

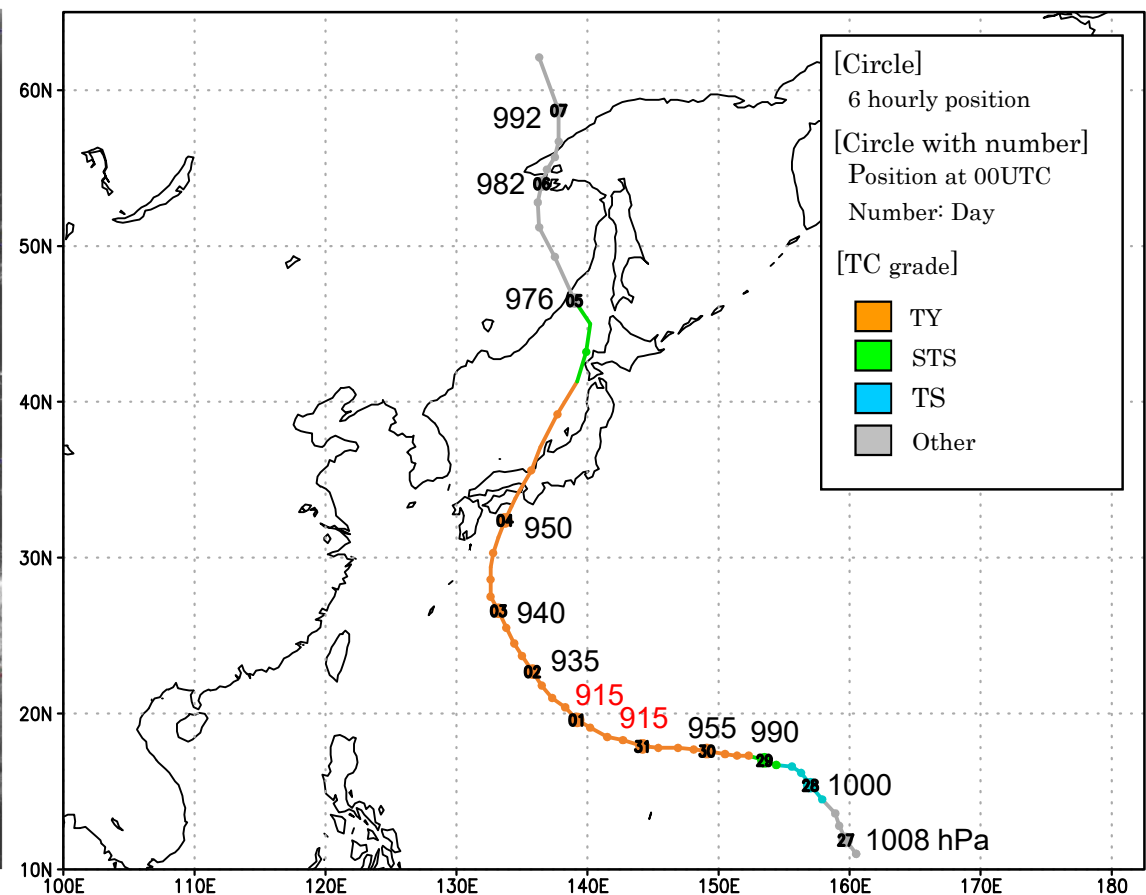
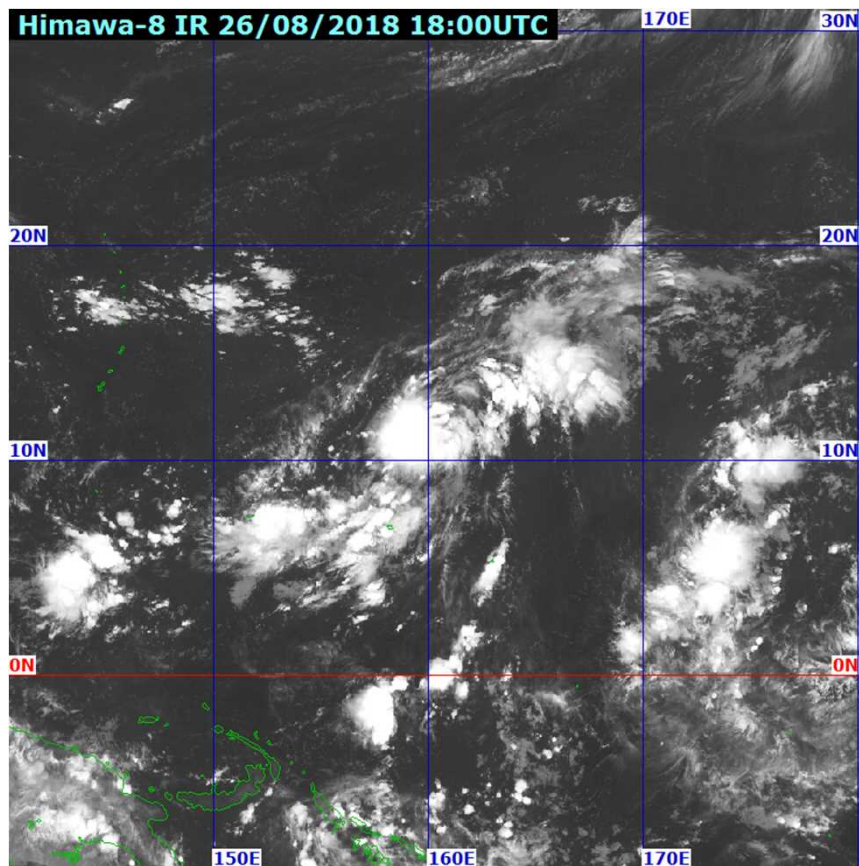


Jebi (T1821)

RSMC Tokyo - Typhoon Center
Japan Meteorological Agency

Outline of Jebi

- Jebi (T1821) formed in the sea north of Micronesia in late August.
- It reached its peak intensity with **105 kt and 915 hPa**.
- Jebi made landfall in western part of Japan, holding **intensity of very strong TY**.
- It was **the first time in 25 years since 1993 that a very strong TY landed in Japan**.

