

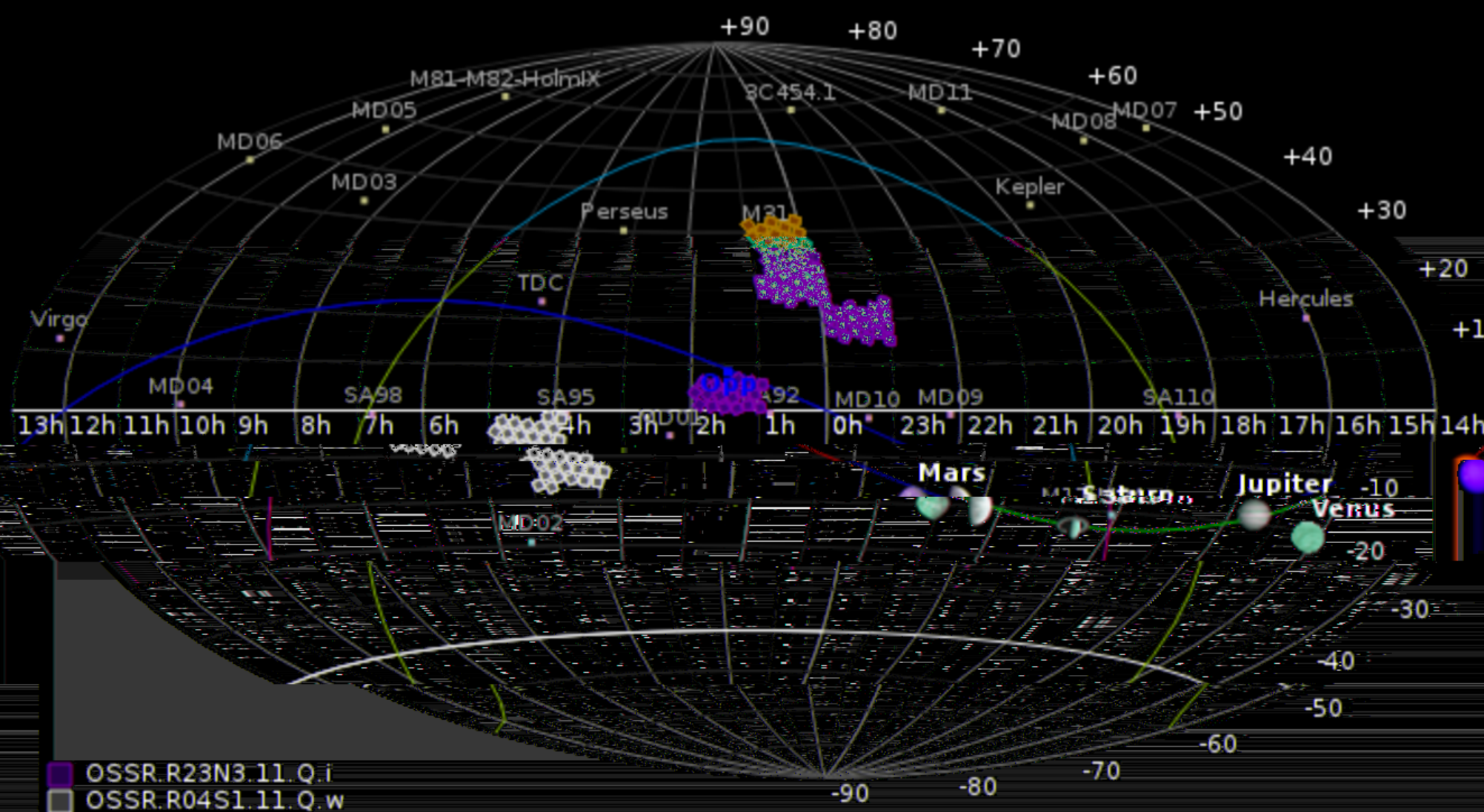
Pan-STARRS update

Robert Weryk, University of Hawaii
IAWN meeting, Knoxville TN
Oct 19th 2018



Pan-STARRS

- Twin 1.8 metre telescopes on Haleakalā, Maui
- 3 degree field-of-view, 22.5 magnitude limit
- 1.4 billion pixel cameras, 0".25 pixels
- *w*-band or *i*-band depending on the moon
- 90% funded for NEO surveying
 - Still very dependent on follow-up telescopes
- Also finds comets, and one interstellar object



