

Collection of 3 Seismic Energy Forecasts for Japan

After carefully examined the 3 forecasts attached in this document (made by our laboratory in recent days)...

We detected a high probability to have a magnitude 7+ in Japan for the following date range 2025-10 15-19, and 21

Latitude : about 39 degree

Seismic Energy Forecast for Japan

2025 October 12-15-18 - potential earthquake or eruption
in Japan

Version: 0

First Revision: 2025-10-15 16:33:29

Last Revision: Rev. 0 - 2025-10-15 16:33

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1. Revision History

Version	Date	Author	Description
0	2025-10-15 16:33:29	MF	Seismic Energy Forecast for Potential Earthquake or Eruption in Japan
first emission			

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.

About Graph system

Note: trendgraph

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

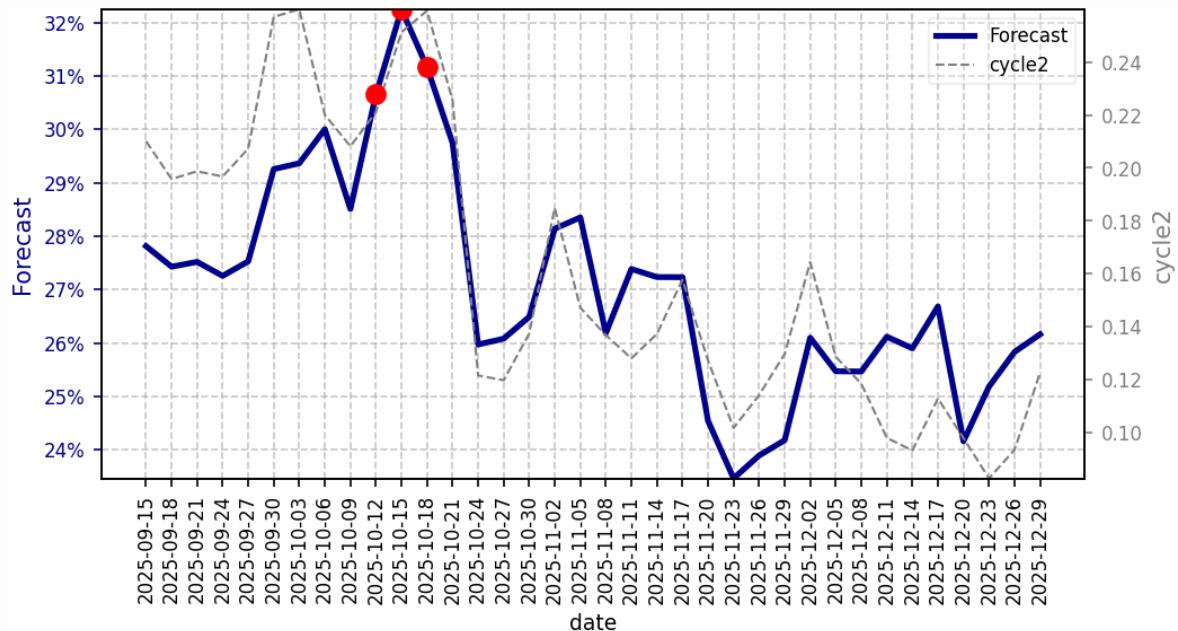
About Time Slot

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. Forecasts

3.1 Seismic Energy Forecast (possible earthquake or eruption), res:3 days, UTC (focus: cycle2)



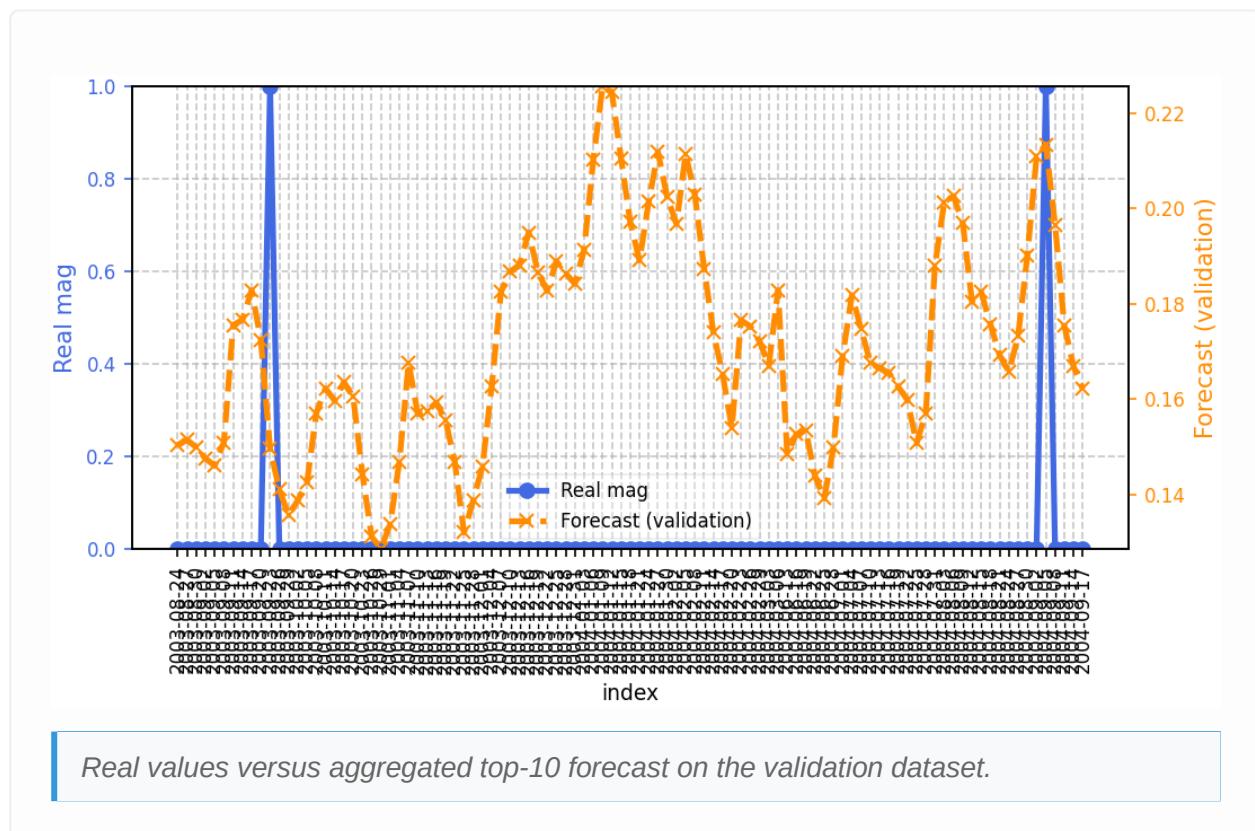
⚠ Higher Risk Detected for Following Dates:

