Graduate Student Tests: Evaluating the Usability of UFS

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First Annual UFS Users' Workshop

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What is the Graduate Student Test?

The Graduate Student Test (GST) assesses how easily a student can:

- Get code.
- Run code.
- Change code.
- Test code for correct operation.
- Evaluate code with standard diagnostic packages.
- Get documentation, user support, and training.
- Understand what is needed for their code changes to transition to operations.

There can be different GSTs for different applications, and each test may cover subsets of the tasks above.

You don't need to be a graduate student to take a Graduate Student Test!

Motivation

- Improve the usability of UFS application releases by collecting, analyzing, and responding to feedback
- Create an easy way for community members to try running UFS applications - encourage graduate students to use UFS code in their work!
- Develop a body of evidence about the efforts of the UFS project to work with the community and document its successes and challenges

Read about the origins of the Graduate Student Test in the Spring 2020 UFS newsletter:
https://us19.campaign-archive.com/?u=76c42eac2d7040bc5fe22c8d0&id=1312b944fa

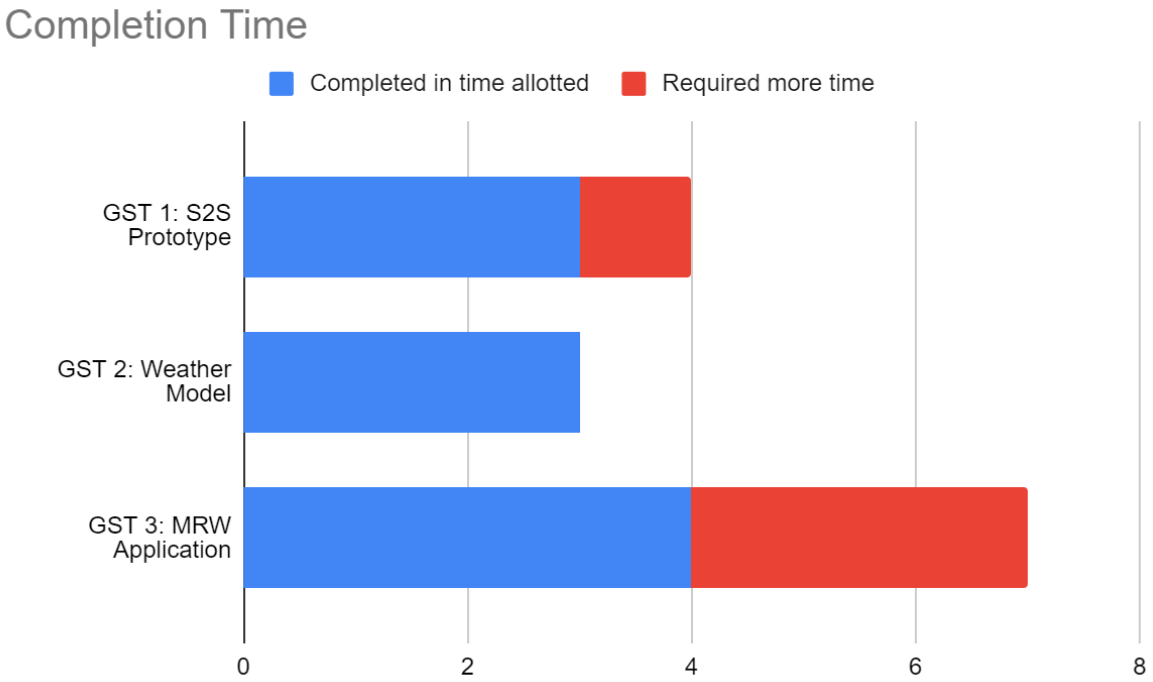
Approach

- Base tests on well-defined sequences of tasks
    - Experiments and tasks developed in collaboration with UFS release teams
- Collect feedback using a questionnaire
    - Developed in collaboration with communication specialists and social scientists on the UFS Communication & Outreach Cross-Cutting Team
- Limit time required from participants to less than a day

