ESCAP/WMO Typhoon Committee

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REVIEW OF THE 2024 TYPHOON SEASON

(Submitted by the RSMC Tokyo – Typhoon Center)

Action Proposed

The Committee is invited to review the 2024 typhoon season.

APPENDIXES: A) DRAFT TEXT FOR INCLUSION IN SESSION REPORT B) Review of the 2024 Typhoon Season

APPENDIX A:

DRAFT TEXT FOR INCLUSION IN THE SESSION REPORT

x.x. Summary of typhoon season in Typhoon Committee region

- 1 The Committee noted with appreciation the review of the 2024 typhoon season provided by the RSMC Tokyo in Appendix XX, for which a summary is presented in paragraph xx(2) xx(12).
- 2 The track/intensity commentaries provided here for Pabuk (2426) are preliminary and subject to change once best-track data are finalized.
- Over the western North Pacific and the South China Sea, 26 named tropical cyclones (TCs) formed in 2024, which was almost the same as the 30-year average of 25.1 (1991 2020). Thirteen of these reached typhoon (TY) intensity, which was almost the same as the 30-year average of 13.3. A total of 4 had formed by July, which was below the average of 7.8, and the other 22 formed from August onward, which was higher than the average of 17.3. The El Niño event that continued until spring suppressed convection in the tropical western North Pacific until the end of July, similar to conditions observed in other post-El Niño summers, and reduced tropical cyclone genesis. However, the number of named TC formations increased from August onward, likely in association with weakened influences of the El Niño event and enhanced convection from the Philippines to the southeast of Japan in August and September.
- 4 The 2024 typhoon season started with Ewiniar (2401), which formed over the sea east of Mindanao at 18 UTC on 23 May 2024. The last-named tropical cyclone of the year was Pabuk (2426), which formed in December 2024 over the South China Sea and weakened to tropical depression (TD) intensity over the same waters.
- 5 The mean genesis point of named TCs was 17.9°N and 134.6°E, representing a north-westward deviation from the 30-year average (16.3°N and 135.9°E). The mean in summer (June to August) was 21.9°N and 136.6°E, representing a north-eastward deviation from the 30-year summer average (18.5°N and 134.2°E), and that in autumn (September to November) was 16.5°N and 137.3°E, representing almost the same area from the 30-year autumn average (16.2°N and 137.0°E).
- 6 The mean duration of TCs with tropical storm (TS) intensity or higher was 4.8 days, which was shorter than the 30-year average of 5.2 days. That of TCs with TS intensity or higher in summer was 4.4 days, which was shorter than the average of 5.0 days, and that of TCs with TS intensity or higher in autumn was 5.5 days, which was almost the same as the average of 5.4 days.
- 7 Two named TCs formed in May. The first, Ewiniar (2401), formed over the sea east of Mindanao (here, TC locations are expressed as the area of TD formation unless otherwise noted) and hit the Philippines with typhoon (TY) intensity. The second, Maliksi (2402) formed over the South China Sea and dissipated over the sea south of Japan.
- 8 Two named TCs formed in July. The first, Gaemi (2403), formed over the sea east of the Philippines and reached TY intensity, then hitting Taiwan and South China with STS intensity. The second, Prapiroon (2404), formed over the South China Sea and reached severe tropical storm (STS) intensity, crossing Hainan Island with TS intensity and hitting Viet Nam with STS intensity.
- 9 Six named TCs formed in August. Maria (2405) formed over the sea around the Ogasawara Islands, reached STS intensity and made landfall near Ofunato in Japan's lwate Prefecture, bringing heavy rain to northern parts of the country. Son-tinh (2406) formed over the sea

north of Minamitorishima Island. Ampil (2407) formed over the sea south of Japan and reached TY intensity, bringing heavy rain to areas of the country. Wukong (2408) formed over the sea east of the Ogasawara Islands. Jongdari (2409) formed over the sea south of Okinawa, crossing the Korean Peninsula with TD intensity and dissipating over the Sea of Japan. Shanshan (2410) formed over the sea around the Mariana Islands and reached TY intensity, making landfall around Satsumasendai City in Japan's Kagoshima Prefecture with TY intensity and bringing heavy rain, strong winds and storm surges to areas of the country.

