



NC4ES High Altitude Pico Balloons

The Eastern Healthcare Preparedness Coalition

NC4ES-8 N4PRS-11 NC8TF-11



<https://easternhpc.com/nc4es-pico-balloon-information-page/>

TLP WHITE



Background -

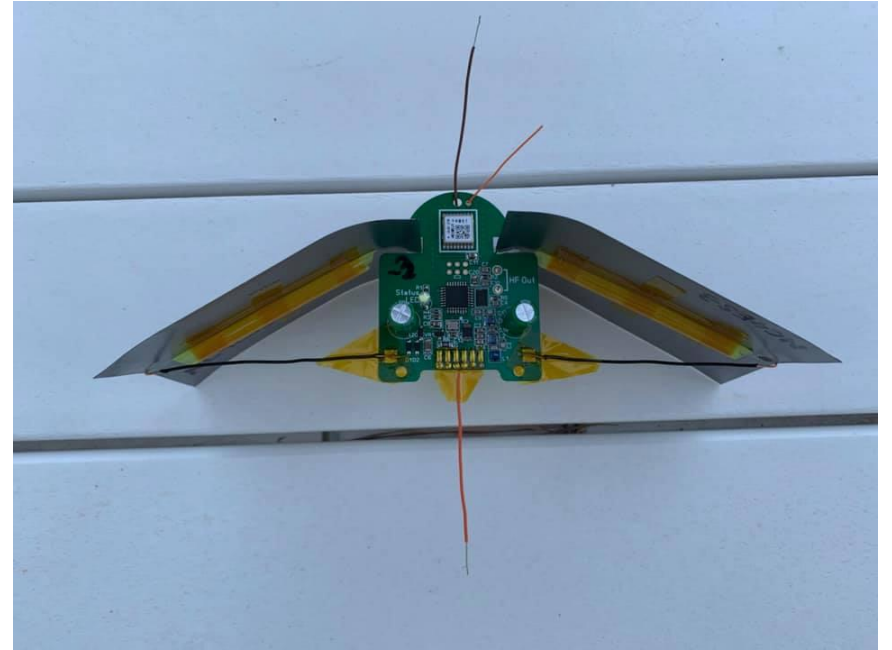
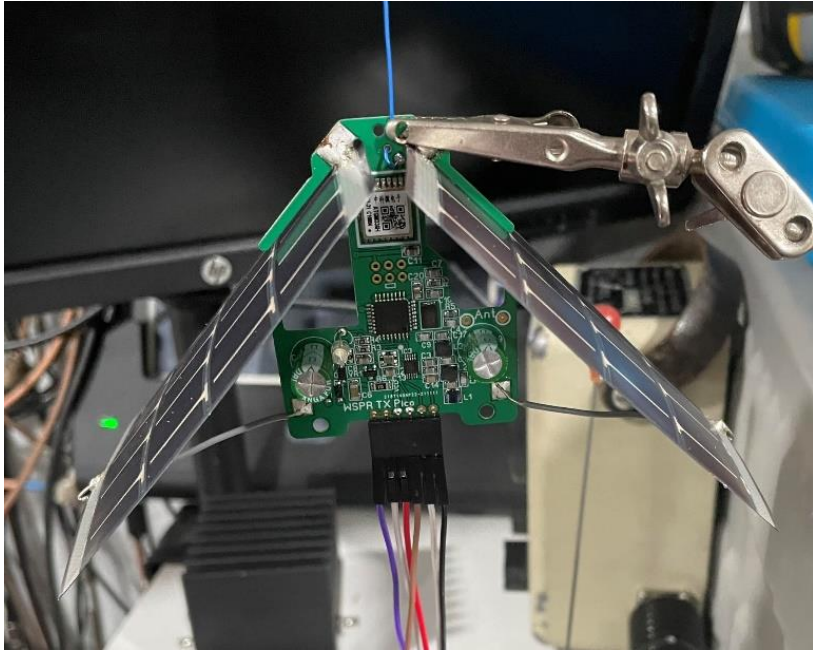
Matt McMahon, WU2V

- Retired Firefighter/Paramedic (20) years, Lieutenant, City of Greenville Fire-Rescue
- Disaster Communication Specialist, ECU Health- EHPC (12 years)
- COML/COMT/AUXC Instructor (National)
- Exercises, plan development and assist with engineering assessments
- Radio System Admin
- Specialty Areas: Aviation / Encryption
- Pilot

