

Observatory Metrics

Erick Young
28 April 2014

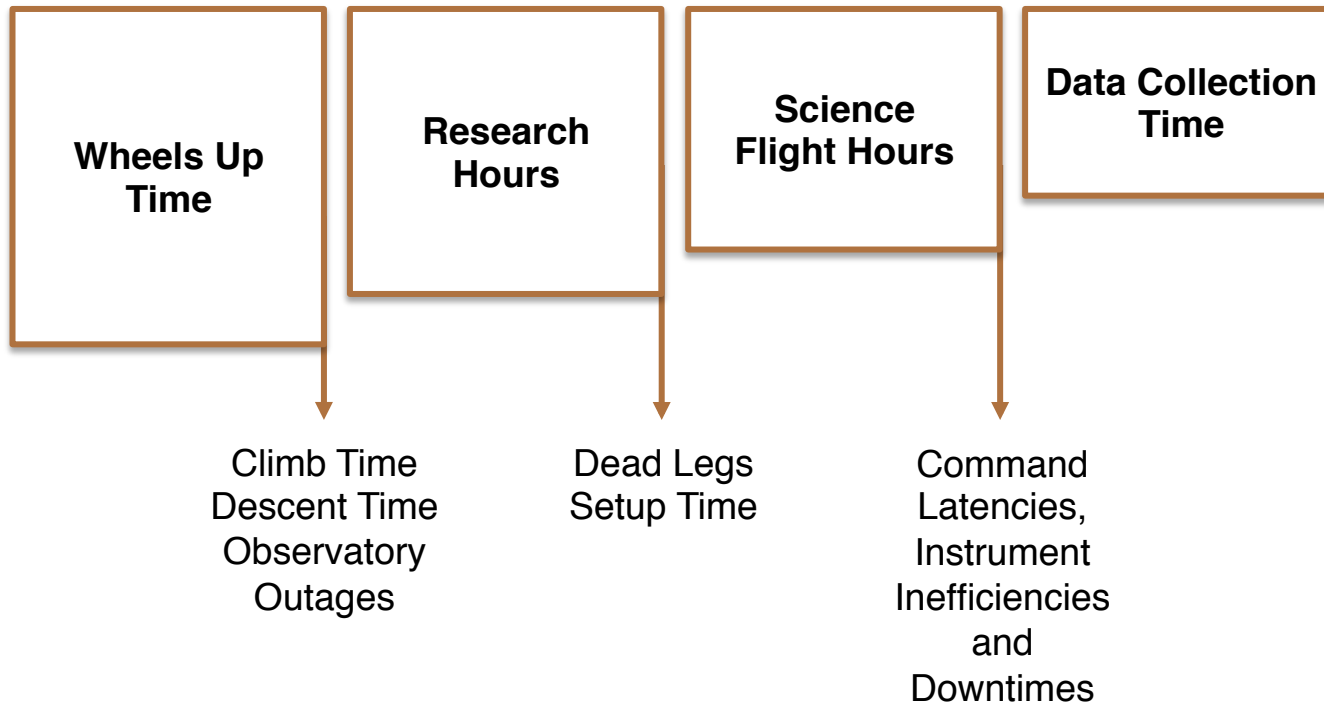
Observatory Metrics

- Operational metrics
 - Allows the SMO to assess the performance of the operations team
 - Systems reliability
 - Operational efficiency
 - Hours (in various flavors)
- Productivity metrics
 - Science productivity
 - Oversubscription rate for Call for Proposals
 - Publication statistics
 - Customer interactions
 - Assessed by exit interviews
 - Feedback from users' group
- Engineering metrics
 - Long term trending of key system parameters

Hours Metrics

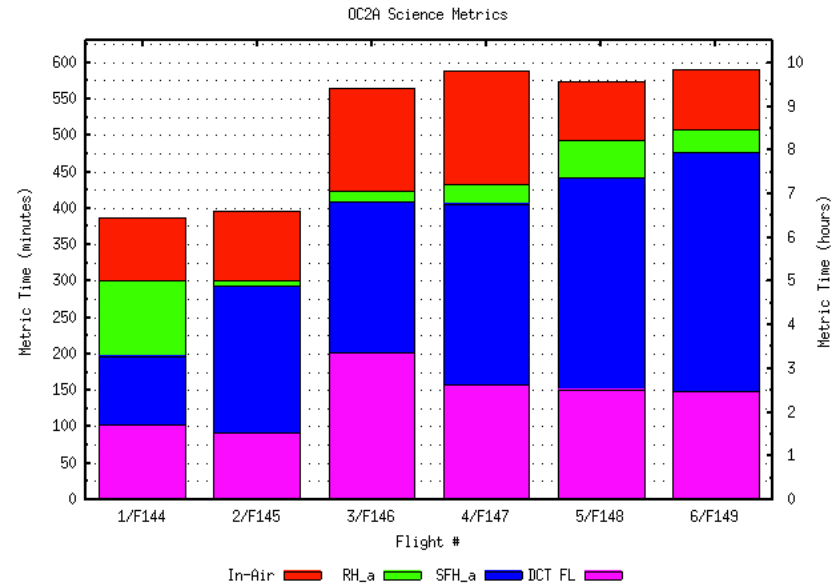
- Key metrics
 - Research hours (RH)
 - Time that observatory system is ready to support TA, SI, and science team in acquiring a target
 - Requirement: 960 hours/year during full operation
 - Science flight hours (SFH)
 - Time locked on-target, all systems “go” for SI and science team to start exposure.
 - Requirement: $SFH/RH \geq 75\%$
 - Data collection time (DCT)
 - Time actually integrating on target

