



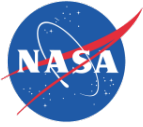
Scientific Productivity

William T. Reach

SOFIA Users Group #12

16 Nov 2017





Status of Guest Observer Projects



Each project dispositioned into one of these categories:

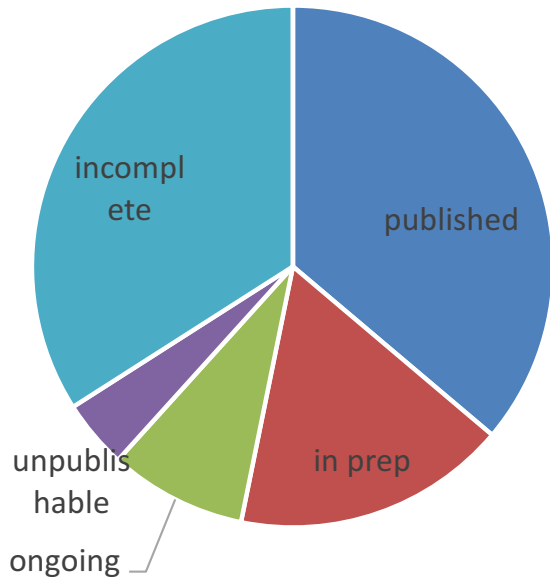
- **Published:** refereed journal article using data
- **Ongoing:** will be combined with upcoming observations
- **In preparation:** GO working on draft/plans to write
- **Not reduced:** calibrated data not yet available
- **Incomplete:** less than half of proposed observations complete, or GO indicates cannot publish subset
- **Unpublishable:** GO or SMO believe scientific results will never be obtainable with the acquired data



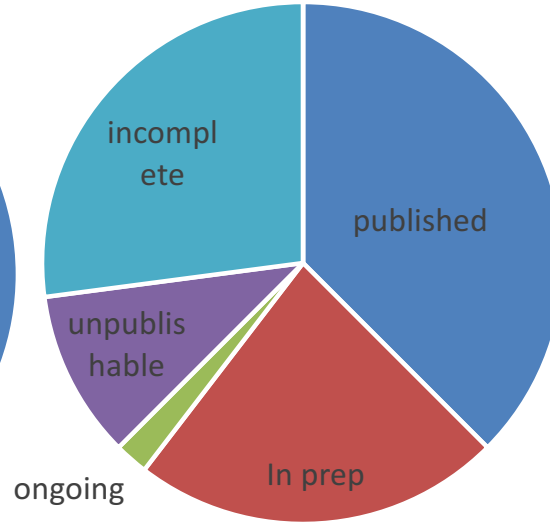


SOFIA Project Status

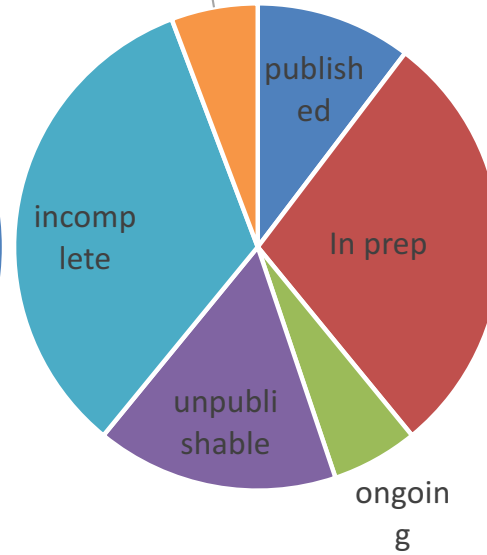
Cycle 1



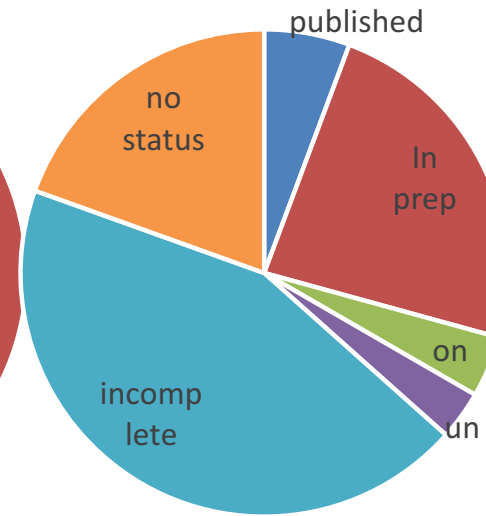
Cycle 2



Cycle 3
no status



Cycle 4



- Decreasing trend of unpubl ishable projects
- Continuing bane of incomplete projects
 - Cycle 4 worst due to engine in NZ & other aircraft outages



