

Errata of “Annual Report on the Activities of the RSMC Tokyo – Typhoon Center 2022”  
(29 November 2024)

4.4.2 Verification of Intensity Guidance Models

Table 4.9 Mean error and RMSE of central pressure (top) and maximum wind speed (bottom) forecasts from intensity guidance models produced by the Center in 2022. Num. represents number of samples.

(Correct)

| Prediction               |           | 24-hour Forecast |       |      | 48-hour Forecast |       |      | 72-hour Forecast |       |      | 96-hour Forecast |       |      | 120-hour Forecast |       |      |
|--------------------------|-----------|------------------|-------|------|------------------|-------|------|------------------|-------|------|------------------|-------|------|-------------------|-------|------|
|                          |           | Error            | RMSE  | Num. | Error            | RMSE  | Num. | Error            | RMSE  | Num. | Error            | RMSE  | Num. | Error             | RMSE  | Num. |
|                          |           | (hPa)            | (hPa) |      | (hPa)            | (hPa) |      | (hPa)            | (hPa) |      | (hPa)            | (hPa) |      | (hPa)             | (hPa) |      |
| Intensity guidance model | TIFS      | 0.5              | 11.9  | 264  | 0.3              | 16.3  | 188  | -1.4             | 17.4  | 126  | -4.1             | 16.7  | 80   | -5.8              | 12.5  | 52   |
|                          | LGEM      | 2.3              | 12.8  | 264  | 1.7              | 17.6  | 188  | -2.6             | 20.5  | 126  | -7.5             | 20.0  | 80   | -                 | -     | 0    |
| Consensus method         | TIFS&LGEM | 1.4              | 12.0  | 264  | 1.0              | 16.6  | 188  | -2.0             | 18.6  | 126  | -5.8             | 17.4  | 80   | -                 | -     | 0    |

  

| Prediction               |           | 24-hour Forecast |       |      | 48-hour Forecast |       |      | 72-hour Forecast |       |      | 96-hour Forecast |       |      | 120-hour Forecast |       |      |
|--------------------------|-----------|------------------|-------|------|------------------|-------|------|------------------|-------|------|------------------|-------|------|-------------------|-------|------|
|                          |           | Error            | RMSE  | Num. | Error            | RMSE  | Num. | Error            | RMSE  | Num. | Error            | RMSE  | Num. | Error             | RMSE  | Num. |
|                          |           | (m/s)            | (m/s) |      | (m/s)            | (m/s) |      | (m/s)            | (m/s) |      | (m/s)            | (m/s) |      | (m/s)             | (m/s) |      |
| Intensity guidance model | TIFS      | -1.4             | 5.7   | 264  | -1.6             | 7.4   | 188  | -0.8             | 7.3   | 126  | -0.2             | 7.3   | 80   | 0.1               | 5.1   | 52   |
|                          | LGEM      | -1.5             | 6.0   | 264  | -1.3             | 7.7   | 188  | 0.1              | 8.0   | 126  | 1.6              | 7.3   | 80   | -                 | -     | 0    |
| Consensus method         | TIFS&LGEM | -1.5             | 5.7   | 264  | -1.4             | 7.4   | 188  | -0.3             | 7.4   | 126  | 0.7              | 6.9   | 80   | -                 | -     | 0    |

(Incorrect)

| Prediction               |           | 24-hour Forecast |       |      | 48-hour Forecast |       |      | 72-hour Forecast |       |      | 96-hour Forecast |       |      | 120-hour Forecast |       |      |
|--------------------------|-----------|------------------|-------|------|------------------|-------|------|------------------|-------|------|------------------|-------|------|-------------------|-------|------|
|                          |           | Error            | RMSE  | Num. | Error            | RMSE  | Num. | Error            | RMSE  | Num. | Error            | RMSE  | Num. | Error             | RMSE  | Num. |
|                          |           | (hPa)            | (hPa) |      | (hPa)            | (hPa) |      | (hPa)            | (hPa) |      | (hPa)            | (hPa) |      | (hPa)             | (hPa) |      |
| Intensity guidance model | TIFS      | -1.4             | 13.8  | 379  | -4.5             | 18.2  | 296  | -6.2             | 21.3  | 220  | -6.2             | 23.1  | 160  | -5.1              | 22.7  | 108  |
|                          | LGEM      | 0.4              | 13.3  | 379  | -2.9             | 16.4  | 296  | -5.5             | 18.5  | 220  | -5.3             | 18.8  | 160  | -                 | -     | 0    |
| Consensus method         | TIFS&LGEM | -0.5             | 13.2  | 379  | -3.7             | 17.0  | 296  | -5.9             | 19.6  | 220  | -5.7             | 20.5  | 160  | -                 | -     | 0    |

  

| Prediction               |           | 24-hour Forecast |       |      | 48-hour Forecast |       |      | 72-hour Forecast |       |      | 96-hour Forecast |       |      | 120-hour Forecast |       |      |
|--------------------------|-----------|------------------|-------|------|------------------|-------|------|------------------|-------|------|------------------|-------|------|-------------------|-------|------|
|                          |           | Error            | RMSE  | Num. | Error            | RMSE  | Num. | Error            | RMSE  | Num. | Error            | RMSE  | Num. | Error             | RMSE  | Num. |
|                          |           | (m/s)            | (m/s) |      | (m/s)            | (m/s) |      | (m/s)            | (m/s) |      | (m/s)            | (m/s) |      | (m/s)             | (m/s) |      |
| Intensity guidance model | TIFS      | -0.4             | 5.9   | 379  | 0.5              | 7.4   | 296  | 0.7              | 8.4   | 220  | 0.4              | 9.4   | 160  | -0.4              | 9.8   | 108  |
|                          | LGEM      | -0.2             | 5.5   | 379  | 1.6              | 7.1   | 296  | 2.2              | 7.9   | 220  | 1.5              | 8.3   | 160  | -                 | -     | 0    |
| Consensus                | TIFS&LGEM | -0.3             | 5.6   | 379  | 1                | 7.1   | 296  | 1.5              | 8     | 220  | 1                | 8.7   | 160  | -                 | -     | 0    |