needs for researchers at field and marine stations, as well as the factors informing the adoption and use of cloud-based resources. Survey information will be used to guide Jetstream personnel in (1) assessing and addressing current and future needs, (2) focusing outreach and training efforts, (3) making decisions related to resource provisioning, and (4) informing plans for future expansion of resources and services.

PROCEDURES FOR THE STUDY: If you agree to take part in the study, you will complete an online survey in which you will not be required to provide any identifying information. You will have the option of providing your name and contact information if future contact is desired. Future contact may be in the form of telephone, video-conference, or in-person interview, and/or focus group. [You will be asked to disclose your gender, race, ethnicity and other demographic information for tracking purposes only.] The survey will remain confidential, and survey responses will not be associated with any identifying information, even if you choose to disclose your name and contact information for potential future contact. You will receive via email an initial letter of invitation, followed by up to three reminder messages. After the initial letter of invitation, only those who have not responded will receive subsequent messages. You will have the opportunity to opt out of all future communications upon receipt of the initial letter of invitation. The survey should not take more than 10 minutes to complete, with an average time for completion in the five- to seven-minute range.

CONFIDENTIALITY: Efforts will be made to keep any personal information that you might inadvertently disclose confidential. We cannot guarantee absolute confidentiality. Your personal information may be disclosed if required by law. Your identity will be held in confidence in reports in which the survey results may be published and/or databases in which results may be stored. Organizations that may inspect and/or copy survey records for quality assurance and data analysis include groups such as the study investigator and his/her research associates, the Indiana University Institutional Review Board or its designees, the study sponsor, the National Science Foundation, and (as allowed by law) state or federal agencies, specifically the Office for Human Research Protections (OHRP). CONTACTS FOR QUESTIONS OR PROBLEMS: For questions about the study, contact Indiana University Information Manager Julie Wernert at (812) 856-5517 or jwernert@iu.edu. For questions about your rights as a participant or to discuss problems,

complaints, or concerns about a research study, to obtain information, or to offer input, please contact the IU Human Subjects Office at (812) 856-4242 or by email at irb@iu.edu.

VOLUNTARY NATURE OF STUDY: Taking part in this study is voluntary. You may choose not to take part or may leave the survey at any time. Leaving the survey will not result in any penalty. Your decision whether or not to participate in this survey will not affect your current or future relations with the Indiana University Pervasive Technology Institute, the Jetstream program, or the National Science Foundation.This study was approved by the Indiana University Institutional Review Board on xxxx, xx, 2017. Please reference Study # xxxxxxxxxxxxx/xxxxxxx when inquiring.

Do you consent to participate in this survey?
- ○ I agree (1)
- ○ I disagree (2)

Condition: I agree Is Selected. Skip To: End of Block.Condition: I disagree Is Selected. Skip To: End of Survey.

Q1   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.

	Current Needs (1)	Future Needs (2)
Publish data to the community (1)	❑	❑
Sufficient data storage (2)	❑	❑
Share data with colleagues (3)	❑	❑
Training on data management and metadata (4)	❑	❑
Support for managing sensor and/or satellite data (5)	❑	❑
Support for bioinformatics and analysis (6)	❑	❑
Search for data and discover relevant data sets (7)	❑	❑
Multi-step analysis workflows and pipelines (8)	❑	❑
High-performance computing (9)	❑	❑
Training on integration of multiple data types (10)	❑	❑
Cloud computing (11)	❑	❑
Training on scaling analysis to cloud and or high performance computing (12)	❑	❑

Q2 What are the major data types used in your research, teaching, training, and/or outreach activities? Select all that apply.
❑ DNA/RNA/Protein Sequence and/or Structure (e.g., genomics and metagenomics) (1)
❑ Photographic and Other Images (2)
❑ Phenotypic Measures (3)
❑ Ecological Measures (4)
❑ GIS or Environmental Variables (5)
❑ Microscopic Images (6)
❑ Pathways/Interactions/Networks (7)
❑ Physiological Measurements, including Medical Data (8)
❑ Other (specify): (9) _____

Q3 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. (1)
- ❍ I currently do not use cloud resources, but have in the past. (2)
- ❍ I have explored the use of cloud resources and intend to use them in the future, but have not used them yet. (3)
- ❍ I have explored the use of cloud resources, but decided they are not necessary and/or suitable for my work. (4)
- ❍ I am not inclined to explore or use cloud resources in my work, now or in the future. (5)

Q4 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.) (1)
- ❑ Academic cloud resources (provided by your academic or research institution) (2)
- ❑ National cyberinfrastructure cloud resources (e.g., Cloud resources available through NSF-funded projects, such as XSEDE, etc.) (3)
- ❑ I don't know/ I'm not sure (4)
- ❑ Other: (5) _____