- 1. from 2025-10-15 to 2025-10-18 (UTC) - Risk Value: 0.322
- 2. from 2025-10-18 to 2025-10-21 (UTC) - Risk Value: 0.312
- 3. from 2025-10-12 to 2025-10-15 (UTC) - Risk Value: 0.307

Each date represent the BEGINNING of time slot

This seismic energy forecast highlights potential earthquakes or eruptions in Japan.

3.2 Validation Quality Check



4. Features Used For Magnitude

Combined Features Analysis Report -
trialsetMAGNITUDE-JAPAN-
AGAINSTFALSEPOSITIVE_20251015-080915

Generated: 2025-10-15T20:04:36.657207 **Cycles Analyzed:** explore, cycle1,
cycle2, cycle3, cycle4

EXPLORE Analysis

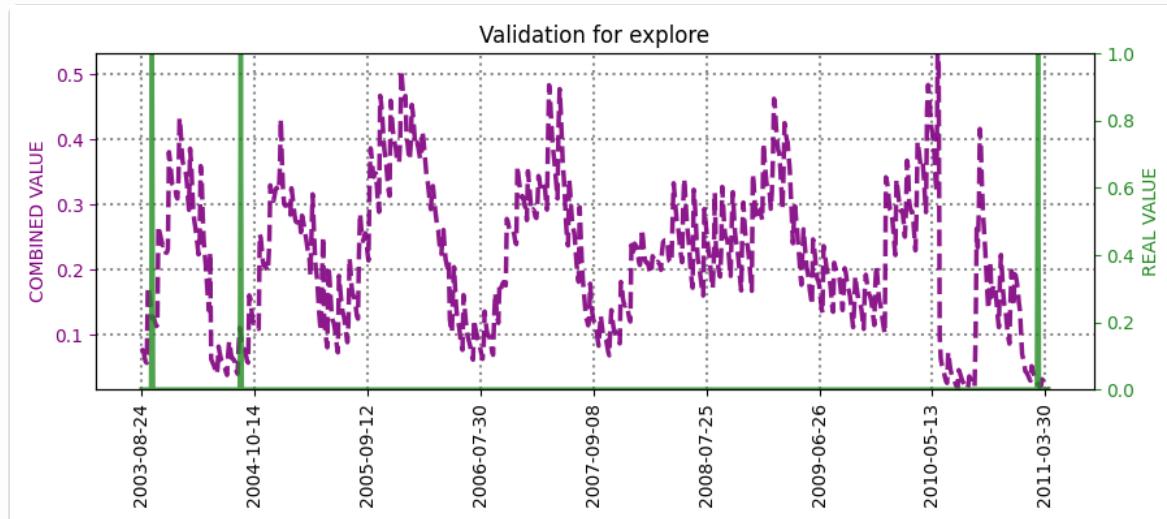
Trial Statistics

Metric	Min	Max	Average
Hyperopt Loss (lower is better)	0.85	1.34	1.07
Metric Score (mse,f1) (lower is better)	0.50	0.53	0.51

