



National Aeronautics and  
Space Administration



A NASA OPEN-SOURCE SCIENCE MISSION:  
**TOPS**: TRANSFORM TO OPEN SCIENCE

# Grace Hopper Celebration Open Source Day

Yvonne Ivey, TOPS Equity Lead  
Isabella Martinez, TOPS Curriculum Coordinator



# CYOA Project Representatives



**Yvonne Ivey-Parker**



**Isabella Martinez**

# Why Open Science?

We are facing **Big** Challenges:

Covid, Climate change, ...

We need **more** people - more hands, more eyes, more brains - with diverse experiences to participate so that we ask the best questions and find the best solutions

## Open Science:

- Accelerates the pace of science
- Increases the impact of science
- Expands applications of data and science
- Shares hidden knowledge & expands participation in science



Image credit: NOAA

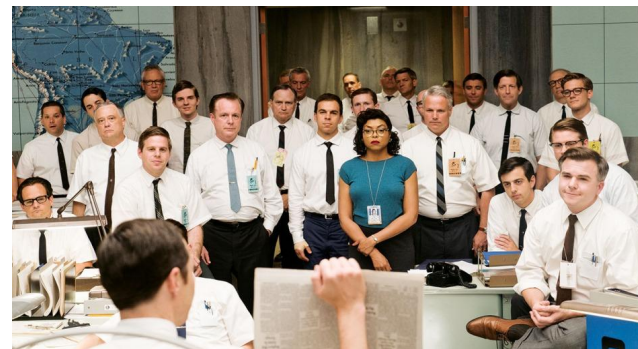


Image credit: Twentieth Century Fox

# Why Now?

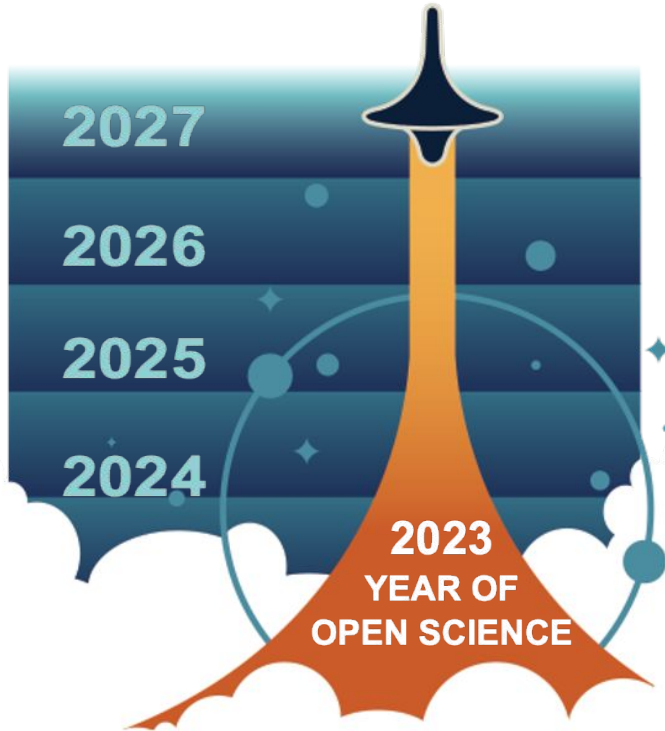
We **now** have the tools to make open science a reality. Advances in technology have created accessible, reproducible, inclusive science at a scale not possible a few years ago.

There is national and global momentum for the move to open science.

Equal and open access benefits the public



# Leading the Path to Open-Source Science



**Transform to Open Science (TOPS) is a \$40 million\* 5-year NASA Science Mission Directorate mission geared towards accelerating the adoption and understanding of open science**

## **Key Goals:**

- 20K earn open science badges
- 5+ major discoveries based in open science practices
- Increase participation of underrepresented groups by 2x

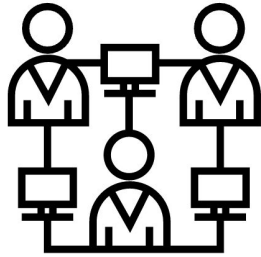
\*pending appropriations

# Engagement with the Community



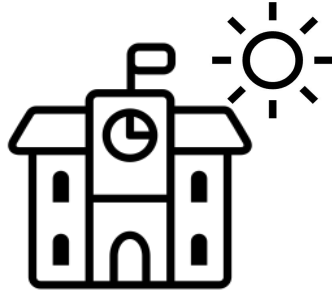
## **TOPS Champions**

Scientists to help teach modules at events and act as Open Science champions



## **Virtual Cohorts**

Engage with learners through a virtual cohort model to increase Open Science Badge achievement



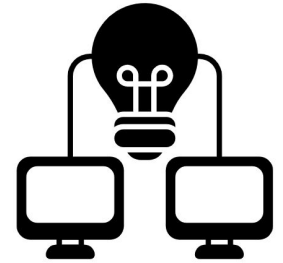
## **Summer Schools**

Institutions selected to run ~6 weeks of teaching *OpenCore* to selected science teams + open competitive under-represented researchers



## **Curriculum Expansion**

Groups funded to migrate/create discipline specific modules and data science skills modules to Open edX TOPS platform



## **Hackathons**

More hackathons that advance data science skills and open science



# Choose Your Own Adventure

What is TOPS?  
Where do I  
contribute today?

