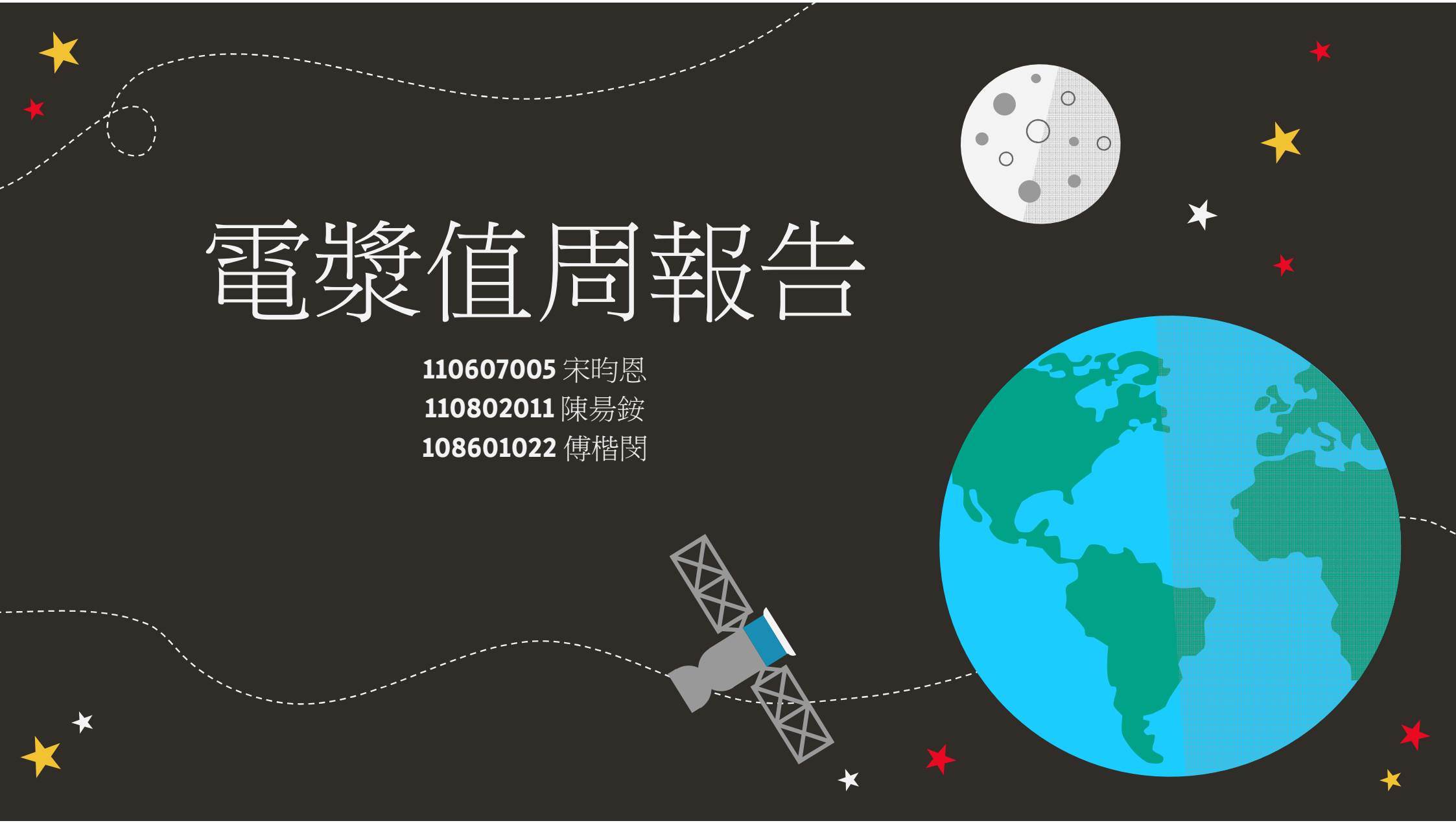
電漿值周報告

110607005 宋昀恩
110802011 陳易銨
108601022 傅楷閔



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