- OSSR.R23N3.11.Q.i
- OSSR.R04S1.11.Q.w
- OSSR.R03S2.11.Q.w
- OSSR.R01N1.11.Q.i
- OSSR.R00N5.11.Q.i
- OSSR.R00N4.11.Q.i

Discovery Counts

R08	R07	R06	R05	R04	R03	R02	R01	R00
2	1	6	2	2	1	0	1	0
3	3	13	0	0	0	1	3	0
26	17	8	0	0	7	5	6	1
21	13	1	2	4	15	11	10	4
41	20	4	6	35	28	21	10	15
21	5	0	4	32	31	19	21	18
27	0	0	30	12	52	29	41	55
23	0	1	25	27	17	25	26	27
3	0	0	13	16	8	10	24	24
0	1	4	6	12	6	7	14	21
0	0	3	6	5	7	5	10	9
0	0	2	1	2	3	5	3	1
0	0	2	0	1	1	0	1	1

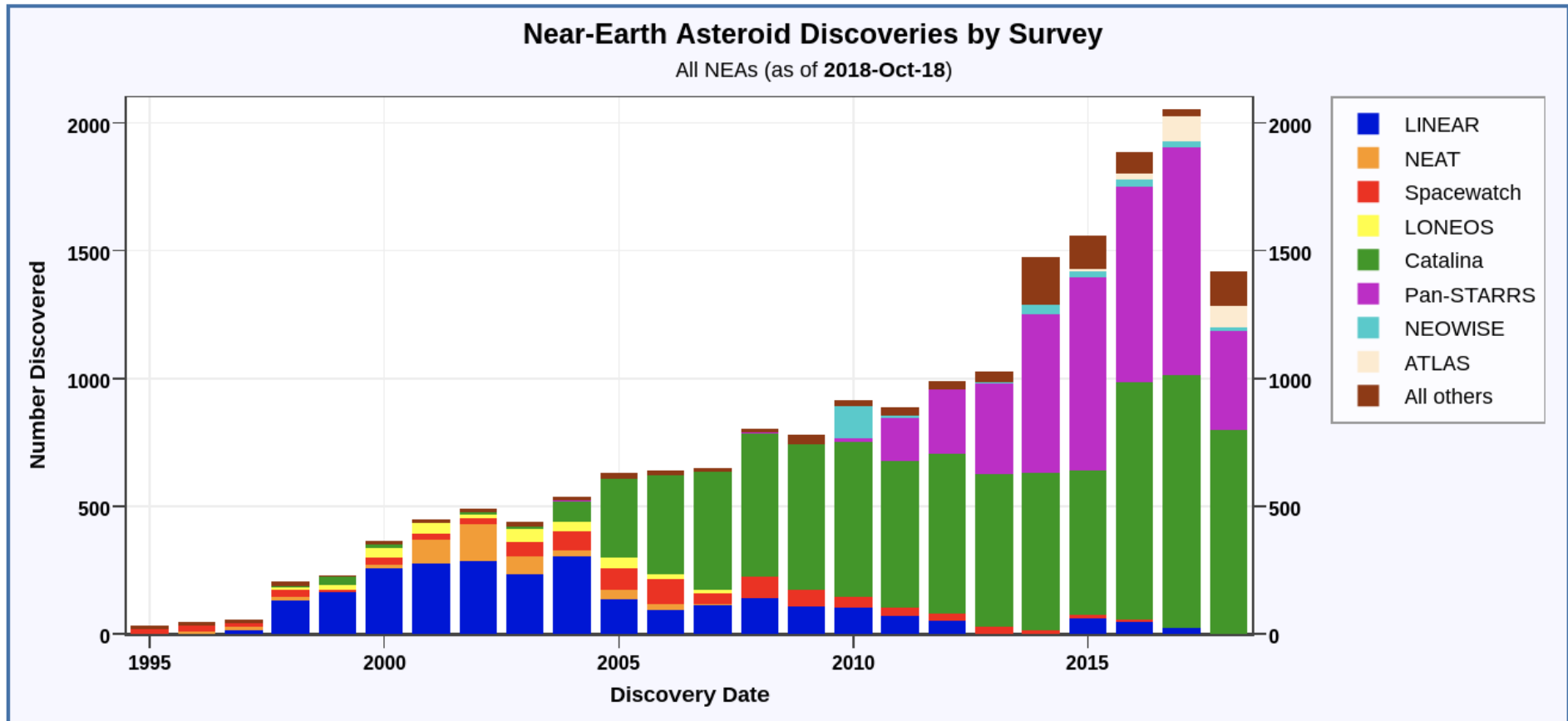
	R23	R22	R21	R20	R19	R18	R17	R16	R15	R14	R13	R12	R11	R10	R09
N7	0	0	2	2	1	2	2	2	1	2	0	1	1	1	4
N6	1	0	0	0	2	2	4	3	2	0	1	4	1	3	7
N5	1	5	0	0	0	4	5	0	3	0	0	2	5	4	10
N4	5	10	1	0	0	2	5	9	2	2	9	5	25	19	10
N3	6	3	2	0	0	0	7	8	8	3	12	9	37	20	27
N2	17	15	7	1	0	0	17	12	9	3	19	18	25	35	29
N1	33	25	24	29	0	0	20	27	18	23	20	30	22	12	41
S1	63	48	32	44	0	1	14	43	30	27	34	26	24	26	24
S2	46	32	63	33	1	0	3	52	25	40	11	25	19	9	11
S3	17	37	50	47	18	0	1	25	20	28	5	13	10	9	10
S4	7	34	21	31	17	1	0	6	8	13	3	8	1	4	2
S5	4	8	9	15	13	0	0	0	6	7	7	2	3	3	1
S6	1	0	0	6	4	1	0	0	0	0	1	0	2	1	0