- 10 Eight named TCs formed in September. Yagi (2411) formed over the sea east of the Philippines, crossing north of Luzon Island with TS intensity and increasing to TY intensity over the South China Sea. It developed rapidly and reached peak intensity with maximum sustained winds of 105 kt and a central pressure of 915 hPa (a record for 2024). After crossing Hainan Island, it hit Northern Viet Nam with TY intensity, bringing heavy rain, strong winds and storm surges to areas of the Philippines, China, Viet Nam, Myanmar, Laos and Thailand. Leepi (2412) formed around the Ogasawara Islands. Bebinca (2413) formed around the Mariana Islands, and after passing around Amami-Oshima Island was upgraded to TY intensity over the East China Sea and hit Central China with TY intensity. Pulasan (2414) formed around the Mariana Islands, crossing Okinawa Island and hitting central China with TS intensity. Soulik (2415) formed over the sea east of the Philippines, crossing north of Luzon Island with TD intensity and hitting Viet Nam with TS intensity. Cimaron (2416) formed over the sea north of Amami-Oshima Island. Jebi (2417) formed around the Mariana Islands and reached TY intensity. Krathon (2418) formed over the sea south of Okinawa and reached TY intensity, hitting Taiwan with STS intensity and then dissipating over the island.
- 11 Three named TCs formed in October. Barijat (2419) and Trami (2420) formed around the Mariana Islands. Trami (2420) crossed north of Luzon Island with STS intensity and hit Viet Nam with TS intensity. Kong-rey (2421) formed around the Chuuk Islands and hit Taiwan with TY intensity.
- 12 Four named TCs formed in November. Yinxing (2422) formed around the Caroline Islands. Toraji (2423) formed over the sea east of the Philippines. Man-yi (2424) formed around the Mariana Islands. Usagi (2425) formed around the Chuuk Islands. Yinxing (2422) passed over the northern coast of Luzon Island, and other TCs also crossed north of the Island. All four reached TY intensity and brought heavy rain and strong winds to the Philippines.
- 13 The last-named TC, Pabuk (2426) formed in December over the South China Sea and weakened to TD intensity over the same waters.

APPENDIX B: Review of the 2024 Typhoon Season

The track/intensity commentaries provided here for Pabuk (2426) are preliminary and subject to change once best-track data are finalized.

Over the western North Pacific and the South China Sea, 26 named tropical cyclones (TCs) formed in 2024, which was almost the same as the 30-year average of 25.1 (1991 – 2020) (see Table 1). Thirteen of these reached typhoon (TY) intensity, which was almost the same as the 30-year average of 13.3. A total of 4 had formed by July, which was below the average of 7.8, and the other 22 formed from August onward, which was higher than the average of 17.3 (see Figure 1). The El Niño event that continued until spring suppressed convection in the tropical western North Pacific until the end of July, similar to conditions observed in other post-El Niño summers, and reduced tropical cyclone genesis. However, the number of named TC formations increased from August onward, likely in association with weakened influences of the El Niño event and enhanced convection from the Philippines to the southeast of Japan in August and September.

The 2024 typhoon season started with Ewiniar (2401), which formed over the sea east of Mindanao at 18 UTC on 23 May 2024. The last-named tropical cyclone of the year was Pabuk (2426), which formed in December 2024 over the South China Sea and weakened to tropical depression (TD) intensity over the same waters.

The mean genesis point of named TCs was 17.9°N and 134.6°E, representing a northwestward deviation from the 30-year average (16.3°N and 135.9°E) (see Figure 2). The mean in summer (June to August) was 21.9°N and 136.6°E, representing a north-eastward deviation from the 30-year summer average (18.5°N and 134.2°E), and that in autumn (September to November) was 16.5°N and 137.3°E, representing almost the same area from the 30-year autumn average (16.2°N and 137.0°E).

The mean duration of TCs with tropical storm (TS) intensity or higher was 4.8 days, which was shorter than the 30-year average of 5.2 days. That of TCs with TS intensity or higher in summer was 4.4 days, which was shorter than the average of 5.0 days, and that of TCs with TS intensity or higher in autumn was 5.5 days, which was almost the same as the average of 5.4 days.

Two named TCs formed in May (see light blue lines in Figure 3). The first, Ewiniar (2401), formed over the sea east of Mindanao (here, TC locations are expressed as the area of TD formation unless otherwise noted) and hit the Philippines with typhoon (TY) intensity. The second, Maliksi (2402) formed over the South China Sea and dissipated over the sea south of Japan.

Two named TCs formed in July (see light green lines in Figure 3). The first, Gaemi (2403), formed over the sea east of the Philippines and reached TY intensity, then hitting Taiwan and South China with STS intensity. The second, Prapiroon (2404), formed over the South China

Sea and reached severe tropical storm (STS) intensity, crossing Hainan Island with TS intensity and hitting Viet Nam with STS intensity.

