

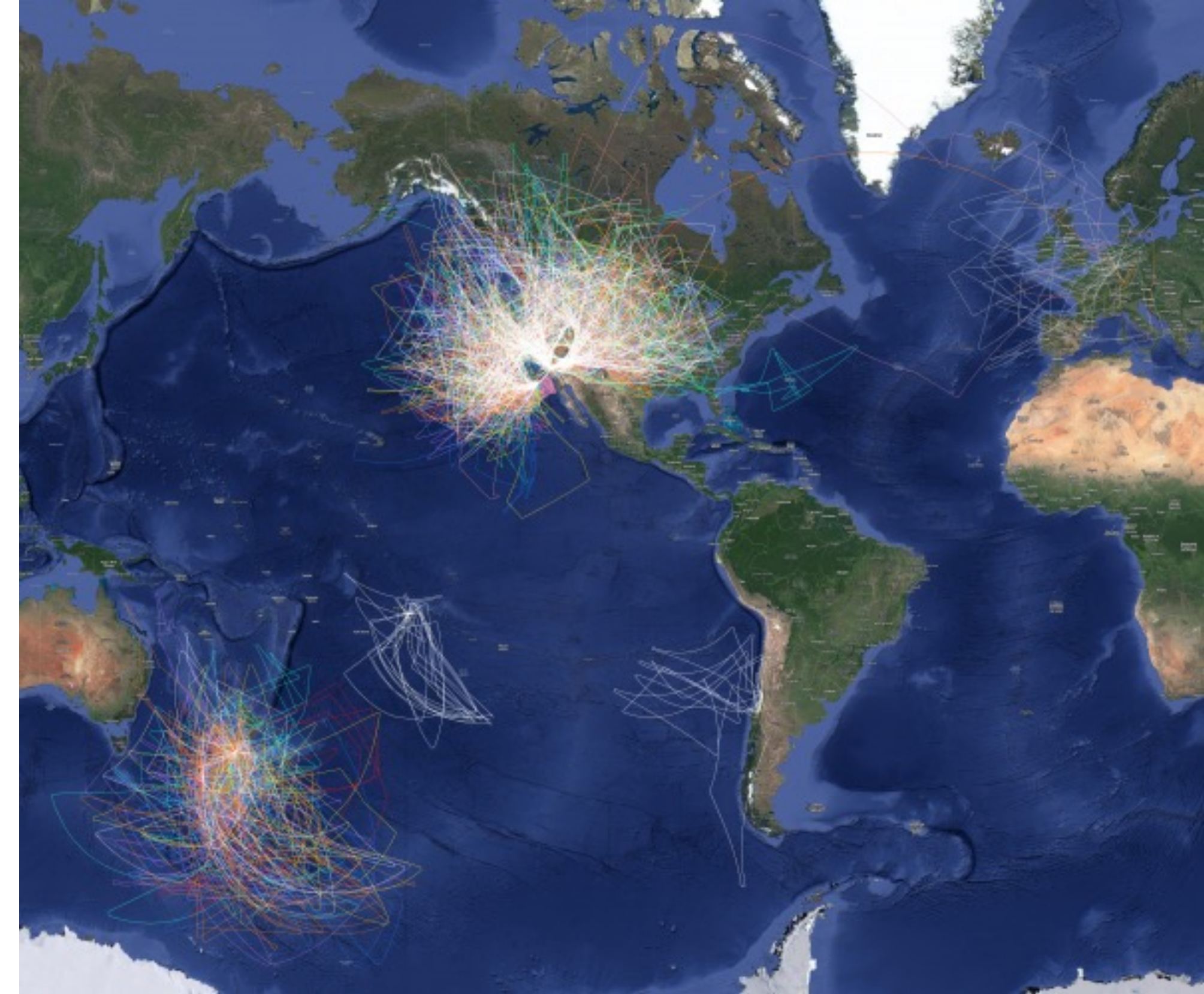
SOFIA Archive and Website

Mission Closeout and Transition to IRSA

William T. Reach, 4/19/2023

Mission Closeout

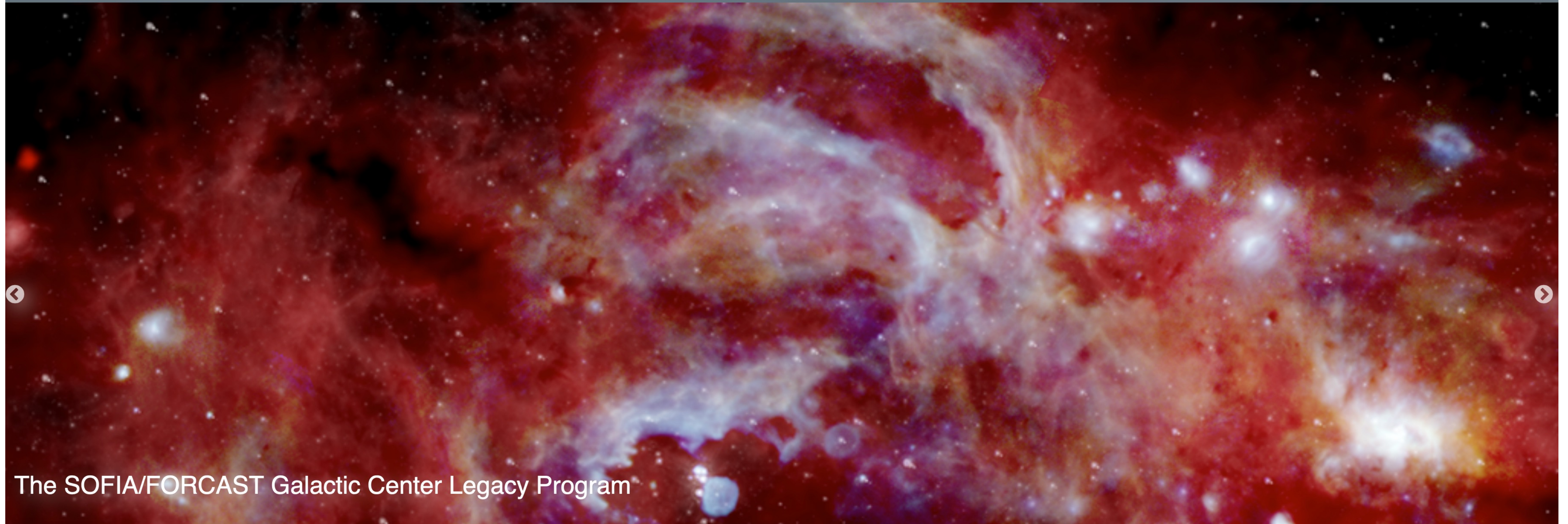
- Last Science flight was on Sep 28, 2022
- Science center closeout tasks through Sep 2023:
 - Reprocessing of Cycles 5-9 science data
 - Outreach (this school, newsletters, AAS in Jan 2023, final webinar)
 - Development of new website and improving archive site (this talk)
- Potential further closeout work in 2024 is being considered by NASA.



