



Space Activity Advisory Group (SAAG) Report

Presented by NAVAREAs IV/XII and XIV

Valparaiso, Chile 2 - 6 September 2024



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SUMMARY

International
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- 1. WWNWS 14 established the Space Advisory Working Group (SAWG)**
- 2. Work of the SAWG concluded with report to WWNWS 15**
- 3. WWNWS 15 established the Space Activity Advisory Group (SAAG)**
- 4. General update on space activity and data analysis, seafarer actions in response to space activity navigational warnings**

Valparaiso, Chile 2 - 6 September 2024



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GENERAL UPDATE - Space Activity Worksheet

International Hydrographic Organization

IHO Worldwide Navigational Warning Service Subcommittee
Space Operation Work Sheet – V0.2.2 Draft



General Notes:

- Please use the minimal amount of positional information needed to properly portray the operation, and include coordinates for the entire hazard area, not confined within a specific NAVAREA.
- Position coordinates should be in the format:

Latitude: DD-MM.mmmN or DD-MM.mmmS (only to the level of accuracy required)
 Longitude: DDD-MM.mmmE or DDD-MM.mmmW (only to the level of accuracy required)
 Note that leading zeros should always be included. Two digits are used for reporting degrees of latitude. Three digits are used for reporting degrees of longitude.

- Note: Only Revisions with a date/time change outside of listed alternates or a geographic change will result in promulgation of new navigational warning and a cancellation of an existing warning.
- Navigational warning text may differ from the original information, if the MSI Provider believes this benefits the mariner and does not change the accuracy of the original information.
- Items listed in bold are required for promulgation of a navigational warning.

This section to be completed by Space Operator			
Date (UTC)		Space Operator	
Name of POC		Operation Number	
Telephone		Revision Number	
Email		NAVAREAs Affected	
Details of activity	[E.g. "Debris from reentry of launch vehicle upper stage", "Rocket launching operations"]		

Details of Hazardous Area/s, including type of hazard, dates/times (UTC) and coordinates

Area 1

Type of Hazard	[E.g. "Launch hazard area", "Space debris hazard area"]
Dates/Times (UTC)	From/To
Area Coordinates	
Amplifying text (if required)	E.g. "Support vessel [name/callsign] in attendance and monitoring VHF 16"

Details of Hazardous Area/s, including type of hazard, dates/times (UTC) and coordinates

Area 2 (If Required)

Type of Hazard	
Dates/Times (UTC)	From/To
Area Coordinates	
Amplifying text (if required)	

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Space Operation Work Sheet – V0.2.2 Draft



Details of Hazardous Area/s, including type of hazard, dates/times (UTC) and coordinates
Area 3 (If Required)

Type of Hazard	
Dates/Times (UTC)	From/To
Area Coordinates	
Amplifying text (if required)	

Details of Hazardous Area/s, including type of hazard, dates/times (UTC) and coordinates
Area 4 (If Required)

Type of Hazard	
Dates/Times (UTC)	From/To
Area Coordinates	
Amplifying text (if required)	

This section to be completed by Maritime Safety Information Provider	
Navigational Warning(s) Issued:	Y/N
NAVAREA WARNING ##	
Coastal Warning areas affected	
Coastal Warning ##	
Cancellation Details	
NAVAREA WARNING Cancellation Time:	
Coastal Warning Cancellation Time:	
Navigational Warnings to be cancelled	
Active NAVAREA WARNINGS	
Active Coastal Warnings	

NAVAREA WARNING TEXT:

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COASTAL WARNING TEXT:

Notes:

