

M17

SOFIA USERS' GROUP

H.W. Yorke

November 4, 2019

FORCAST $19\mu\text{m}$, $37\mu\text{m}$; Herschel $70\mu\text{m}$; Spitzer $3\mu\text{m}$
USRA | NASA | SOFIA | Spitzer | Herschel

Lim, et al 2019, subm.
Image courtesy of:
De Buizer, Lim, Radomski



SOFIA 5-Year Flagship Mission Review (FMR)

SOFIA's SMO has carefully considered the FMR report and embraces its recommendations*

The SMO is working with NASA to drive the needed changes to improve scientific output and impact and to increase operational efficiencies via automation.

*SMO: Science Mission Operations, according to NASA's Prime Contract to Universities Space Research Association

FMR Recommendations (* indicates: Under SMO control)

1. *Nurture a science-driven culture within the mission.
2. *Embrace change. Identify and implement operational approaches that relieve staff stress, simplify operations, promote innovation, and increase science return.
3. *Emphasize completion of high priority science programs.
4. *Emphasize collection of high quality data to increase scientific productivity and simplify post-observation data processing.
5. Maximize observing time at stratospheric altitudes (typically above 40,000 feet) to get above water vapor and exploit SOFIA's unique observational capabilities.
6. Fly more southern hemisphere flights to increase scientific productivity.
7. *Transfer data products into the archive quickly and engage users in quality assessments.
8. Adopt the SOMER recommendation to split aircraft operations from telescope/science operations
9. Invoke HIRMES cost and schedule control (now), and complete it in a timely manner, or else cancel it.
10. Focus on science with current instruments (and HIRMES, if developed), not on post-HIRMES instrument development.

Program activities underway (1/3)

- The Project leadership (NASA and the SMO) conduct regular (generally weekly) strategic meetings preparing the plan to address and implement the FMR recommendations (#1 and 2).
- Identify, eliminate, or reduce “impediments to change” both within SMO (USRA) and external to SMO (NASA, DLR, DSI) (#2)
- Eliminate SMO activities not directly related to “enhancing science productivity” (#3 and (#4)
- The SMO is undergoing a reorganization (#1, 2, 3, 4 and 7)
 - Added new science role – Associate Director (AD) for Research: Jim Jackson
 - Reduce and consolidate other AD roles
 - New roles and responsibilities for staff to enhance efficiencies

Program activities underway (2/3)

- Recently conducted a test 5-flight week (#5 and 8)
 - Use results and modeling to refine optimization, for high quality science
 - Draft report outlines advantages and disadvantages of more frequent shorter flights vs. fewer longer flights (weekly 5 x 8 hr vs. 4 x 10 hr)
 - The SOMER recommended 6x8 hr option is not budgetarily feasible
- Cycle 8 Selections and Cycle 9 Call for Proposals (#2 and 4)
 - Reduce instrument modes and instruments offered
- New post-doc and staff scientist positions: requisitions & ads created (#1)
- Developing new “automation” software to reduce mundane repetitive activities of staff (#2)
- Cross-training staff (ex: TO/IO, pipeline/instrument scientists) (#2)
- Make SOFIA pipeline software publicly available (#7)
 - Pipeline software is being rewritten to Python

