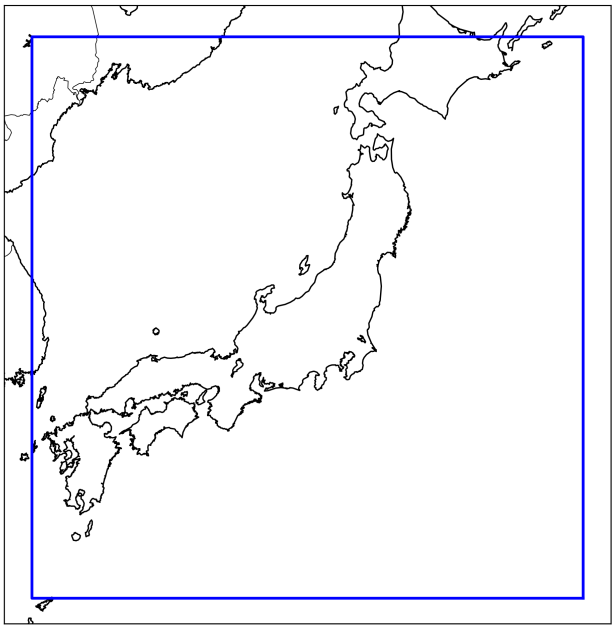

# Seismic Forecast for Japan

## 2025 August 17-18-19 - High Seismic Risk in Japan

Version: 3

First Revision: 2025-08-11 19:28:24

Last Revision: Rev. 3 - 2025-08-22 10:00

# Index

# 1. Revision History

| Version | Date | Author | Description |
|---|---|---|---|
| **0** | 2025-08-11 19:28:24 | MF | Whole Japan Forecast , resolution 24 hrs (UTC+09:00) |
| | **deep learning and forecast only (no report yet) using Tropospheric and GPS seismic sensors collected by JPL NASA laboratory from partner abroad** | | |
| **1** | 2025-08-16 00:00:00 | MF | Updated Report utilities |
| **2** | 2025-08-17 00:00:00 | MF | Uploaded 24hrs time resolution report |
| **3** | 2025-08-22 10:00:00 | MF | Updated Combined prediction (overall best with cycle1, cycle2, cycle3, explore) |
| | **Last forecast included only cycle3, and was not the best in its class** | | |

# 2. Explanation of Terms and Concepts

## About Features used to produce this forecast

We produced this forecast using the following specific source:

1. astronomical solar system data (same day - 0 shift)
2. seismic sensor GPS data (60 days shift)
3. tropospheric data (60 days shift)

The Purpose it to demonstrate the validity of using GPS + TROPO data several week before a seismic event.

Time series sharpness achievable by astronomical data only can be up to 7 days.

This study demonstrate that using augmented data in past geophysical observations can rise the time line sharpness up to 24 hrs and more.

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## About Graph system

*Note: **trend** graph*

Forecast graph and tables refer to a base value, against it.

For instance if a value of 37 per latitude is the base line and graph value is 0% it means that the location estimated for that period of time is UNDER 37.

Another example is for magnitude graph, with baseline Mw 7.0, 0% means no risk detected, and 100% means high risk detected

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## About Time Slot

*Note*: each date point represent **the beginning of the time slot**

For instance if a forecast time point is on 2025-01-01 and the graph resolution is 7 days, it's a forecast for 2025-01-01 until 2025-01-06 (UTC)

# 3. Features Used For Magnitude

## Features Analysis Report

**Generated:** 2025-08-17T09:05:28.734396 **Keyword Used:** `target` **Files Processed:** 1 **Total Features in Files:** 81 **Features Matching Keyword:** 2

### Complete Dataset Overview

*Analysis of ALL features present in the source files*

| Category | Count | Percentage |
|---|---|---|
| Astro | 17 | 21.0% |
| Tropo | 30 | 37.0% |
| Pos | 31 | 38.3% |
| Target | 2 | 2.5% |
| Other | 1 | 1.2% |

### Filtered Dataset (Used for Analysis)

*Features matching keyword 'target' that were actually processed*

| Category | Count | Percentage |
|---|---|---|
| Astro | 0 | 0.0% |
| Tropo | 0 | 0.0% |
| Pos | 0 | 0.0% |
| Target | 2 | 100.0% |
| Other | 0 | 0.0% |

# Detailed Features Breakdown (Filtered)

### Target Features

*Primary target variables for prediction*

**Count:** 2

**Features:** - `Add_pred_target` - `Add_target`

# File-by-File Analysis

### Complete Dataset (All Features)

| File | Total | Astro | Tropo | Pos | Target | Other |
|---|---|---|---|---|---|---|
| forecast.csv | 81 | 17 | 30 | 31 | 2 | 1 |

### Filtered Dataset (Used for Analysis)

| File | Filtered | Astro | Tropo | Pos | Target | Other |
|---|---|---|---|---|---|---|
| forecast.csv | 2 | 0 | 0 | 0 | 2 | 0 |