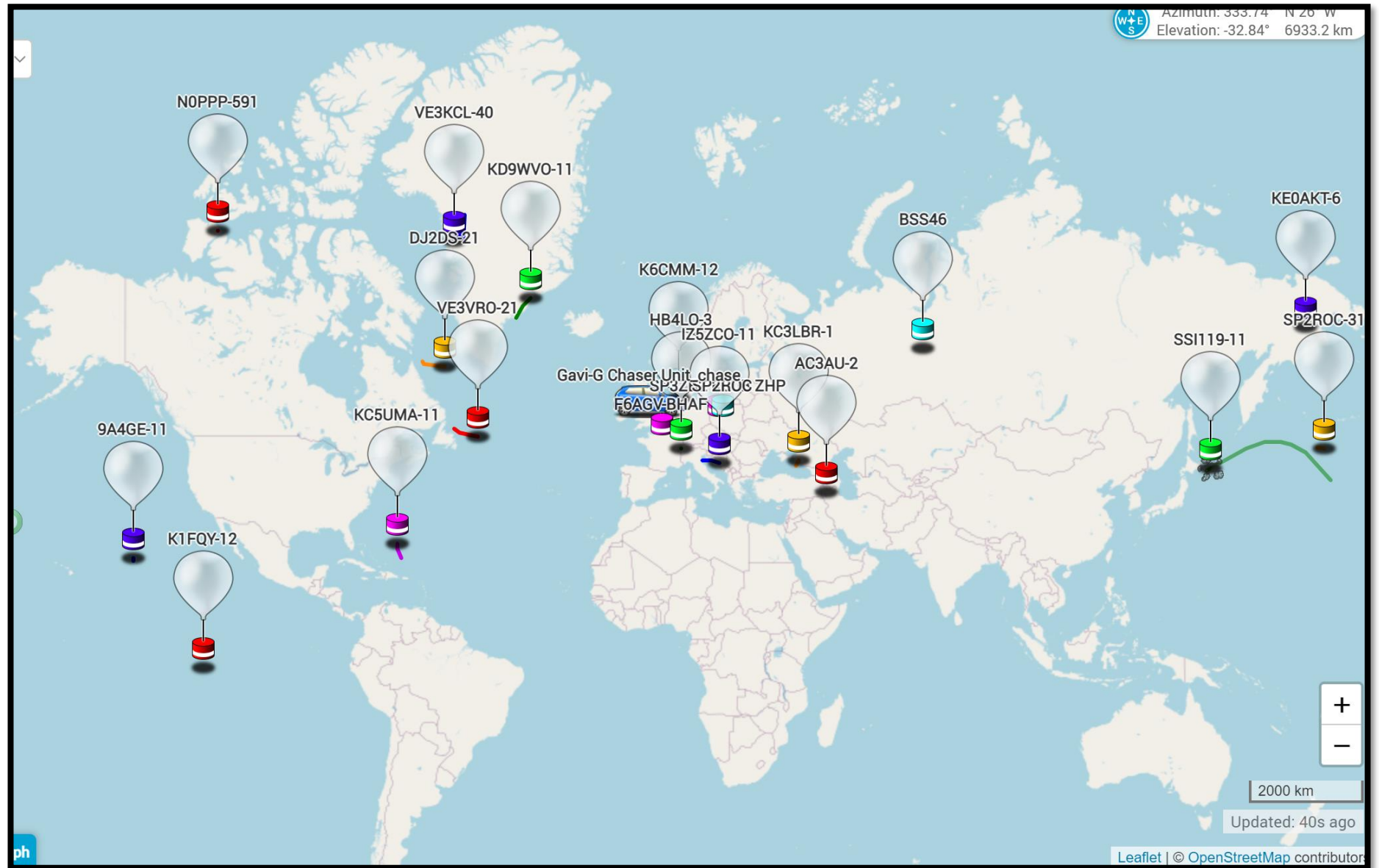


PICO BALLOONS

“The poor man’s space program”



BALLOONS ARE POPULAR!



SUPERPRESSURE BALLOON – YOKOHAMA (NC₄ES-8)

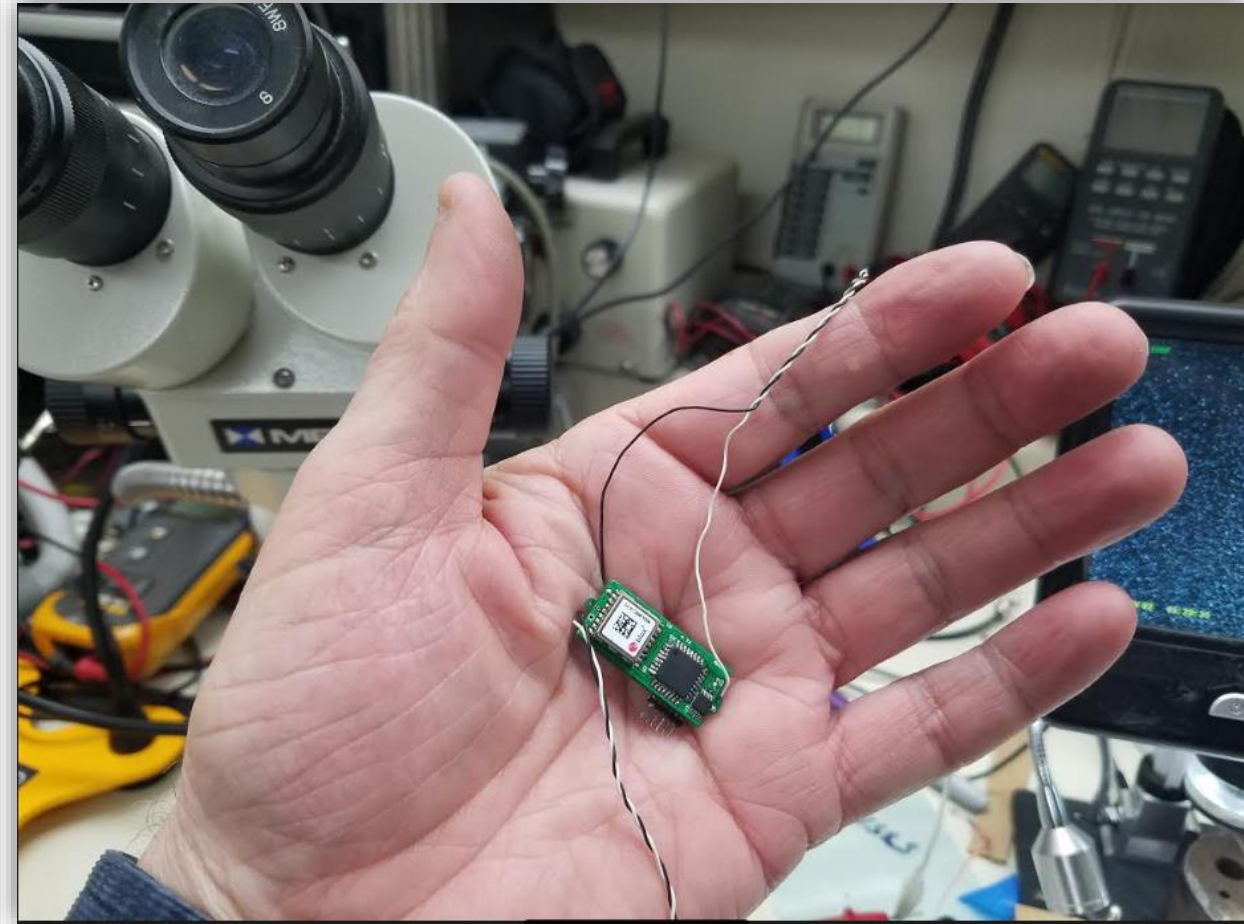


SUPERPRESSURE BALLOON – YOKOHAMA (NC4ES-8)