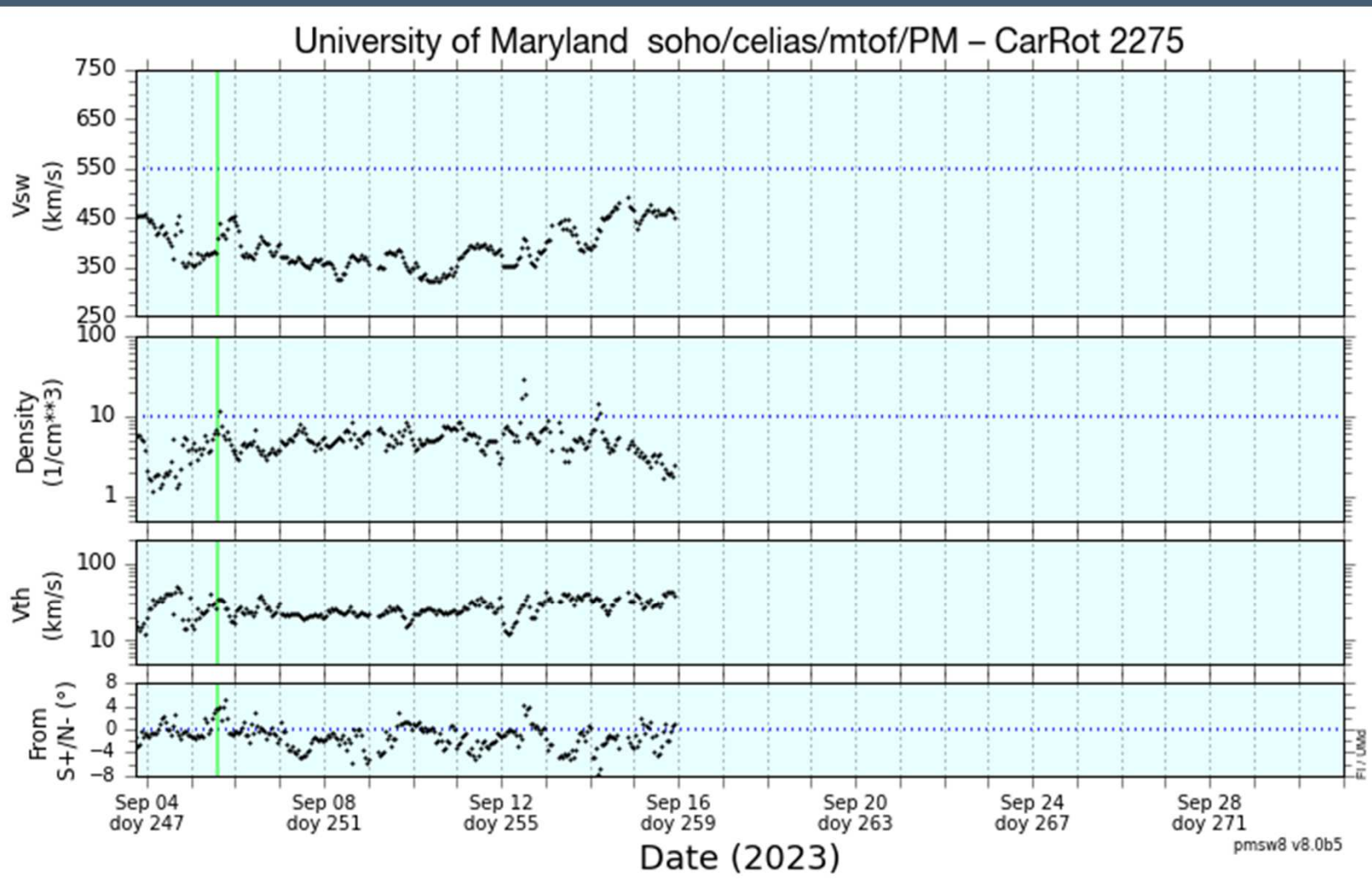
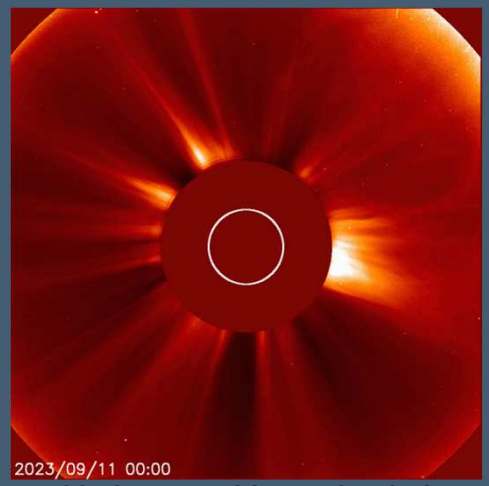
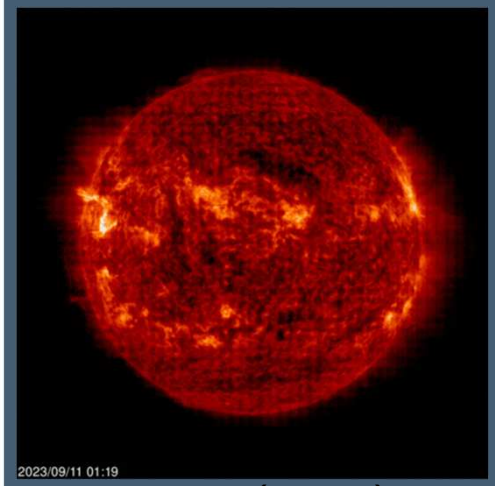




CORONAL MASS EJECTIONS



THE SUN (EIT304)