Returned Work Sheet to Space Operator: Y/N

NAVAREA Representative: _____

Date: _____

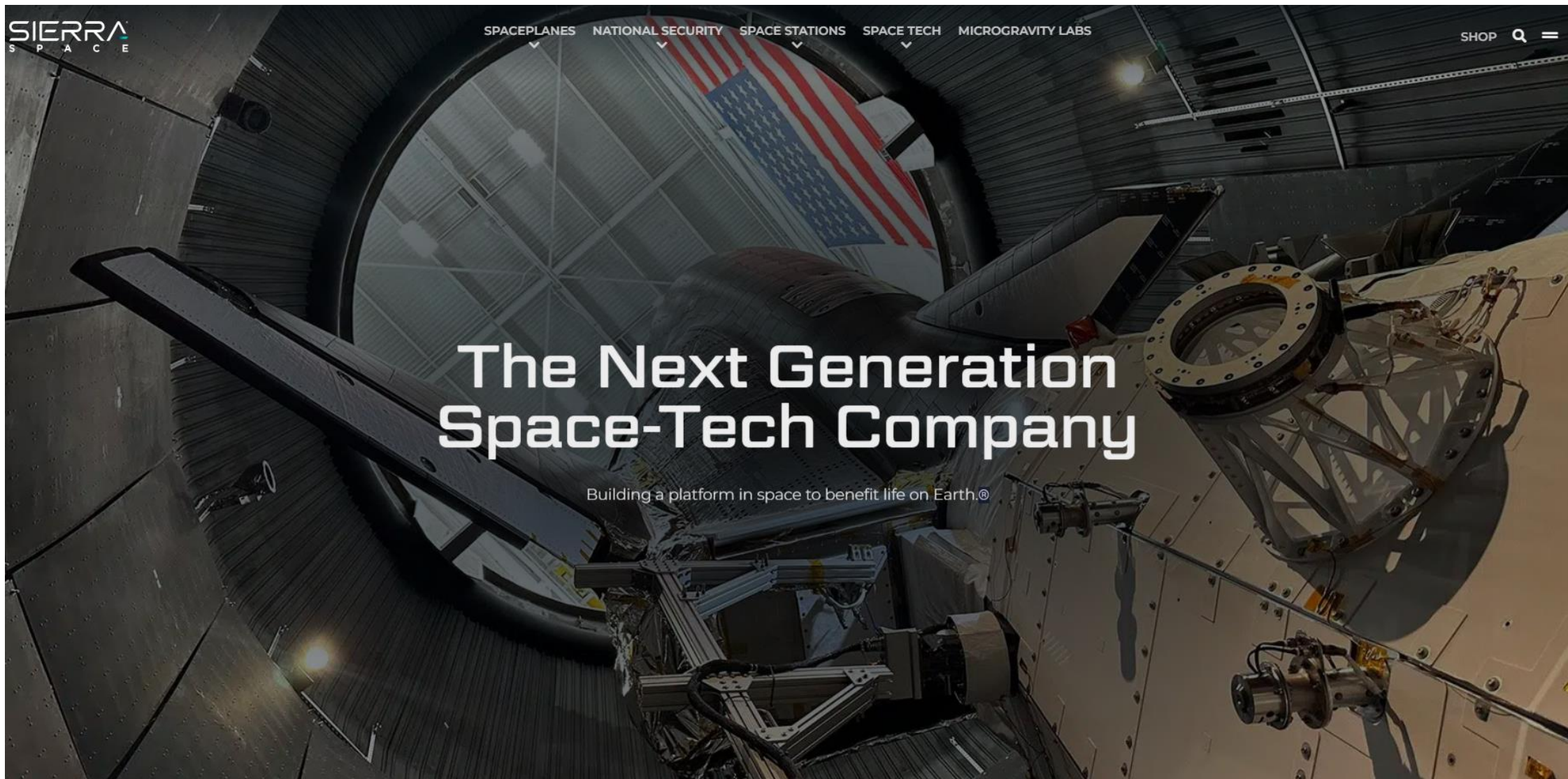
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GENERAL UPDATE - New Space Operator Engagements

International
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Valparaiso, Chile 2 - 6 September 2024



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GENERAL UPDATE - Numerous Revisions of Navigational Warnings

Annex B: SpaceX Starship Launch Analysis

NAVAREA IV 1299/2023 (11,28)

GULF OF MEXICO.

TEXAS.

1. HAZARDOUS OPERATIONS, ROCKET LAUNCHING

131300Z TO 131539Z, 141300Z TO 141539Z,

151300Z TO 151539Z, 161300Z TO 161539Z,

171300Z TO 171539Z AND 181300Z TO 181349Z NOV

IN AREA BOUND BY

25-51.00N 96-46.00W, 25-48.00N 96-14.00W,

25-40.00N 95-03.00W, 25-21.00N 93-15.00W,

25-26.00N 92-48.00W, 25-58.00N 92-47.00W,

26-04.00N 93-18.00W, 26-01.00N 94-13.00W,

26-00.00N 94-48.00W, 26-03.00N 95-43.00W,

26-06.00N 96-45.00W, 26-07.00N 96-57.00W,

26-03.00N 97-07.00W, 26-02.00N 97-12.00W,

25-57.00N 97-12.00W, 25-52.00N 97-01.00W.