Six named TCs formed in August (see blue lines in Figure 3). Maria (2405) formed over the sea around the Ogasawara Islands, reached STS intensity and made landfall near Ofunato in Japan's lwate Prefecture, bringing heavy rain to northern parts of the country. Son-tinh (2406) formed over the sea north of Minamitorishima Island. Ampil (2407) formed over the sea south of Japan and reached TY intensity, bringing heavy rain to areas of the country. Wukong (2408) formed over the sea east of the Ogasawara Islands. Jongdari (2409) formed over the sea south of Okinawa, crossing the Korean Peninsula with TD intensity and dissipating over the Sea of Japan. Shanshan (2410) formed over the sea around the Mariana Islands and reached TY intensity, making landfall around Satsumasendai City in Japan's Kagoshima Prefecture with TY intensity and bringing heavy rain, strong winds and storm surges to areas of the country.

Eight named TCs formed in September (see red lines in Figure 3). Yagi (2411) formed over the sea east of the Philippines, crossing north of Luzon Island with TS intensity and increasing to TY intensity over the South China Sea. It developed rapidly and reached peak intensity with maximum sustained winds of 105 kt and a central pressure of 915 hPa (a record for 2024). After crossing Hainan Island, it hit Northern Viet Nam with TY intensity, bringing heavy rain, strong winds and storm surges to areas of the Philippines, China, Viet Nam, Myanmar, Laos and Thailand. Leepi (2412) formed around the Ogasawara Islands. Bebinca (2413) formed around the Mariana Islands, and after passing around Amami-Oshima Island was upgraded to TY intensity over the East China Sea and hit Central China with TY intensity. Pulasan (2414) formed around the Mariana Islands, crossing Okinawa Island and hitting central China with TS intensity. Soulik (2415) formed over the sea east of the Philippines, crossing north of Luzon Island with TD intensity and hitting Viet Nam with TS intensity. Cimaron (2416) formed over the sea north of Amami-Oshima Islands. Jebi (2417) formed around the Mariana Islands and reached TY intensity. Krathon (2418) formed over the sea south of Okinawa and reached TY intensity, hitting Taiwan with STS intensity and then dissipating over the island.

Three named TCs formed in October (see pale green lines in Figure 3). Barijat (2419) and Trami (2420) formed around the Mariana Islands. Trami (2420) crossed north of Luzon Island with STS intensity and hit Viet Nam with TS intensity. Kong-rey (2421) formed around the Chuuk Islands and hit Taiwan with TY intensity.

Four named TCs formed in November (see purple lines in Figure 3). Yinxing (2422) formed around the Caroline Islands. Toraji (2423) formed over the sea east of the Philippines. Man-yi (2424) formed around the Mariana Islands. Usagi (2425) formed around the Chuuk Islands. Yinxing (2422) passed over the northern coast of Luzon Island, and other TCs also crossed north of the Island. All four reached TY intensity and brought heavy rain and strong winds to the Philippines.

The last-named TC, Pabuk (2426, see the brown line in Figure 3) formed in December over the South China Sea and weakened to TD intensity over the same waters.

Tropical Cyclone			Duration (UTC)					Minimum Central Pressure				Max Wind
			(TS or higher)					(UTC)	lat(N)	long(E)	(hPa)	(kt)
ΤY	Ewiniar	(2401)	251200	May	-	301800	May	270000	15.8	122.8	970	75
TS	Maliksi	(2402)	310000	May	-	311200	May	310000	19.8	112.6	998	35
ΤY	Gaemi	(2403)	200000	Jul	-	261800	Jul	240300	23.9	122.9	935	90
STS	Prapiroon	(2404)	210000	Jul	-	231200	Jul	220600	20.1	108.5	985	55
STS	Maria	(2405)	071800	Aug	-	120600	Aug	081800	29.8	145.6	980	55
TS	Son-tinh	(2406)	110000	Aug	-	131200	Aug	111200	28.8	154.5	994	40
ΤY	Ampil	(2407)	121200	Aug	-	190000	Aug	151200	31.6	140.8	950	85
TS	Wukong	(2408)	130000	Aug	-	141200	Aug	130000	26.4	150.1	1002	35
TS	Jongdari	(2409)	181200	Aug	-	210000	Aug	190600	26.3	126.0	996	40
ΤY	Shanshan	(2410)	211800	Aug	-	301200	Aug	271500	28.8	130.3	935	95
ΤY	Yagi	(2411)	010600	Sep	-	081200	Sep	050000	19.0	115.8	915	105
TS	Leepi	(2412)	050000	Sep	-	061200	Sep	050000	32.2	145.9	1002	35
ΤY	Bebinca	(2413)	101200	Sep	-	170000	Sep	150000	29.6	127.2	965	75
TS	Pulasan	(2414)	151200	Sep	-	210600	Sep	170000	20.0	140.1	992	45
TS	Soulik	(2415)	181800	Sep	-	191200	Sep	181800	17.5	110.0	992	35
TS	Cimaron	(2416)	240600	Sep	-	260600	Sep	241200	27.9	135.1	998	35
ΤY	Jebi	(2417)	270000	Sep	-	021200	Oct	010000	32.6	141.7	980	65
ΤY	Krathon	(2418)	280000	Sep	-	031200	Oct	010000	20.6	119.6	920	105
TS	Barijat	(2419)	060600	Oct	-	110000	Oct	101800	39.2	154.2	985	45
STS	Trami	(2420)	211800	Oct	-	271800	Oct	260600	17.1	111.9	970	60
TY	Kong-rey	(2421)	241800	Oct	-	011200	Nov	300000	19.1	124.8	925	100
ΤY	Yinxing	(2422)	031200	Nov	-	120600	Nov	070600	18.5	122.4	945	100
ΤY	Toraji	(2423)	090600	Nov	-	141200	Nov	101800	15.9	123.2	980	70
ΤY	Man-yi	(2424)	081800	Nov	-	191200	Nov	160000	12.6	126.7	920	105
ΤY	Usagi	(2425)	111800	Nov	-	160000	Nov	140000	17.2	123.1	940	95
TS	Pabuk	(2426)	230600	Dec	-	250600	Dec	241200	11.9	111.5	1000	40