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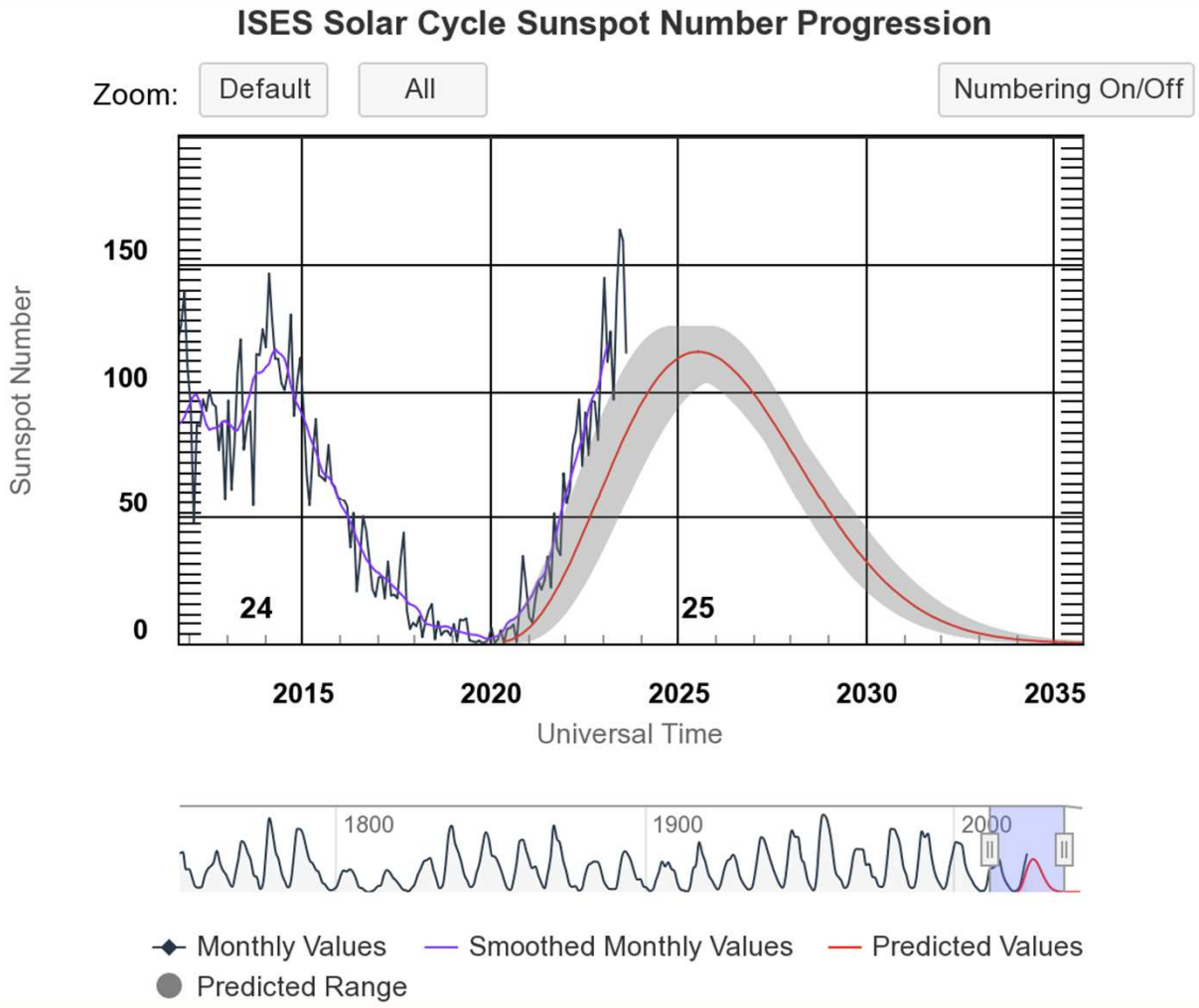
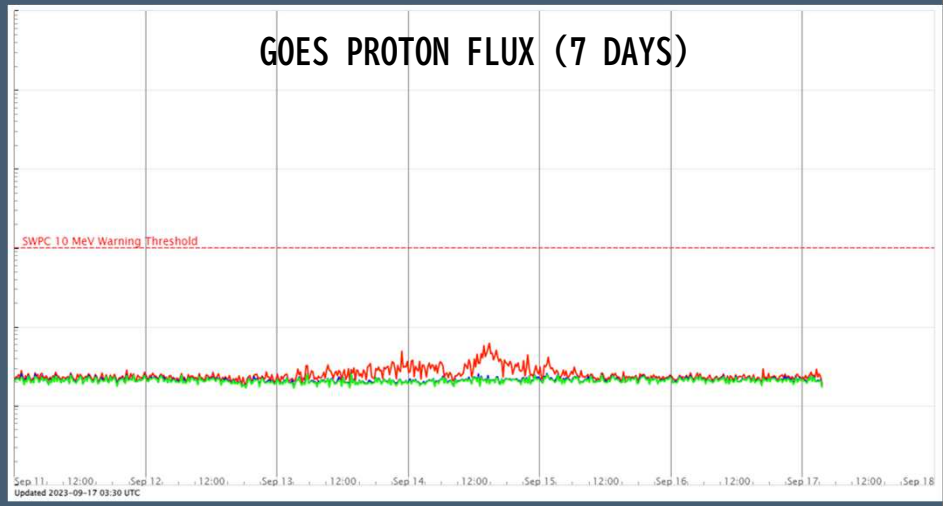
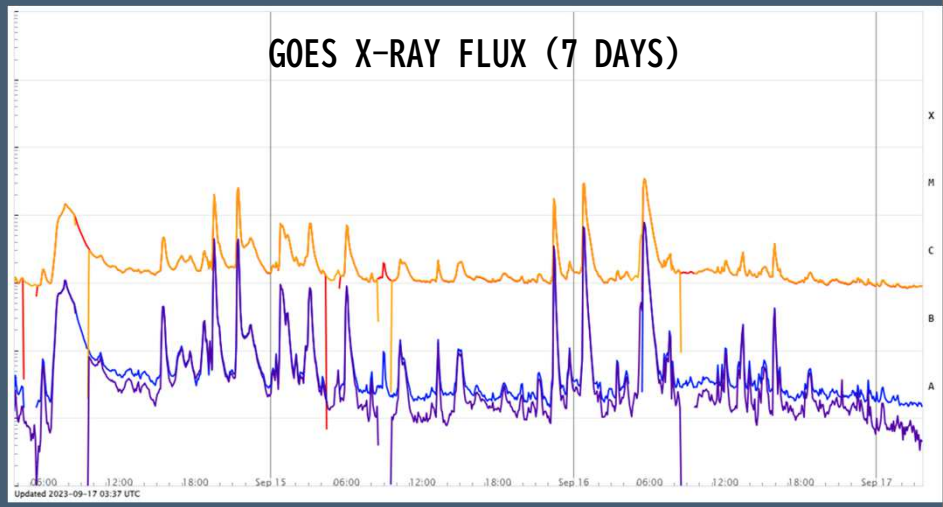
ISES Solar Cycle Sunspot Number Progression