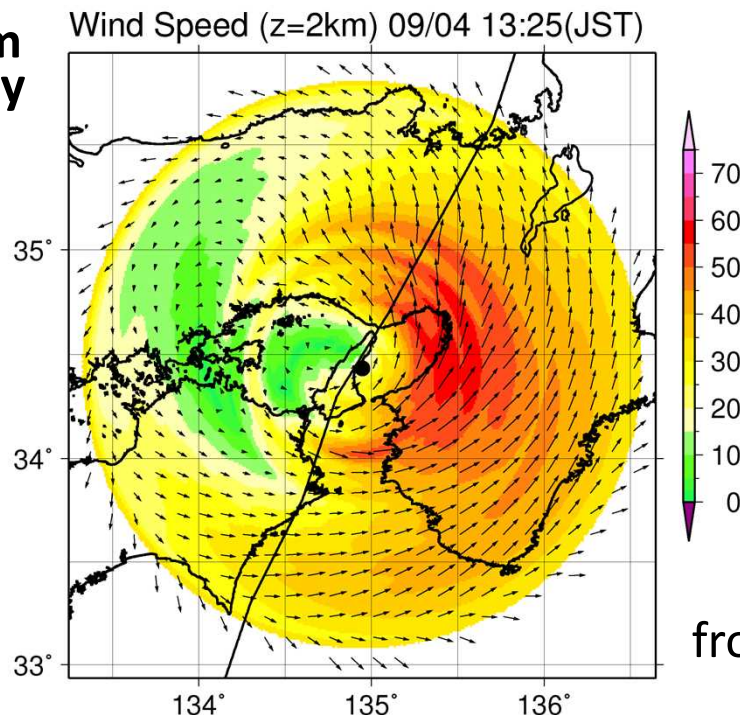


Impact of Jebi

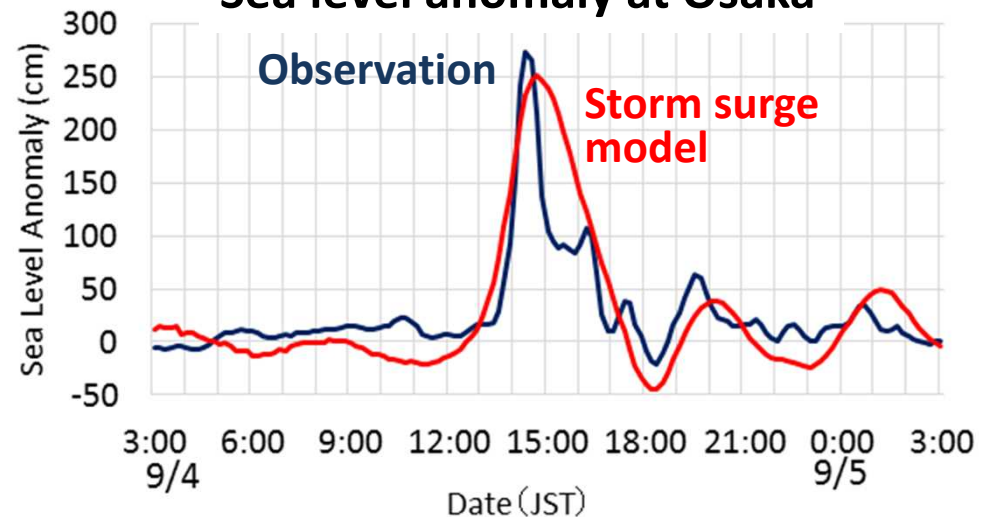
- Jebi brought **strong wind, storm surge and heavy rain** in western and eastern Japan, having left 14 people dead and more than 900 people injured.
- A **significant storm surge** caused by Jebi in the Osaka Bay inundated the Kansai International Airport. The airport suspended service for three days.