Contribution Type	Trials
Direct	10
Inverted	0

Validation Analysis

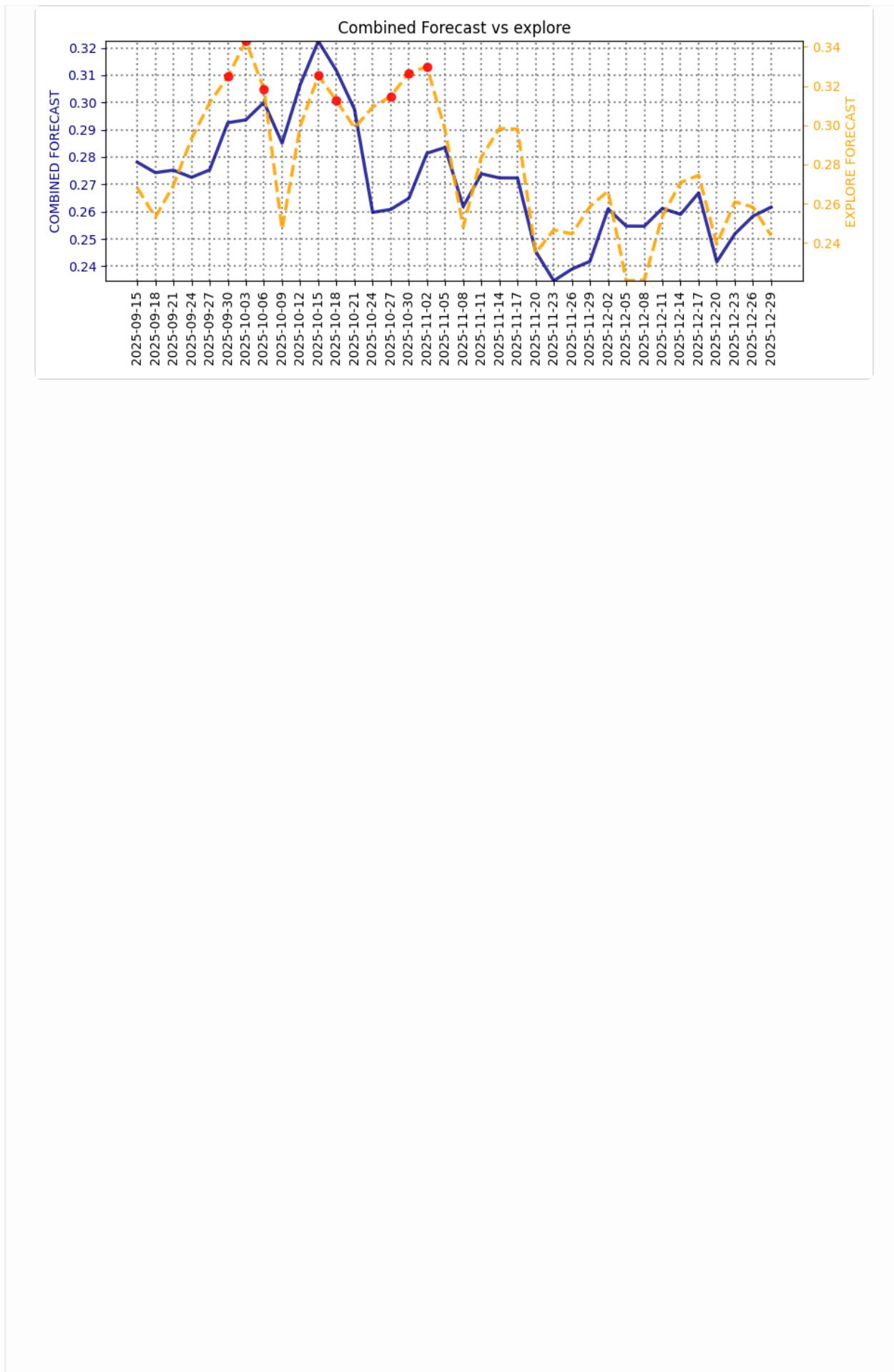
Best trial validation for this cycle contrasted with real values.



Forecast Analysis

Best trial forecast for this cycle versus the combined forecast.

Features Analysis • EXPLORE Analysis



Complete Dataset Overview

Analysis of ALL features present in the source files

	Astro	Tropo	Pos
Count	16	0	0
Percentage	84.2%	0.0%	0.0%

Summary Insights

Complete Dataset:

- **Astronomical data** represents 84.2% of all features (16 features)
 - **Target variables** represent 10.5% of all features (2 features)
 - **Dominant category in complete dataset:** Astro features
-

CYCLE1 Analysis

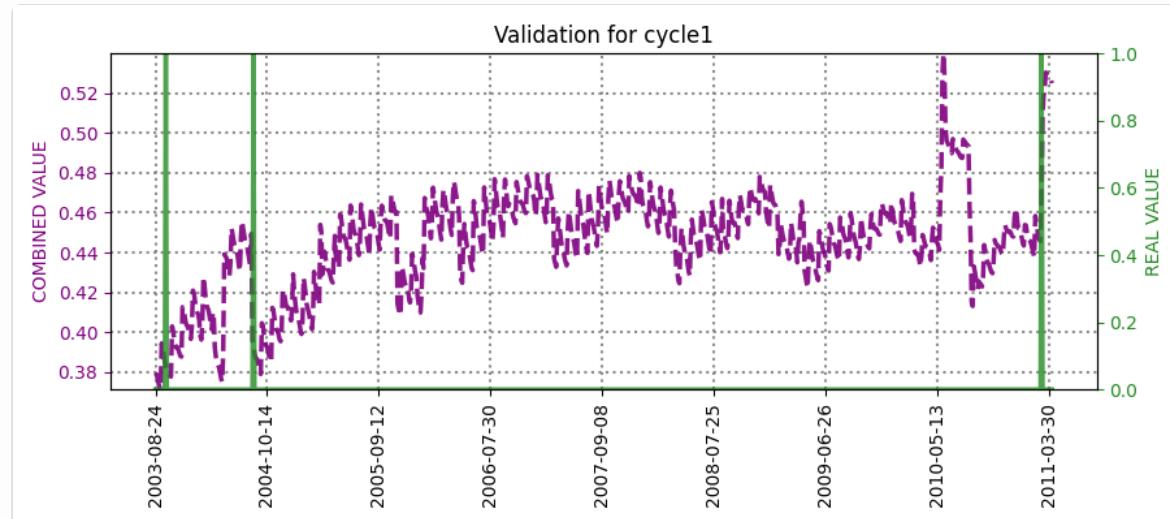
Trial Statistics

Metric	Min	Max	Average
Hyperopt Loss (lower is better)	0.74	2.72	1.20
Metric Score (mse,f1) (lower is better)	0.46	0.58	0.54