R08	R07	R06	R05	R04	R03	R02	R01	R00
25	25	24	17	11	10	6	7	6
23	24	21	5	1	0	6	7	7
46	41	12	2	3	17	22	27	33
36	27	7	4	16	23	19	20	25
34	25	6	13	38	35	27	18	18
29	15	0	10	39	36	34	33	28
44	2	0	47	43	52	48	55	56
33	31	2	39	39	36	38	40	44
22	11	0	2	29	24	23	22	24
20	1	1	14	26	28	24	26	20
19	9	6	25	26	29	27	20	18
9	6	9	21	21	22	20	16	22
6	6	13	20	14	16	15	12	13

Visit Counts

	R23	R22	R21	R20	R19	R18	R17	R16	R15	R14	R13	R12	R11	R10	R09
N7	2	5	11	21	38	36	34	31	24	24	22	21	19	21	21
N6	5	3	3	2	29	43	37	32	30	26	22	26	28	21	18
N5	33	36	0	0	8	54	46	37	27	37	28	27	22	20	31
N4	26	33	8	0	1	43	38	36	30	24	23	21	26	29	28
N3	23	27	17	0	0	2	34	25	29	20	22	24	31	29	35
N2	27	22	26	5	0	0	28	32	27	21	27	31	39	35	31
N1	55	45	44	53	0	1	67	53	42	38	38	44	32	40	43
S1	57	46	43	43	1	2	27	58	44	44	43	42	32	35	39
S2	35	51	49	51	3	0	10	62	38	42	32	30	28	25	25
S3	27	41	47	63	42	0	4	52	34	39	22	21	23	16	16
S4	27	32	23	42	42	2	0	14	23	30	18	18	15	16	16
S5	15	23	23	26	26	5	3	5	19	15	19	16	14	14	14
S6	12	11	11	14	15	4	1	2	4	11	17	13	12	8	8