GOES PROTON FLUX (7 DAYS)



GOES X-RAY FLUX (7 DAYS)



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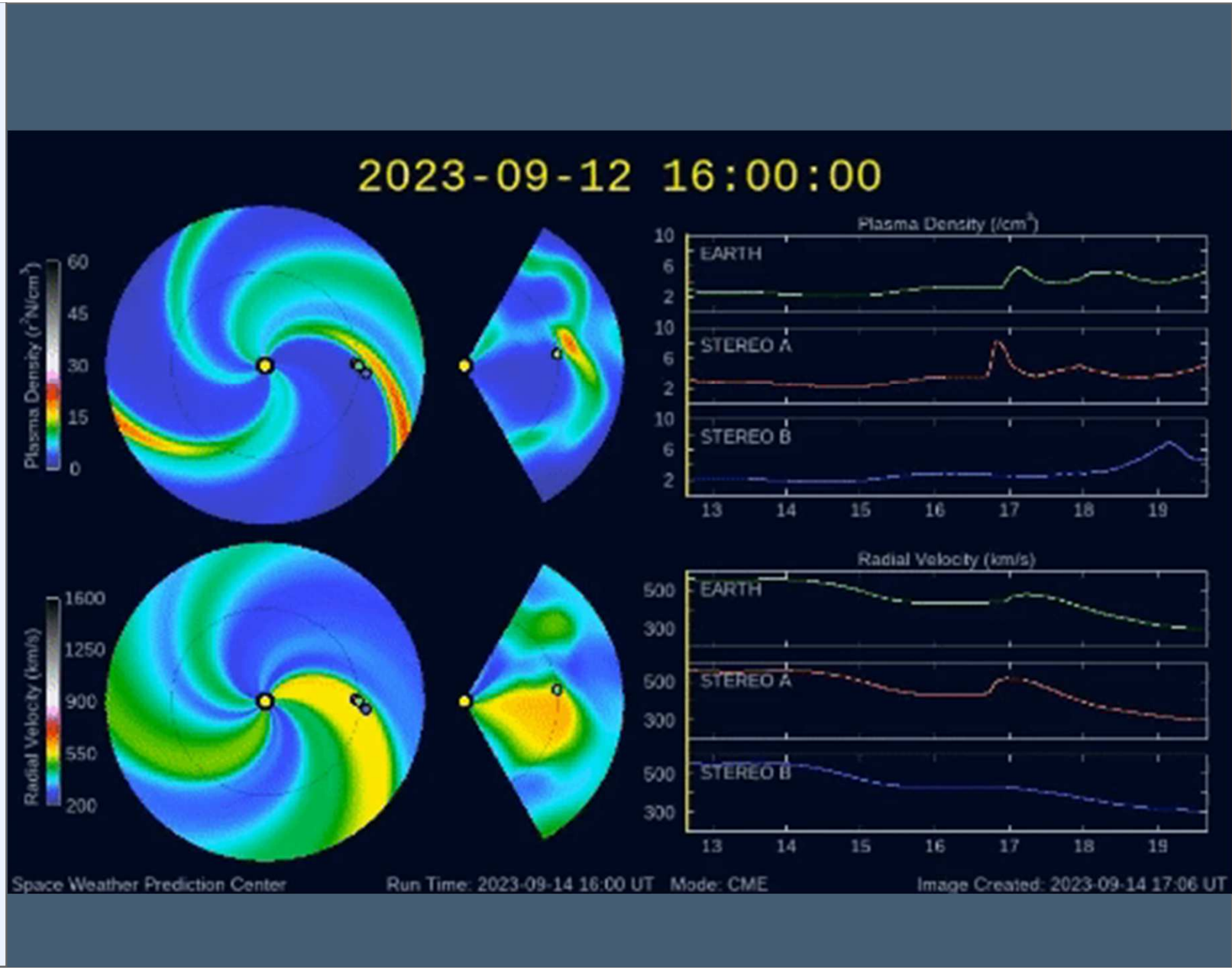
WSA-ENLIL PREDICTION

WSA-Enlil is a large-scale, physics-based prediction model of the heliosphere, used by the Space Weather Forecast Office to provide 1-4 day advance warning of solar wind structures and Earth-directed coronal mass ejections (CMEs) that cause geomagnetic storms. Solar disturbances have long been known to disrupt communications, wreak havoc with geomagnetic systems, and to pose dangers for satellite operations.



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REAL TIME SOLAR WIND

data refers to data from any spacecraft located upwind of Earth, typically orbiting the L1 Lagrange point, that is being tracked by the Real-Time Solar Wind Network of tracking stations. The NOAA/DSCOVR satellite became the operational RTSW spacecraft on July 27, 2016 at 1600UT (noon EDT, 10am MDT).

SWPC maintains the ability to instantaneously switch the spacecraft that provides the RTSW data. During times of outages in DSCOVR data or problems with the data, this page may instead display the data from the NASA/ACE spacecraft.