2. CANCEL THIS MSG 181449Z NOV 23.

NAVAREA IV 1309/2023 (11,28) (REV 1)

GULF OF MEXICO.

TEXAS.

1. HAZARDOUS OPERATIONS, ROCKET LAUNCHING

1300Z TO 1539Z DAILY 15 THRU 17 AND

181300Z TO 181349Z NOV IN AREA BOUND BY

25-51.00N 96-46.00W, 25-48.00N 96-14.00W,

25-40.00N 95-03.00W, 25-21.00N 93-15.00W,

25-26.00N 92-48.00W, 25-58.00N 92-47.00W,

26-04.00N 93-18.00W, 26-01.00N 94-13.00W,

26-00.00N 94-48.00W, 26-03.00N 95-43.00W,

26-06.00N 96-45.00W, 26-07.00N 96-57.00W,

26-03.00N 97-07.00W, 26-02.00N 97-12.00W,

25-57.00N 97-12.00W, 25-52.00N 97-01.00W,

25-51.00N 96-46.00W.

2. CANCEL NAVAREA IV 1299/23.

3. CANCEL THIS MSG 181449Z NOV 23.

NAVAREA IV 1322/2023 (11,28) (Rev 2)

GULF OF MEXICO.

TEXAS.

1. HAZARDOUS OPERATIONS, ROCKET LAUNCHING

AND SPACE DEBRIS 1300Z TO 1539Z DAILY 17, 19

AND 20 NOV AND 181300Z TO 181359Z NOV

IN AREA BOUND BY

25-51.00N 96-46.00W, 25-48.00N 96-14.00W,

25-40.00N 95-03.00W, 25-21.00N 93-15.00W,

25-26.00N 92-48.00W, 25-58.00N 92-47.00W,

26-04.00N 93-18.00W, 26-01.00N 94-13.00W,

26-00.00N 94-48.00W, 26-03.00N 95-43.00W,

26-06.00N 96-45.00W, 26-07.00N 96-57.00W,

26-03.00N 97-07.00W, 26-02.00N 97-12.00W,

25-57.00N 97-12.00W, 25-52.00N 97-01.00W.

2. CANCEL NAVAREA IV 1309/23.

3. CANCEL THIS MSG 201639Z NOV 23.

NAVAREA IV 1332/2023 (1332/23) (Rev.3)

GULF OF MEXICO.

TEXAS.

1. HAZARDOUS OPERATIONS, ROCKET LAUNCHING

AND SPACE DEBRIS 1300Z TO 1539Z DAILY 18, 19

AND 20 NOV AND 181300Z TO 181359Z NOV

IN AREA BOUND BY

25-51.00N 96-46.00W, 25-48.00N 96-14.00W,

25-40.00N 95-03.00W, 25-21.00N 93-15.00W,

25-26.00N 92-48.00W, 25-58.00N 92-47.00W,

26-04.00N 93-18.00W, 26-01.00N 94-13.00W,

26-00.00N 94-48.00W, 26-03.00N 95-43.00W,

26-06.00N 96-45.00W, 26-07.00N 96-57.00W,

26-03.00N 97-07.00W, 26-02.00N 97-12.00W,

25-57.00N 97-12.00W, 25-52.00N 97-01.00W.

2. CANCEL NAVAREA IV 1322/23.

3. CANCEL THIS MSG 201639Z NOV 23.

NAVAREA IV 1299/23 first issued on 081018 UTC NOV 23 (080001 UTC NOV 2023)

NAVAREA IV 1309/23 issued, 1299/23 CX 101753 UTC NOV 23

NAVAREA IV 1322/23 issued, 1309/23 CX 132109 UTC NOV 23

NAVAREA IV 1332/23 issued, 1322/23 CX 162305 UTC NOV 23

Launched Nov 18th 1302 UTC

NAVAREA IV/XII was not notified to cancel the warning

NAVAREA IV 1332/23 timed out at 201639Z NOV 23



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GENERAL UPDATE – Space Web Applications

International Hydrographic Organization



Figure 7
Starship launch data (neon green points are within 20 minutes of launch)