Yearly Statistics ... uh oh



Pan-STARRS1 (F51) status

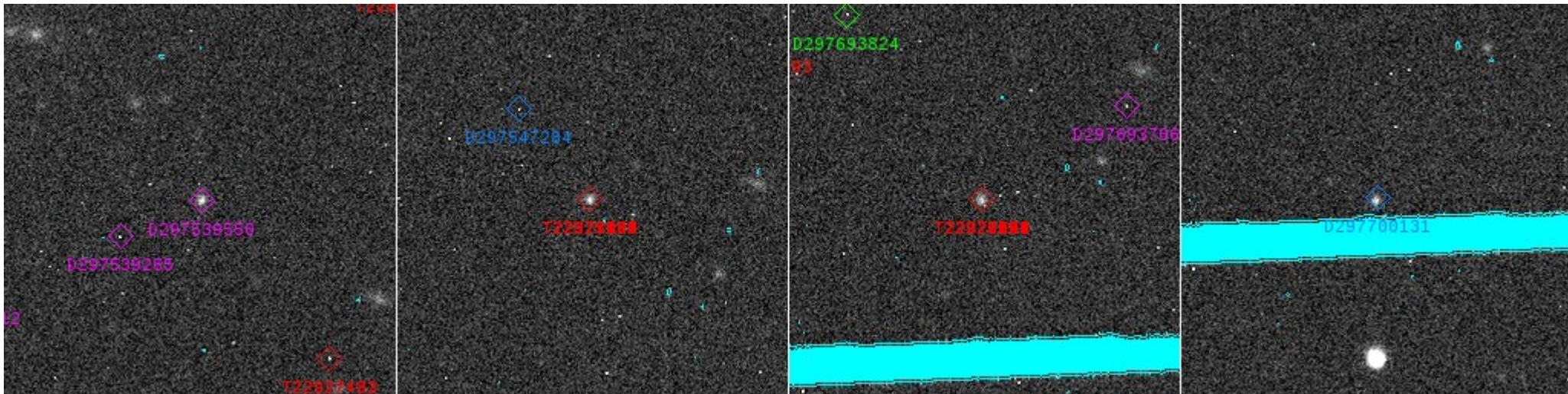
- a large part of this year had poor weather
 - Lower number of new NEOs
- Shut down Aug 22 for Hurricane Lane
 - upon restarting, problems with mirror support
 - original telescope manufacturer no longer exists
 - Now issues with the dome shutters
 - Also used for moon shielding
 - No current ETA for resuming operations ...

Pan-STARRS2 (F52) status

- Had some problems, but ...
- Began survey operations in Sept 2018
 - Already 45 MPECs in October
 - But still very much in the commissioning phase
 - On sky engineering time to fully characterise it
 - Not going as faint as we could → baffles
 - Tolerances on a wide-field telescope is difficult
 - Different detectors than F51 → software changes
 - Will have a press release when fully ready

Missed Tracklets – 2015 TL₁₇₈

K15TH8L	C2018	10	10.51712902	33	22.418-05	42	56.32	20.1	GVEU016F52	
K15TH8L	C2018	10	10.53033102	33	22.328-05	43	14.96	20.2	GVEU016F52	
K15TH8L	C2018	10	10.54352102	33	22.237-05	43	33.51	20.1	GVEU016F52	
K15TH8L	C2018	10	10.55669902	33	22.149-05	43	52.11	20.3	GVEU016F52	
K15TH8L	C2018	10	18.46802	02	32	18.460-09	45	08.19	19.4	wUEU016F52
K15TH8L	C2018	10	18.48065	02	32	18.015-09	45	38.13	19.5	wUEU016F52
K15TH8L	C2018	10	18.49322	02	32	17.563-09	46	07.95	19.5	wUEU016F52



DPS Presentations

- 304.03 – Wed 10:20 AM – Weryk
 - On-going work to link the Isolated Tracklet File
- 304.08 – Wed 11:10 AM – Ramanjooloo
 - The Pan-STARRS search for Near-Earth Objects
- 310.P – Wed 4:10 PM – Chambers
 - The Pan-STARRS2 facility and the Wide Area Survey for NEOs with Pan-STARRS