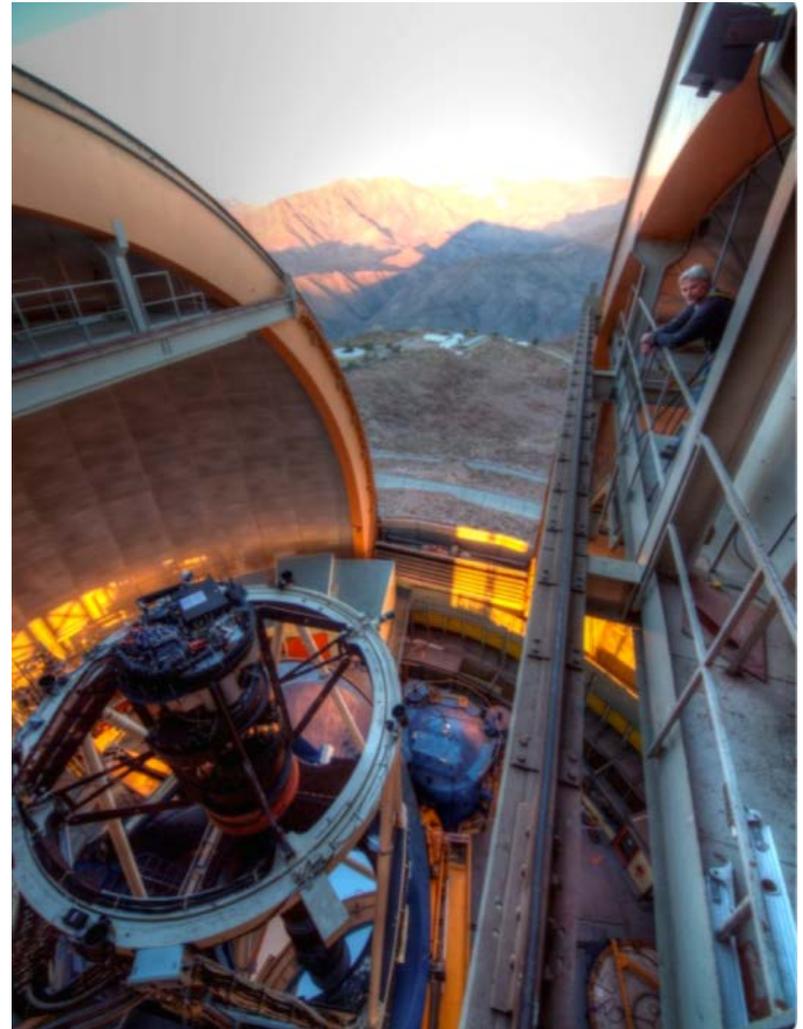




DARK ENERGY
SURVEY

Dark Energy Survey Operations

Tom Diehl
All-Experimenter's Meeting
October 10, 2016

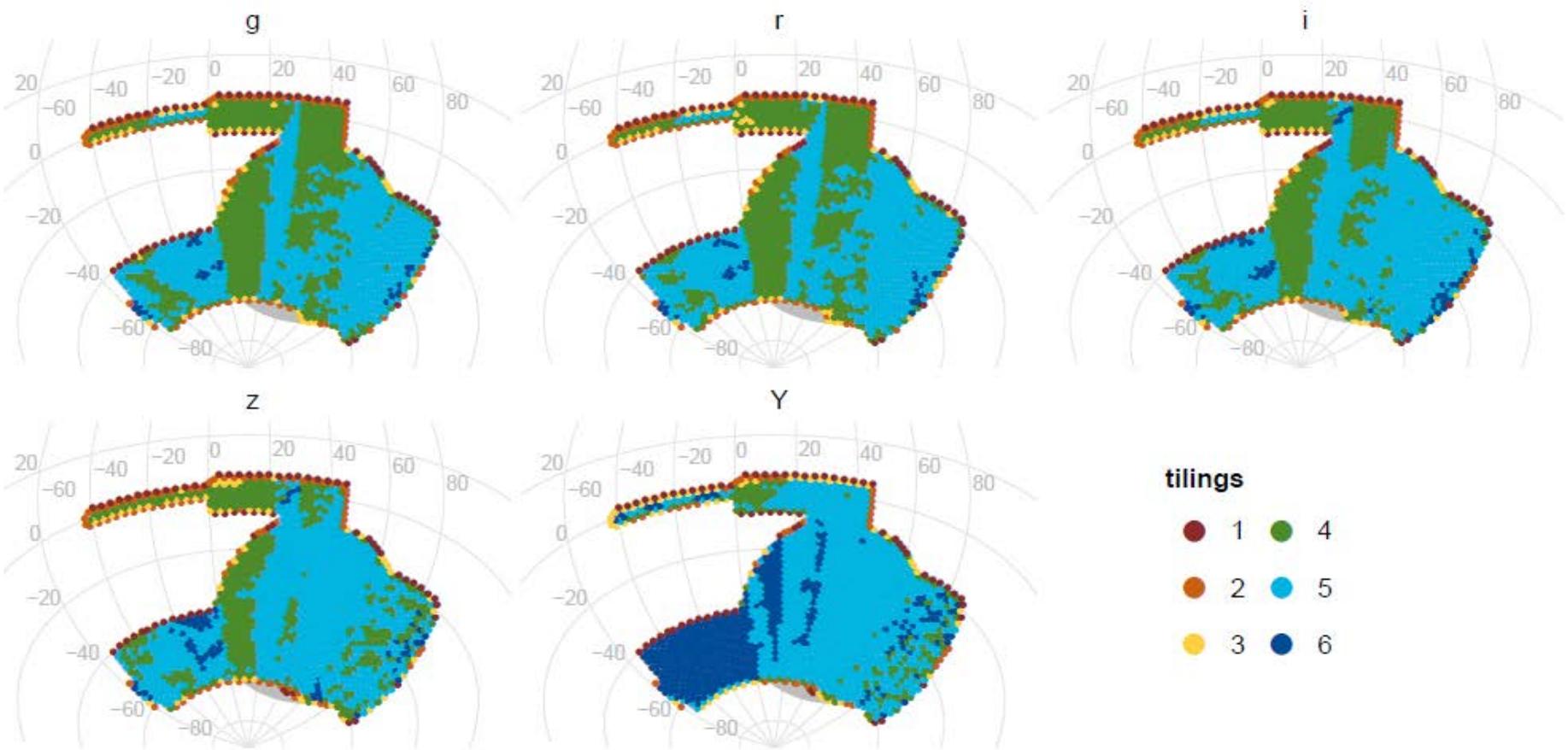




DES Finished 3 of 5 observing seasons

End of Y3 WF Survey Status by Filter

DARK ENERGY
SURVEY

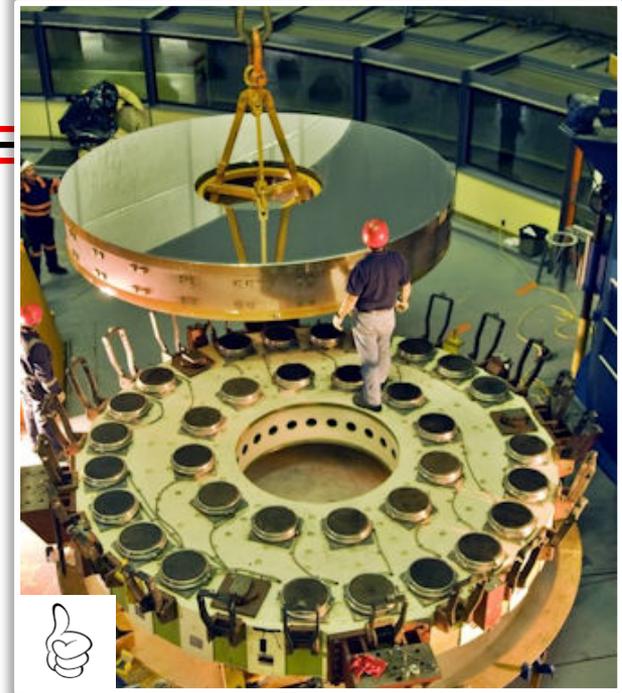
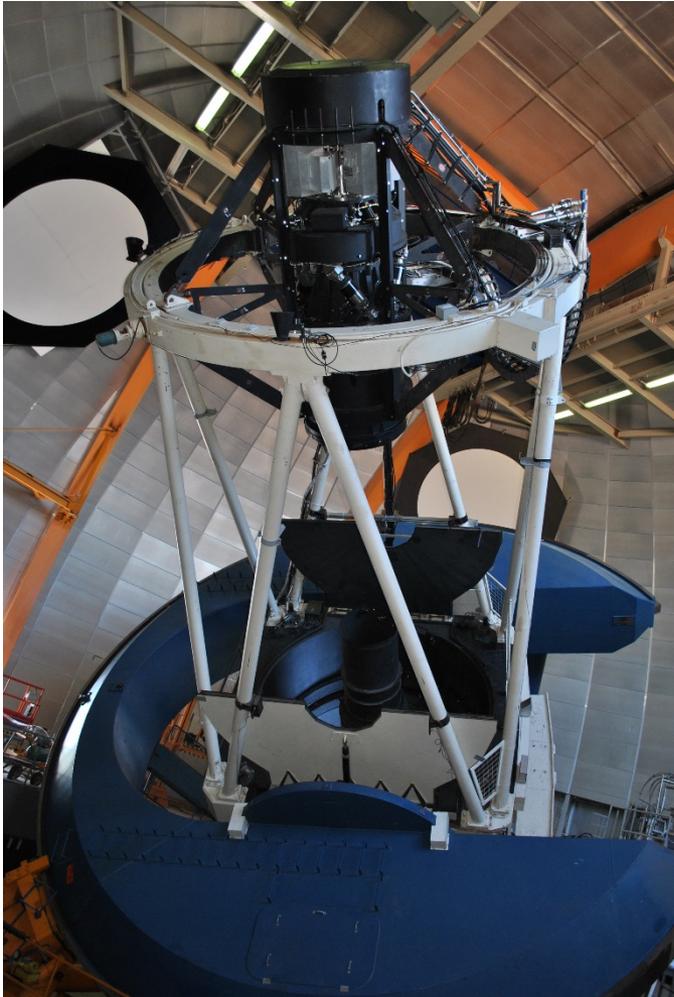


We got 60% of our expected average season in Y3.
Plus side: 4-6 good exposures in the full survey field.
Quality not quite as good on the West side.