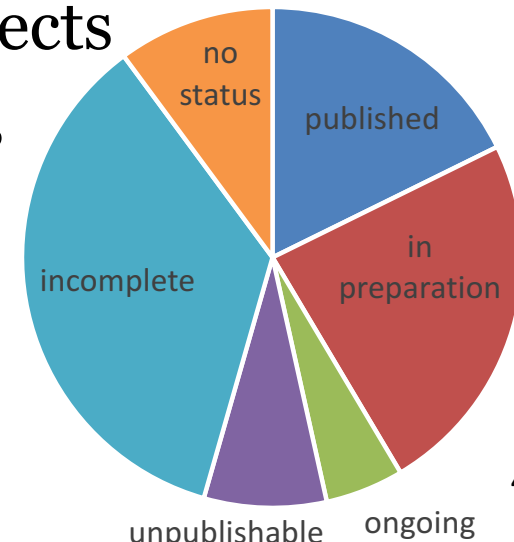


SOFIA Project Status

Cycle	1	2	3	4	5	DDT
published	17	18	9	7	0	5
in preparation	8	11	25	29	1	2
ongoing	4	1	5	5	0	1
unpublishable	2	5	14	4	0	0
incomplete	16	13	29	54	41	0
no status	0	0	5	24	65	3

Cycles 1-4 & DDT

- Decreasing trend of unpublishable projects
- Continuing bane of incomplete projects





SUG Concern: FIFI-LS Productivity

- In the SUG11 report, it was noted that
 - “the FIFI-LS productivity [is very low]... suggestive that the FIFI-LS instrument should be retired. The SUG suggests that the SSC develop a credible plan and timeline for improvement as part of determining future support for this instrument.”
- The Science Center and FIFI-LS team made a comprehensive review of GTO and GO projects to determine their publishability and status.
 - 9 papers in progress and credibly by 2018 June
 - Another ~6 possible



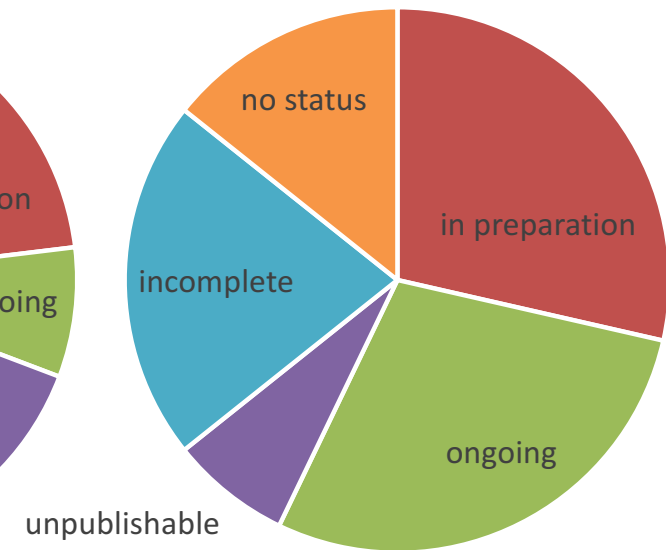
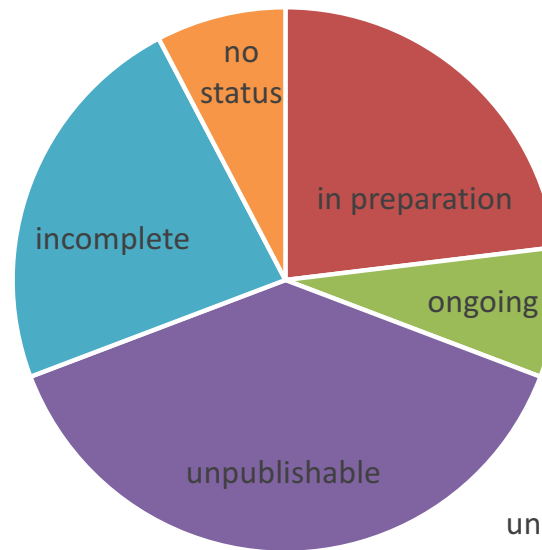


FIFI-LS Productivity

FIFI-LS Cycle 3

FIFI-LS Cycle 4

Cycle 3 had unpublishable observations as observers learned what FIFI-LS could do