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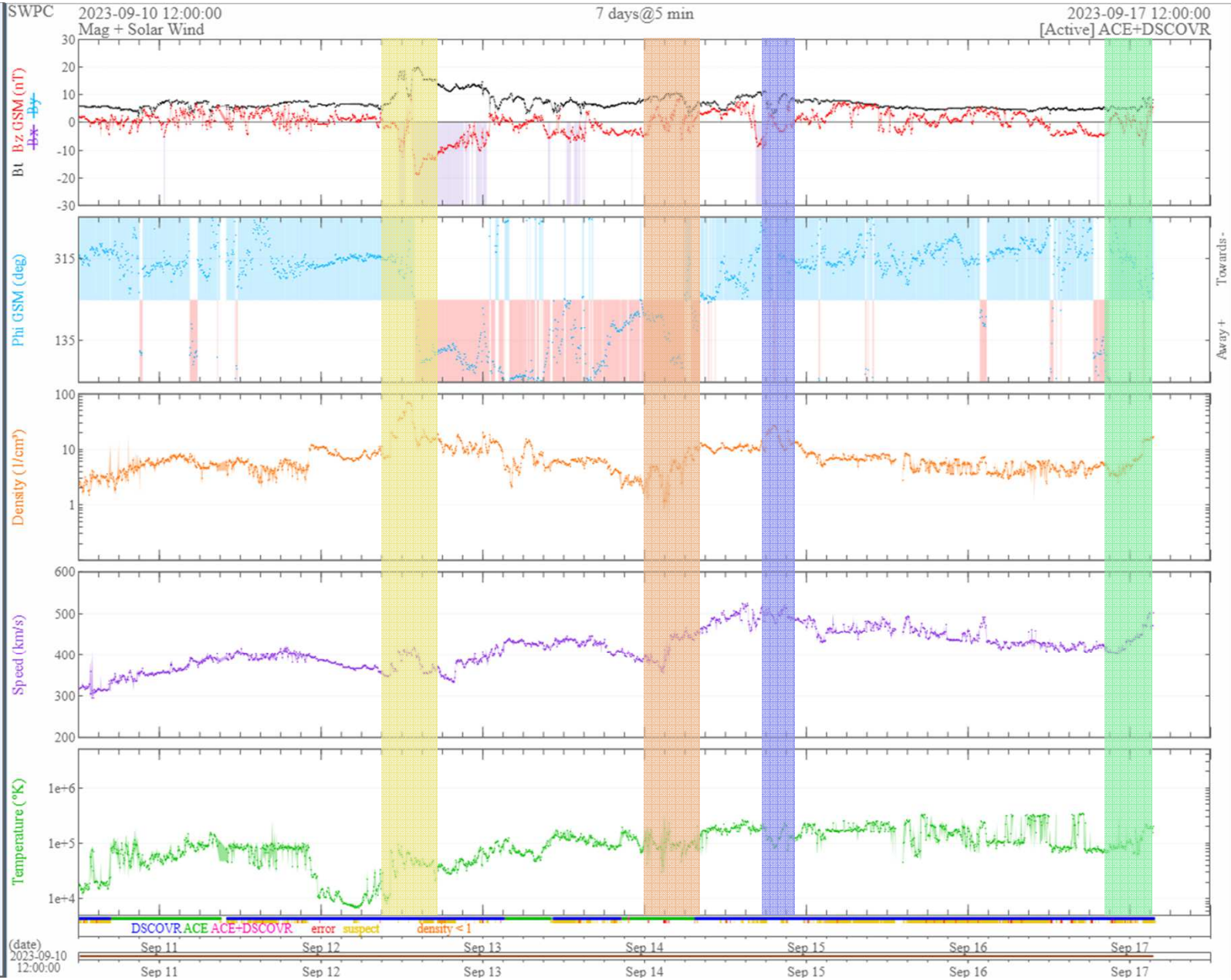

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SOLAR SYNOPTIC MAP

SWPC forecasters use their synoptic maps to view the various characteristics of solar surface at a locked-in time, on a daily basis. They create a snapshot of the features of the Sun each day by drawing the various phenomena they see, including active regions, coronal holes, neutral lines (boundary between magnetic polarities), plages and filaments and prominences. This map is a valuable tool for assessing the conditions on the sun and making the appropriate forecast for those conditions.