Contribution Type	Trials
Direct	10
Inverted	0

Validation Analysis

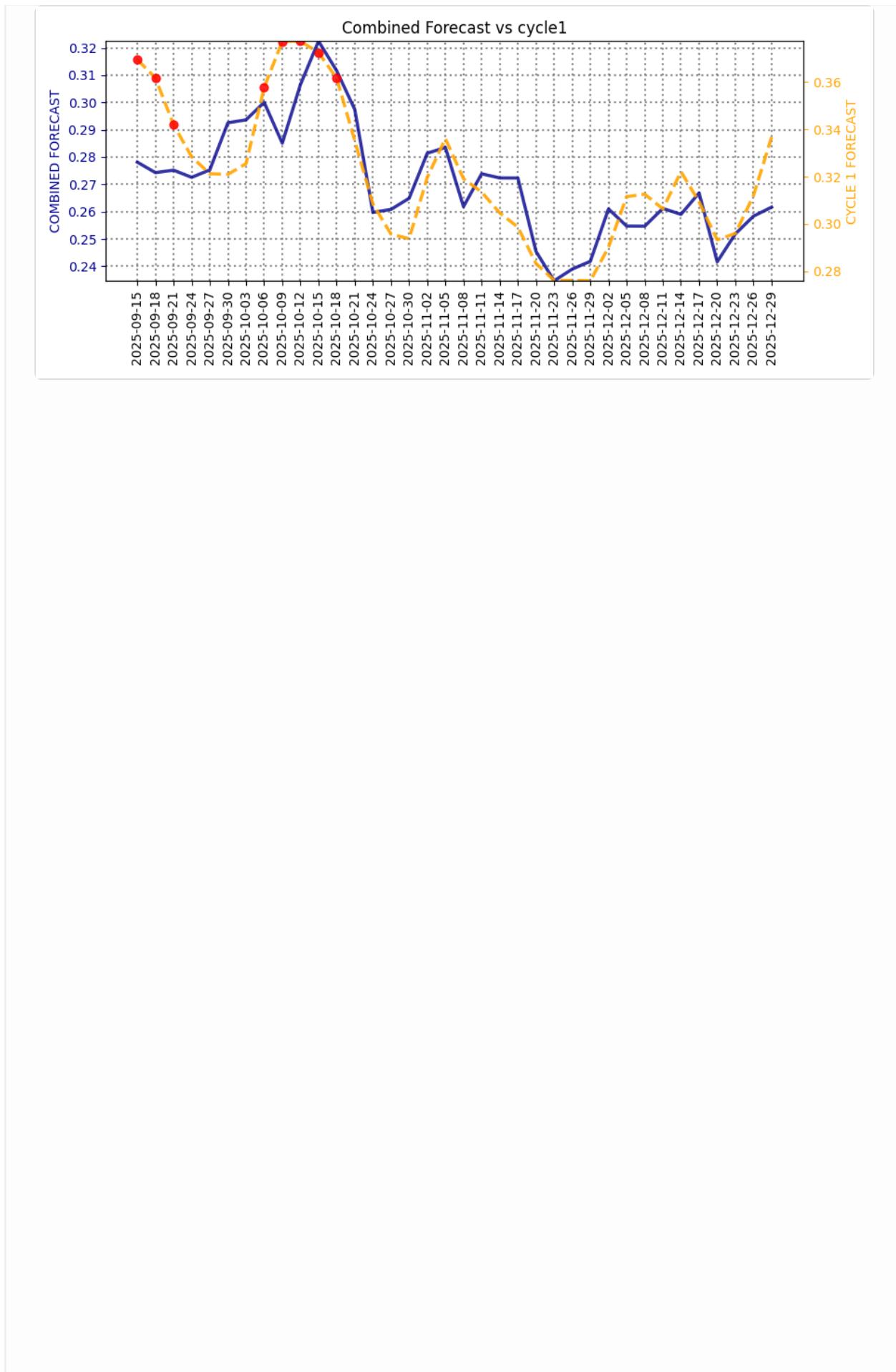
Best trial validation for this cycle contrasted with real values.



Forecast Analysis

Best trial forecast for this cycle versus the combined forecast.

Features Analysis • CYCLE1 Analysis



Complete Dataset Overview

Analysis of ALL features present in the source files

	Astro	Tropo	Pos
Count	41	0	0
Percentage	93.2%	0.0%	0.0%

Summary Insights

Complete Dataset:

- **Astronomical data** represents 93.2% of all features (41 features)
 - **Target variables** represent 4.5% of all features (2 features)
 - **Dominant category in complete dataset:** Astro features
-