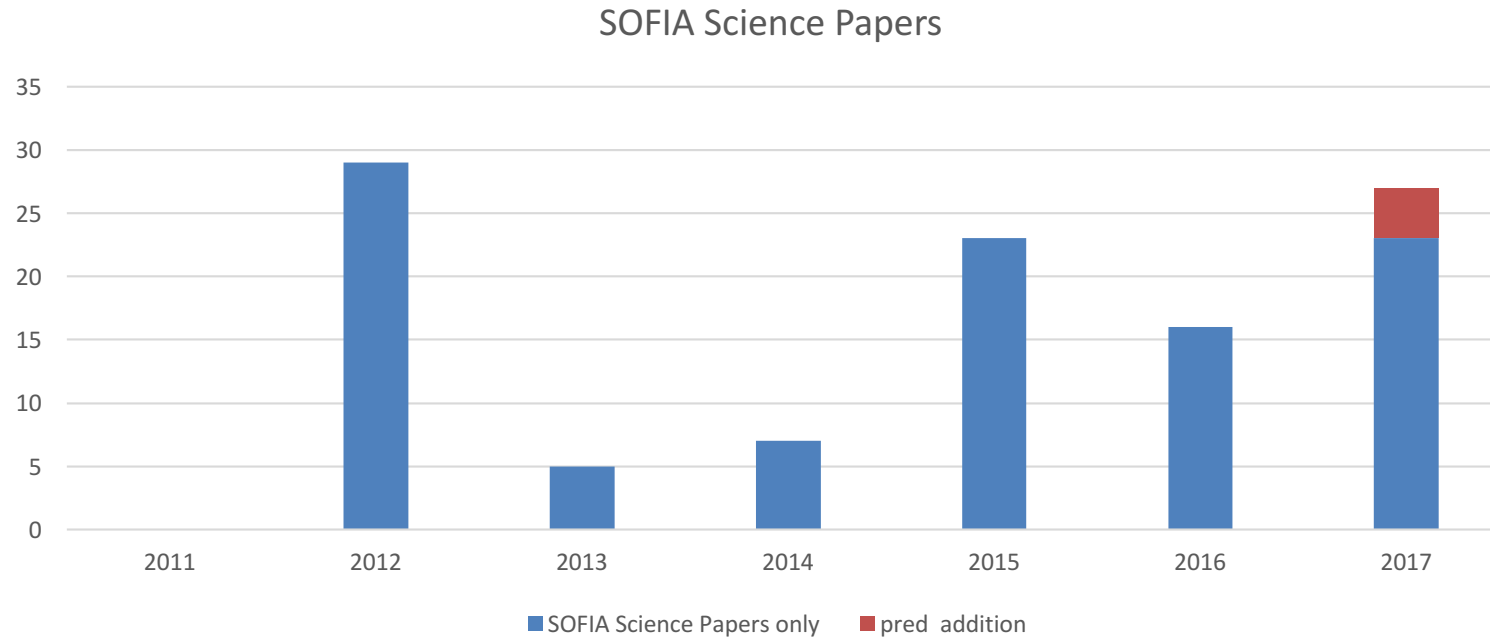
From Guest Observer survey: The delay in getting calibrated pipeline products delayed when they could start.

Both issues are under control, so FIFI-LS productivity should improve.