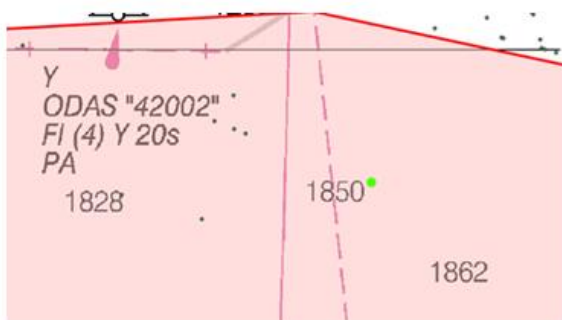


Figure 8
SOLAS vessel at 181245 UTC

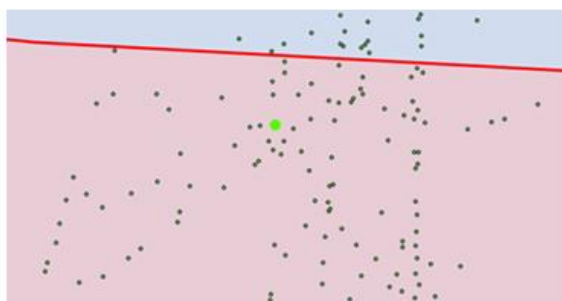


Figure 9
SOLAS vessel at 181240 UTC

Annex C: Space Operations Launch and Recovery Chart

Space Operations Launch and Recovery (SOLAR) Chart

Space Launch and Recovery Operations will be conducted within portions of the Warning Areas and Hazard Areas displayed on the chart below, and may include free falling debris and/or descending vehicles or vehicle components under various means of control. Mariners are urged to avoid waters within these areas during launch windows. For more information, mariners may contact the U.S. Space Force Launch Information hotline at 1-800-470-7232. [Click HERE for the reference guide.](#) (Data accurate as of 01 JUL 2024 1831 Z)