Table 1 List of named TCs in 2024



Orange bar: formation number in 2024, green line: 30-year average from 1991 to 2020



Figure 2 Genesis points of named TCs in 2024 (dots with the last two digits of TC identification numbers) and frequency distribution of genesis points for 1951-2023 (lines) Red and blue diamonds show the mean genesis points of named TCs in 2024 and the 30-year average period (1991 – 2020), respectively.



Figure 3 Tracks of named TCs in 2024 The numbers represent the genesis and dissipation points of named TCs (the last two digits of their identification numbers).

Narrative Accounts of the 26 Named Tropical Cyclones in 2024

TY EWINIAR (2401)

EWINIAR formed as a tropical depression (TD) over the sea east of Mindanao at 18 UTC on 23 May 2024 and moved northwestward. It was upgraded to tropical storm (TS) intensity over the Philippines at 12 UTC on 25 May. It was further upgraded to severe tropical storm (STS) intensity in Luzon Island at 00 UTC on 26 May. After turning northeastward, it was upgraded to typhoon (TY) intensity over the Philippines 12 hours later. It reached its peak intensity with maximum sustained winds of 75 kt and a central pressure of 970 hPa over the same waters at 00 UTC on 27 May. It downgraded to STS intensity over the sea south of Japan at 00 UTC on 29 May and weakened to TS intensity at 00 UTC the next day. Keeping its northeastward track, it transitioned into an extratropical cyclone over the same waters 18 hours later. Further accelerating east-northeastward, it entered the sea south of the Aleutian Islands and crossed longitude 180 degrees east before 12 UTC on 2 June.

TS MALIKSI (2402)

MALIKSI formed as a tropical depression (TD) over the South China Sea at 00 UTC on 30 May 2024 and moved northeastward. It was upgraded to tropical storm (TS) intensity, reached its peak intensity with maximum sustained winds of 35 kt and a central pressure of 998 hPa over the same waters at 00 UTC on 31 May and moved northwestward. It weakened to TD intensity over the same waters 12 hours later and then hit South China while moving northeastward. Moving eastward, it transitioned into an extratropical cyclone by 00 UTC on 2 June and then entered East China Sea. Keeping its eastward track, it dissipated over the sea south of Japan at 12 UTC on 5 June.

TY GAEMI (2403)

GAEMI formed as a tropical depression (TD) over the sea east of the Philippines at 00 UTC on 19 July 2024 and moved northwestward. It was upgraded to tropical storm (TS) intensity over the same waters at 00 UTC the next day and moved westward. After turning northward, it was further upgraded to typhoon (TY) intensity over the same waters at 00 UTC on 22 July. It moved westward and reached its peak intensity with maximum sustained winds of 90 kt and a central pressure of 935 hPa south of Yonagunijima Island at 03 UTC on 24 July. Turning in a counterclockwise direction to circle over the sea east of Taiwan, it was downgraded to STS intensity at 15 UTC the same day. Moving westward, it hit Taiwan with STS intensity after 15UTC the same day and weakened rapidly. After passing through Taiwan Strait, it hit South China with STS intensity at 12 UTC on 25 July and downgraded to TS intensity in Central China at 18 UTC to 26 July and then dissipated at 00UTC on 29 July.