WEIGHT

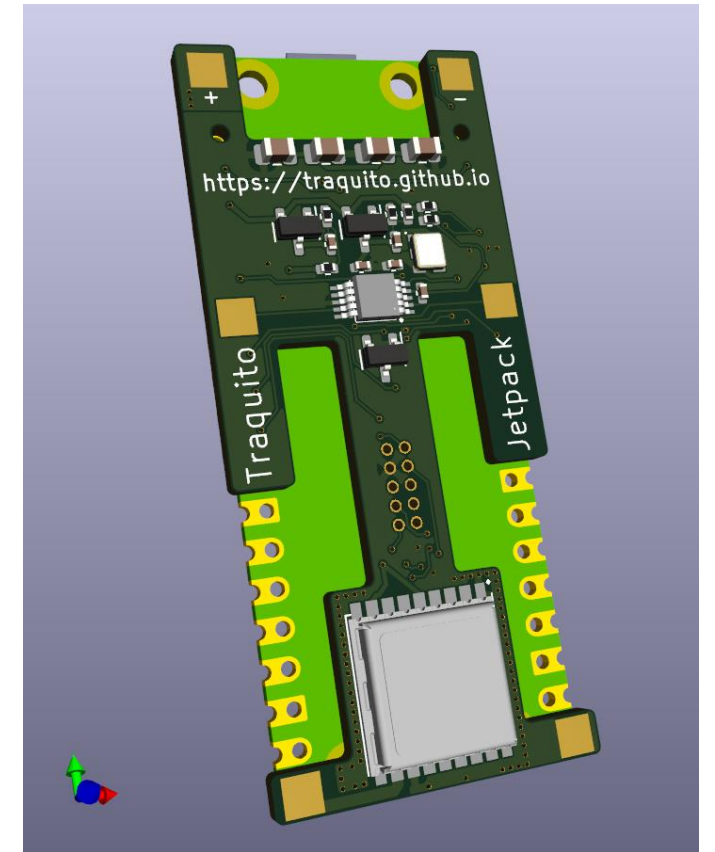
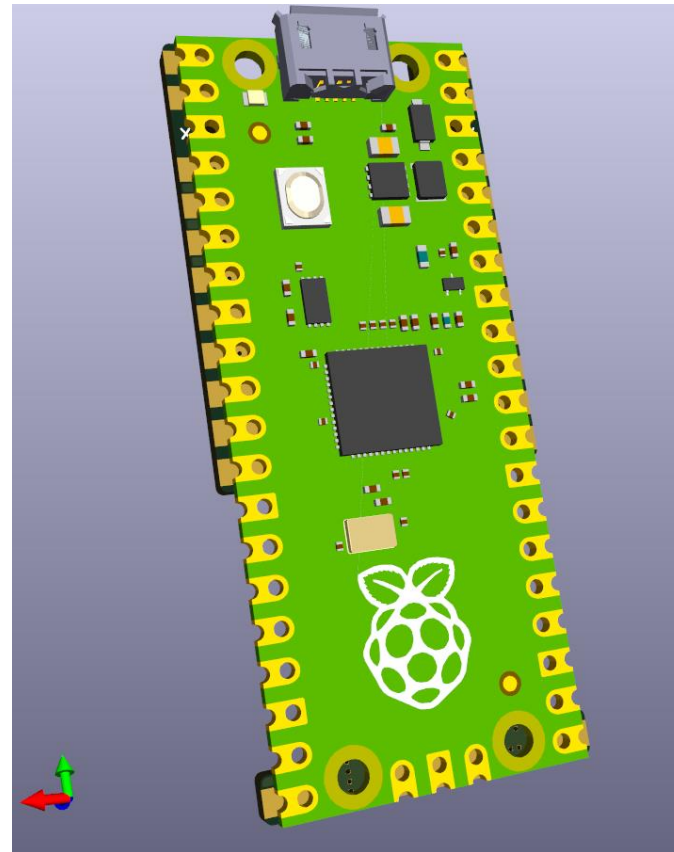
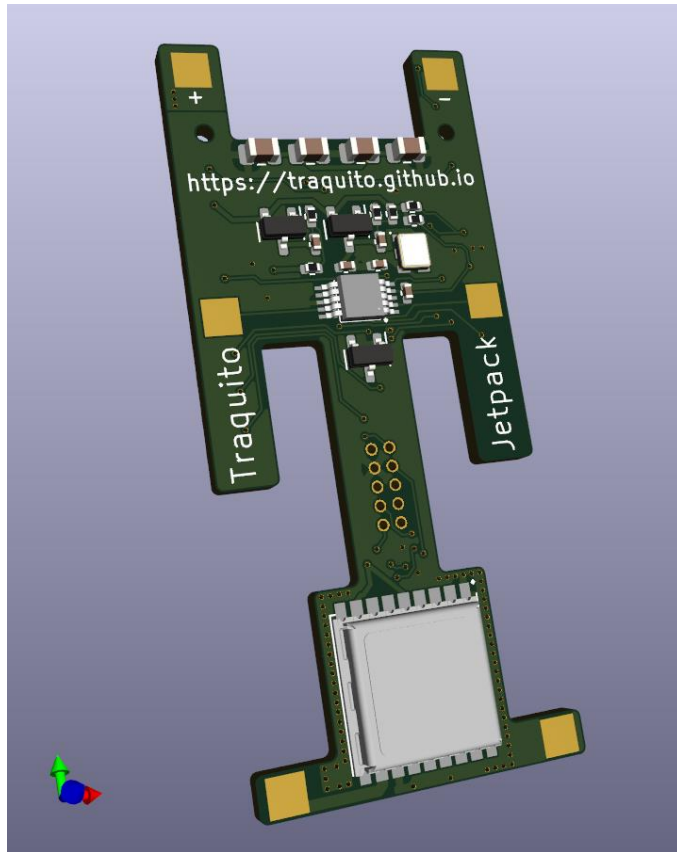
5.67 G