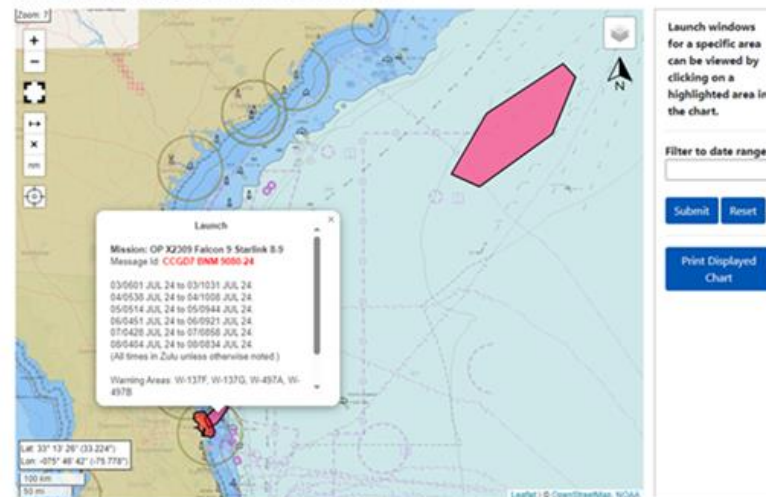


Figure 10
USCG NAVCEN Space Operations Launch and Recovery (SOLAR) Chart

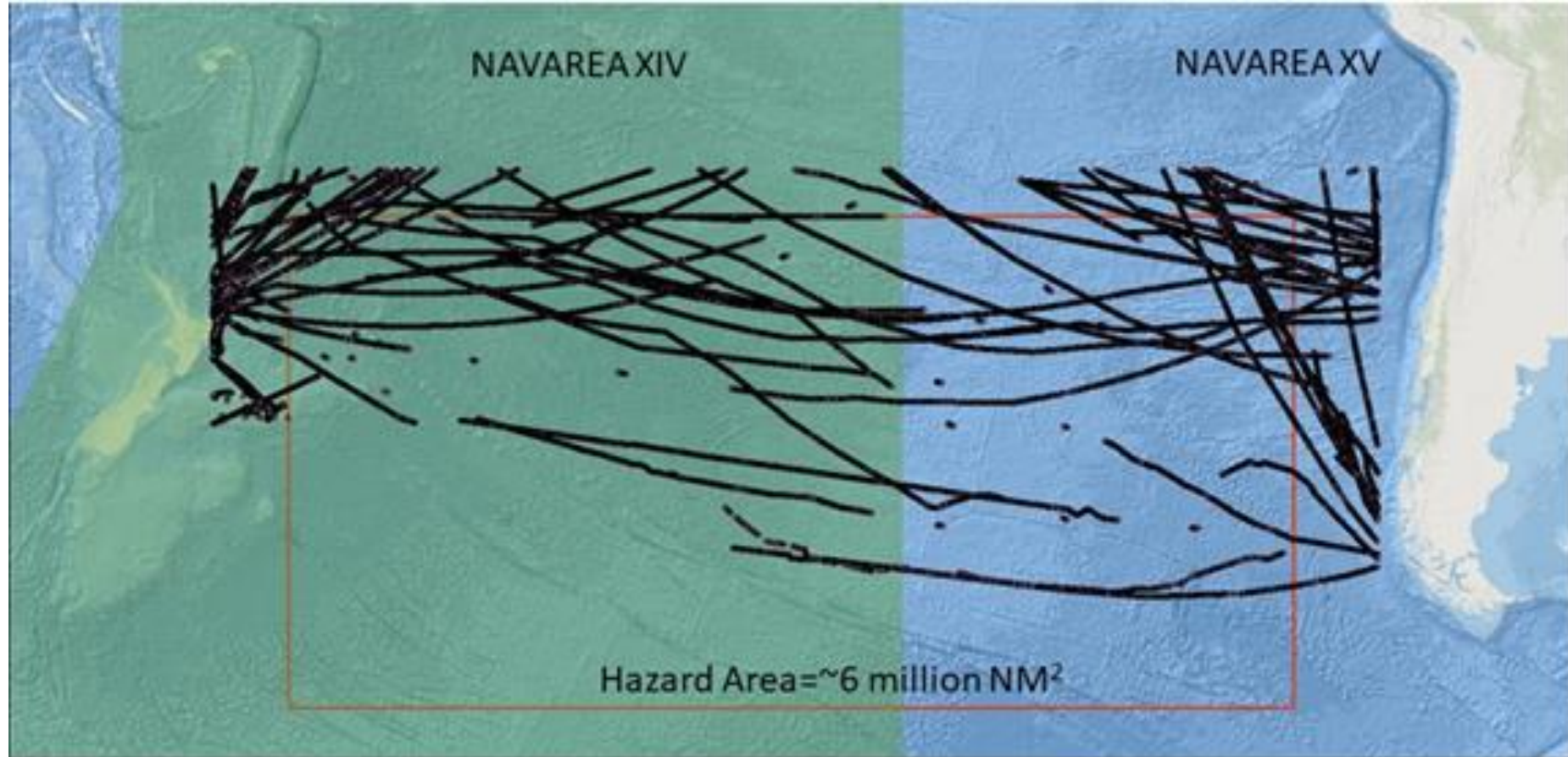
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Seafarer response to space activity navigational warnings

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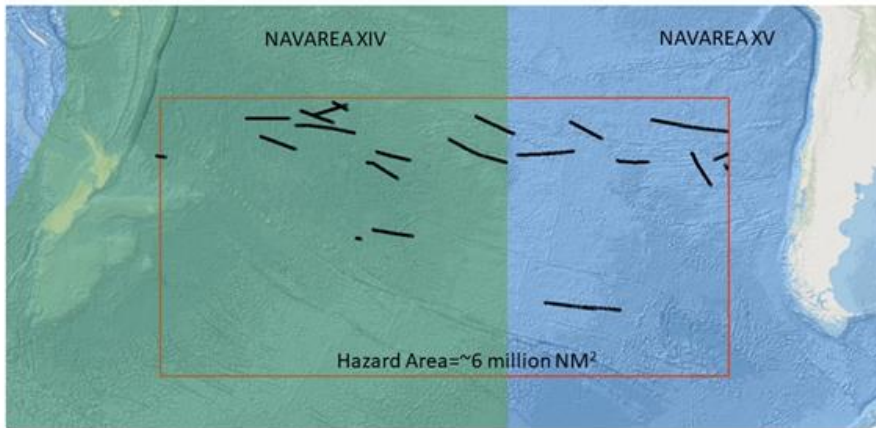


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Seafarer response to space activity navigational warnings - Very large space debris areas