Camera & Telescope Status

DARK ENERGY
SURVEY



- Camera & Telescope are working with very high reliability.
- Active control of the 34,000 lb Blanco Primary Mirror is working!



Status of auxiliary systems

DARK ENERGY
SURVEY

- ✓ GPSMon monitors precipitable water vapor in the atmosphere
- ✓ CTIO DIMM (2) measures true seeing
- ✓ RasiCam (all-sky IR camera) measures cloud cover, informs Calibration WG if photometric conditions. May '16 maintenance by Kevin Reil (SLAC).
- ✓ aTmCam measures atmospheric transmission in 4 filters.





Observing Summary (up-to-date as of This Morning)

DARK ENERGY
SURVEY

- Y4 is off to a very good start

Season	# Nights	Total Hours	Observing (%)	Lost Camera (%)	Lost Telesc. (%)	Lost Weather (%)
Y1	105	888 $\frac{1}{4}$	85	3	2	10
Y2	105	928 $\frac{3}{4}$	84	< $\frac{1}{2}$	< $\frac{1}{2}$	15
Y3	105	969 $\frac{3}{4}$	66	1	3	30
Y4 Aug.	6 $\frac{1}{2}$	63 $\frac{1}{4}$	87	$\frac{1}{2}$	0	12
Y4 Sep.	21 $\frac{1}{2}$	221 $\frac{1}{4}$	97	0	2	1
Y4 Oct.	6	59	88	0	0	12
Y4 Total	34	353	93 %	0%	1$\frac{1}{2}$%	5$\frac{1}{2}$%