STS PRAPIROON (2404)

PRAPIROON formed as a tropical depression (TD) over the South China Sea at 00 UTC on 20 July 2024 and moved northwestward, then west-northwestward. It was upgraded to tropical storm (TS) intensity at 00 UTC the next day over the same waters and moved north-northwestward. It crossed Hainan Island with TS intensity around 18 UTC on 21 July and was upgraded to severe tropical storm (STS) intensity six hours later. After entering the Gulf of Tonkin, it reached its peak intensity with maximum sustained winds of 55 kt and a central pressure of 985 hPa at 06 UTC on 22 July. It hit Vietnam before 00 UTC on 23 July, weakened to TD intensity 12 hours later and then moved westward. After turning in a clockwise direction to circle, it entered the Gulf of Tonkin by 00UTC on 25 July again and then dissipated.

STS MARIA (2405)

MARIA formed as a tropical depression (TD) over the sea around the Ogasawara Islands at 06 UTC on 5 August 2024 and moved northwestward. After it gradually turned eastward, it was upgraded to tropical storm (TS) intensity over the same waters at 18 UTC on 7 August and moved northeastward. It was further upgraded to severe tropical storm (STS) intensity at 12 UTC the next day and reached its peak intensity with maximum sustained winds of 55 kt and a central pressure of 980 hPa over the same waters six hours later, as moving northward. After it gradually turned northwestward, it made landfall near Ofunato city, Iwate Prefecture with STS intensity around 2330 UTC on 11 August. Crossing Honshu Island, it weakened to TD intensity at 06 UTC the next day and then entered the Sea of Japan. It slowly moved northward, passed through the Tsugaru Strait and dissipated over the waters south of Hokkaido Island at 18 UTC on 14 August.

TS SON-TINH (2406)

SON-TINH formed as a tropical depression (TD) over the sea north of Minamitorishima Island at 12 UTC on 10 August 2024 and moved northeastward. It was upgraded to tropical storm (TS) intensity at 00 UTC the next day and reached its peak intensity with maximum sustained winds of 40 kt and a central pressure of 994 hPa over the same waters 12 hours later, as moving northwestward. It weakened to TD intensity over the sea east of Japan at 12 UTC on 13 August and gradually accelerated northeastward. Maintaining its northeastward track, it transformed into an extratropical cyclone over the sea around the Kuril Islands by 00 UTC on 15 August and then turned eastward. After it turned northeastward toward the sea around the Aleutian Islands, it crossed longitude 180 degrees east before 00 UTC on 17 August.

TY AMPIL (2407)

AMPIL formed as a tropical depression (TD) over the sea south of Japan at 12 UTC on 11 August 2024 and moved northeastward. It was upgraded to tropical storm (TS) intensity over the same waters at 12 UTC on 12 August. After turning northward, it was further upgraded to typhoon

(TY) intensity over the sea around the Ogasawara Islands at 00 UTC on 15 August. Keeping its northward track, it reached its peak intensity with maximum sustained winds of 85 kt and a central pressure of 950 hPa over the sea east of Japan 12 hours later. Moving northeastward, it was downgraded to severe tropical storm (STS) intensity over the same waters at 18 UTC on 17 August and transitioned into an extratropical cyclone over the sea east of the Kuril Islands by 00 UTC on 19 August. After moving northward and entering the Bering Sea, it turned northeastward and then crossed longitude 180 degrees east before 06 UTC on 21 August.

TS WUKONG (2408)

WUKONG formed as a tropical depression (TD) over the sea east of the Ogasawara Islands at 18 UTC on 11 August 2024 and moved northeastward. It was upgraded to tropical storm (TS) intensity and reached its peak intensity with maximum sustained winds of 35 kt and a central pressure of 1002 hPa over the sea northwest of Minamitorishima Island at 00 UTC on 13 August. After it turned northwestward, it weakened to TD intensity over the sea east of Japan at 12 UTC on 14 August and gradually turned eastward. Maintaining its eastward track, it transformed into an extratropical cyclone over the sea far off east of Japan by 12 UTC on 16 August. After entering the sea south of Aleutians, it crossed longitude 180 degrees east before 06 UTC on 19 August.

TS JONGDARI (2409)

JONGDARI formed as a tropical depression (TD) over the sea south of Okinawa at 00 UTC on 18 August 2024 and moved northward. It was upgraded to tropical storm (TS) intensity over the same waters 12 hours later. Keeping its northward track and moving to the East China Sea, it reached its peak intensity with maximum sustained winds of 40 kt and a central pressure of 996 hPa over the same waters at 06 UTC on 19 August. It entered the Yellow Sea, turned northeastward and then weakened to TD intensity over the waters near the western coast of the Korean Peninsula at 00 UTC on 21 August. After crossing the Korean Peninsula and entering the Sea of Japan, it transitioned into an extratropical cyclone by 00 UTC on 22 August and dissipated over the same waters 18 hours later.