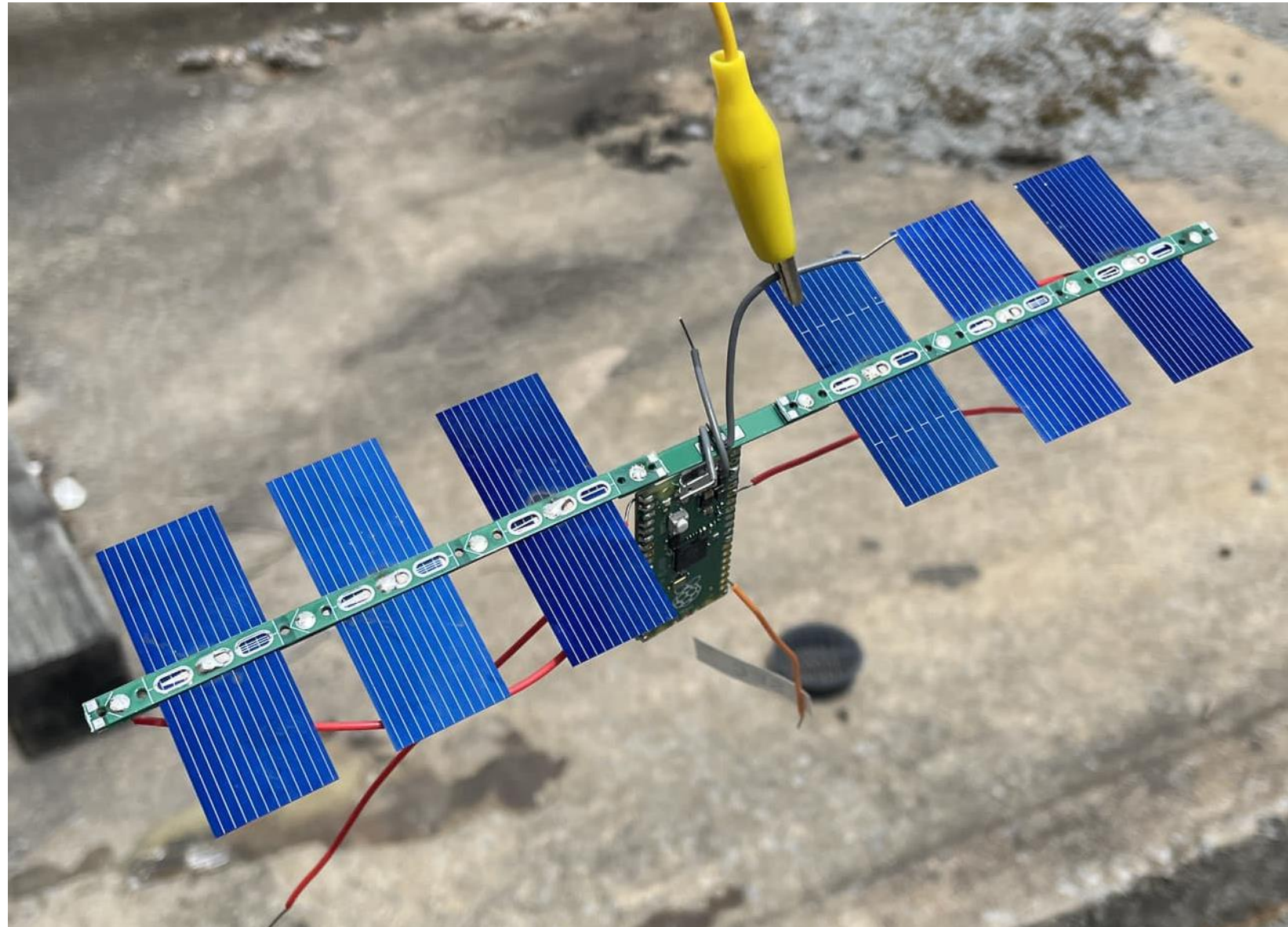
<12 Grams, some low as 3 or 4!