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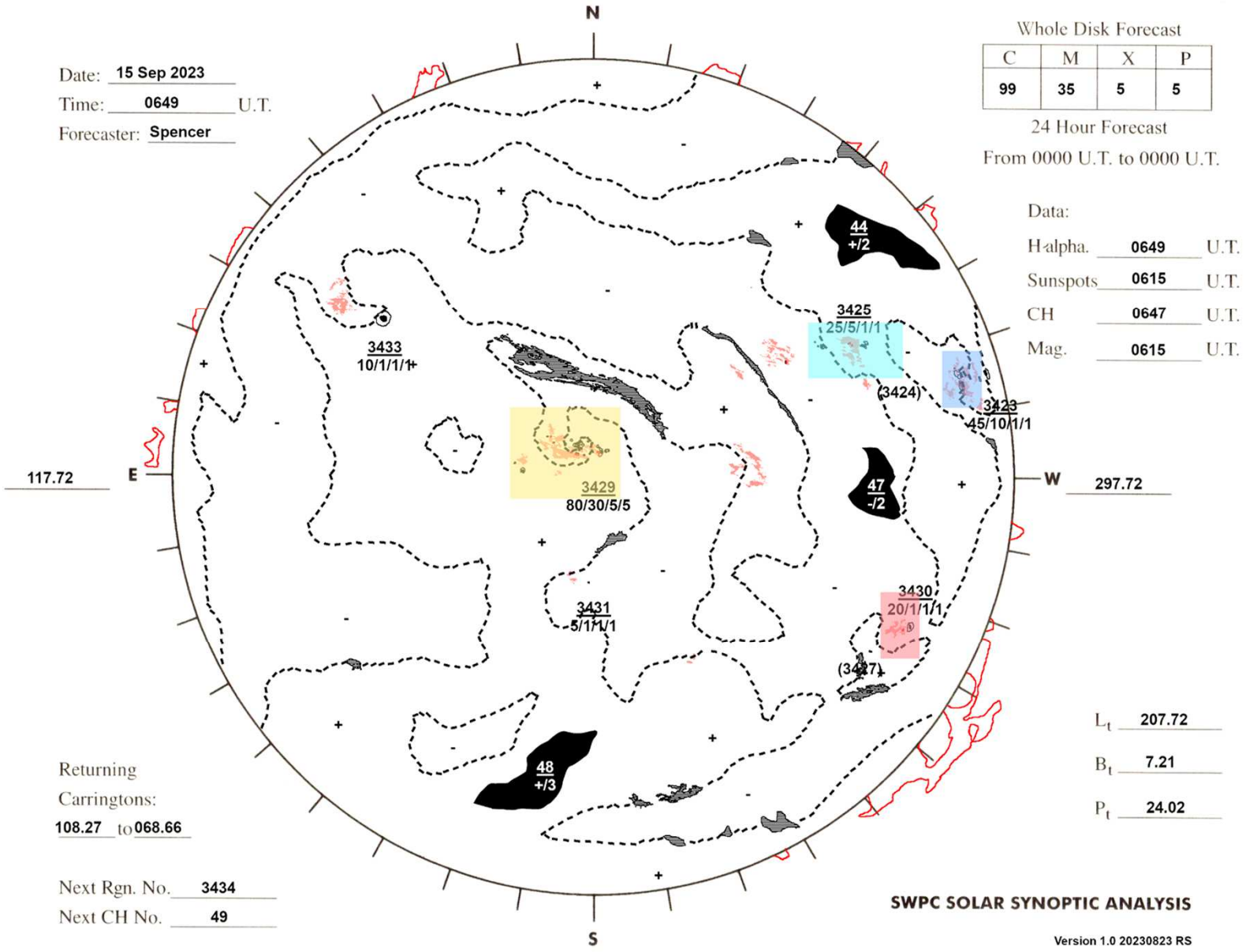

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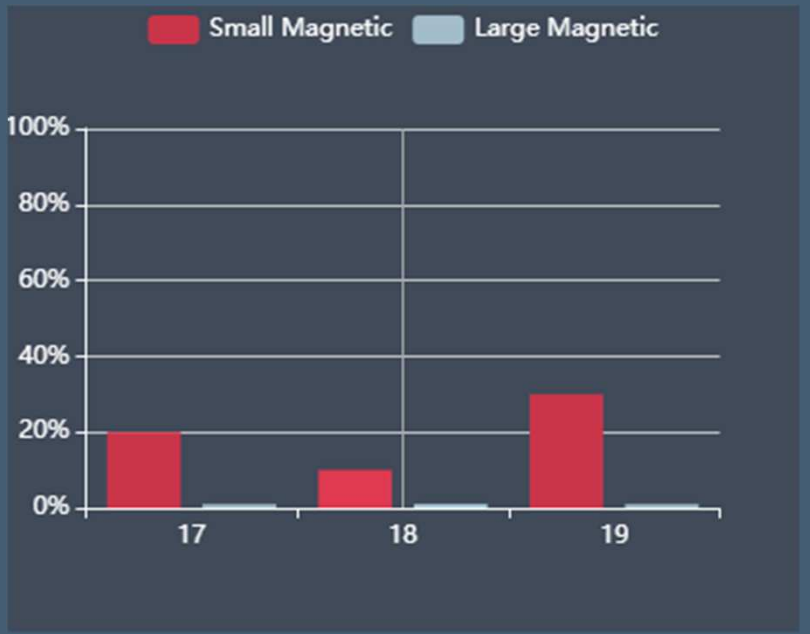
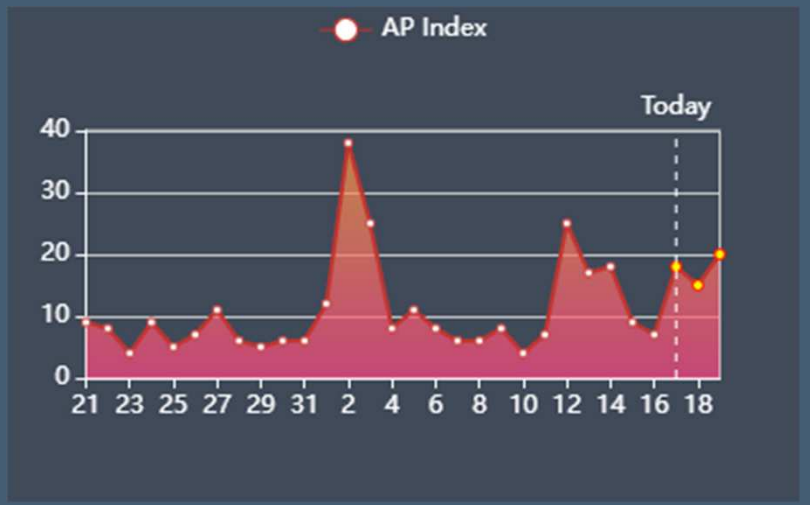
Space weather forecast