Website

- Current website operated by USRA: <https://www.sofia.usra.edu/>
- Long-term website hosted by IRSA: <https://irsa.ipac.caltech.edu/Missions/sofia.html>
- Upgrades before transition:
 - Improved pages for legacy programs, [draft](#)
 - Streamlined and non-anachronistic version of current website ported, with information for archival researches prominent

[ction of Heavy Oxygen in Earth's Upper Atmosphere](#) | [SOFIA School 2023 Registration Now Open](#) | [EXES Pipeline is Now Public](#) | [Formation of Massive Star Caught in the Act with Magnetic Field Mapping](#) | [SOFIA Transition from Operations to](#)



The SOFIA/FORCAST Galactic Center Legacy Program





Stratospheric Observatory for Infrared Astronomy (SOFIA)



[SOFIA Archive](#)



[Abstract Search](#)



[Documentation](#)

Mission Characteristics

Description:	SOFIA is a Boeing 747SP aircraft modified to accommodate a 2.5 meter reflecting telescope. Its instruments provide researchers with access to a wavelength coverage from the optical to the submillimeter (0.35 - 655 microns).
Wavelength:	0.35 - 655 μ m
Area Coverage:	Targeted
Instruments:	<p>2.5-m telescope with</p> <ul style="list-style-type: none"> • FORCAST mid-infrared camera and spectrograph (Herter et al. 2018) • GREAT heterodyne spectrometer (Risacher et al. 2018) • FIFI-LS far-infrared spectrometer (Fischer et al. 2018) • EXES echelle spectrograph (Richter et al. 2018) • FPI+ focal plane imager (Pfuller et al. 2018) • HAWC+ far-infrared camera and polarimeter (Harper et al. 2018) • FLITECAM near-infrared camera and spectrograph (McLean et al. 2006) • HIPO high speed imaging photometer for occultations (Dunham et al. 2004)
Time Coverage:	25 May 2010 - present
Science Products Generated:	Observation data and calibration files
Acknowledgement:	Information for Authors

IRSA Services

[NASA SOFIA Archive \(Help\)](#)

[FORCAST OC0 Data](#)

[HIPO Data](#)

[Abstract Search](#)

Interface to the NASA SOFIA Archive

Cycle 0 data from FORCAST

Occultation data from HIPO

Search abstracts that reference SOFIA products

Archive

- All SOFIA science data are and have been at the Infrared Science Archive (IRSA) at the Infrared Processing and Analysis Center at Caltech.
- Archive link: <https://irsa.ipac.caltech.edu/applications/sofia>
 - Levels 0,1: raw
 - Level 2: instrument artifacts removed and chopping decommutated
 - Level 3: calibrated into physical units
 - Level 4: combinations of images/spectra to make mosaics, data cubes

Archive

Exceptions

- Some datasets are not accessible via searchable archive
- These are explained on the IRSA SOFIA landing page and include:
 - [Basic Science](#) (sometimes called “Cycle 0”) observations with FORCAST and GREAT from proposals solicited as shared risk to demonstrate observatory capabilities. Data processing procedures were not yet in place, and header keywords (metadata) are incompatible with the pipelines.
 - [HIPO data](#): The instrument team indicated that time variability observations are best performed on unprocessed images.
 - Commissioning data: These are being compiled and curated like Basic Science

SOFIA Science Flight History

Cycle	First Flight	Last Flight	Bases
Basic Science	5/6/2011	6/8/2011	Palmdale
1	4/11/2013	10/24/2013	Palmdale, Christchurch
2	2/12/2014	2/26/2015	Palmdale
3	3/2/2015	12/17/2015	Palmdale, Christchurch
4	2/3/2016	2/3/2017	Palmdale, Christchurch
5	2/7/2017	11/16/2017	Palmdale, Christchurch, Daytona
6	5/22/2018	3/1/2019	Palmdale, Christchurch
7	4/17/2019	4/24/2020	Palmdale, Christchurch
8	8/17/2020	7/1/2021	Palmdale, Cologne
9	7/6/2021	9/28/2022	Palmdale, Papeete, Christchurch