TY SHANSHAN (2410)

SHANSHAN formed as a tropical depression (TD) around the Mariana Islands at 06 UTC on 20 August 2024 and moved westward. It was upgraded to tropical storm (TS) intensity over the same waters at 18 UTC on 21 August. After turning sharply northward, it was further upgraded to typhoon (TY) intensity around the Ogasawara Islands at 00 UTC on 24 August. Turning northwestward, it reached its peak intensity with maximum sustained winds of 95 kt and a central pressure of 935 hPa northeast of Amami-Oshima Island at 15 UTC on 27 August. Moving northward and gradually turning northeastward, it made landfall near Satsumasendai city, Kagoshima Prefecture with TY intensity around 23 UTC on 28 August. After making landfall, it weakened rapidly and was downgraded to severe tropical storm (STS) intensity over Kyushu Island at 06 UTC on 29 August and to TS intensity six hours later. It moved eastward and then weakened to TD intensity over Shikoku Island at 12 UTC on 30 August. After moving to the sea south of Japan with its southeast track, it turned northward sharply and then dissipated in Honshu Island at 18 UTC on 1 September.

TY YAGI (2411)

YAGI formed as a tropical depression (TD) over the sea east of the Philippines at 12 UTC on 31 August 2024 and moved westward. Turning northwestward, it was upgraded to tropical storm (TS) intensity over the same waters at 06 UTC on 1 September. After crossing north of Luzon Island and turning westward, it was further upgraded to typhoon (TY) intensity over the South China Sea at 00 UTC on 4 September. It developed rapidly and reached its peak intensity with maximum sustained winds of 105 kt and a central pressure of 915 hPa over the same waters at 00 UTC on 5 September. After crossing Hainan Island, it entered the Gulf of Tonkin and hit Northern Viet Nam with TY intensity around 06 UTC on 7 September. As it moved westward in the area, it was downgraded to TS intensity 12 hours later and weakened to TD intensity at 12 UTC on 8 September. It dissipated in Southwestern China at 18 UTC on 9 September.

TS LEEPI (2412)

LEEPI formed as a tropical depression (TD) around the Ogasawara Islands at 12 UTC on 1 September 2024 and moved northwestward. While moving northward, it was upgraded to tropical storm (TS) intensity and reached its peak intensity with maximum sustained winds of 35 kt and a central pressure of 1002 hPa over the sea east of Japan at 00 UTC on 5 September. After turning northeastward, it weakened to TD intensity over the same waters at 12 UTC on 6 September and transitioned into an extratropical cyclone over the sea far off east of Japan by 00 UTC on 7 September. It kept its northeastward track and then crossed longitude 180 degrees east before 18 UTC on 8 September.

TY BEBINCA (2413)

BEBINCA formed as a tropical depression (TD) over the sea around the Mariana Islands at 18 UTC on 9 September 2024 and moved northwestward. It was upgraded to tropical storm (TS) intensity over the same waters 18 hours later and moved to the sea south of Japan while keeping its northwestward track. After passing around Amami-Oshima Island, it was upgraded to typhoon (TY) intensity over the East China Sea at 18 UTC on 14 September and reached its peak intensity with maximum sustained winds of 75 kt and a central pressure of 965 hPa over the same waters six hours later. Keeping its northwestward track, it hit Central China with TY intensity around 00 UTC on 16 September and was downgraded to TS intensity 18 hours later. It weakened to TD intensity there at 00 UTC on 17 September and dissipated in North China at 12 UTC on 18 September.

TS PULASAN (2414)

PULASAN formed as a tropical depression (TD) around the Mariana Islands at 00 UTC on 15 September 2024 and moved northward. It was upgraded to tropical storm (TS) intensity over the same waters 12 hours later and reached its peak intensity with maximum sustained winds of 45 kt and a central pressure of 992 hPa around the Ogasawara Islands at 00 UTC on 17 September. After turning northwestward, it crossed Okinawa Island after 12 UTC on 18 September and hit Central China around 12 UTC on 19 September. After it turned northeastward, it entered the Yellow Sea around 12 UTC on 20 September and transitioned into an extratropical cyclone by 06 UTC the next day. Keeping its northeastward track, it crossed the northern part of Honshu Island around 00 UTC on 22 September. After entering the sea south of the Aleutian Islands, it crossed longitude 180 degrees east before 18UTC on 24 September.

TS SOULIK (2415)

SOULIK formed as a tropical depression (TD) over the sea east of the Philippines at 00 UTC on 15 September 2024 and moved eastward. It turned westward sharply and crossed north of Luzon Island. After moving southward over the sea west of the island and turning westward again, it was upgraded to tropical storm (TS) intensity and reached its peak intensity with maximum sustained winds of 35 kt and a central pressure of 992 hPa over the South China Sea at 18 UTC on 18 September. Moving westward through the Gulf of Tonkin, it hit Viet Nam with TS intensity and was weakened to TD intensity at 12 UTC on 19 September. It dissipated in Northeast Thailand at 18 UTC the next day.