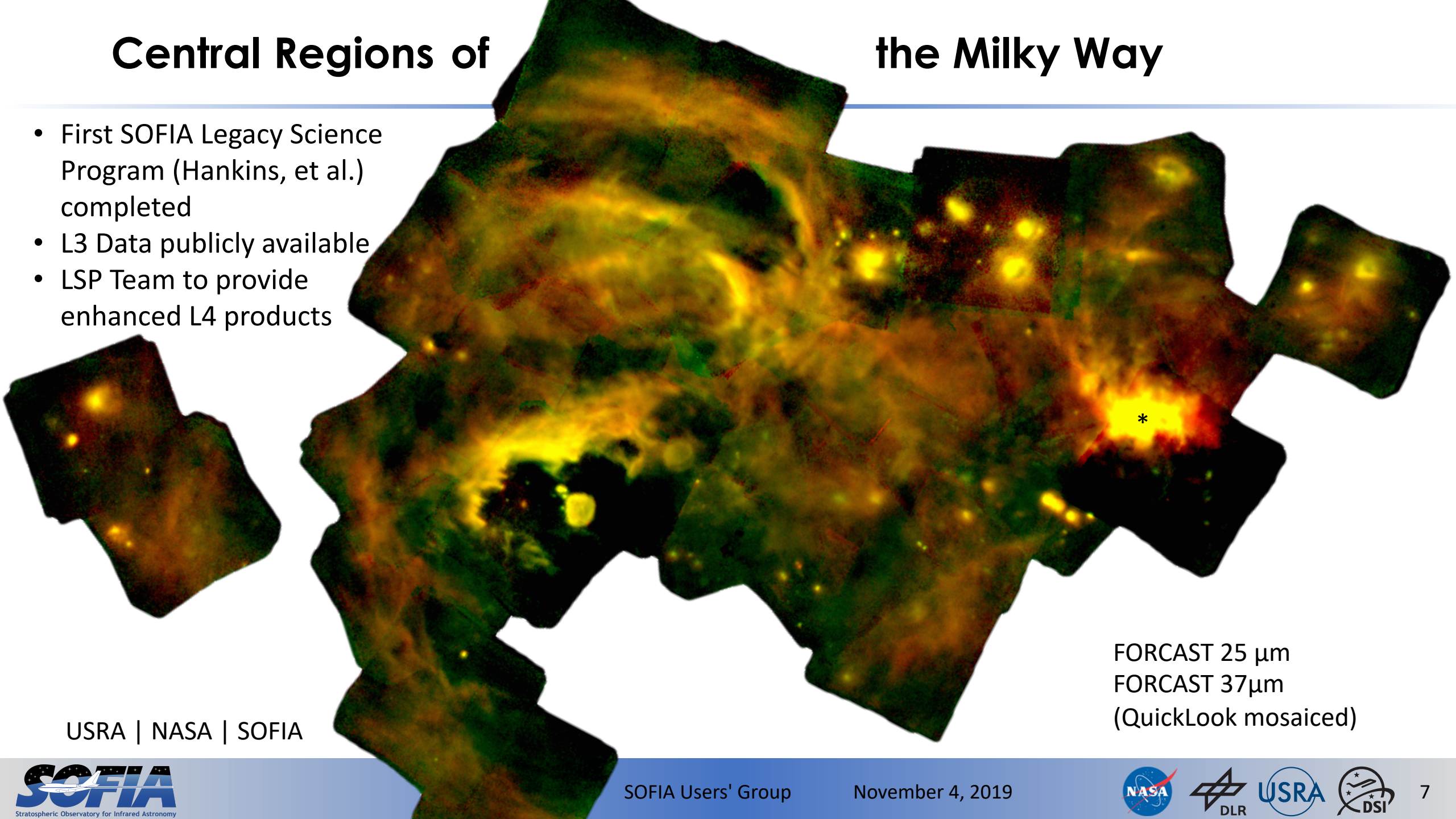
Program activities underway (3/3)

- Cycle 8 selections to reflect emphasis on “enhancing science productivity” (#3 and #4)
 - Fewer but longer instrument campaigns
 - Optimization of flight length & frequency (5x8 hrs, vs. 4x10hrs)
 - Adjustment of observing time to accommodate better/worse observing conditions (Palmdale vs. Christchurch)
 - Consider risk and likelihood of publishable results when selecting programs

Central Regions of

the Milky Way

- First SOFIA Legacy Science Program (Hankins, et al.) completed
- L3 Data publicly available
- LSP Team to provide enhanced L4 products



FORCAST 25 μ m
FORCAST 37 μ m
(QuickLook mosaiced)

USRA | NASA | SOFIA