NOAA Kp index breakdown Sep 17-Sep 19 2023

	Sep 17	Sep 18	Sep 19
00-03UT	4.67 (G1)	3.00	3.00
03-06UT	3.33	2.00	4.00
06-09UT	3.67	2.00	5.33 (G1)
09-12UT	3.67	2.00	4.00
12-15UT	3.33	1.00	5.33 (G1)
15-18UT	2.33	2.00	5.00 (G1)
18-21UT	2.67	1.00	4.00
21-00UT	3.33	3.00	4.00

Rationale: G1 (Minor) geomagnetic storms are likely on 17 Sep and 19 Sep due to CME effects.





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Space weather forecast

NOAA Solar Radiation Activity Observation and Forecast

Solar Radiation Storm Forecast for Sep 17-Sep 19 2023

	Sep 17	Sep 18	Sep 19
S1 or greater	5%	5%	5%

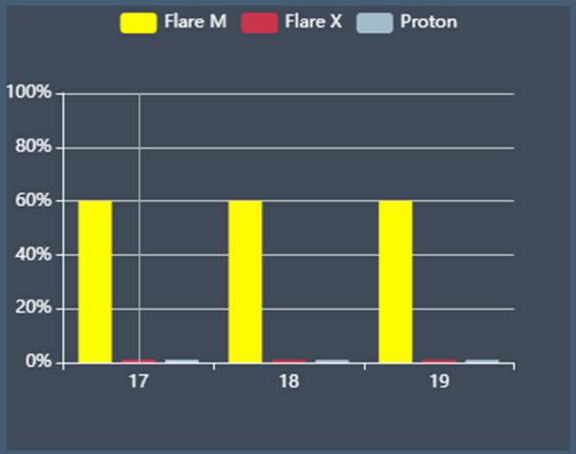
Rationale: No S1 (Minor) or greater solar radiation storms are expected.
No significant active region activity favorable for radiation storm
production is forecast.

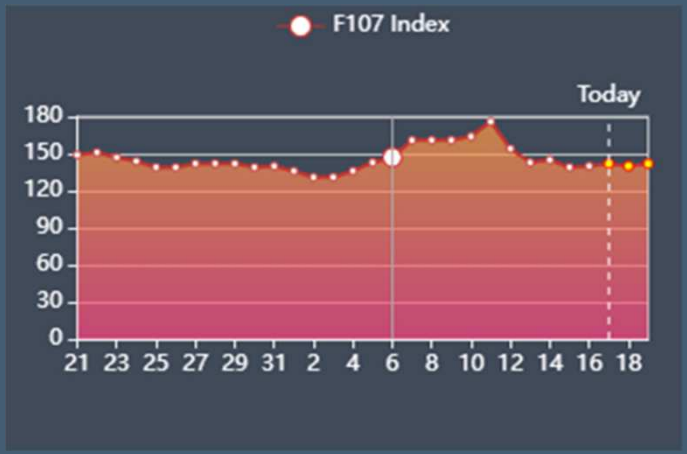
NOAA Radio Blackout Activity and Forecast

Radio Blackout Forecast for Sep 17-Sep 19 2023

	Sep 17	Sep 18	Sep 19
R1-R2	35%	25%	25%
R3 or greater	5%	1%	1%

Rationale: A chance for M-class flares (R1-R2/Minor-Moderate) exists on
17-19 Sep, due mainly to the flare potential of Region 3429.



