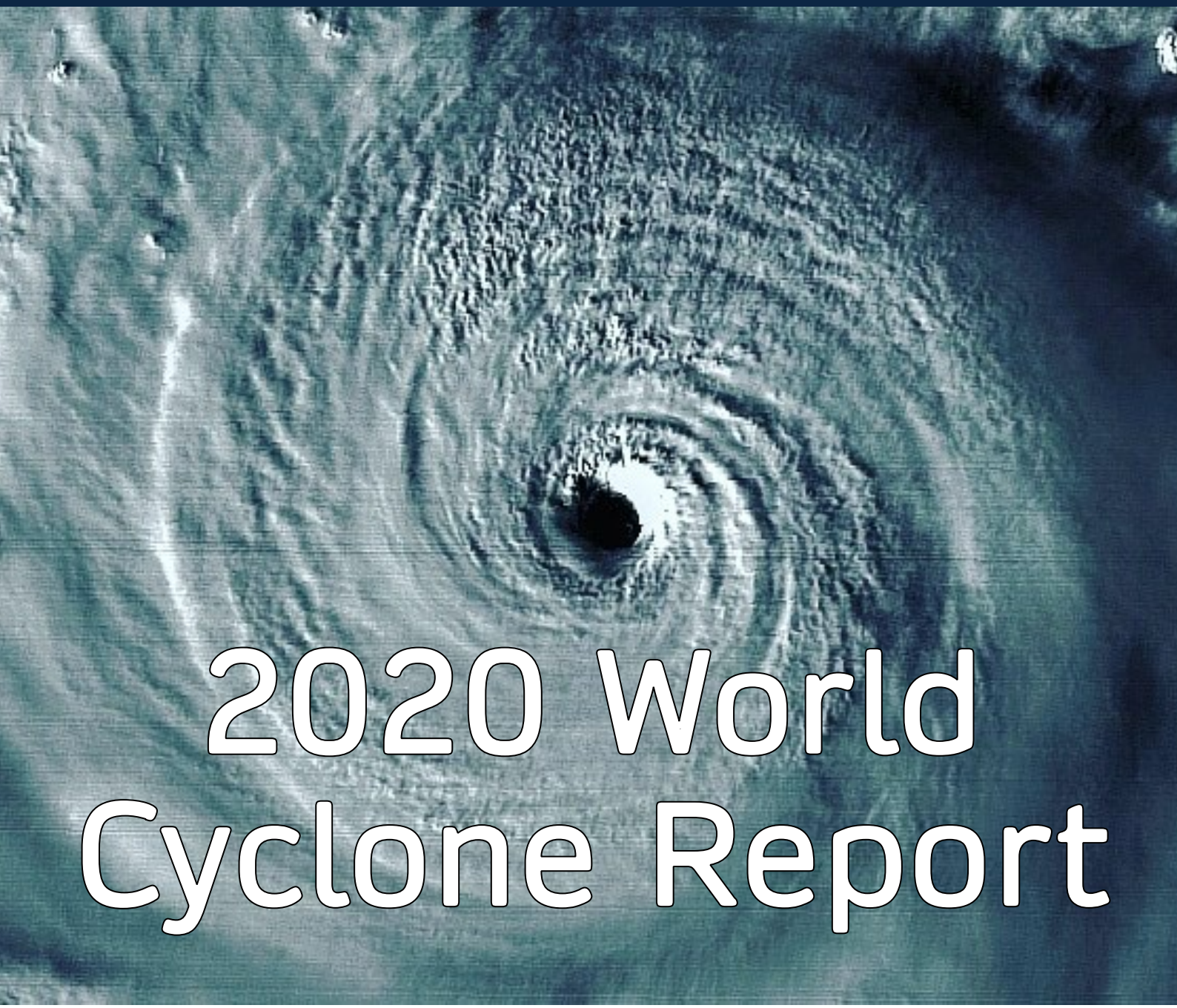
FORCE THIRTEEN



2020 World Cyclone Report

A report on all cyclones that formed in 2020, with detailed season statistics and records that were achieved worldwide this year.

Compiled by Nathan Foy at Force Thirteen, April, July 2021
E-mail: contact@force-13.com

Cover photo: Himawari-8 image of Typhoon Goni near peak intensity on October 31, 2020

FORCE THIRTEEN

CONTENTS

ANNUAL OVERVIEW

Activity in 2020 has been significantly above average. The prevailing mild El Nino event died off in the early part of the year, dipping into La Nina conditions by the beginning of the northern hemisphere seasons. The Atlantic Ocean experienced record activity and numerous intense hurricanes, whilst the Western Pacific ended strongly after a very weak beginning part to the season. The Eastern Pacific remained weak throughout, but still produced several hurricanes. The North Indian Ocean started strongly with Cyclone Amphan, and three other tropical cyclones formed in the November peak of the season. In the Southern Hemisphere, activity started to decrease, but the lesser number of cyclones proved to be stronger and more damaging, with Cyclone Damian impacting Australia as a Category 3, and Harold pummelling Vanuatu as a Category 5 storm.