# Summary Insights

### Complete Dataset:

- **Astronomical data** represents 21.0% of all features (17 features)
- **Tropospheric data** represents 37.0% of all features (30 features)
- **Position/GPS data** represents 38.3% of all features (31 features)
- **Target variables** represent 2.5% of all features (2 features)
- **Dominant category in complete dataset:** Pos features

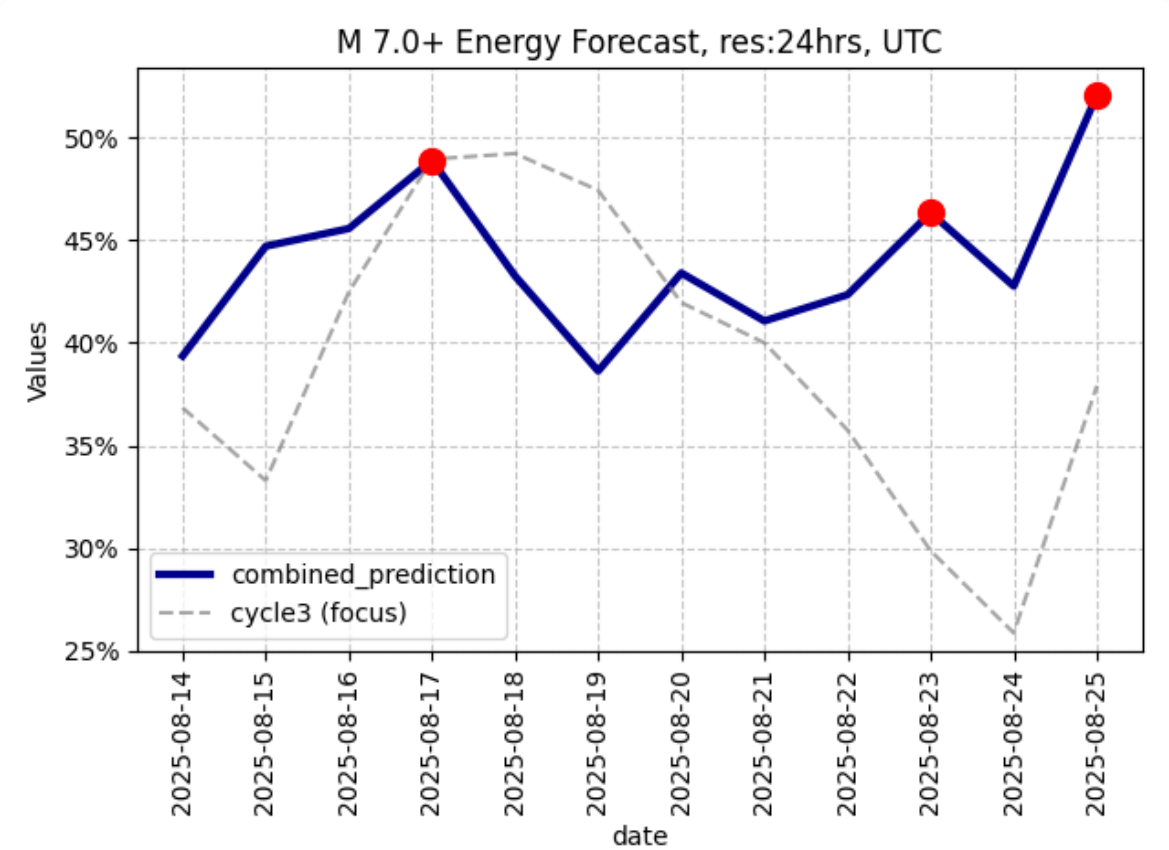
### Filtered Dataset (Actually Used):

- **Target variables** represent 100.0% of filtered features (2 features)
- **Dominant category in filtered dataset:** Target features

*This report was automatically generated by the median_calculator_target_only.py script.*

# 4. Forecasts

## 4.1 M 7.0+ Energy Forecast, res:24hrs, UTC




**⚠ Higher Risk Detected for Following Dates:**

- 1. from 2025-08-25 to 2025-08-26 (UTC) - Risk Value: 0.521
- 2. from 2025-08-17 to 2025-08-18 (UTC) - Risk Value: 0.489
- 3. from 2025-08-23 to 2025-08-24 (UTC) - Risk Value: 0.464

> *Each date represent the BEGINNING of time slot*

# 5. Summary and Conclusion

## Summary of Findings

**Risk detected of a significant seismic event in following time/space of Japan:** ***time: 2025-08-17-23-25 (UTC)***

## Conclusions

1. **Increased Risk:* detected for 2025-08-17,2025-08-23,2025-08-25
2. **Recommendations:** It is advised to review preparedness protocols for the identified high-risk areas. Continuous monitoring is essential.

# 6. Attribution and Disclaimers

*Content file not found: DB/JAPAN-MAG7.0-1d_2025-08-10/trial_set_20250811-192824-2012-FULL/report_2025-08-2/text/attribution.md*