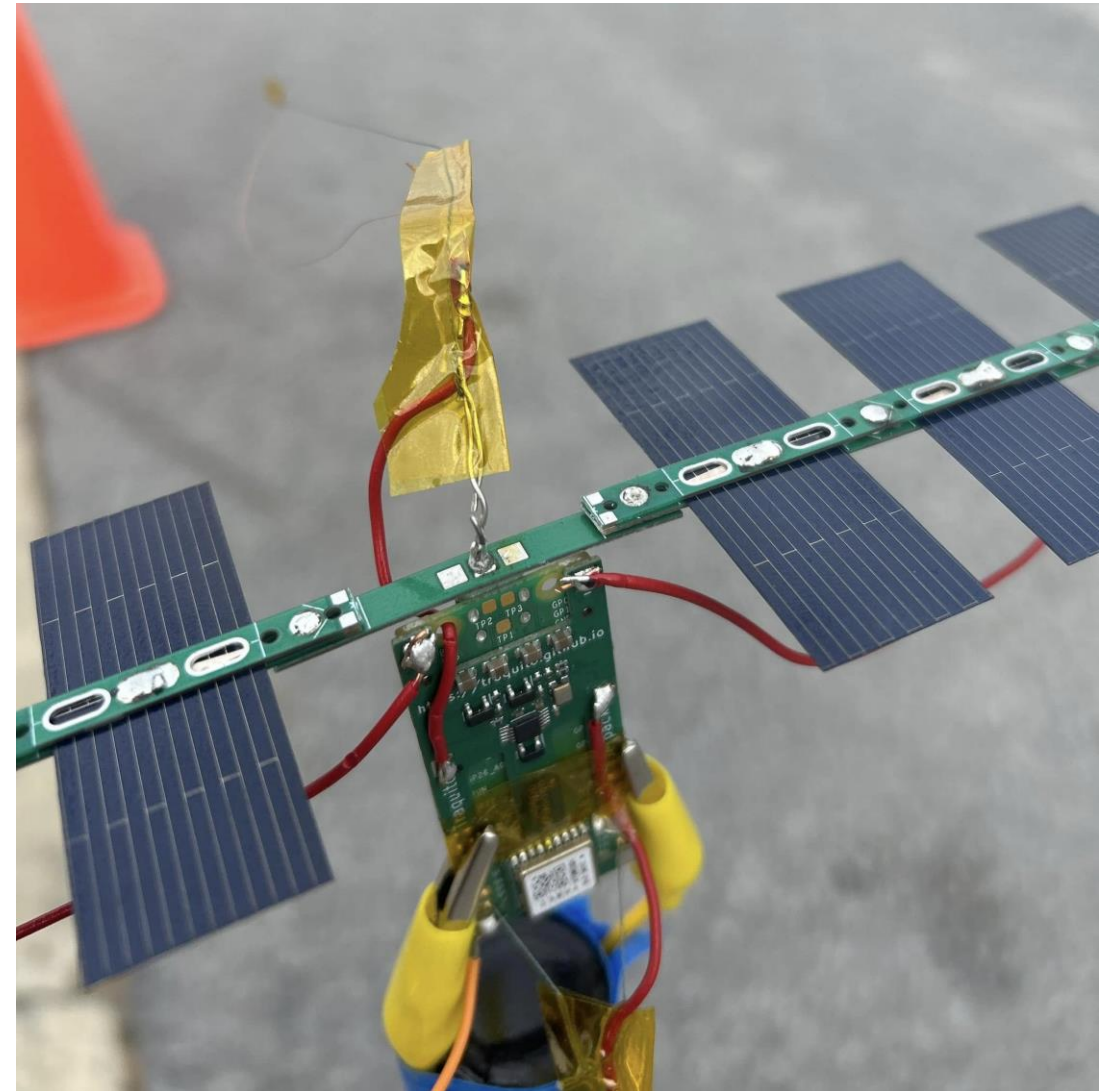
TRAQUITO PAYLOAD RPI Zero



NC4ES-8 TESTING



NC₄ES-8 TESTING



TELEMETRY FROM WSPR (SIMPLE)

Distance Traveled Km: 114,382
Distance Traveled Mi: 71,096

Spots: 1,108

Flight duration: 31 days, 22 hours, 10 mins

Data Table Controls (click to open)
(download [csv](#) or [kml w/ altitude](#) or [kml no altitude](#)) or ([copy to clipboard](#))

DateTimeUtc	DateTimeLocal	RegCall	RegGrid	RegPower	EncCall	EncGrid	EncPower	GpsValid	Grid56	Knots	Grid	Voltage	SolAngle	AltM	TempC	KPH	GpsKPH	DistKm	AltFt	TempF	MPH	GpsMPH	DistM
2025-03-11 14:38	2025-03-11 10:38	N4PRS	JM63	13									30										
2025-03-11 14:28	2025-03-11 10:28	N4PRS	JM63	13	023YVM	HP79	60	1	CA	56	JM63CA	4.15	33	13,400	-10	104	94	16	43,963	14	64	58	10
2025-03-11 14:18	2025-03-11 10:18	N4PRS	JM62	13	013LIP	GF23	47	1	AX	54	JM62AX	4.00	35	13,420	-18	100	94	15	44,029	0	62	58	10
2025-03-11 14:08	2025-03-11 10:08	N4PRS	JM52	13	0X3NNG	HB29	40	1	WX	54	JM52WX	3.95	36	13,440	-15	100	94	16	44,094	5	62	58	10
2025-03-11 13:58	2025-03-11 09:58	N4PRS	JM52	13	0U3PRP	FJ26	43	1	UX	54	JM52UX	4.10	38	13,460	-22	100	93	16	44,160	-8	62	58	10
2025-03-11 13:48	2025-03-11 09:48	N4PRS	JM52	13	0R3RVW	GP84	37	1	SX	52	JM52SX	4.00	40	13,440	-15	96	93	16	44,094	5	60	58	10
2025-03-11 13:38	2025-03-11 09:38	N4PRS	JM52	13	003UAD	GM13	27	1	QX	54	JM52QX	3.90	42	13,420	-17	100	93	16	44,029	1	62	58	10
2025-03-11 13:28	2025-03-11 09:28	N4PRS	JM52	13	0L3WEM	FF64	10	1	OX	54	JM52OX	4.05	43	13,440	-23	100	94	16	44,094	-9	62	59	10
2025-03-11 13:18	2025-03-11 09:18	N4PRS	JM52	13	0I3YIU	EM85	13	1	MX	52	JM52MX	3.95	45	13,440	-27	96	94	16	44,094	-17	60	59	10
2025-03-11 13:08	2025-03-11 09:08	N4PRS	JM52	13	0G3ANC	GI86	3	1	KX	52	JM52KX	4.05	46	13,440	-17	96	103	16	44,094	1	60	64	10
2025-03-11 12:58	2025-03-11 08:58	N4PRS	JM52	13	0D3BCF	FM54	3	1	IW	56	JM52IW	3.95	48	13,380	-22	104	103	16	43,898	-8	64	64	10
2025-03-11 12:48	2025-03-11 08:48	N4PRS	JM52	13	0A3DGP	GI77	27	1	GW	54	JM52GW	4.00	49	13,420	-17	100	103	23	44,029	1	62	64	15
2025-03-11 12:38	2025-03-11 08:38	N4PRS	JM52	13	053TNE	HF00	50	1	DW	52	JM52DW	4.05	50	13,480	-13	96	102	16	44,226	9	60	64	10
2025-03-11 12:28	2025-03-11 08:28	N4PRS	JM52	13	023VRJ	FM62	30	1	BW	52	JM52BW	4.00	51	13,420	-21	96	102	15	44,029	-6	60	64	10
2025-03-11 12:18	2025-03-11 08:18	N4PRS	JM42	13	0Y3XVZ	TA89	27	1	YW	56	JM42YW	3.90	52	13,420	-10	104	93	16	44,029	14	64	58	10