TS CIMARON (2416)

CIMARON formed as a tropical depression (TD) north of Amami-Oshima Island at 06 UTC on 23 September 2024 and moved southeastward. Moving eastward, it was upgraded to tropical storm (TS) intensity over the sea south of Japan at 06 UTC the next day and reached its peak intensity with maximum sustained winds of 35 kt and a central pressure of 998 hPa six hours later. After it turned in a counterclockwise direction to circle, it moved westward and weakened to TD intensity over the same waters at 06 UTC on 26 September. It turned northeastward and then transitioned into an extratropical cyclone over the same waters by 18 UTC on 27 September. After it gradually turned eastward, it moved to the sea east of Japan by 18 UTC on 28 September. After turning in a counterclockwise direction to circle over the same waters around 00 UTC on 29 September, it moved westward and dissipated over the sea south of Japan at 12 UTC on 30 September.

TY JEBI (2417)

JEBI formed as a tropical depression (TD) over the sea around the Mariana Islands at 18 UTC on 25 September 2024 and moved northwestward. It was upgraded to tropical storm (TS) intensity over the same waters at 00 UTC on 27 September. After gradually turning northward around

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the Ogasawara Islands, it was upgraded to severe tropical storm (STS) intensity over the same waters at 12 UTC on 30 September. It was further upgraded to typhoon (TY) intensity and reached its peak intensity with maximum sustained winds of 65 kt and a central pressure of 980 hPa over the sea east of Japan at 00 UTC on 1 October. It moved northeastward and was downgraded to STS intensity over the same waters at 00 UTC the next day. It transitioned into an extratropical cyclone over the sea around the Kuril Islands by 12 UTC on 2 October and dissipated over the sea east of the Kamchatka Peninsula 12 hours later.

TY KRATHON (2418)

KRATHON formed as a tropical depression (TD) south of Okinawa at 12 UTC on 26 September 2024 and moved southwestward. Keeping its southwestward track, it was upgraded to tropical storm (TS) intensity east of the Philippines at 00 UTC on 28 September and then moved westward. It was upgraded to severe tropical storm (STS) intensity 12 hours later and then moved northwestward. Keeping its northwestward track, it was upgraded to typhoon (TY) intensity over the same waters at 06 UTC the next day, moved westward and reached its peak intensity with maximum sustained winds of 105 kt and a central pressure of 920 hPa over the South China Sea at 00 UTC on 1 October. After it gradually turned northward, it weakened to STS intensity rapidly over the Bashi Channel at 00 UTC on 3 October. It hit Taiwan with STS intensity before 06 UTC on 3 October. It weakened to TD intensity at 12 UTC on 3 October and then dissipated six hours later.

TS BARIJAT (2419)

BARIJAT formed as a tropical depression (TD) around the Mariana Islands at 18 UTC on 4 October 2024 and moved northward. It was upgraded to tropical storm (TS) intensity over the same waters at 06 UTC on 6 October. Keeping its northward track, it reached its peak intensity with maximum sustained winds of 45 kt and a central pressure of 985 hPa over the far off east of Japan at 18 UTC on 10 October. It transitioned into an extratropical cyclone over the same waters by six hours later. After it moved to the sea around the Kuril Islands and turned eastward, it turned in a counterclockwise direction to circle east of the Kamchatka Peninsula. It moved eastward and crossed longitude 180 degrees east before 12 UTC on 15 October.

STS TRAMI (2420)

TRAMI formed as a tropical depression (TD) around the Mariana Islands at 12 UTC on 18 October 2024 and moved westward. It was upgraded to tropical storm (TS) intensity over the sea east of the Philippines at 18 UTC on 21 October and moved northwestward. Keeping its northwestward track, it was upgraded to severe tropical storm (STS) intensity over the same waters at 00 UTC on 23 October. It crossed north of Luzon Island with STS intensity 18 hours later and then moved westward. After entering the South China Sea, it reached its peak intensity with maximum sustained winds of 60 kt and a central pressure of 970 hPa at 06 UTC on 26

October. It was downgraded to TS intensity over the sea east of Viet Nam at 00 UTC on 27 October and then hit Viet Nam. Turning in a counterclockwise direction to circle, it weakened to TD intensity at 18 UTC on 27 October. It entered the South China Sea again and dissipated at 18 UTC on 29 October.