Factors in Observatory Efficiency



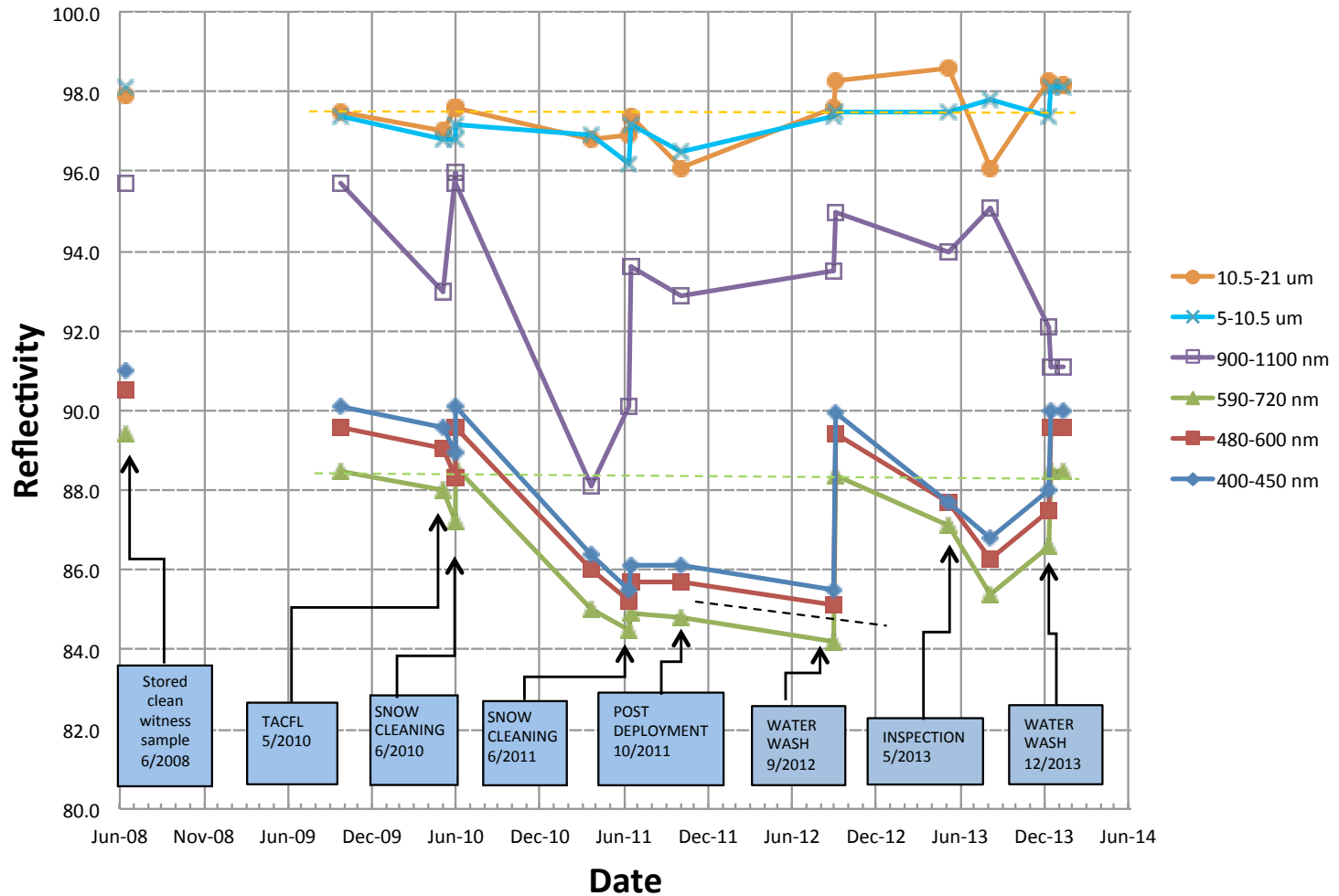
Metrics Collection

- For each flight, detailed data are collected on the performance of the flight
- This data collection is now automated to produce a scorecard for the flights
 - Status flags have been implemented in the housekeeping data stream, and these can be queried to produce operational metrics



OC2A Metrics

SOFIA Primary Mirror Reflectivity History



Note: For the two longest wavelength bands, reflectivity is specular + diffuse