Wind at 2km
estimated by
Doppler
radar



Sea level anomaly at Osaka

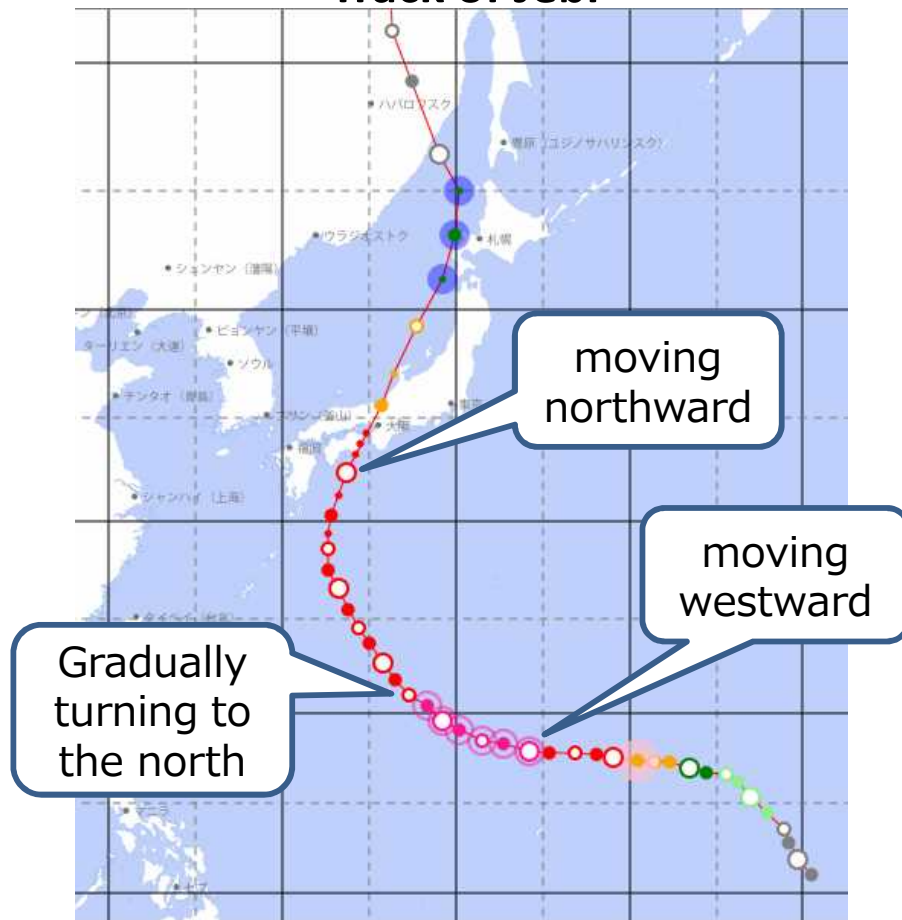


from press release of MRI/JMA

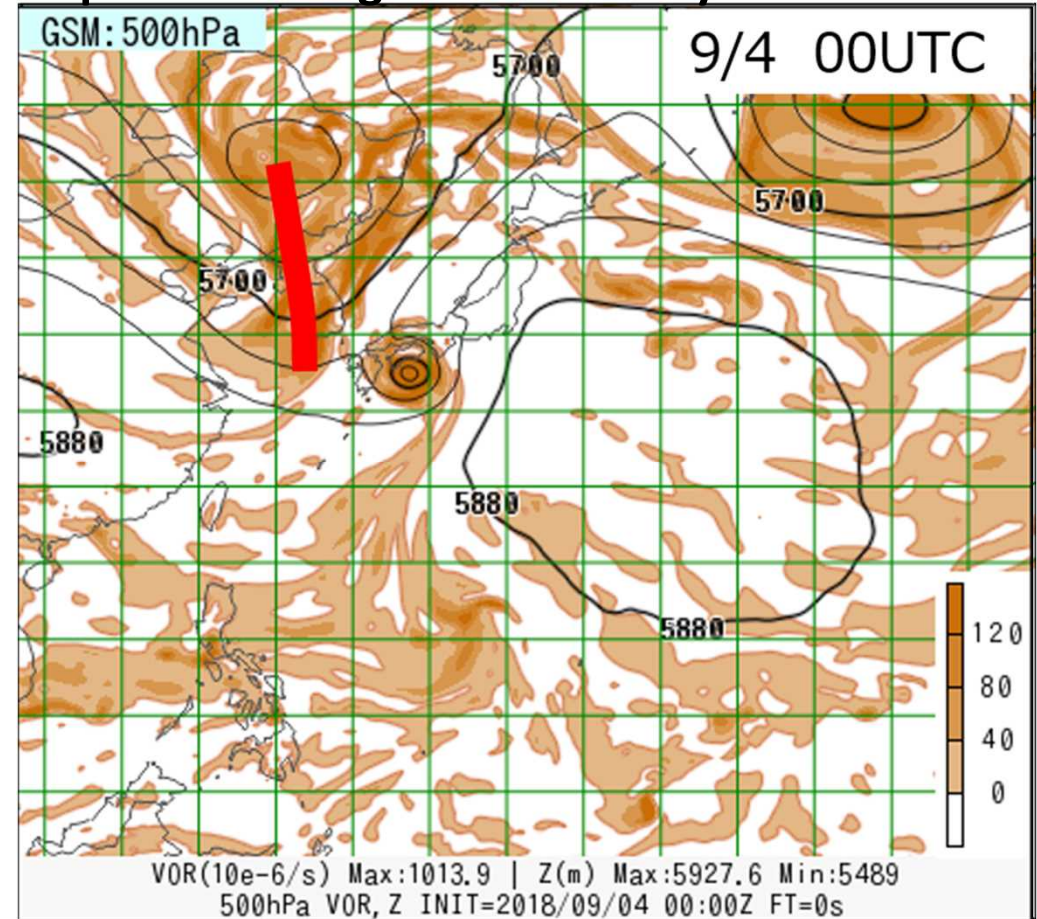
Track and atmospheric conditions

- Jebi slowly moved westward along the southern edge of the dominant Pacific High.
- As the Pacific High gradually weakened, it gradually turned to the north.
- It moved northward under the influence of the upper trough that moved eastward while deepening.