International Hydrographic Organization

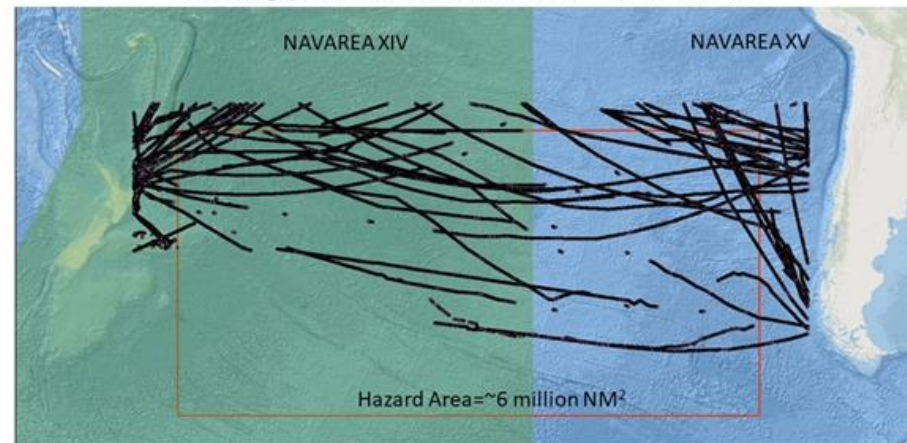
Space Debris Hazard – October 2023
Warning issued, 5 days prior to hazardous operations



NAVAREA XIV WARNING 174/23
SOUTH PACIFIC OCEAN
1. HAZARDOUS OPERATIONS, SPACE DEBRIS 17 AND 18 OCT 2023 FROM 0730-0930 UTC DAILY, IN AREA BOUNDED BY:
A. 30-00S 175-00W
B. 30-00S 090-00W
C. 60-00S 090-00W
D. 60-00S 175-00W
2. CANCEL THIS MESSAGE 181030 UTC OCT 2023
NNNN

Normal traffic
through hazard area
(24 hours)

Space Debris Hazard – October 2023
During period of hazardous operations



NAVAREA XIV WARNING 174/23
SOUTH PACIFIC OCEAN
1. HAZARDOUS OPERATIONS, SPACE DEBRIS 17 AND 18 OCT 2023 FROM 0730-0930 UTC DAILY, IN AREA BOUNDED BY:
A. 30-00S 175-00W
B. 30-00S 090-00W
C. 60-00S 090-00W
D. 60-00S 175-00W
2. CANCEL THIS MESSAGE 181030 UTC OCT 2023
NNNN

22 Vessels transiting
through hazard area
(48 hours)

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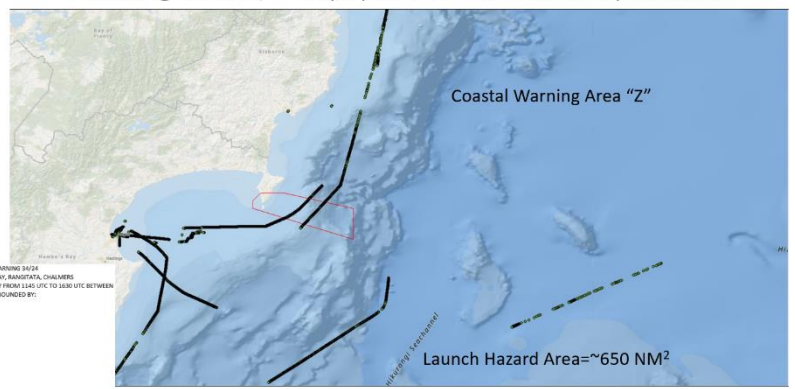


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Seafarer response to space activity navigational warnings - Smaller launch hazard and space debris areas

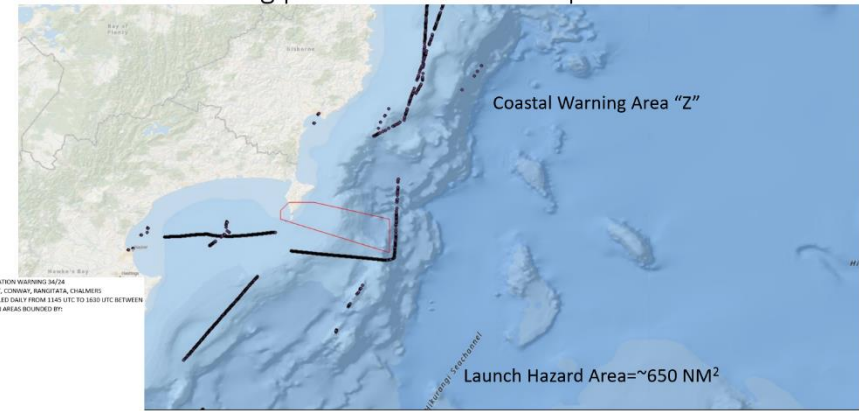
International Hydrographic Organization

Rocket Launch Hazard – Feb 2024
Warning issued, 5 days prior to hazardous operations