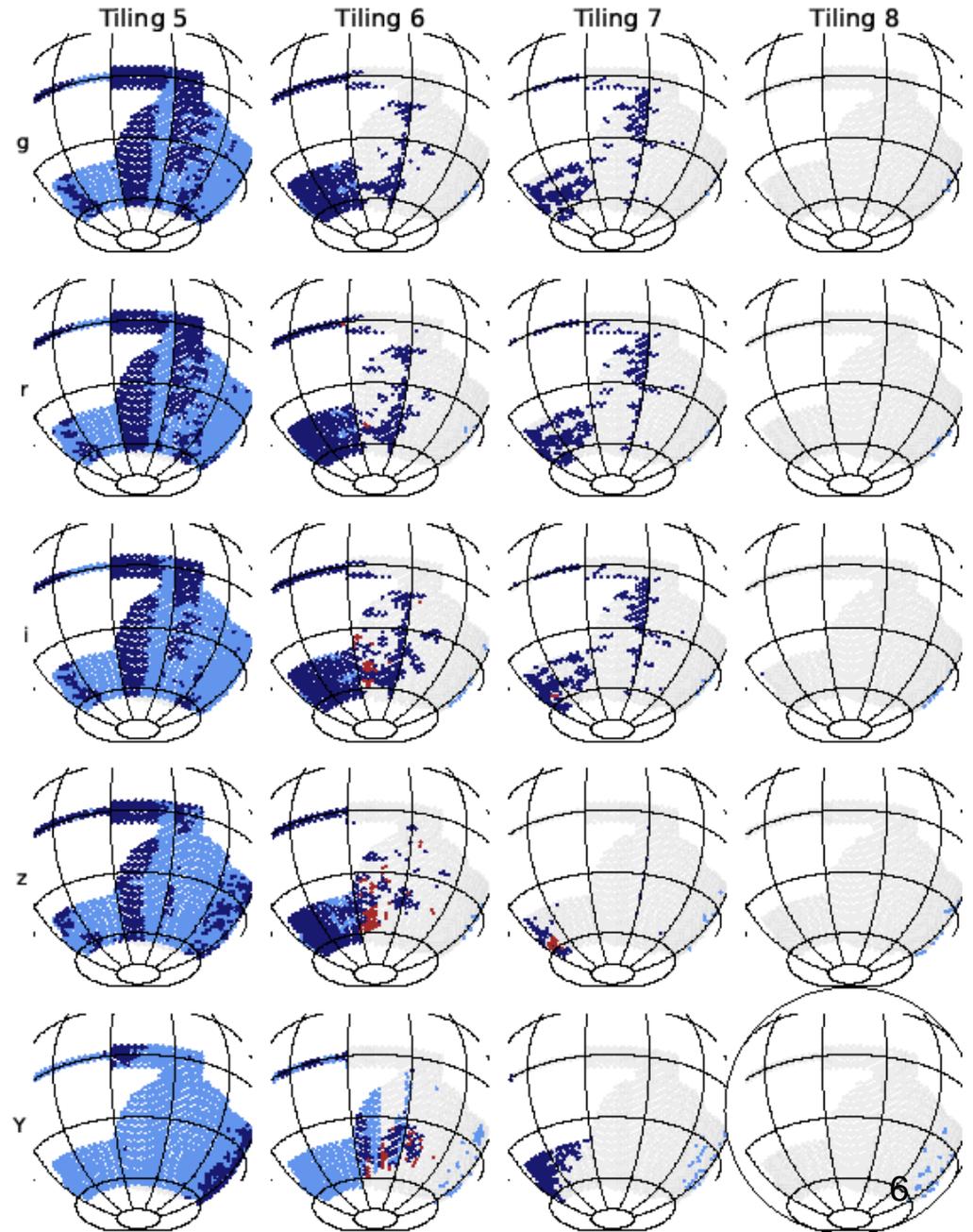
And the weather is likely to improve for the remainder of Y4



Y4

DARK ENERGY
SURVEY

- Finished off Tiling 4 & Tiling 5
- Now out progress plots show we're working on Tilings 6 & 7
- Lt. Blue: end Y3
- Dark Blue: Y4
- Red: Last night (a 1/2 night)