Q6 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 (1)
- ❑ Storing data and/or collections (2)
- ❑ Distributing information (3)
- ❑ Data analysis (4)
- ❑ Virtual machines (5)
- ❑ Container technologies (e.g., Docker) (6)
- ❑ Collaboration space (7)
- ❑ Platform for citizen scientists' contributions (8)
- ❑ Other: (9) _____

Q8 Please indicate the approximate number of projects underway at your field station.
- ❍ 1-10 (1)
- ❍ 11-25 (2)
- ❍ 26-50 (3)
- ❍ 52-100 (4)
- ❍ Over 100 (5)

Q9 Approximately, how many funded individuals staff your field station? Please report your answer as full and/or partial FTEs.

Q10 With what type of institution is your field station associated? Select all that apply.

- ❑ Institution located in an EPSCoR state (1)
- ❑ Minority-Serving Institution (MSI) (2)
- ❑ Associate's College (all degrees are at the associate's level) (3)
- ❑ Baccalaureate College/University (4)
- ❑ Master's College/University (5)
- ❑ Doctorate-Granting University (6)
- ❑ Teaching-Focused Institution (7)
- ❑ Research-Focused Institution (8)
- ❑ Government Lab or Center (9)
- ❑ High performance computing resource provider (e.g. NCSA, TACC, etc.) (10)
- ❑ Non-Profit Organization (non-academic) (11)
- ❑ Corporate/Industrial Organization (12)

Q11 Are there any general comments on the use of cloud resources, or more broadly on your station's computational needs, that you would like to share?

Q12 May we contact you for additional insights on the use of cloud resources in your research, teaching, training and/or outreach activities?

- ○ Yes (1)
- ○ No (2)

Condition: No Is Selected. Skip To: End of Survey.Condition: Yes Is Selected. Skip To: Thank you for your willingness to tak....

Q14 Thank you for your willingness to take part in a follow-up discussion. Please provide your name and best contact information.

Name (1)
Preferred Email Address (2)
Preferred Phone Number (3)

Q18 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.) (1)
- ❑ Academic cloud resources (provided by your academic or research institution) (2)
- ❑ National cyberinfrastructure cloud resources (e.g., Cloud resources available through NSF-funded projects, such as XSEDE, etc.) (3)
- ❑ I don't know/ I'm not sure (4)
- ❑ Other: (5) _____

Q19 If you are not presently using cloud resources for your work, please indicate why not. Select all that apply.

❑ Concerns about the security of my data (1)
❑ Concerns about reliable access (connectivity) to my data (2)
❑ Concerns about maintaining control of my data (3)
❑ Effort required to transition my work to the cloud outweighs the benefit (4)
❑ My institution does not offer or support cloud resources (5)
❑ Too expensive/ I don't have funding to acquire cloud resources (6)
❑ My current mechanisms and work flows satisfy my needs (7)
❑ I don't need these resources for my work (8)
❑ I really haven't ever considered this option (9)
❑ I am not familiar with using cloud resource and don't have time to learn (10)
❑ Other: (11) _____

Condition: Other: Is Selected. Skip To: If you were to adopt the use of cloud....

Q20 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 (1)
❑ Storing data and/or collections (2)
❑ Distributing information (3)
❑ Data analysis (4)
❑ Virtual machines (5)
❑ Container technologies (e.g., Docker, etc) (6)
❑ Collaboration space (7)
❑ Platform for citizen scientists' contributions (8)
❑ Other: (9) _____

Condition: Uploading data Is Selected. Skip To: If you were to adopt the use of cloud....

Q21 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 (1)
❑ Storing data and/or collections (2)
❑ Distributing information (3)
❑ Data analysis (4)
❑ Virtual machines (5)
❑ Container technologies (e.g., Docker, etc. (6)
❑ Collaboration space (7)
❑ Platform for citizen scientists' contributions (8)
❑ Other: (9) _____

Condition: Platform for citizen scien... Is Selected. Skip To: Please indicate the approximate numbe....

Q22 Please indicate the approximate number of projects underway at your field station.
- ❍ 1-10 (1)
- ❍ 11-25 (2)
- ❍ 26-50 (3)
- ❍ 52-100 (4)
- ❍ Over 100 (5)

Q23 Approximately, how many funded individuals staff your field station? Please report your answer as full and/or partial FTEs.