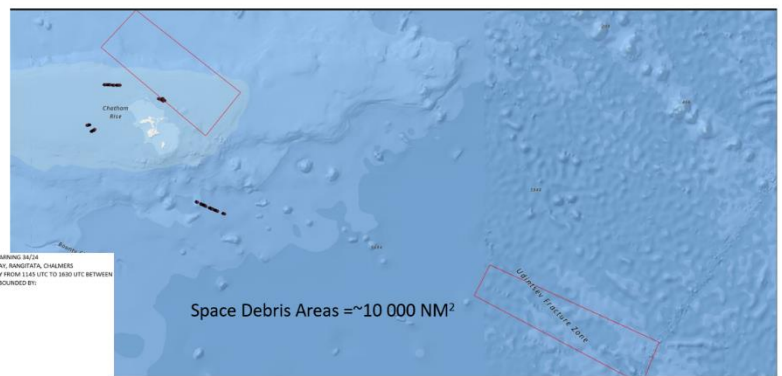
Normal traffic through hazard area

Launch Hazard Area – Feb 2024
During period of hazardous operations



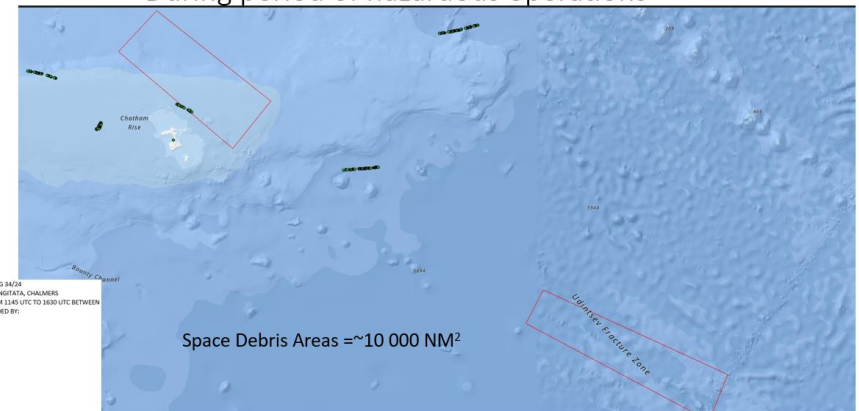
Vessels altering course around hazard area

Space Debris Areas – Feb 2024
Warning issued, 5 days prior to hazardous operations



Valparaiso, Chile 2 - 6 September 2024

Space Debris Areas – Feb 2024
During period of hazardous operations



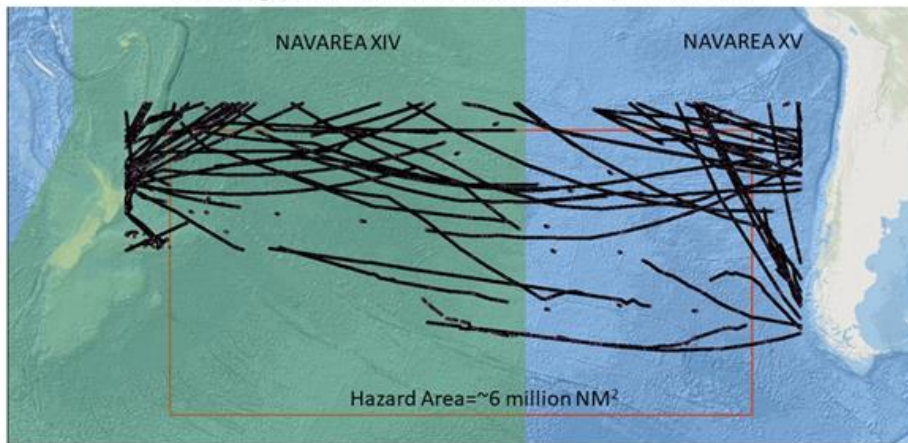


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Seafarer response to space activity navigational warnings – Observations & Conclusions