CYCLE2 Analysis

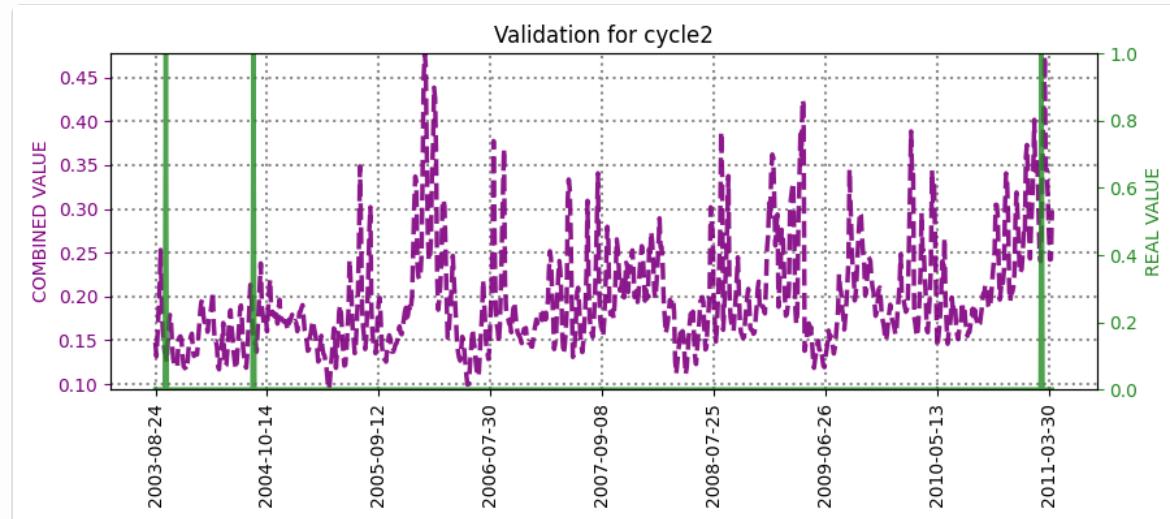
Trial Statistics

Metric	Min	Max	Average
Hyperopt Loss (lower is better)	0.71	1.42	1.06
Metric Score (mse,f1) (lower is better)	0.46	0.52	0.50

Contribution Type	Trials
Direct	10
Inverted	0

Validation Analysis

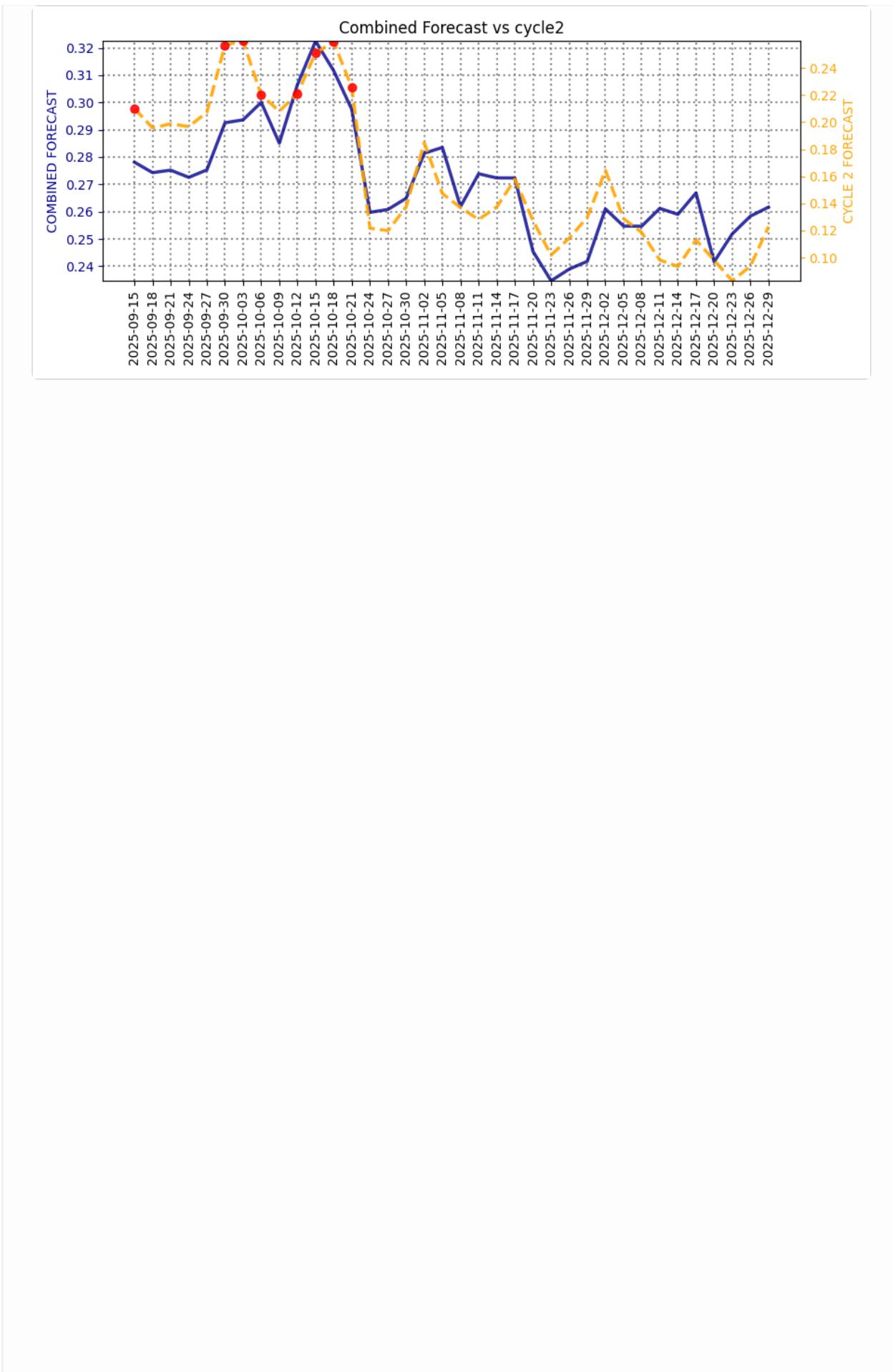
Best trial validation for this cycle contrasted with real values.



Forecast Analysis

Best trial forecast for this cycle versus the combined forecast.