Graduate Student Tests Deployed & Plan

- GST1 (completed in fall 2019): *UFS S2S Prototype SST Experiment* – Run an atmosphere/land/ocean/ice coupled system for 5 days, make a code change to modify the SST sent to other components by the ocean, rerun and compare results. Includes a portable workflow. 6 hours allotted.
- GST2 (open): *UFS Weather Model Cloud Condensation Nuclei Experiment* – Run the UFS weather model for 24 hours, change cloud condensation nucleii namelist parameters, rerun and compare. Does not include a workflow. 3 hours allotted.
- GST3 (open): *UFS Medium-Range Weather (MRW) Application Cloud Condensation Nuclei Experiment* – Run the MRW Application for 24 hours, change cloud condensation nucleii namelist parameters, rerun and compare results. Includes a portable workflow. 6 hours allotted.
- GST4 (upcoming in fall 2020): UFS Short-Range Weather Application - TBD

Overall Graduate Student Test Results

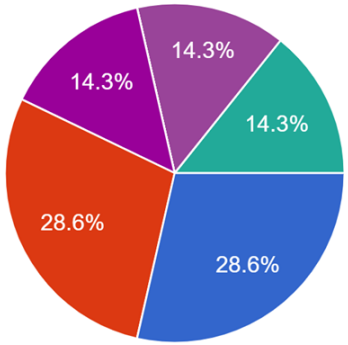


So far, there have been 14 Graduate Student Test responses

MRW Graduate Student Test Results (1)

Which category below best describes you?

7 responses

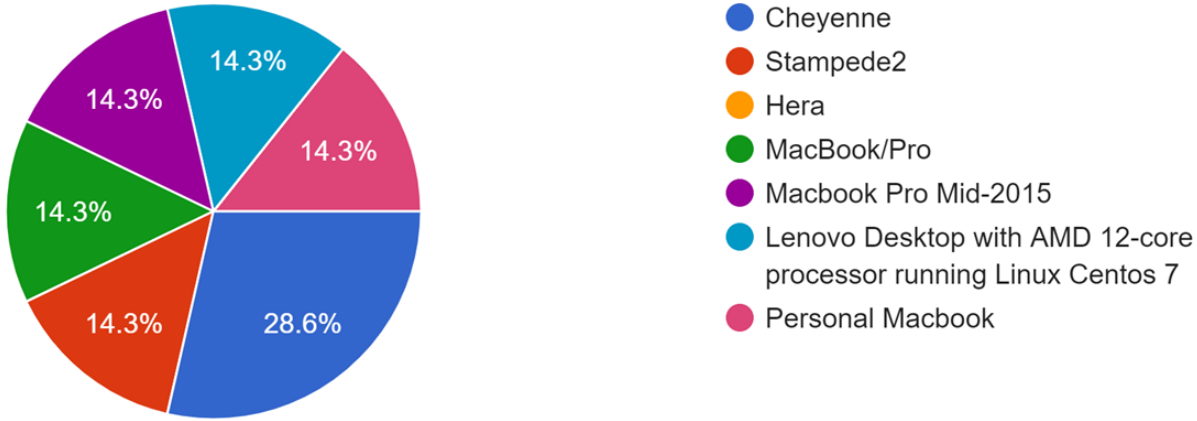


- Graduate student
- Post-doc
- Scientist - junior
- Scientist - senior
- Management
- Field officer
- Curious citizen
- Software developer - junior
- Software developer - senior
- Media/communication
- bureaucrat
- NESDIS Cloud Architect

MRW Graduate Student Test Results (2)

Which computer will you use to perform this test?

7 responses



MRW Graduate Student Test Results (3)

	strongly agree	agree	neutral	disagree	strongly disagree
I needed additional documentation in order to get started.		1	1	3	2
I found it easy to understand the configuration being modeled.	2	4	1		
I found the code easy to get.	5	2			
I was able to run the code without any trouble.	3	1	3		
I found the configuration easy to modify.	4	2	1		

MRW Graduate Student Test Results (4)

Responses to: Is there anything else you would like us to know?

- You folks are awesome! Keep up the great work!
- A very good first step in the right direction. Major Kudos to the entire UFS team on getting it this far. Congratulations!
- Overall, I thought it was easy to use for someone like me who has experience running climate models.
- Great job. The AMS webinar was very helpful as well. Thanks.
- This 1.0.0 release is a great step! Very impressed that I could run it on my laptop. It leaves me craving more documentation of the knobs that can be turned.
- Thanks for being patient with me taking so long to get this completed. With COVID-19 my schedule and routine got messy...glad I was able to finish this and hope to learn more about the UFS as it develops!

Try a Graduate Student Test!

To learn more, view previous responses, and register for a Graduate Student Test:

https://ufscommunity.org/science/gst/

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