TY KONG-REY (2421)

KONG-REY formed as a tropical depression (TD) around the Chuuk Islands at 00 UTC on 24 October 2024 and moved westward. It was upgraded to tropical storm (TS) intensity around the Mariana Islands 18 hours later and was further upgraded to typhoon (TY) intensity over the sea east of the Philippines at 18 UTC on 28 October. After turning northwestward, it reached its peak intensity with maximum sustained winds of 100 kt and a central pressure of 925 hPa over the same waters at 00 UTC on 30 October. Keeping its northwestward track, it hit Taiwan with TY intensity around 06 UTC on 31 October and then weakened rapidly. After it entered Taiwan Strait and turned northward, it was downgraded to STS intensity at 12 UTC on 31 October and to TS intensity six hours later. Turning northeastward, it transitioned into an extratropical cyclone over the East China Sea by 12 UTC on 1 November. It moved eastward and dissipated over the same waters 18 hours later.

TY YINXING (2422)

YINXING formed as a tropical depression (TD) around the Caroline Islands at 18 UTC on 2 November 2024 and moved northwestward. It was upgraded to tropical storm (TS) intensity over the sea east of the Philippines 18 hours later. It developed rapidly and was further upgraded to typhoon (TY) intensity at 18 UTC the next day. It reached its peak intensity with maximum sustained winds of 100 kt and a central pressure of 945 hPa over the sea north of the Philippines at 06 UTC on 7 November and moved westward. After entering the South China Sea, it was downgraded to STS intensity at 12 UTC on 10 November and turned southwestward. After weakening to TD intensity over the same waters at 06 UTC on 12 November, it hit Viet Nam and dissipated 12 hours later.

TY TORAJI (2423)

TORAJI formed as a tropical depression (TD) over the sea east of the Philippines at 06 UTC on 8 November 2024 and moved westward. After upgraded to tropical storm (TS) intensity over the same waters at 06 UTC on 9 November, it developed rapidly and was further upgraded to typhoon (TY) intensity at 12 UTC the next day. It reached its peak intensity with maximum sustained winds of 70 kt and a central pressure of 980 hPa over the same waters at 18 UTC on 10 November. Keeping its westward track, it crossed north of Luzon Island with TY intensity after 00 UTC on 11 November and entered the South China Sea. Turning northwestward, it was downgraded to TS intensity over the same waters at 06 UTC on 12 November and weakened to TD intensity at 12 UTC on 14 November. After turning southeastward, it dissipated over the same waters at 18 UTC on 15 November.

TY MAN-YI (2424)

MAN-YI formed as a tropical depression (TD) around the Marshall Islands at 18 UTC on 7 November 2024 and moved westward. It was upgraded to tropical storm (TS) intensity at 18 UTC the next day and moved northwestward. Gradually turning southwestward around the Mariana Islands, it was upgraded to severe tropical storm (STS) intensity over the sea east of the Philippines at 00 UTC on 14 November and turned westward. Developing rapidly, it was further upgraded to typhoon (TY) intensity at 00 UTC on 15 November and turned northwestward. It reached its peak intensity with maximum sustained winds of 105 kt and a central pressure of 920 hPa over the same waters at 00 UTC the next day. Keeping its TY intensity and northwestward track, it crossed north of Luzon Island at 06 UTC on 17 November and then weakened rapidly. After entering the South China Sea, it was downgraded to STS intensity at 12 UTC on 18 November and turned southwestward. It further weakened to TD intensity at 12 UTC the next day. Keeping its southwestward track, it dissipated over the same waters 18 hours later.

TY USAGI (2425)

USAGI formed as a tropical depression (TD) around the Chuuk Islands at 00 UTC on 9 November 2024 and moved northwestward. It was upgraded to tropical storm (TS) intensity over the sea east of the Philippines at 18 UTC on 11 November. Developing rapidly over the same waters, it was further upgraded to typhoon (TY) intensity at 00 UTC on 13 November and reached its peak intensity with maximum sustained winds of 95 kt and a central pressure of 940 hPa at 00 UTC the next day. Keeping its northwestward track, it crossed north of Luzon Island with TY intensity around 06 UTC on 14 November and weakened rapidly. After gradually turning northward, it was downgraded to TS intensity over the Bashi Channel at 12 UTC on 15 November and weakened to TD intensity over the sea south of Taiwan 12 hours later. It remained almost stationary around south of Taiwan and dissipated at 18 UTC on 16 November.

TS PABUK (2426)

PABUK, after forming as a TD, was upgraded to TS intensity over the South China Sea at 06 UTC on 23 December. It moved northwestward and reached its peak intensity with maximum sustained winds of 40 kt and a central pressure of 1000 hPa over the same waters at 12 UTC on 24 December. It turned southwestward and weakened to TD intensity over the same waters at 06 UTC on 25 December.