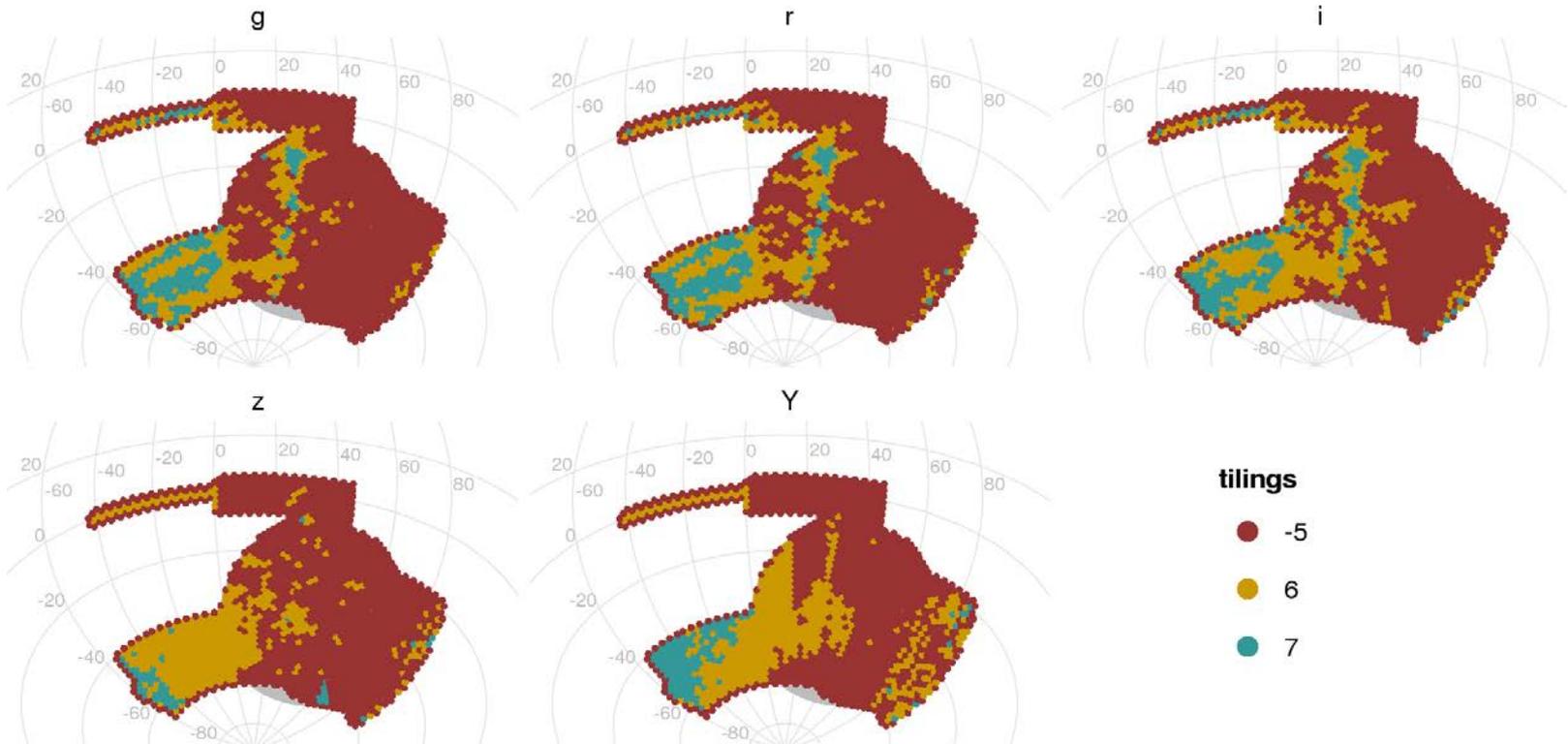




WF Status

DARK ENERGY
SURVEY

10/09/16



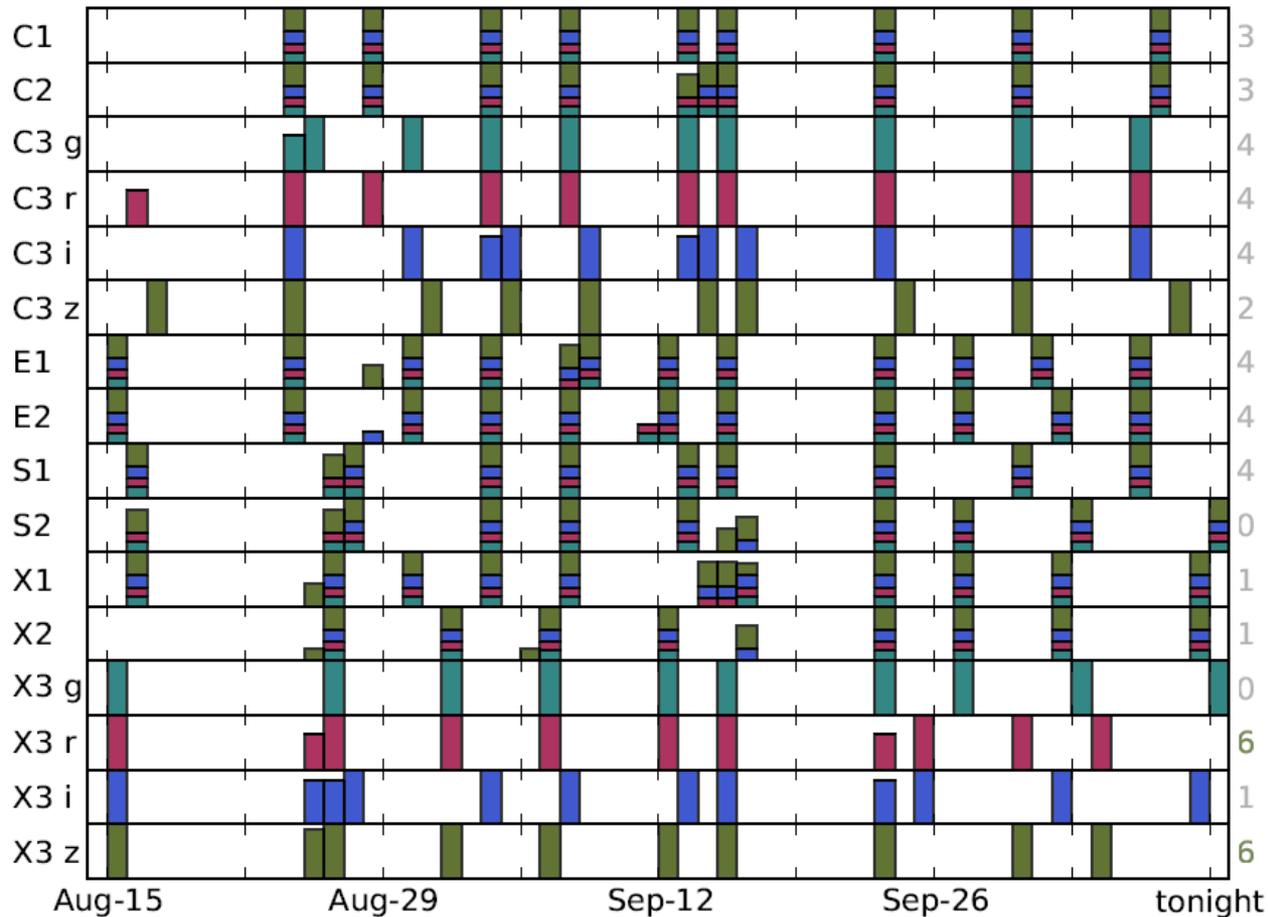
Sept. 2016 2nd best DES month so far



Good Y4 SN Cadence

Every 7 nights when good weather

DARK ENERGY
SURVEY



29% good exposure time is for SN fields in Y4 (through 9/30/16)