Features Analysis • CYCLE2 Analysis



Complete Dataset Overview

Analysis of ALL features present in the source files

	Astro	Tropo	Pos
Count	24	0	0
Percentage	88.9%	0.0%	0.0%

Summary Insights

Complete Dataset:

- **Astronomical data** represents 88.9% of all features (24 features)
 - **Target variables** represent 7.4% of all features (2 features)
 - **Dominant category in complete dataset:** Astro features
-

CYCLE3 Analysis

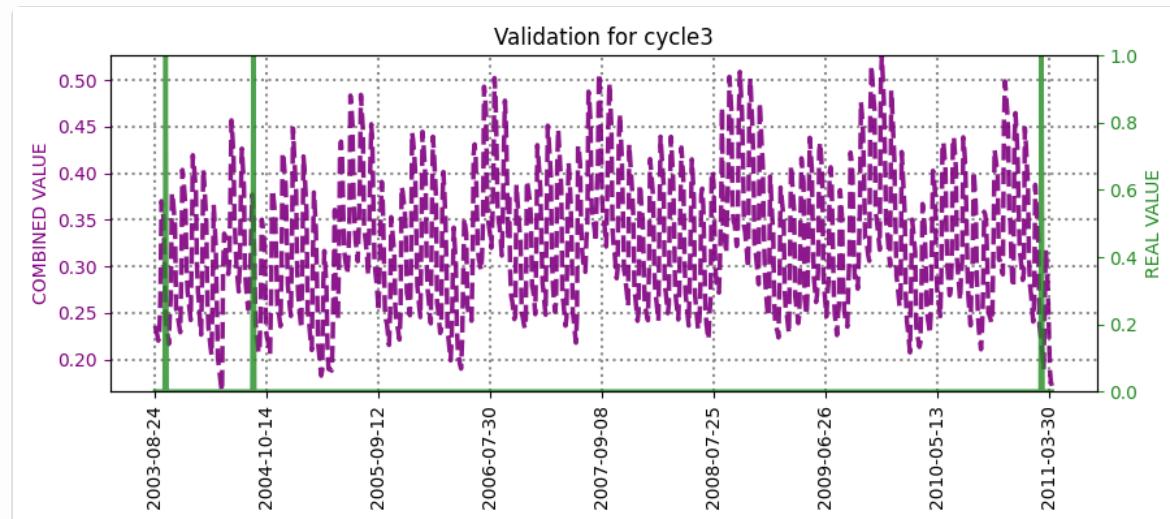
Trial Statistics

Metric	Min	Max	Average
Hyperopt Loss (lower is better)	0.69	1.59	1.05
Metric Score (mse,f1) (lower is better)	0.50	0.55	0.52

Contribution Type	Trials
Direct	10
Inverted	0

Validation Analysis

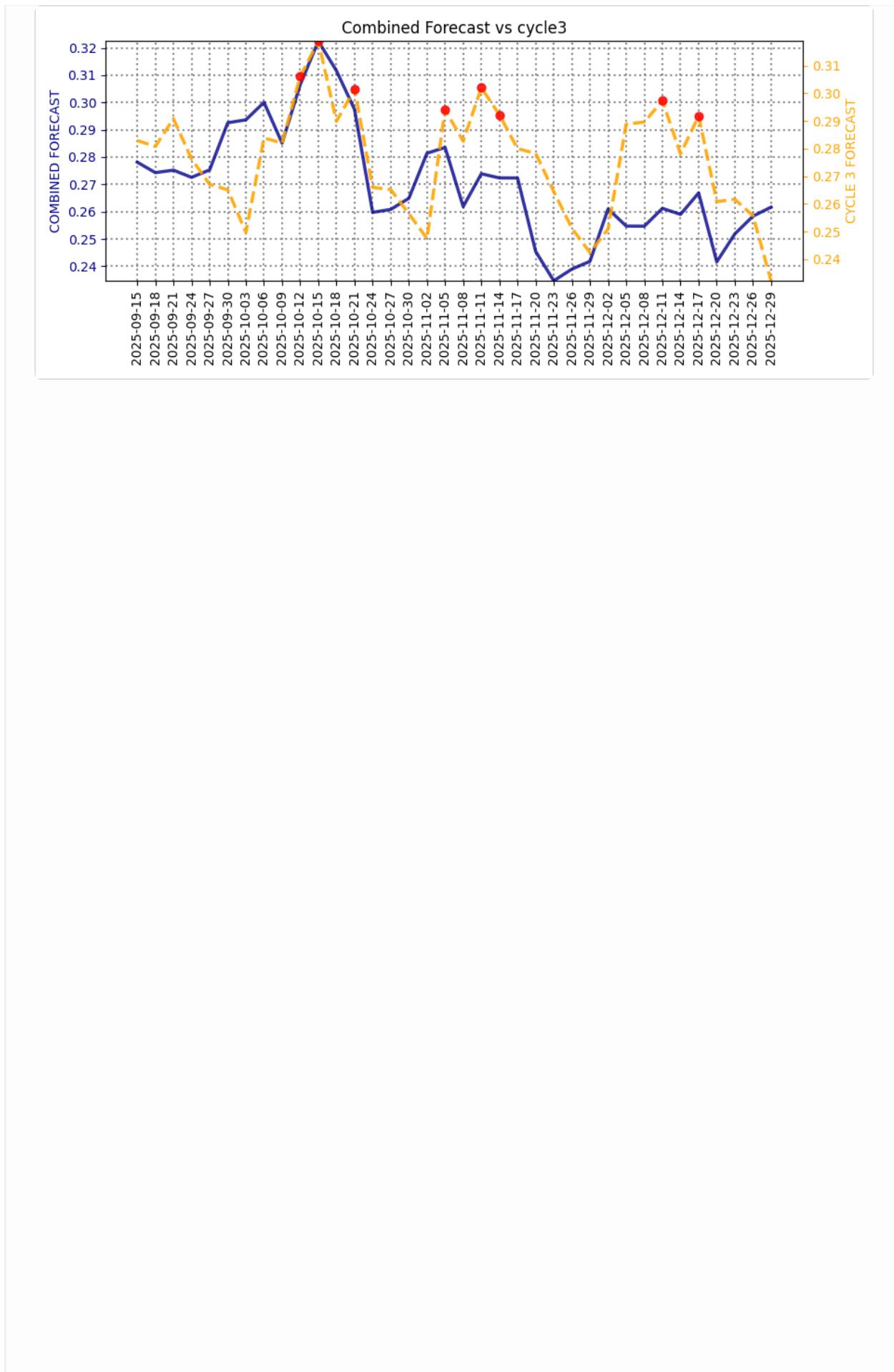
Best trial validation for this cycle contrasted with real values.