SOFIA Publications

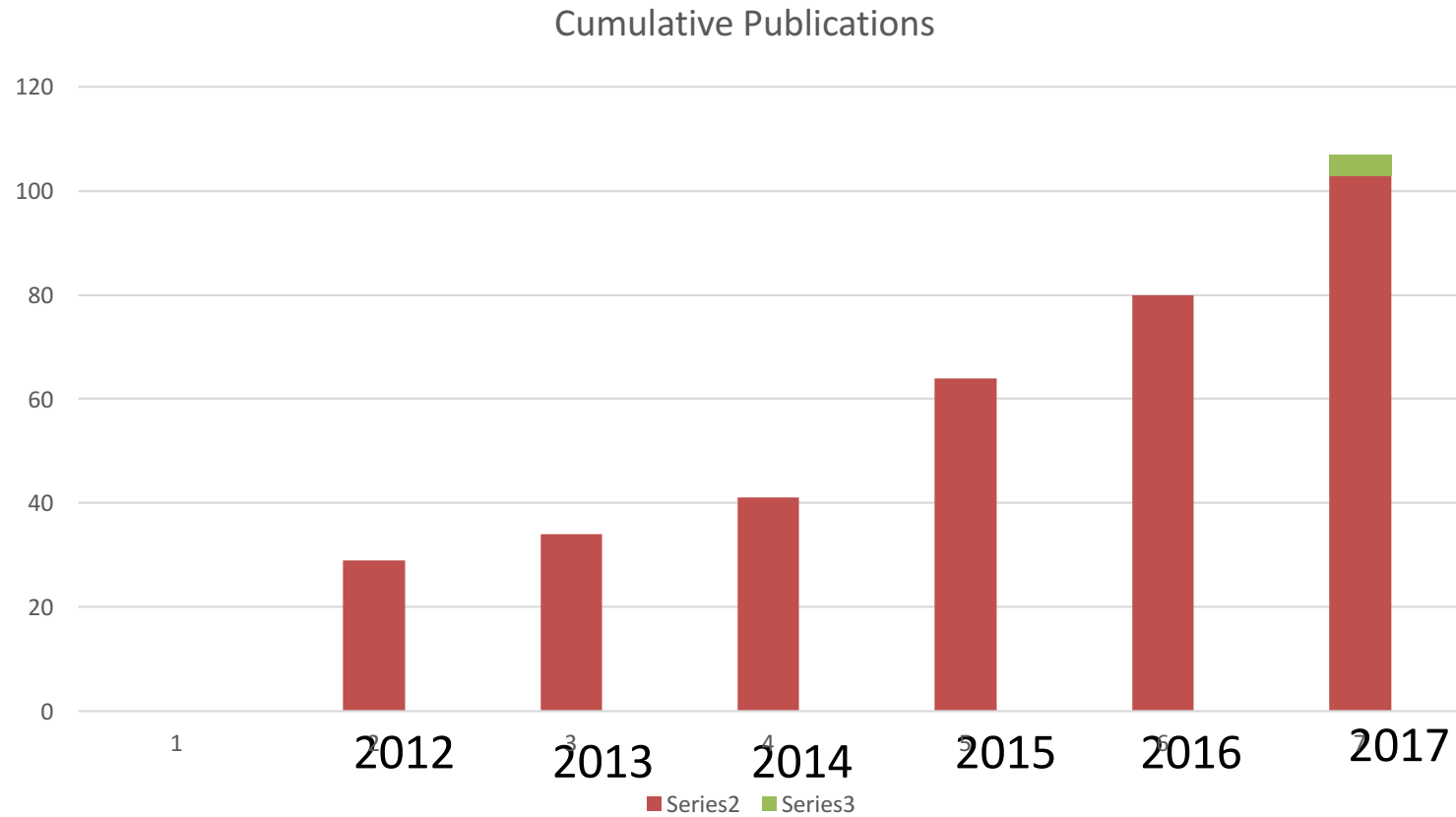


- Compared to forecast from SUG11
 - Under-performing (predicted 31 papers in 2017) c c





SOFIA Publications

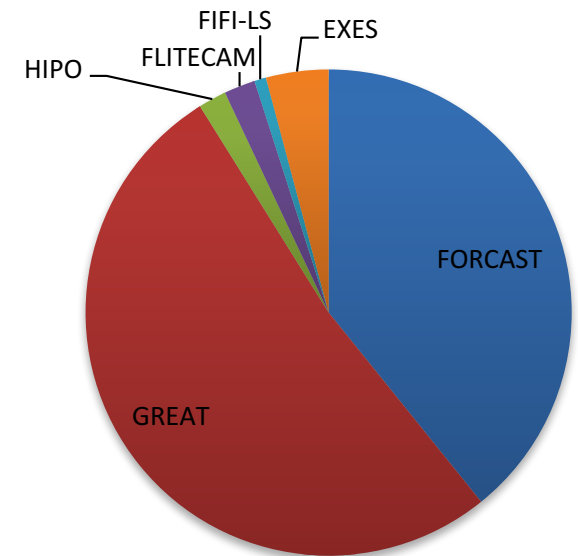




Productivity by SI

Papers by Scientific Instrument

SI	#Papers	Flights	GI+GTO hours	Hours/Paper
HIPO	1.8	3	20.9	12
GREAT	50	102.5	675.38	13
FORCAST	37.75	98.5	567.3	15
FLITECAM	2	14	57.3	29
EXES	4	29	160.66	40
FIFI-LS	0.75	46	291.9	400
HAWC	0	28	42.7	∞