**nasa / Transform-to-Open-Science** Public

Issues 10 Pull requests 1 Discussions Actions Projects 1 Wiki Security Insights

main 3 branches 0 tags

Go to file Add file Code

About  
Transformation to Open Science  
open-source open-data open-science  
open-code cross-agency

Readme  
View license  
Code of conduct  
320 stars  
43 watching  
54 forks










Releases  
No releases published  
Create a new release

Packages  
No packages published

File	Commit Message	Time Ago
Grace_Hopper_Day	Create readme.md	2 hours ago
docs	Update 20221005_community_panel.md	15 hours ago
resources	added new badge	16 hours ago
.gitignore	Add current OSSI website	5 months ago
CODE_OF_CONDUCT.md	Update CODE_OF_CONDUCT.md	2 months ago
CONTRIBUTING.md	Update CONTRIBUTING.md	2 months ago
LICENSE.MD	Update LICENSE.MD	2 months ago
getting_started.md	Update getting_started.md	2 days ago
tops_fa...	Update tops_fa...	2 days ago

# Choose Your Own Adventure Issues

Where to Find Our Issues on Our Github?

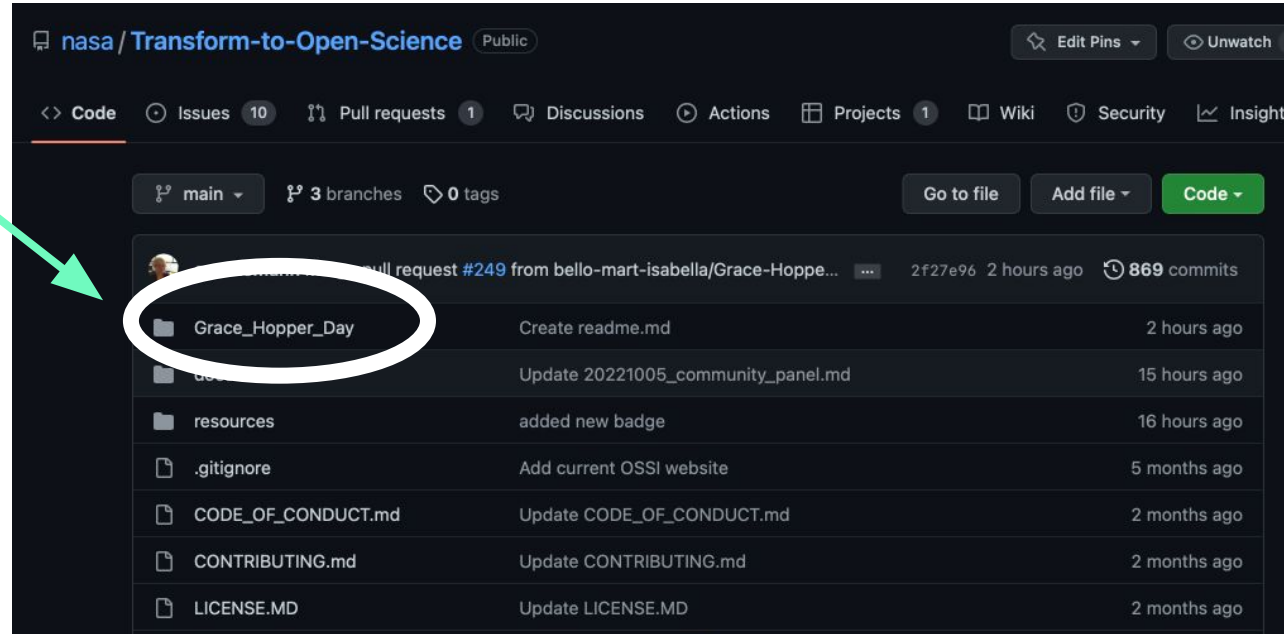
<input type="checkbox"/>		<b>Create Open Science Success Story Solicitation Feature and Database</b>	Grace Hopper Day	
		#143 opened on Jun 20 by reeseIngraham		
<input type="checkbox"/>		<b>Create a Navigable Corpus of Open Science Literature</b>	Grace Hopper Day	 3
		#142 opened on Jun 20 by reeseIngraham		
<input type="checkbox"/>		<b>Create a Centralized Open Science Job Board</b>	Grace Hopper Day	 1
		#141 opened on Jun 20 by reeseIngraham		
<input type="checkbox"/>		<b>Construct an Open Science Calendar Embedded in Github</b>	Grace Hopper Day	 1
		#140 opened on Jun 20 by reeseIngraham		
<input type="checkbox"/>		<b>Build a Dashboard/Ontology of Open NASA Data</b>	Grace Hopper Day	 1
		#139 opened on Jun 20 by reeseIngraham		





# Choose Your Own Adventure Contributions

Where do I put my contributions?



# Thank You

Learn more and  
collaborate with us!



TOPS Email List



TOPS Website