Forecast Analysis

Best trial forecast for this cycle versus the combined forecast.

Features Analysis • CYCLE3 Analysis



Complete Dataset Overview

Analysis of ALL features present in the source files

	Astro	Tropo	Pos
Count	45	0	0
Percentage	93.8%	0.0%	0.0%

Summary Insights

Complete Dataset:

- **Astronomical data** represents 93.8% of all features (45 features)
 - **Target variables** represent 4.2% of all features (2 features)
 - **Dominant category in complete dataset:** Astro features
-

CYCLE4 Analysis

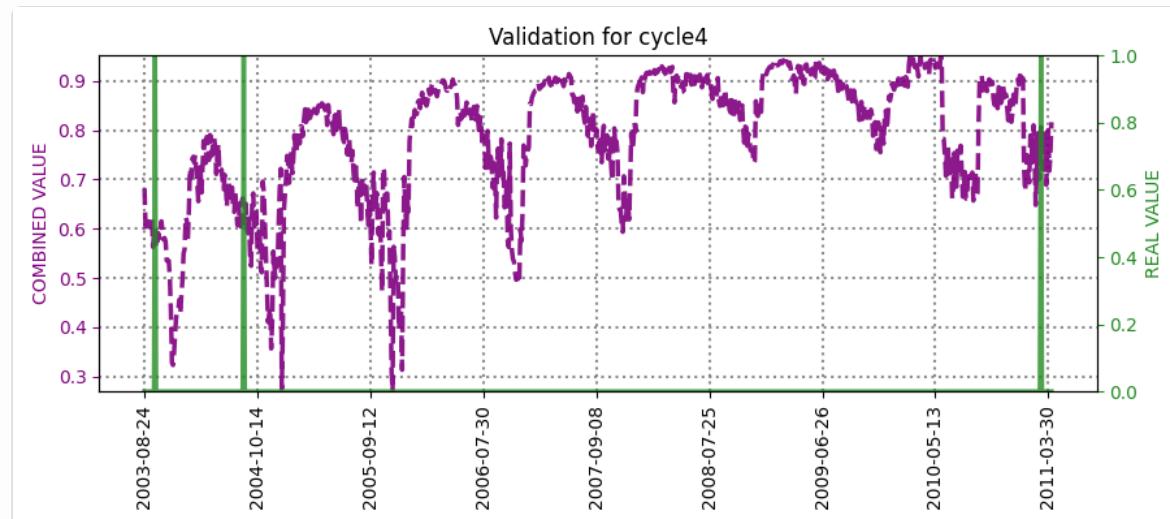
Trial Statistics

Metric	Min	Max	Average
Hyperopt Loss (lower is better)	0.65	1.37	1.01
Metric Score (mse,f1) (lower is better)	0.54	0.69	0.57

Contribution Type	Trials
Direct	8
Inverted	0

Validation Analysis

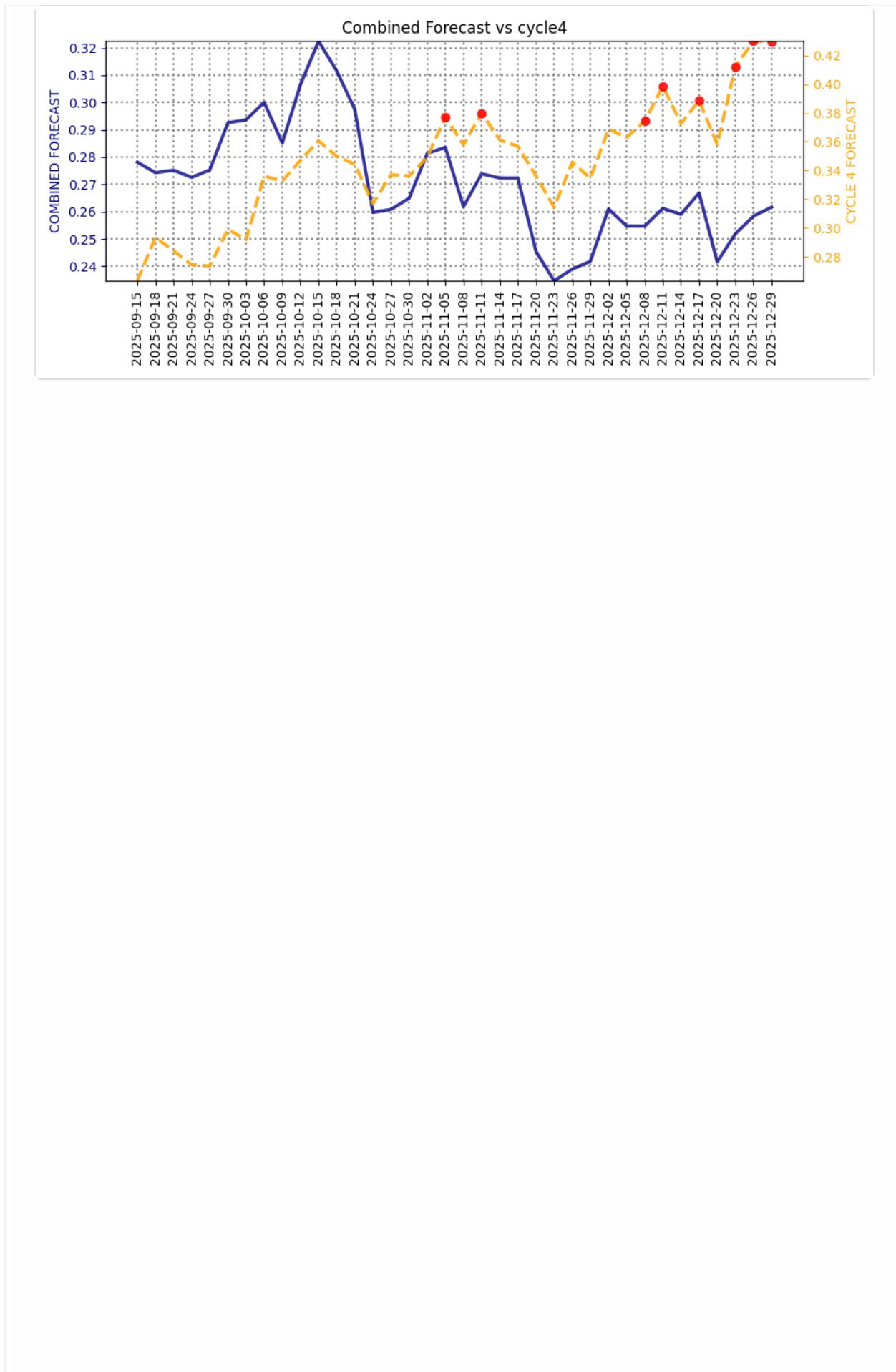
Best trial validation for this cycle contrasted with real values.