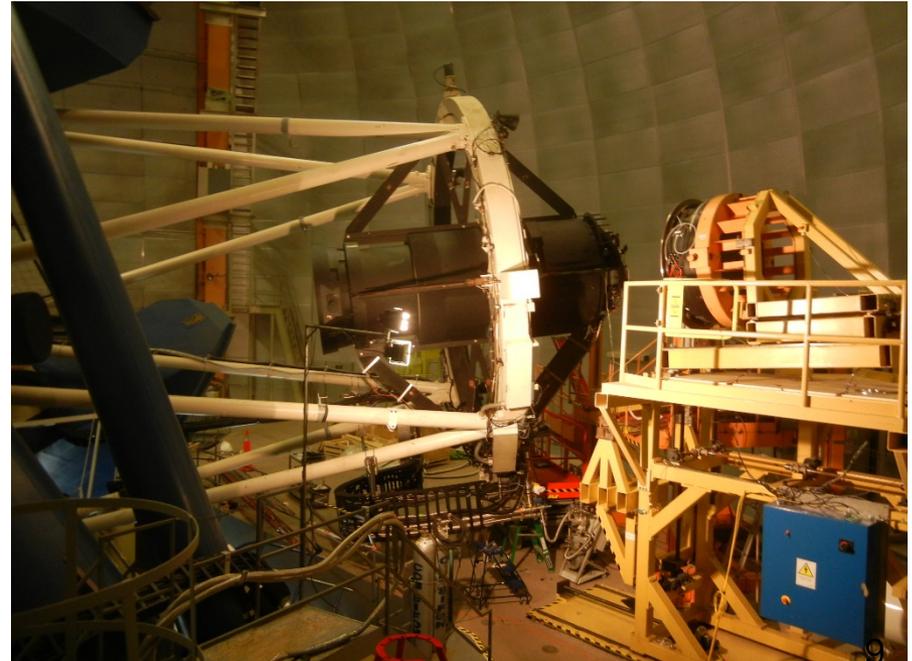


DECam Maintenance

DARK ENERGY
SURVEY



- Fall 2016 Maintenance trip
 - LN2 pump replacement, new bearings w/ new material
 - Replacement 7s, 7r lines with ones that are easier to remove/install.
 - Pump air out of the 1r vacuum jacket
 - Transfer commissioning software to newer laptop computer
 - Sample the hexapod gearbox oil

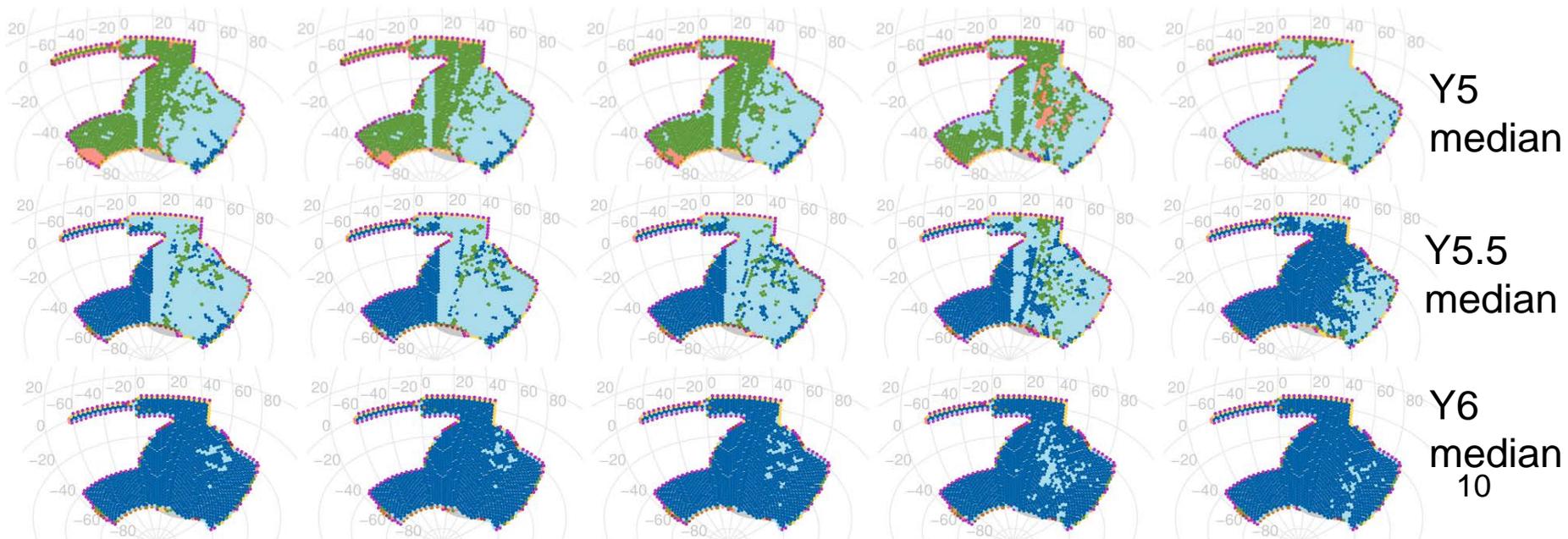




Y5.5 Request Status

DARK ENERGY
SURVEY

- Because we cannot make up for the very bad weather of Y3 we're likely to ask for another observing season or part thereof. No SN in Y5.5 or Y6. For a Y6:
- The Teff over the best 4500 sq-deg increases by 33%
- The area for best WL measurements increases by 200%





DES Operations Summary

DARK ENERGY
SURVEY

- Camera & Telescope are working well
- August is usually a “bad weather” month but this year was best month in the past year.
- Sept. 2nd best month ever.