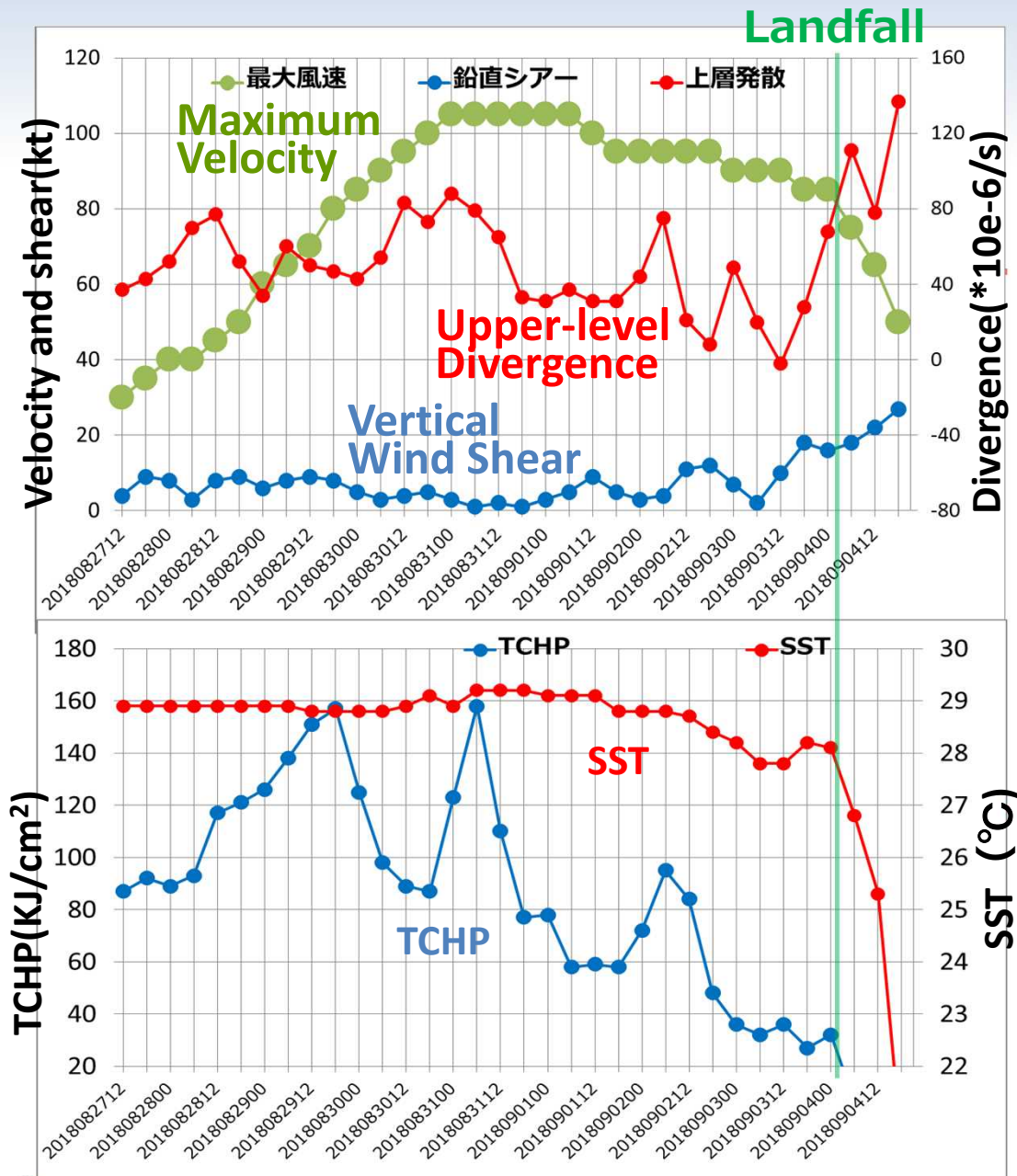
Track of Jebi



Geopotential height and vorticity field at 500 hPa



Intensity change and atmospheric and ocean conditions

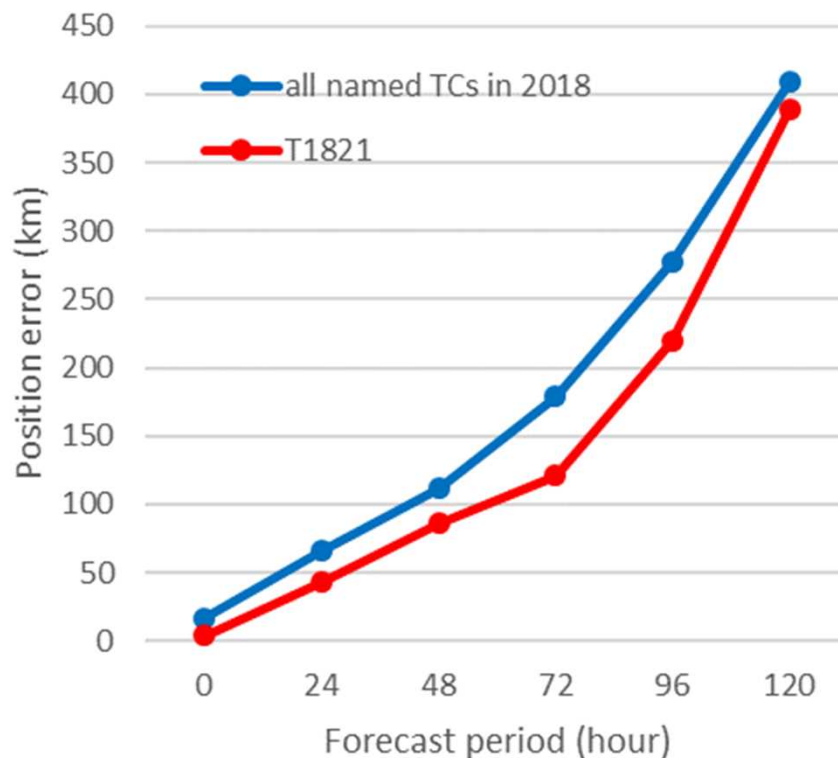


- Jebi continued to develop well over the sea south of Japan and reached its peak intensity with violent TY.
- It subsequently landed in Japan, holding intensity of very strong TY without significantly weakening.
- Atmospheric and ocean environment fields were in good condition for the development of tropical cyclones as follows, mainly during the development period.
 - Weak vertical shear
 - Clear upper-level divergence
 - High Sea Surface Temperature(SST)
 - High Tropical Cyclone Heat Potential (TCHP)
- In addition, SST was 28 °C or more just before landing, contributing to the maintenance of its intensity.