- HAWC+ to be “accepted” on 2017 Dec



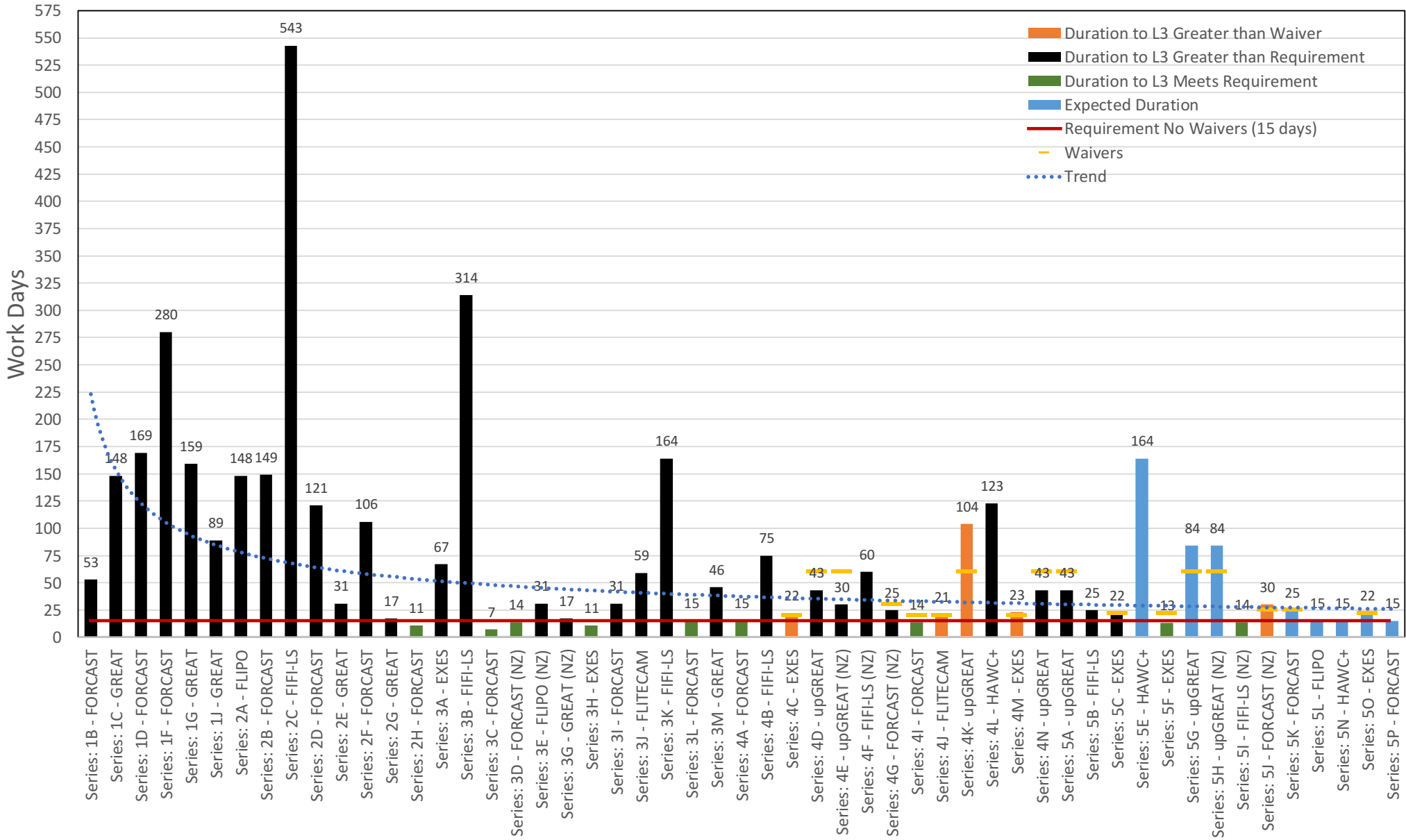


Data Processing



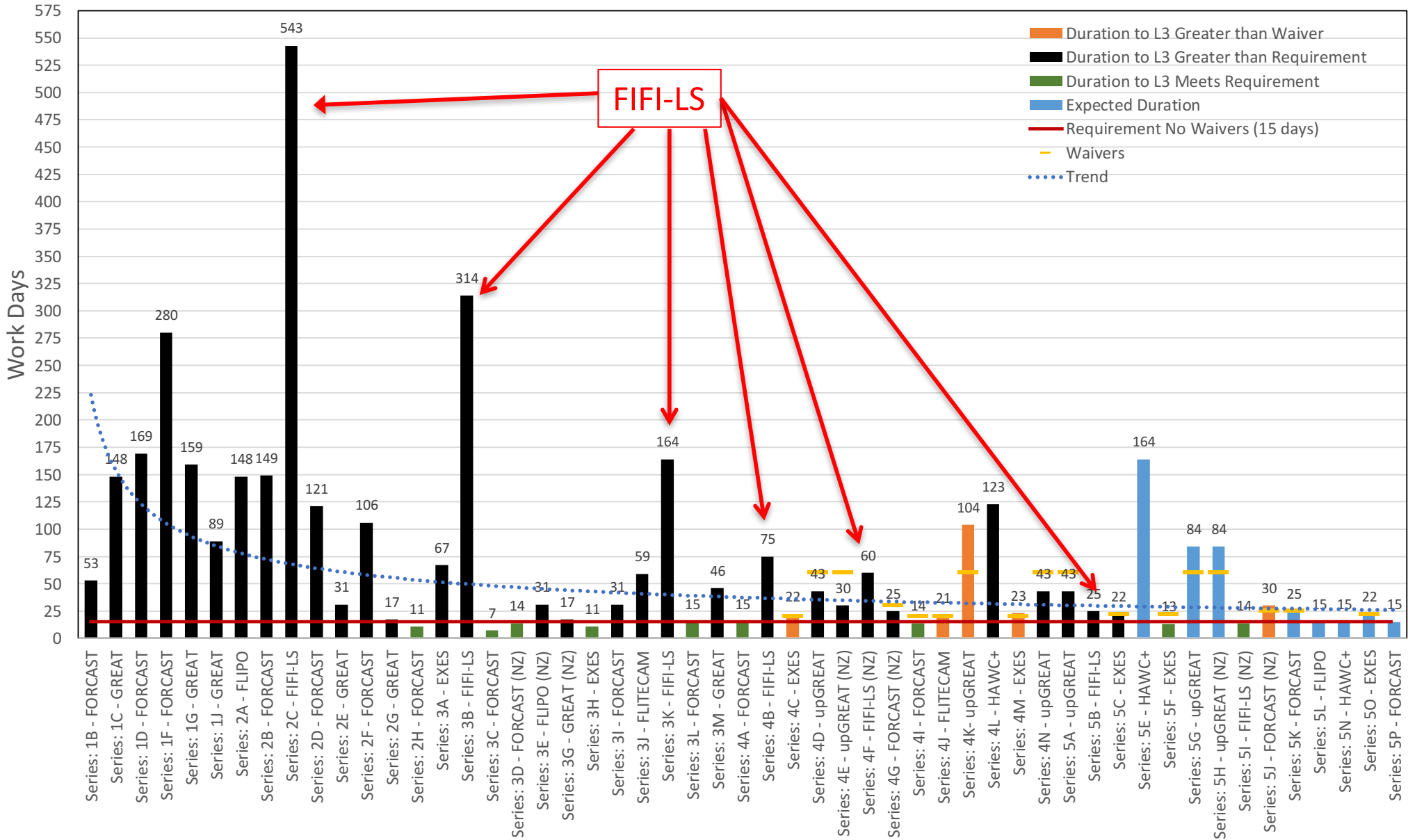


Time to archive Calibrated Data



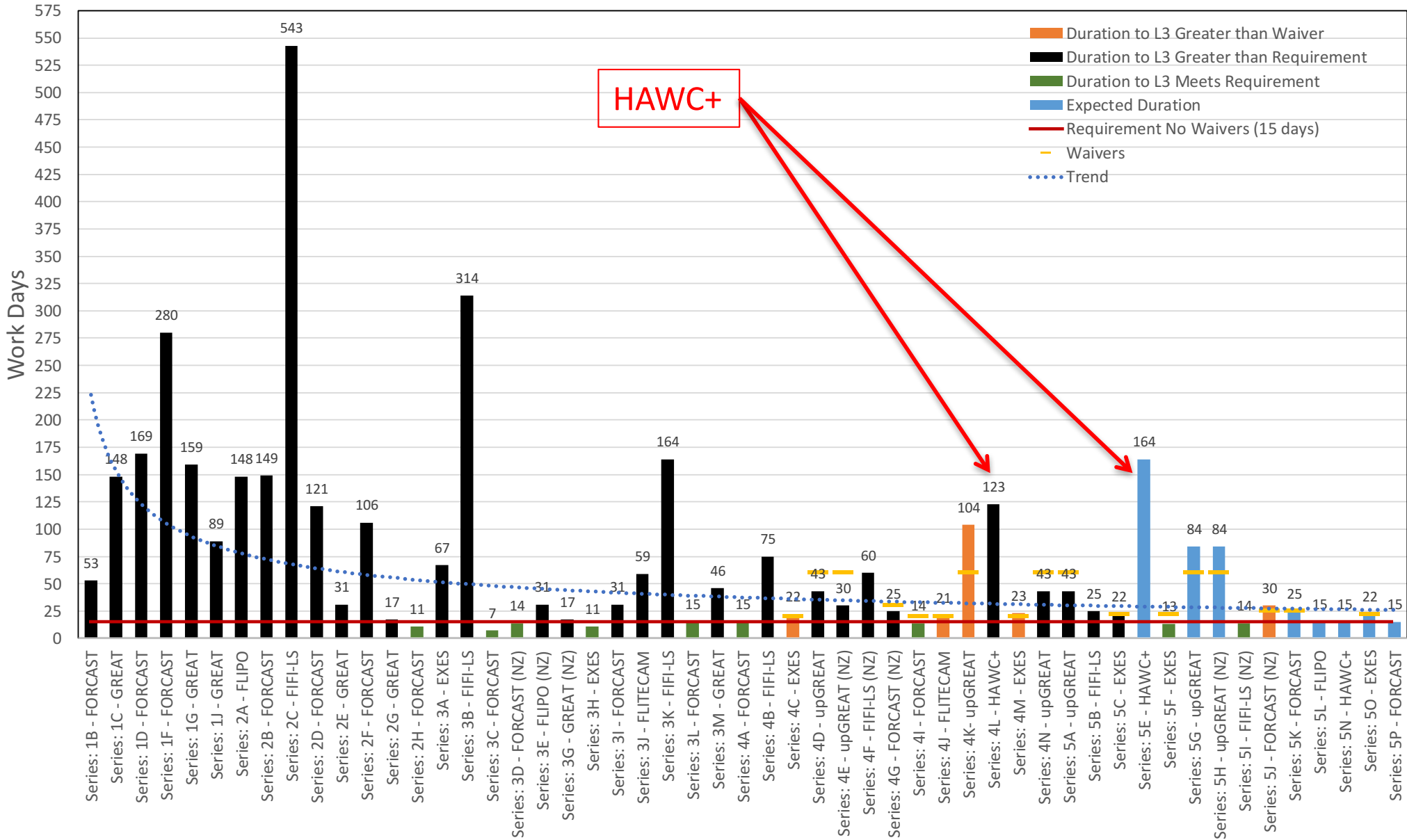


Time to archive Calibrated Data



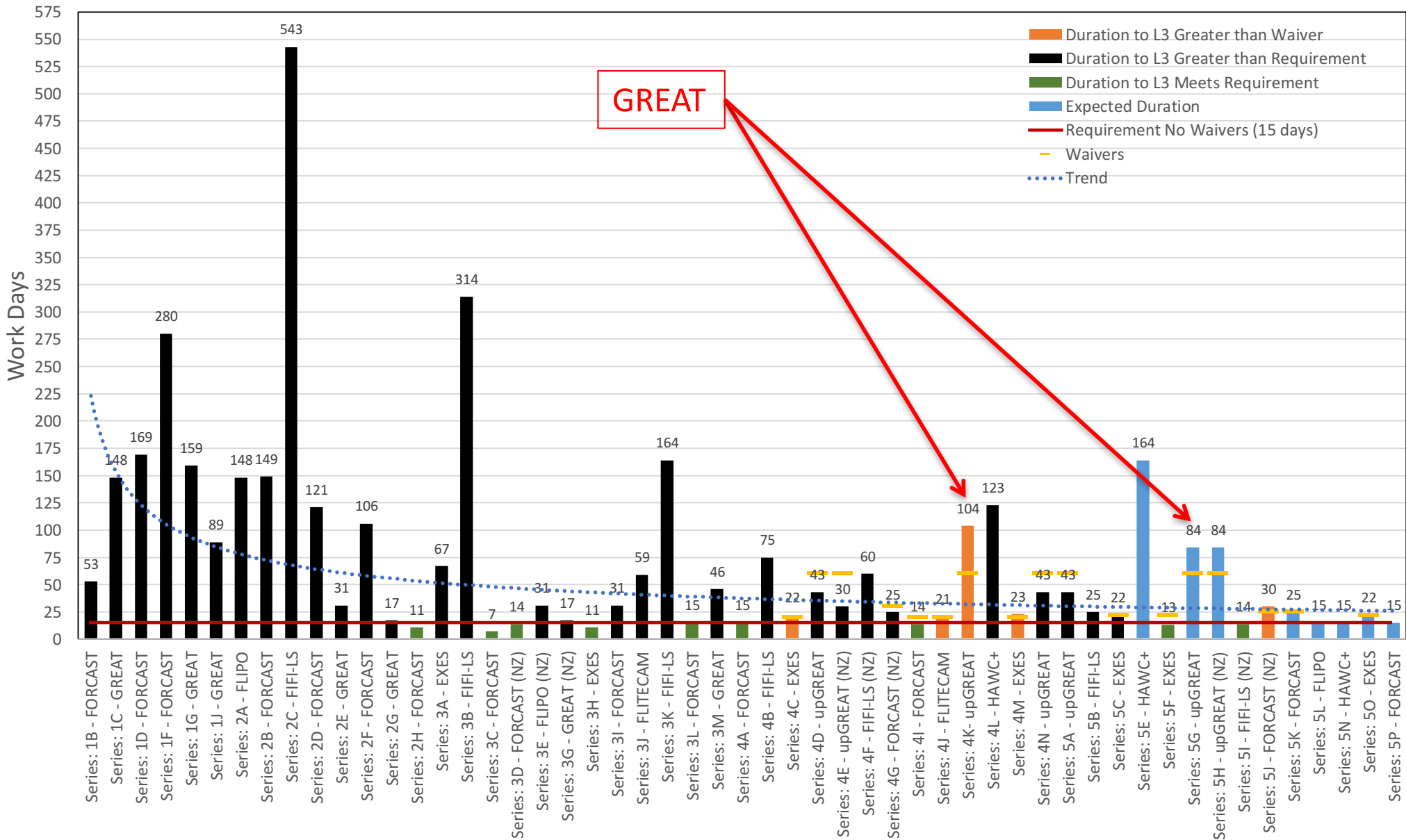


Time to archive Calibrated Data





Time to archive Calibrated Data



Cycle 5 Data Reduction Status



Observing Campaign	Science Instrument	Last Flight Date	Baseline L3 Date	Completed/ Expected L3
5-A	upGREAT	16 Feb 2017	15 May 2017 ^{†6}	20 Apr 2017