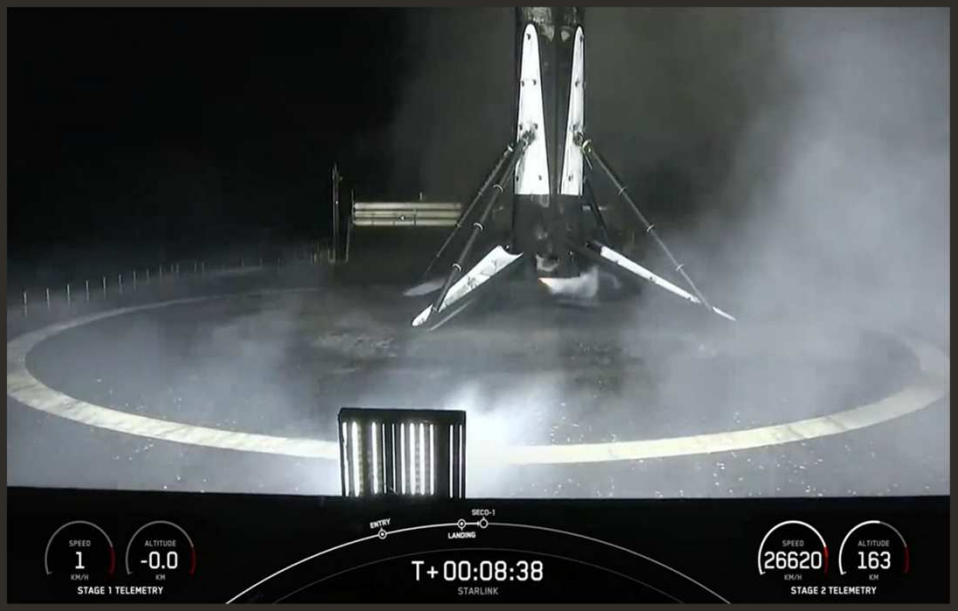


Atlas V rocket launches Space Force's satellites

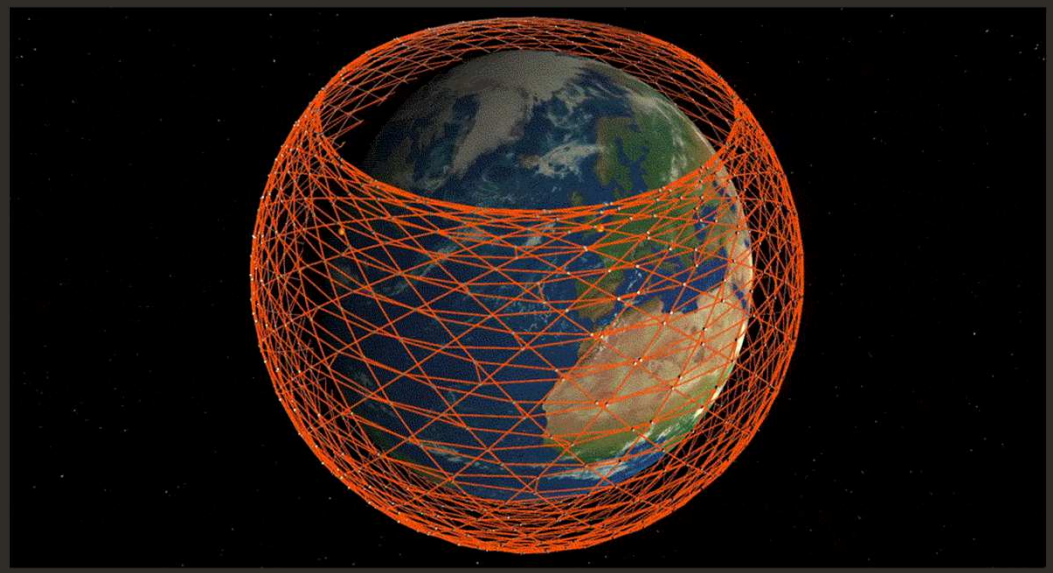

ATLAS V
SILENTBARKER

SpaceX launches 21 new Starlink satellites

Starlink satellites before deployment



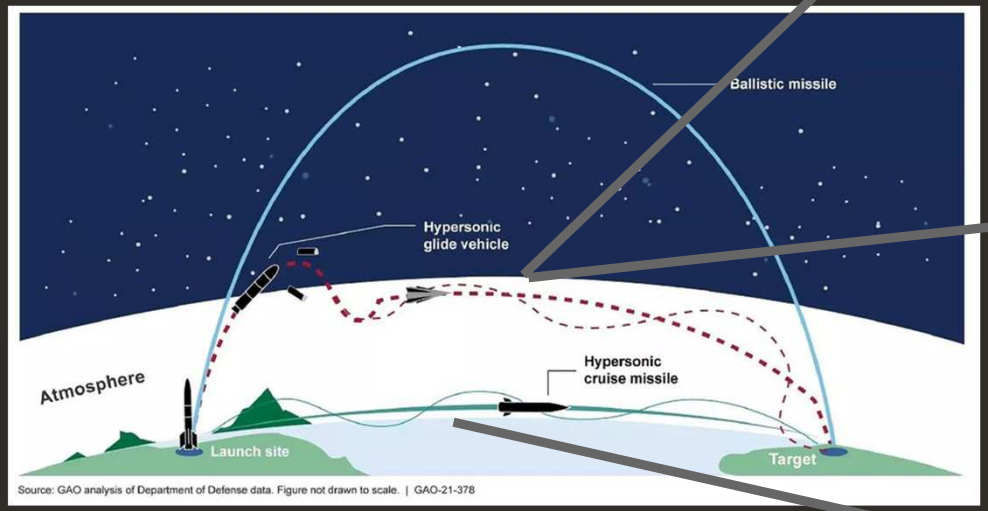
Falcon 9 rocket rests on the deck of a drone ship shortly after landing on Sept. 12, 2023



Upcoming 'Glide Breaker' hypersonic interceptor

Artist's illustration of Glide Breakers

BOEING


Ballistic missile
Hypersonic glide vehicle
Atmosphere
Hypersonic cruise missile
Launch site
Target
Source: GAO analysis of Department of Defense data. Figure not drawn to scale. | GAO-21-378


東風-17高超音速彈道導彈
DF-17 Hypersonic Ballistic Missile
TAKOM
1/35


«3M22 ZIRCON»
ENGINE : SCRAMJET
OPERATIONAL RANGE : 300 KM (186.4 MI)
SPEED: MACH 7 (8,575 KM/H; 5,328 MPH; 2.3820 KM/S)
LAUNCH PLATFORM: SHIP, SUBMARINE, AIRCRAFT AND LAND-BASED MOBILE LAUNCHERS.
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Source

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https://www.space.com/darpa-boeing-contract-glide-breaker-hypersonic-interceptor-testing
https://www.space.com/atlas-v-rocket-silent-barker-watchdog-satellite-space-force-launch
空間天氣 (nsmc.org.cn)
Homepage | NOAA / NWS Space Weather Prediction Center
SOHO Movie Theater (nasa.gov)
MTOF/PM Data by Carrington Rotation (umd.edu)

Thank You

感謝聆聽