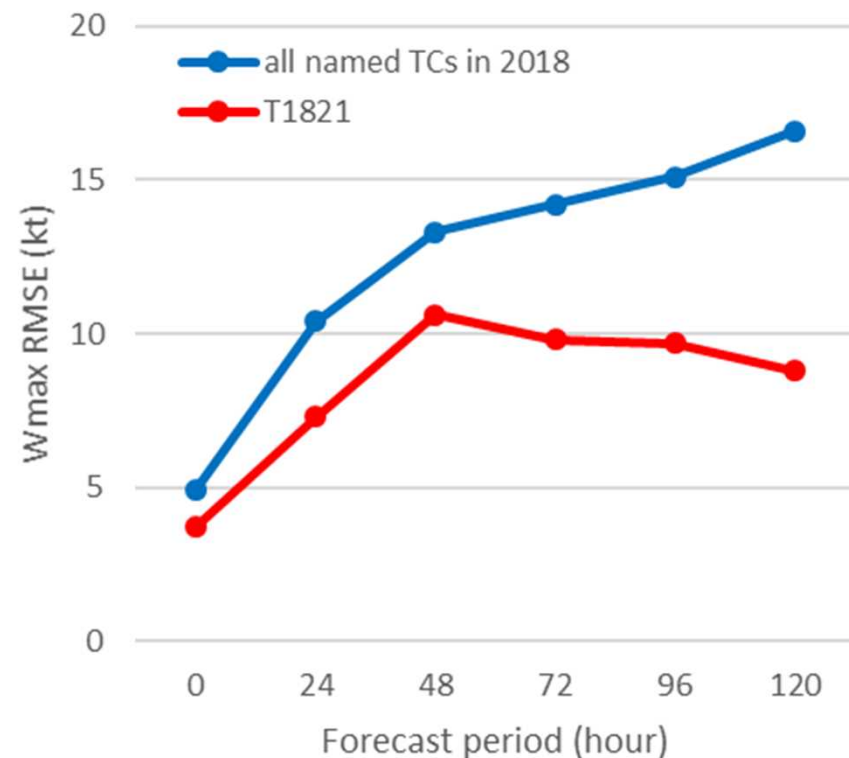
Track and Intensity forecast

- Forecast accuracy for Jebi was higher than the average forecast accuracy of all named TCs in 2018 in both track and intensity.