Q24 With what type of institution is your field station associated? Select all that apply.
- ❑ Institution located in an EPSCoR state (1)
- ❑ Minority-Serving Institution (MSI) (2)
- ❑ Associate's College (all degrees are at the associate's level) (3)
- ❑ Baccalaureate College/University (4)
- ❑ Master's College/University (5)
- ❑ Doctorate-Granting University (6)
- ❑ Teaching-Focused Institution (7)
- ❑ Research-Focused Institution (8)
- ❑ Government Lab or Center (9)
- ❑ High performance computing resource provider (e.g. NCSA, TACC, etc.) (10)
- ❑ Non-Profit Organization (non-academic) (11)
- ❑ Corporate/Industrial Organization (12)

Q25 Are there any general comments on the use of cloud resources, or more broadly on your station's computational needs, that you would like to share?

Q26 May we contact you for additional insights on the use of cloud resources in your research, teaching, training and/or outreach activities?
- ❍ Yes (1)
- ❍ No (2)

Condition: No Is Selected. Skip To: End of Survey.Condition: Yes Is Selected. Skip To: Thank you for your willingness to tak....

Q27 Thank you for your willingness to take part in a follow-up discussion. Please provide your name and best contact information.
    Name (1)
    Preferred Email Address (2)
    Preferred Phone Number (3)

Q29 If you are not presently using cloud resources for your work, please indicate why not. Select all that apply.
- ❑ Concerns about the security of my data (1)
- ❑ Concerns about reliable access (connectivity) to my data (2)
- ❑ Concerns about maintaining control of my data (3)
- ❑ Effort required to transition my work to the cloud outweighs the benefit (4)
- ❑ My institution does not offer or support cloud resources (5)
- ❑ Too expensive/ I don't have funding to acquire cloud resources (6)
- ❑ My current mechanisms and work flows satisfy my needs (7)
- ❑ I don't need these resources for my work (8)
- ❑ I really haven't ever considered this option (9)
- ❑ I am not familiar with using cloud resource and don't have time to learn (10)
- ❑ Other: (11) _____

Condition: Other: Is Selected. Skip To: If you were to adopt the use of cloud....

Q31 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 (1)
- ❑ Storing data and/or collections (2)
- ❑ Distributing information (3)
- ❑ Data analysis (4)
- ❑ Virtual machines (5)
- ❑ Container technologies (e.g., Docker, etc.) (6)
- ❑ Collaboration space (7)
- ❑ Platform for citizen scientists' contributions (8)
- ❑ Other: (9) _____

Condition: Platform for citizen scien... Is Selected. Skip To: Please indicate the approximate numbe....

Q32 Please indicate the approximate number of projects underway at your field station.
- ◯ 1-10 (1)
- ◯ 11-25 (2)
- ◯ 26-50 (3)
- ◯ 52-100 (4)
- ◯ Over 100 (5)

Q33 Approximately, how many funded individuals staff your field station? Please report your answer as full and/or partial FTEs.

Q34 With what type of institution is your field station associated? Select all that apply.

- ❑ Institution located in an EPSCoR state (1)
- ❑ Minority-Serving Institution (MSI) (2)
- ❑ Associate's College (all degrees are at the associate's level) (3)
- ❑ Baccalaureate College/University (4)
- ❑ Master's College/University (5)
- ❑ Doctorate-Granting University (6)
- ❑ Teaching-Focused Institution (7)
- ❑ Research-Focused Institution (8)
- ❑ Government Lab or Center (9)
- ❑ High performance computing resource provider (e.g. NCSA, TACC, etc.) (10)
- ❑ Non-Profit Organization (non-academic) (11)
- ❑ Corporate/Industrial Organization (12)

Q58 Are there any general comments on the use of cloud resources, or more broadly on your station's computational needs, that you would like to share?

Q36 May we contact you for additional insights on the use of cloud resources in your research, teaching, training and/or outreach activities?

- ❍ Yes (1)
- ❍ No (2)

Condition: No Is Selected. Skip To: End of Survey.Condition: Yes Is Selected. Skip To: Thank you for your willingness to tak....

Q37 Thank you for your willingness to take part in a follow-up discussion. Please provide your name and best contact information.

    Name (1)
    Preferred Email Address (2)
    Preferred Phone Number (3)

Q39 If you are not presently using cloud resources for your work, please indicate why not. Select all that apply.
- ❑ Concerns about the security of my data (1)
- ❑ Concerns about reliable access (connectivity) to my data (2)
- ❑ Concerns about maintaining control of my data (3)
- ❑ Effort required to transition my work to the cloud outweighs the benefit (4)
- ❑ My institution does not offer or support cloud resources (5)
- ❑ Too expensive/ I don't have funding to acquire cloud resources (6)
- ❑ My current mechanisms and work flows satisfy my needs (7)
- ❑ I don't need these resources for my work (8)
- ❑ I really haven't ever considered this option (9)
- ❑ I am not familiar with using cloud resource and don't have time to learn (10)
- ❑ Other: (11) _____