Forecast Analysis

Best trial forecast for this cycle versus the combined forecast.

Features Analysis • CYCLE4 Analysis



Complete Dataset Overview

Analysis of ALL features present in the source files

	Astro	Tropo	Pos
Count	47	0	0
Percentage	94.0%	0.0%	0.0%

Summary Insights

Complete Dataset:

- **Astronomical data** represents 94.0% of all features (47 features)
- **Target variables** represent 4.0% of all features (2 features)
- **Dominant category in complete dataset:** Astro features

Cross-Cycle Summary

Cycle	Best Trial	GPS Features	Tropo Features	Astro Features	Hyperopt Loss	Metric Score (mse,f1)	Hybrid Score
explore	27	N/A	N/A	16	0.85	0.51	0.68
cycle1	11	N/A	N/A	41	0.74	0.57	0.66
cycle2	17	N/A	N/A	24	0.71	0.51	0.61
cycle3	23	N/A	N/A	45	0.69	0.55	0.62
cycle4	40	N/A	N/A	47	0.77	0.54	0.66

5. Astronomical Features Used

Astronomical Features Used per Cycle - trialsetMAGNITUDE-JAPAN- AGAINSTFALSEPOSITIVE_20251015-080915

Focus cycle: cycle2

Cycle	Loss	Hybrid	Bodies	Observers	Ephemerides	Operations
explore	0.85	0.68	10, 301, 501, 502	geo_38.2975;-122.2869;0	alpha_true, az, lunar_presence, r, ra_rate	max, mean
cycle1	0.74	0.66	101955, 299, 606, 899	geo_19.4326;-99.1332;0, geo_27.9881;86.925;0	alpha_true, dec, dec_rate, obsecllon, ra_rate	max, mean
cycle2	0.71	0.61	10, 299, 606, 699	geo_27.9881;86.925;0, geo_35.6895;139.6917;0	az, r_rate, ra_rate, solar_presence	max, mean, min
cycle3	0.69	0.62	2012vp113, 2015tg387, 503, 699, 90377	geo_27.9881;86.925;0, geo_35.6895;139.6917;0	obsecllat, obsecllon, r_rate, ra_app, solar_presence	mean, min
cycle4	0.77	0.66	136199, 2015tg387, 503, 606, 699	geo_27.9881;86.925;0, geo_35.6895;139.6917;0	ang_width, dec_rate, r, ra_app, ra_rate	min

Bodies are represented by their NAIF ID (unique identifiers for celestial bodies from NASA/JPL); observers use geo_lat;lon;height schema. Ephemerides are Horizons fields; operations are aggregations like min/max.

6. Summary and Conclusion

Summary of Findings

Elevated seismic energy suggests potential earthquakes or eruptions in Japan.
Peak dates: 2025-10-12, 2025-10-15, 2025-10-18 (UTC).

Conclusions

Increased seismic energy indicates potential earthquakes or eruptions for
2025-10-12, 2025-10-15, 2025-10-18 in Japan.

Even if the risk appears slight or moderate, preparation is necessary because the epicenter could be near your location. A separate report is required to estimate its position. AI-generated reports may create false alarms or underestimate the risks. Do not use this report to make important decisions. This work is for research purposes only.

7. Attribution and Disclaimers

Data Sources

- Seismic data utilized in this report is sourced from the **USGS Earthquake Catalog** and the **Japan Meteorological Agency (JMA)**.
- Planetary ephemeris data provided by **NASA/JPL Horizons System**.
- All tropo + gps positional data provided by **NASA/JPL**

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Responsibility Statement

The analysis and conclusions represent the best judgment of our research team based on the available data. This is not an official warning or alert. For official information, please consult your local government and geological survey authorities.