Accuracy of track forecast

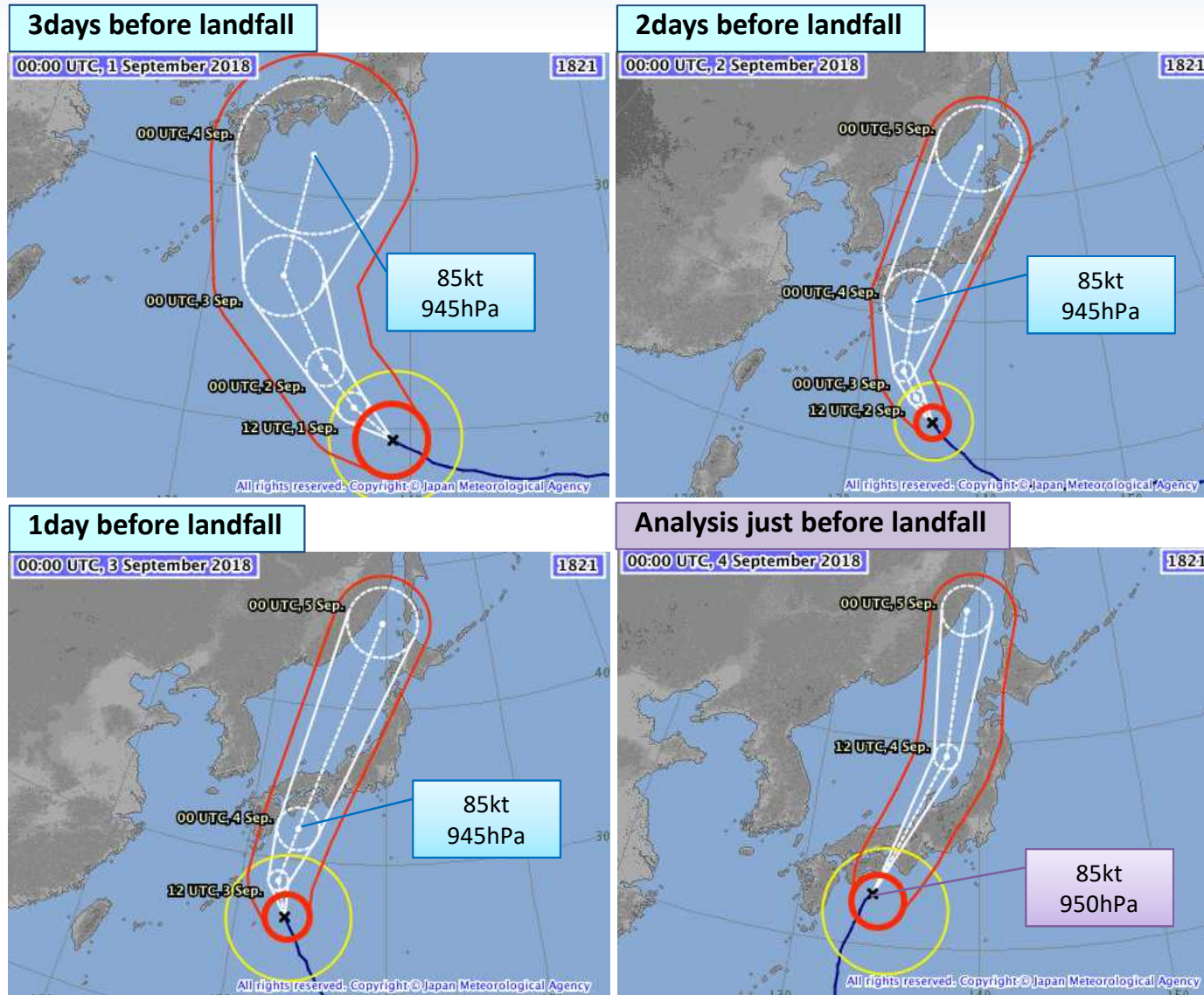


Accuracy of intensity forecast



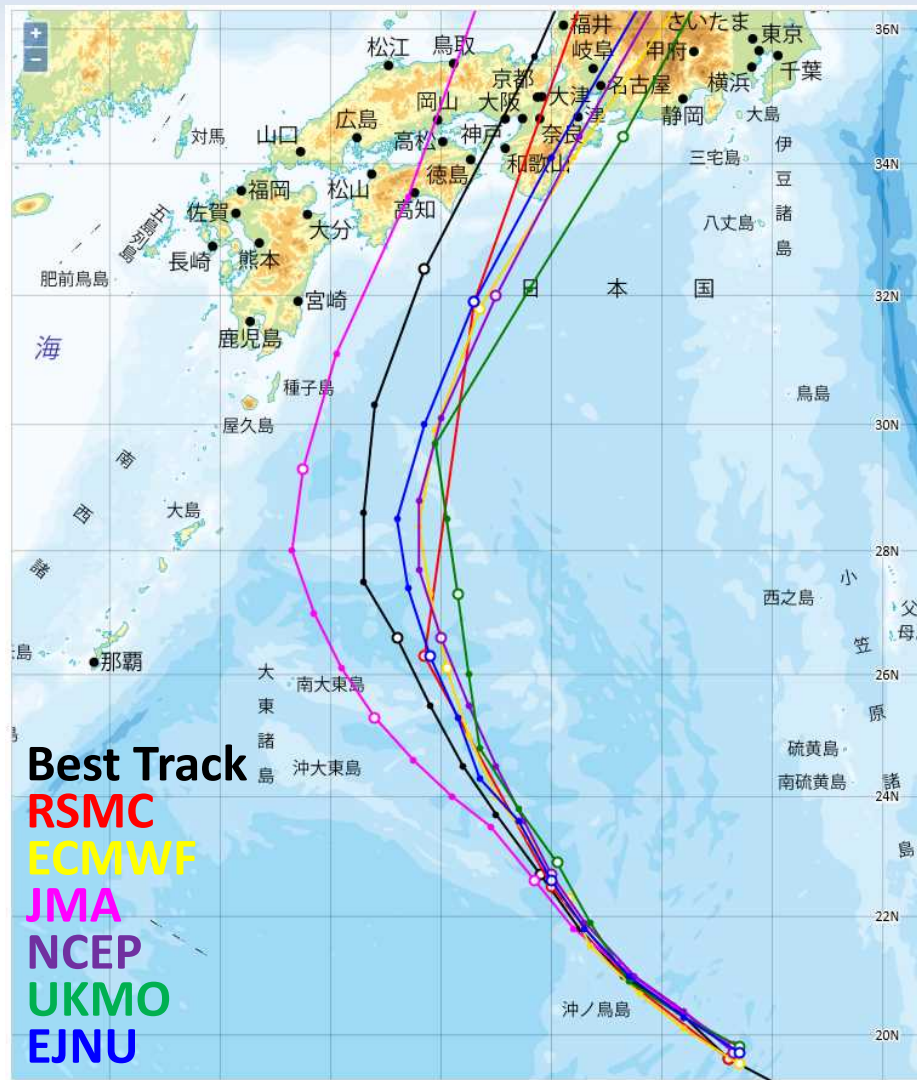
Forecasts on landfall

- Forecasts for Jebi were fairly good for both track and intensity, even when its landfall was focused.