TELEMETRY FROM WSPR (SIMPLE)



Distance Traveled Km: 164,882
Distance Traveled Mi: 102,438

Spots: 2,347

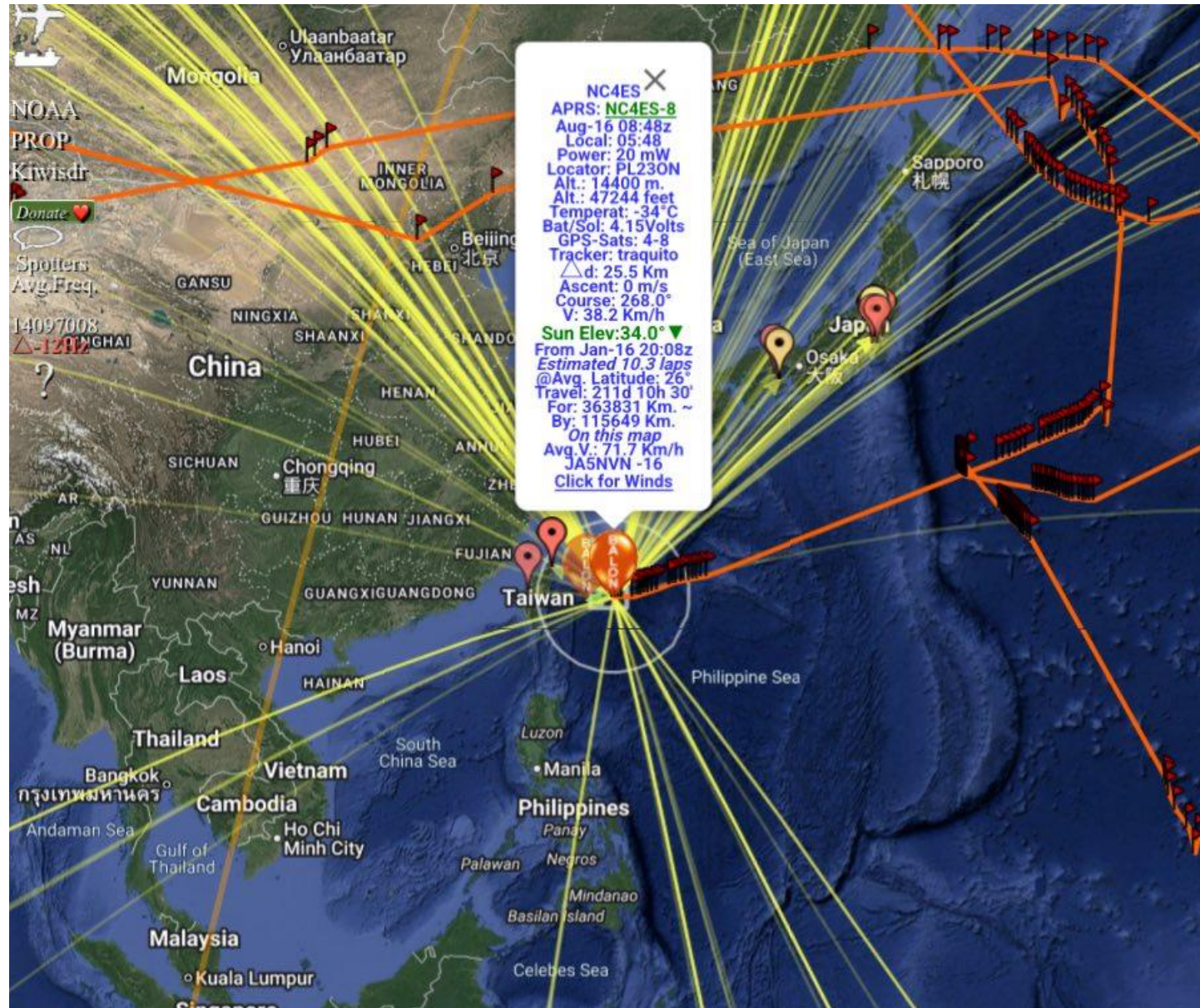
Flight duration: 71 days, 21 hours, 50 mins

> Data Table Controls (click to open)
(download [csv](#) or [kml w/ altitude](#) or [kml no altitude](#) or [copy to clipboard](#))

DateTimeLocal	RegCall	RegGrid	RegPower	Grid	Voltage	SolAngle	AltM	AltChgMpm	TempC	KPH	GpsKPH	DistKm	AltFt	AltChgFpm	TempF	MPH	GpsMPH	DistMi
2025-04-20 10:28	NC4ES	IP03	17	IP030A	3.90	37	12,880	0	-3	15	9	0	42,257	0	27	9	6	0
2025-04-20 10:18	NC4ES	IP03	17	IP030A	3.95	37	12,880	-2	-6	11	7	5	42,257	-7	21	7	4	3
2025-04-20 10:08	NC4ES	IP02	17	IP020X	4.05	38	12,900	-2	-1	11	11	0	42,323	-7	30	7	7	0
2025-04-20 09:58	NC4ES	IP02	17	IP020X	3.90	38	12,920	2	0	11	11	0	42,388	7	32	7	7	0
2025-04-20 09:48	NC4ES	IP02	17	IP020X	3.85	38	12,900	0	-11	11	6	5	42,323	0	12	7	3	3
2025-04-20 09:38	NC4ES	IP02	17	IP020W	3.85	38	12,900	0	-10	7	11	0	42,323	0	14	5	7	0
2025-04-20 09:28	NC4ES	IP02	17	IP020W	3.95	39	12,900	0	-4	7	16	0	42,323	0	25	5	10	0