5-B	FIFI-LS	8 Mar 2017	30 Mar 2017	13 Apr 2017
5-C	EXES	22 Mar 2017	24 Apr 2017 ^{†7}	24 Apr 2017
5-D	FORCAST	26 Apr 2017	2 Jun 2017 ^{†8}	N/A <i>No flights flown in series</i>
5-E	HAWC+	17 May 2017	9 Jun 2017 ^{**}	16 Jan 2018 ^{**}
5-F	EXES	26 May 2017	29 Jun 2017 ^{†7}	16 Jun 2017
5-G/H	upGREAT	14 Jul 2017	11 Oct 2017 ^{†6}	15 Nov 2017
5-I	FIFI-LS	27 Jul 2017	18 Aug 2017	18 Aug 2017
5-J	FORCAST	8 Aug 2017	30 Aug 2017	22 Sep 2017 <i>reference waiver PRG-WAV-010</i>
5-K	FORCAST	27 Sep 2017	20 Oct 2017	3 Nov 2017 <i>reference waiver PRG-WAV-011</i>
5-L	FLIPO	6 Oct 2017	31 Oct 2017	31 Oct 2017
5-N	HAWC+	16 Nov 2017	11 Dec 2017	11 Dec 2017
5-O	EXES	19 Jan 2018	22 Feb 2018 ^{†7}	22 Feb 2018
5-P	FORCAST	2 Feb 2018	4 Mar 2018 <i>Based on draft 6-A completion</i>	4 Mar 2018

Status updated
October 30, 2017

L3 Level-3 Data
Products

- Green Expected completion on Track
- Yellow Expected completion less than 2 weeks after baseline
- Red Expected completion more than 2 weeks after baseline
- Blue Completion date

- ^{†6}: Reference waiver PRG-WAV-006
- ^{†7}: Reference waiver PRG-WAV-007
- ^{†8}: Reference waiver PRG-WAV-008
- ^{**}: HAWC+ data processed as "best effort" for 5E because it is a newly commissioned instrument.



Data Processing

- Overall, data processing in good condition
- Exceptions to timely processing:
 - FIFI-LS pipeline development lagged its early usage
 - The situation is now under control and deliveries are timely
 - HAWC+ pipeline and calibration lagging early usage
 - Pipeline will be part of SI acceptance in 2017 December
 - GREAT occasionally takes longer to deliver calibration
 - The team remains responsive and can generally meet MoU