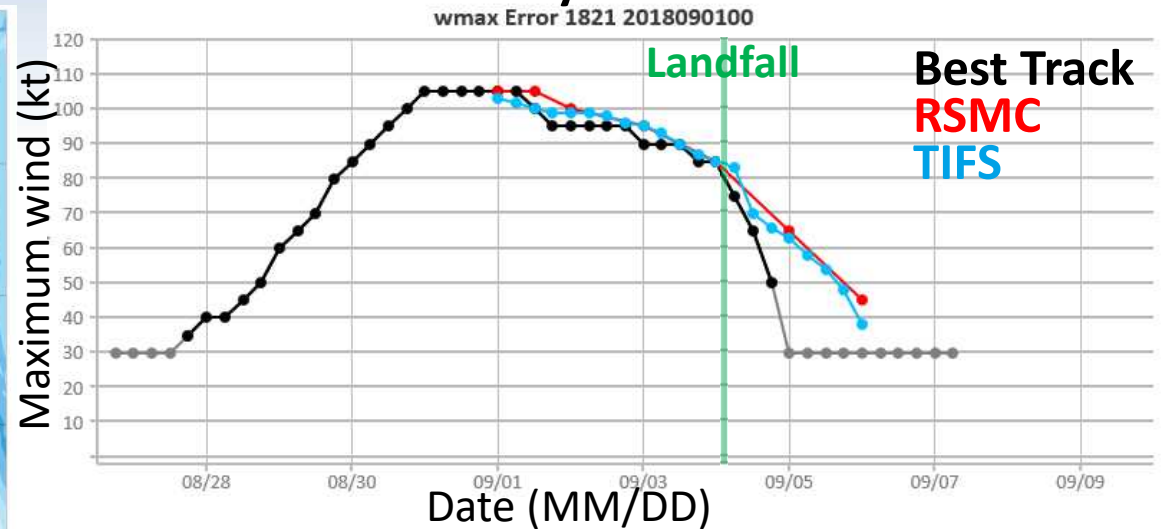


Forecast issued 3 days before landfall

Track forecast



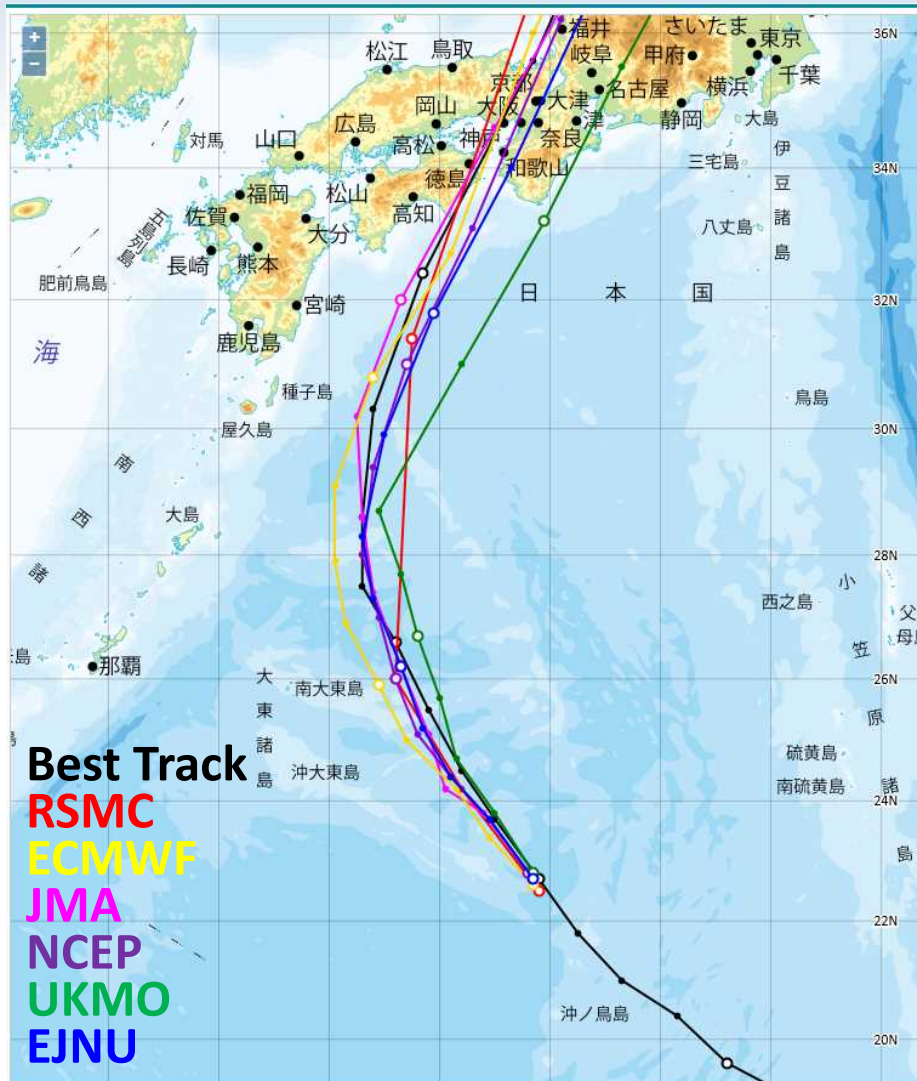
Intensity forecast



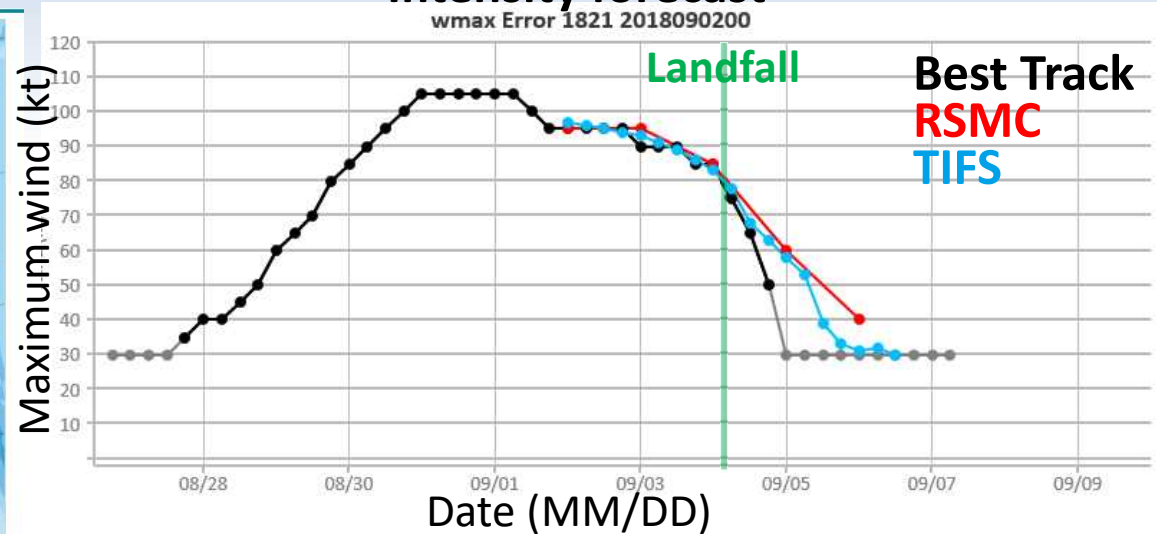
- The track forecast by RSMC was slightly east compared to the Best Track.
- This is because that the track prediction results of the global NWP's of each organization had slightly different in both course and speed, and many models predicted a course from the east to the Best Track.
- The intensity forecast by RSMC predicted the intensity and trend of changes close to the Best Track.
- This is because the intensity forecast guidance TIFS (Typhoon Intensity Forecast scheme based on SHIPS) used as the base of the forecast made a good prediction.