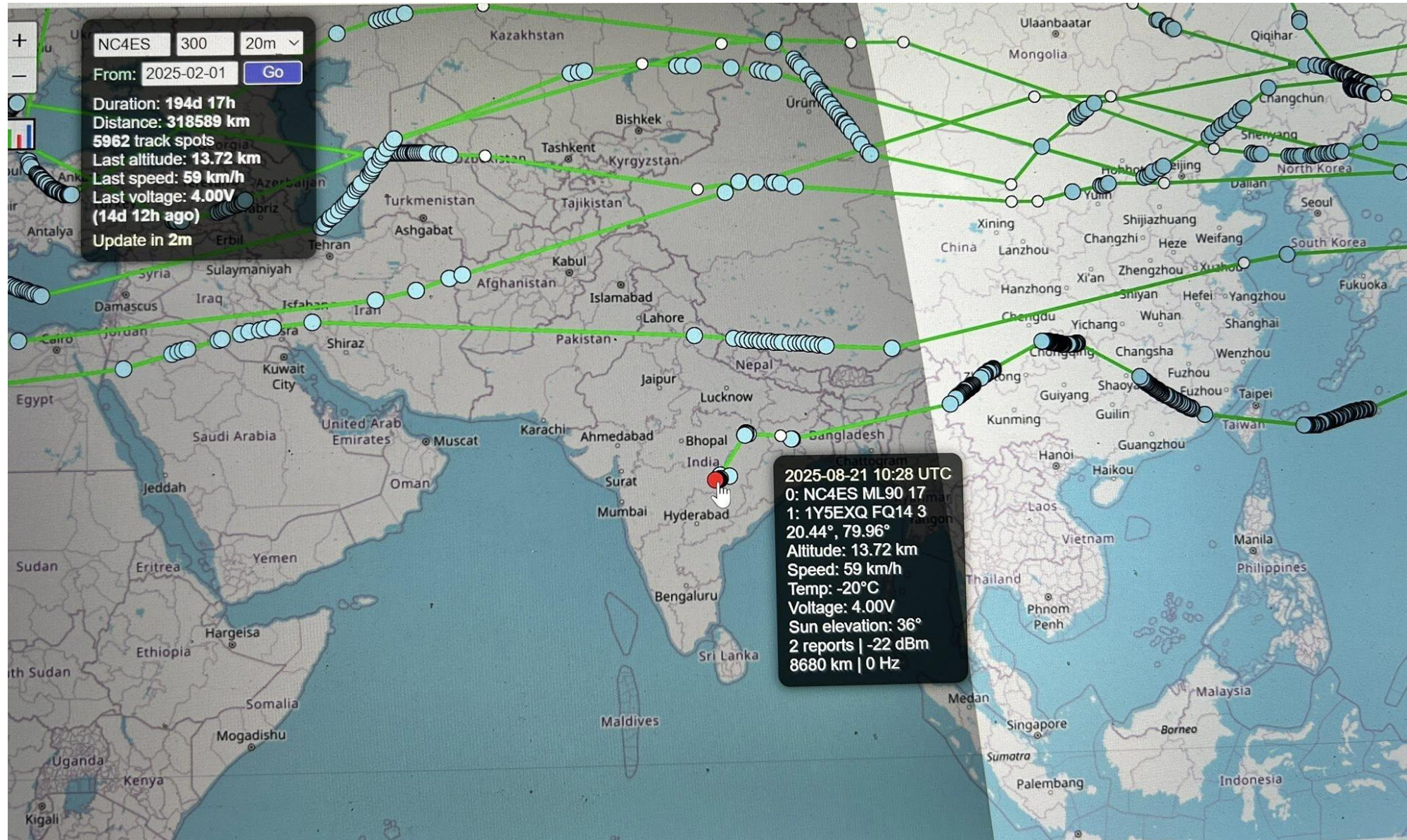
NC4ES-8 TELEMETRY DATA



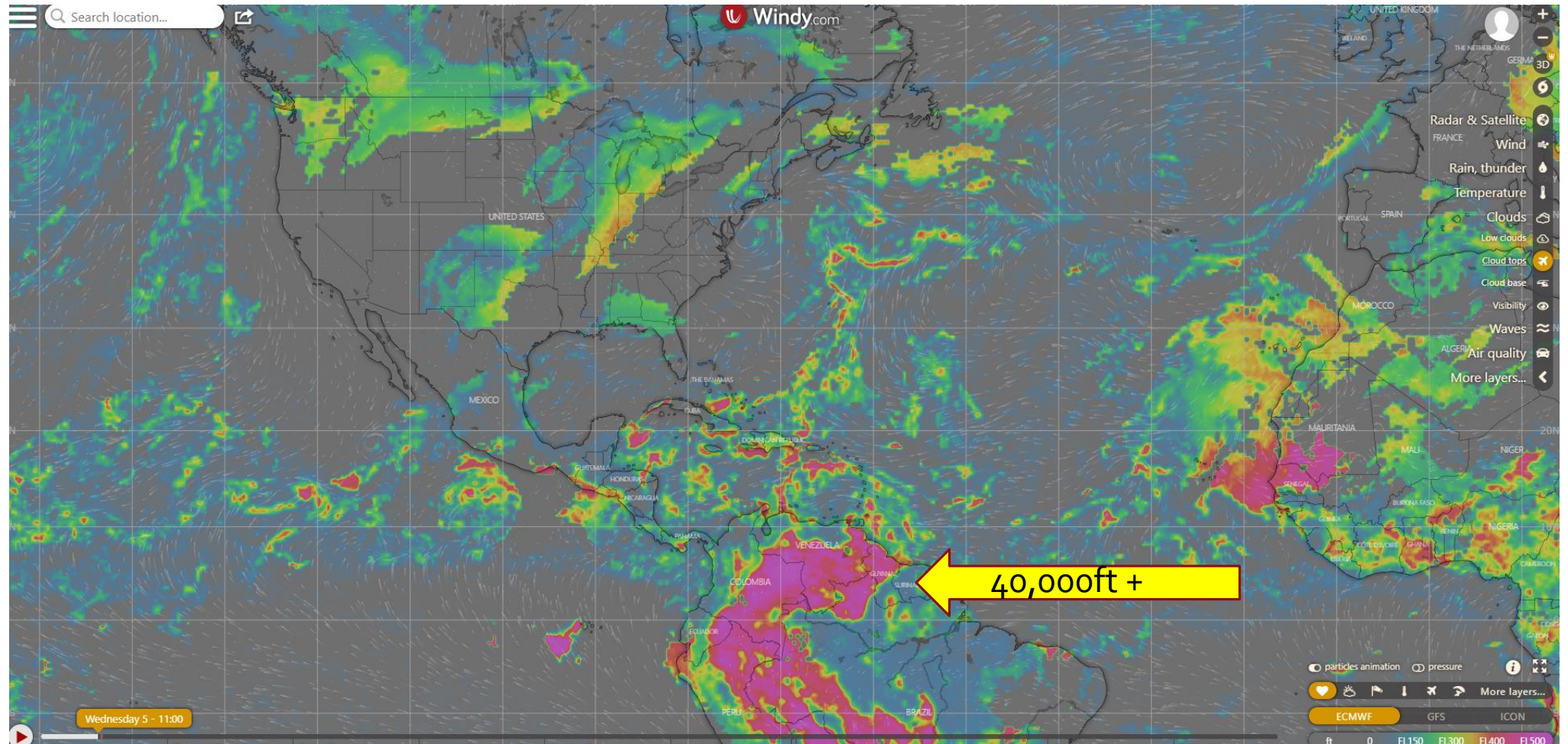
TRAVEL OF NC4ES-8



APPROX LOCATION OF FAILURE



CLOUD TOPS AND WEATHER ARE THE ENEMY

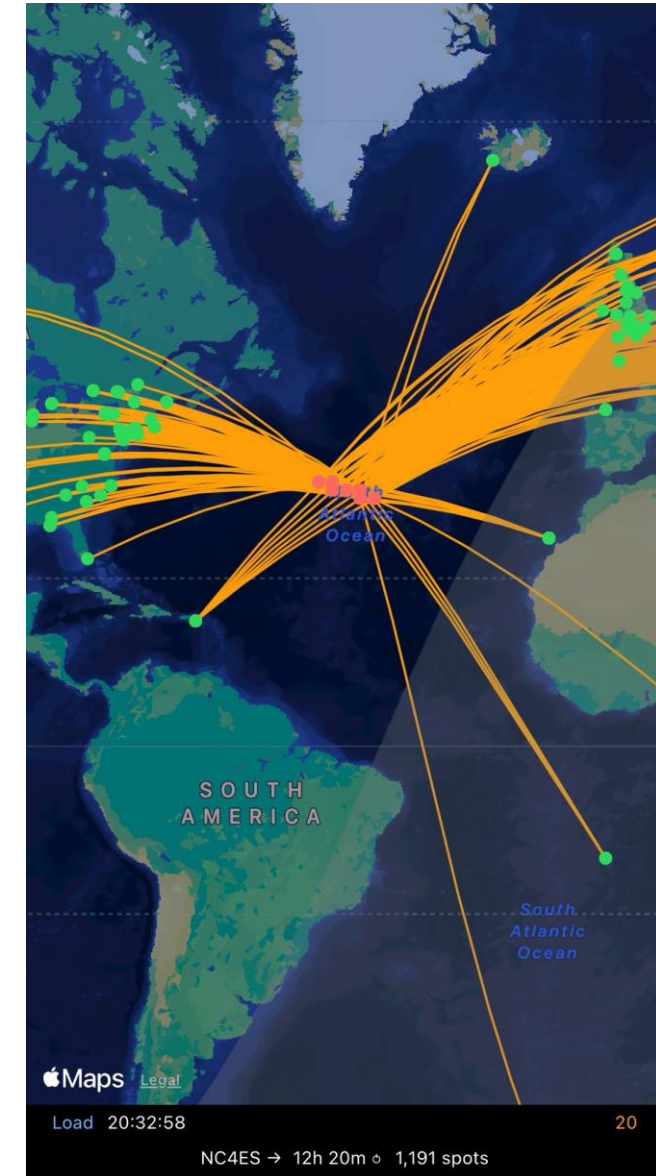


FLIGHT SUMMARY

Here's a summary of its record-setting flight:

- Flight duration: 194 days, 17 hours
- Distance traveled: 197,000+ miles
- Average altitude: 45,000 ft

In that time, we circled the globe more than 12 times, crossed over the North Pole multiple times, and even made two trips into the Southern Hemisphere. The list of countries it traversed would be too long to count. Notably, the balloon also held a spot among the top five longest-duration flights for active payloads.





QUESTIONS

NC4ES-8 N4PRS-11 NC8TF-11

<https://easternhpc.com/nc4es-pico-balloon-information-page/>



"KEEPING UP FOREIGN RELATIONS"

Matt McMahon – WU2V
 Eastern Healthcare Preparedness Coalition –
 NC4ES

TF1oCOML@yahoo.com

NC4ES.ORG

	TLP: RED	TLP: AMBER	TLP: GREEN	TLP: WHITE
Information sharing boundaries	Not for disclosure Restricted to participants only	Limited disclosure Participant organisations only	Limited disclosure Restricted to community only	Disclosure is not limited
When to use	Impacts privacy, reputation or operations	Risk to privacy, reputation or operations if shared outside participating organisations	Useful for participating organisations and broader community	Minimal or no foreseeable risk of misuse, suitable for public release
How to share	Participating organisations only	Organisation members only. Additional restrictions can be set.	Peer and partner organisations only. Not suitable for public release	No restrictions