Q41 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 (1)
- ❑ Storing data and/or collections (2)
- ❑ Distributing information (3)
- ❑ Data analysis (4)
- ❑ Virtual machines (5)
- ❑ Container technologies (e.g., Docker, etc.) (6)
- ❑ Collaboration space (7)
- ❑ Platform for citizen scientists' contributions (8)
- ❑ Other: (9) _____

Q42 Please indicate the approximate number of projects underway at your field station.
- ❍ 1-10 (1)
- ❍ 11-25 (2)
- ❍ 26-50 (3)
- ❍ 52-100 (4)
- ❍ Over 100 (5)

Q43 Approximately, how many funded individuals staff your field station? Please report your answer as full and/or partial FTEs.

Q44 With what type of institution is your field station associated? Select all that apply.
- ❑ Institution located in an EPSCoR state (1)
- ❑ Minority-Serving Institution (MSI) (2)
- ❑ Associate's College (all degrees are at the associate's level) (3)
- ❑ Baccalaureate College/University (4)
- ❑ Master's College/University (5)
- ❑ Doctorate-Granting University (6)
- ❑ Teaching-Focused Institution (7)
- ❑ Research-Focused Institution (8)
- ❑ Government Lab or Center (9)
- ❑ High performance computing resource provider (e.g. NCSA, TACC, etc.) (10)
- ❑ Non-Profit Organization (non-academic) (11)
- ❑ Corporate/Industrial Organization (12)

Q45 Are there any general comments on the use of cloud resources, or more broadly on your station's computational needs, that you would like to share?

Q46 May we contact you for additional insights on the use of cloud resources in your research, teaching, training and/or outreach activities?
- ◯ Yes (1)
- ◯ No (2)

Condition: No Is Selected. Skip To: End of Survey.Condition: Yes Is Selected. Skip To: Thank you for your willingness to tak....

Q47 Thank you for your willingness to take part in a follow-up discussion. Please provide your name and best contact information.
    Name (1)
    Preferred Email Address (2)
    Preferred Phone Number (3)

Q60 Are there any general comments on the use of cloud resources, or more broadly on your station's computational needs, that you would like to share?

Q49 If you are not presently using cloud resources for your work, please indicate why not. Select all that apply.
- ❑ Concerns about the security of my data (1)
- ❑ Concerns about reliable access (connectivity) to my data (2)
- ❑ Concerns about maintaining control of my data (3)
- ❑ Effort required to transition my work to the cloud outweighs the benefit (4)
- ❑ My institution does not offer or support cloud resources (5)
- ❑ Too expensive/ I don't have funding to acquire cloud resources (6)
- ❑ My current mechanisms and work flows satisfy my needs (7)
- ❑ I don't need these resources for my work (8)
- ❑ I really haven't ever considered this option (9)
- ❑ I am not familiar with using cloud resource and don't have time to learn (10)
- ❑ Other: (11) _____

Q52 Please indicate the approximate number of projects underway at your field station.
- ❍ 1-10 (1)
- ❍ 11-25 (2)
- ❍ 26-50 (3)
- ❍ 52-100 (4)
- ❍ Over 100 (5)

Q53 Approximately, how many funded individuals staff your field station? Please report your answer as full and/or partial FTEs.

Q54 With what type of institution is your field station associated? Select al that apply.
- ❑ Institution located in an EPSCoR state (1)
- ❑ Minority-Serving Institution (MSI) (2)
- ❑ Associate's College (all degrees are at the associate's level) (3)
- ❑ Baccalaureate College/University (4)
- ❑ Master's College/University (5)
- ❑ Doctorate-Granting University (6)
- ❑ Teaching-Focused Institution (7)
- ❑ Research-Focused Institution (8)
- ❑ Government Lab or Center (9)
- ❑ High performance computing resource provider (e.g. NCSA, TACC, etc.) (10)
- ❑ Non-Profit Organization (non-academic) (11)
- ❑ Corporate/Industrial Organization (12)

Q55 Are there any general comments on the use of cloud resources, or more broadly on your station's computational needs, that you would like to share?

Q56 May we contact you for additional insights on the use of cloud resources in your research, teaching, training and/or outreach activities?

❍ Yes (1)

❍ No (2)

Condition: No Is Selected. Skip To: End of Survey.Condition: Yes Is Selected. Skip To: Thank you for your willingness to tak....

Q57 Thank you for your willingness to take part in a follow-up discussion. Please provide your name and best contact information.

Name (1)
Preferred Email Address (2)
Preferred Phone Number (3)