International Hydrographic Organization

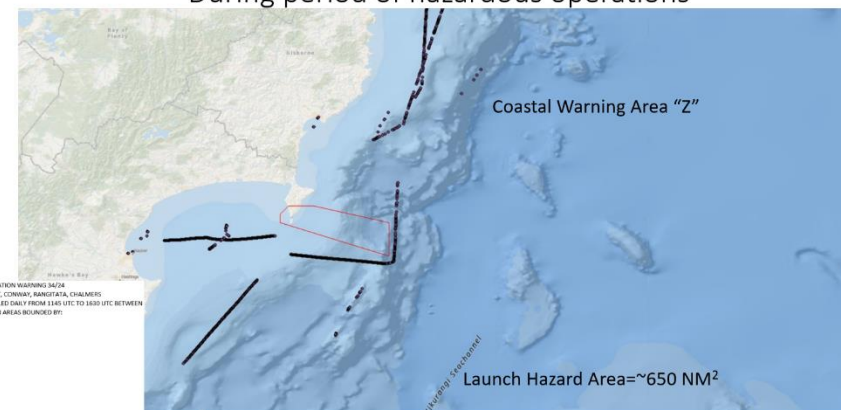
Space Debris Hazard – October 2023
During period of hazardous operations



NAVAREA XIV WARNING 174/23
SOUTH PACIFIC OCEAN
1. HAZARDOUS OPERATIONS, SPACE DEBRIS 17 AND 18 OCT 2023 FROM 0730-0930 UTC DAILY, IN AREA BOUNDED BY:
A. 30-00S 175-00W
B. 30-00S 090-00W
C. 60-00S 090-00W
D. 60-00S 175-00W
2. CANCEL THIS MESSAGE 181030 UTC OCT 2023
NNNN

22 Vessels transiting through hazard area (48 hours)

Launch Hazard Area – Feb 2024
During period of hazardous operations



NEW ZEALAND COASTAL NAVIGATION WARNING 34/24
AREA: FORTLAND, CAPESTOWN, CONWAY, BANDEGATA, CHAMBERS
1. ROCKET LAUNCHING SCHEDULED DAILY FROM 1345 UTC TO 1830 UTC BETWEEN 18 FEB 2024 AND 25 FEB 2024 IN AREA BOUNDED BY:
2. LAUNCH HAZARD AREA:
A. 39-42.27S 177-35.00E
B. 39-11.51S 177-44.90E
C. 39-20.74S 178-41.33E
D. 39-20.42S 178-30.86E
E. 39-21.85S 177-59.14E
3. SPACE DEBRIS HAZARD AREA:
A. 40-54.00S 174-30.00E
B. 40-30.00S 177-30.00E
C. 41-48.00S 177-34.00E
D. 47-22.00S 176-28.00E
3. RANGE CONTROLS FOR THE LAUNCH HAZARD AREA WILL OPERATE DURING LAUNCH OPERATIONS. RANGE INFORMATION WILL BE BROADCAST ON VHF CHANNEL 7. RANGE CONTROLS CAN BE CONTACTED ON VHF CHANNEL 10. TEMPORARY VIRTUAL AUTOMATIC IDENTIFICATION SYSTEM (AIS) AIDS TO NAVIGATION (V-AIS) SHALL BE USED TO COLLECTIVELY IDENTIFY THE PERIMETER OF THE HAZARD AREA DURING ACTIVE PERIODS. A SUPPORT VESSEL WILL BE ON STATION WITHIN SPACE DEBRIS HAZARD AREA DURING LAUNCH OPERATIONS. ALL VESSELS REQUESTED TO CONTACT VIA VHF CHANNEL 16. A WIDE BERTH IS REQUIRED.
4. LIVE UPDATES ON ACTIVITY AVAILABLE VIA WEB AND SOCIAL MEDIA LINKS
WWW.BROADCASTAREAUSA.COM SOCIAL MEDIA:
TWITTER.COM/BROADCASTAREA. FURTHER INFORMATION REFER ANNUAL NEW ZEALAND NOTICE TO SEAFARERS NO.13
NNNN

Vessels altering course around hazard area

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SAAG – Recommendations

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