Forecast issued 2 days before landfall

Track forecast



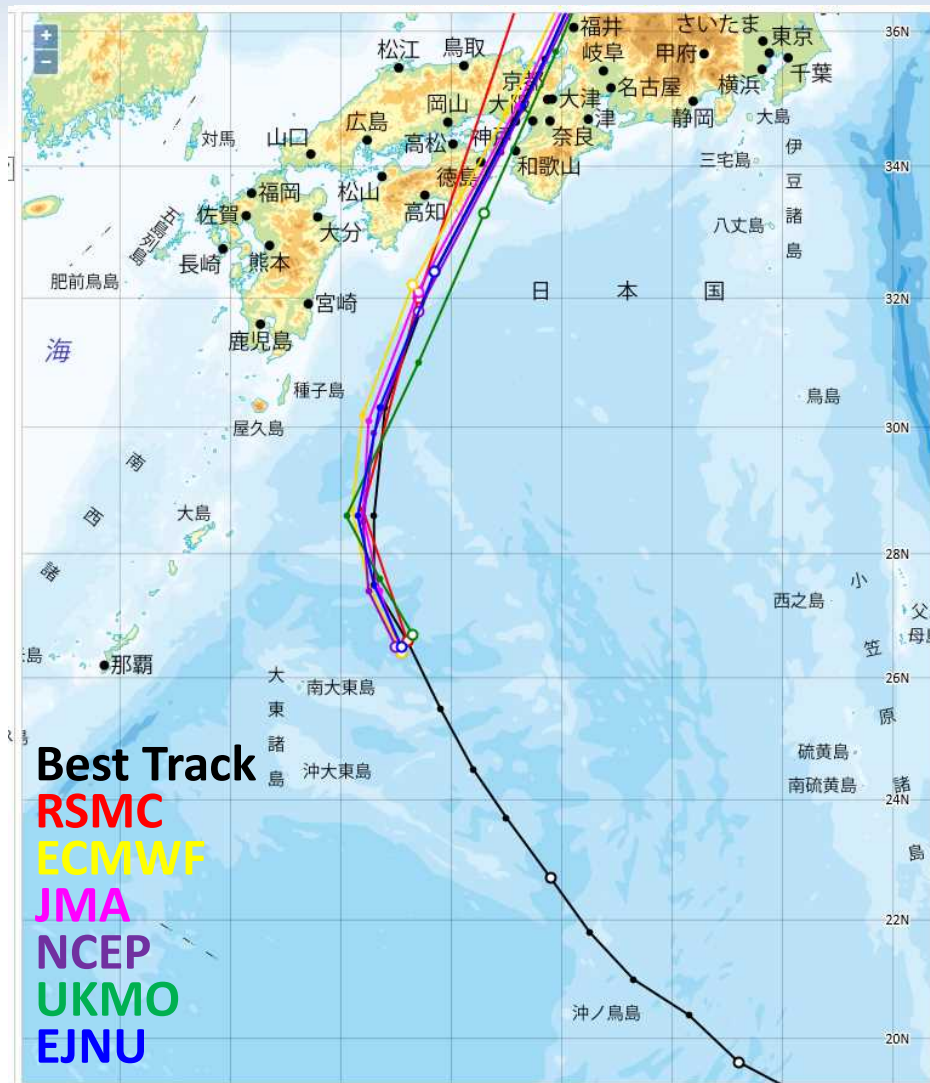
Intensity forecast



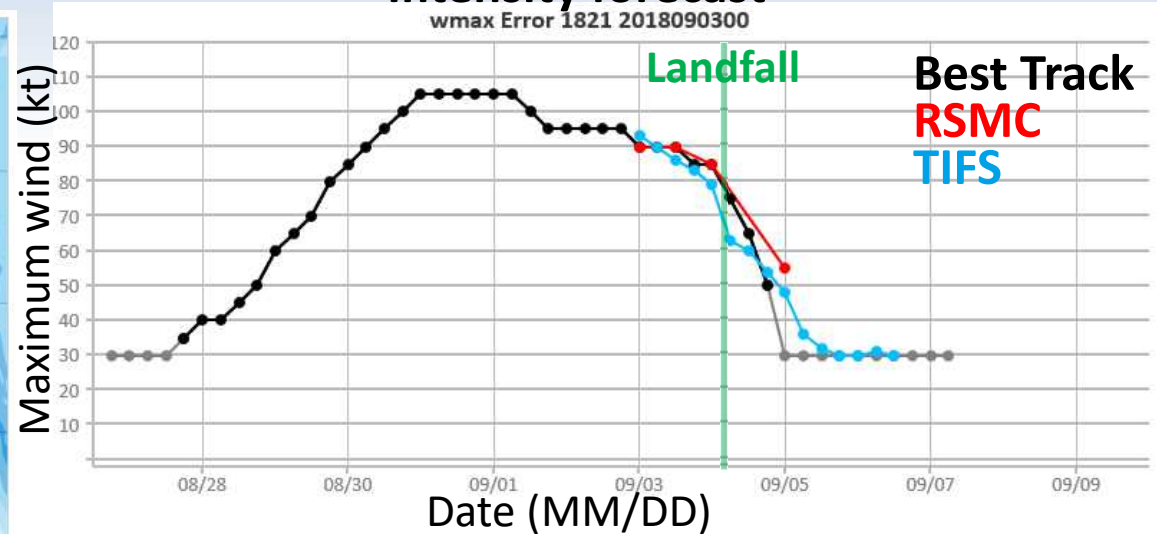
- The variation of the global NWP's of each organization had become smaller, and the RSMC track forecast had approached the Best Track.
- The intensity forecast by RSMC continued to be as good as because the TIFS prediction.

Forecast issued 1 day before landfall

Track forecast



Intensity forecast



- The variation of the global NWP's of each organization had become much smaller, and the RSMC track forecast was much closer to the best track.
- The intensity forecast by RSMC continued to be good, making up for the slightly underestimated TIFS.

Summary

- Jebi made landfall in western part of Japan, holding intensity of very strong TY at the first time in 25 years since 1993.
- It brought strong winds, storm surges, and heavy rains to the western and eastern part of Japan, causing serious damage such as inundation of Kansai International Airport and damage to buildings, mainly in the Kansai region.
- Forecasts for Jebi were fairly good for both track and intensity, even when its landfall was focused.