This year saw 114 tropical cyclones, of which 108 were tropical storms, 49 of hurricane strength, and 25 of major hurricane strength, along with one subtropical cyclone. This compares to 107, 99, 54, and 33 last year—a slight change to what was reported in last year's report due to standard reanalysis.

Stragglers from the previous year included Calvinia and Sarai, both surviving into the new year near Mauritius and Fiji.

January 2020 was fairly quiet, with only six tropical cyclones—two of these reaching hurricane strength (Claudia and Tino). February produced eight more storms, including two majors in the form of Damien who impacted Australia, and Ferdinand which remained at sea. Francisco proved to be a memorable storm for its persistent nature, reaching tropical cyclone status three times in the South-West Indian Ocean, before stalling along the eastern coast of Madagascar as a tropical storm.

March proved to be extraordinarily quiet, with only two tropical cyclones—Gretel and Herold. Herold reached Category 3 status and threatened the Mascarene islands for a time, before drifting to their east. April was another below average month for activity, but delivered the first Category 5 storm of the year in the form of Cyclone Harold. This storm struck Espiritu Santo, Ambae and Pentecost in Vanuatu near its peak intensity. Additionally, an exceptionally rare tropical depression formed in the Eastern Pacific late in the month, marking the first time in over 500 years of history where a tropical cyclone formed this early in the Eastern Pacific basin.

In May, the first Western Pacific cyclone also became the year's first major typhoon of Category 3 status. This typhoon, Vongfong, began at low latitude and struck the Philippine islands. In the Indian Ocean, Cyclone Amphan became the next Category 5 storm of the year in the Bay of Bengal, and delivered significant impacts to the West Bengal region and beyond. In the Atlantic, the season again began early with Tropical Storm Arthur off the US East Coast. At the end of May, Tropical Storm Amanda formed and struck the southern coast of Mexico, morphing into Tropical Storm Cristobal which gathered momentum in the Bay of Campeche, and then moved back over the Yucatan peninsula before heading northwards to Louisiana.

In early June, Cyclone Nisarga gave western India an uncommon Category 1 landfall, whilst the Pacific basins underperformed with only two named storms across the whole ocean.

July saw no activity whatsoever in the Western Pacific for the first time in at least 135 years, whilst the Eastern Pacific spluttered out weaker cyclones in the early part of the month, Cristina albeit nearing hurricane status. Tropical Storm Fay blew through the Mid-Atlantic region of the United States, with more US threats later in the month. Hurricane Douglas became a Category 4 in the Eastern Pacific before aiming towards Hawaii, passing barely north of the islands as a Category 1 hurricane which was slow to weaken. Meanwhile, Hurricane Hanna was also active, and made landfall in southern Texas as a strong Category 1 storm.

ANNUAL OVERVIEW

At the end of July, Hurricane Isaias threatened the Caribbean, the Bahamas and the eastern United States, reaching hurricane status on two occasions, peaking as it made landfall in the southeast United States. As August begin, so did the Western Pacific, spawning Typhoon Hagupit and Tropical Storm Sinlaku. Hagupit struck the coast of Zhejiang, China as a Category 2 storm, whilst Sinlaku affected the Guangxi region. Several other weaker systems formed across the basins in the middle part of August, along with Hurricane Genevieve which reached Category 4 status in the eastern East Pacific, but remained at sea.

In the latter part of August, Tropical Storm Laura formed near the Eastern Caribbean, whilst Marco developed in the western region. Marco reached hurricane status briefly as it charted the Yucatan Channel into the Gulf of Mexico, before rapidly weakening and dissipating before reaching the coast of Louisiana. Behind it, Laura began to gain strength after it passed through Hispaniola and Cuba, exploding into a Category 4 hurricane in the Gulf of Mexico and striking the coast of western Louisiana near peak intensity. In the Western Pacific, Typhoon Bavi reached Category 3 status before reaching the Korean Peninsula—followed in its path by Typhoon Maysak (Category 4) and Typhoon Haishen (Category 5) within the next two weeks.

On September 3rd, Nana struck the coasts of Belize and Guatemala as a brief hurricane. The next week, the Atlantic spewed a number of further storms—Paulette, which peaked as a Category 2 and lingered as a remnant low for several days before reaching tropical storm status again near the Azores; Tropical Storm Rene; Hurricane Sally, which reached Category 2 status twice before striking the coast of Alabama; Teddy, which became a classic Cape-Verde type hurricane in the open Atlantic and peaking as a Category 4, before moving into Atlantic Canada as a large transitioning storm a few days later; and Vicky, a short lived tropical storm.

On September 15th, a tropical storm was identified in the Mediterranean Sea, and lasted for a full four days before hitting western Greece with estimated winds near 70mph. Three days later, another storm formed in the Atlantic off the coast of Portugal. Named Alpha, this marked only the second occasion in which the Atlantic naming list entered the Greek Alphabet. This coincided with the short lived Tropical Storm Wilfred, and shortly after by Tropical Storm Beta in the Gulf of Mexico.

At the beginning of October, Hurricane Marie became one of the strongest storms of the season in the Eastern Pacific, whilst Gamma briefly reached hurricane status as it made landfall on the Yucatan Peninsula. This was shortly followed by Major Hurricane Delta, which had remarkable potential in the western Caribbean. However, after briefly peaking as a Category 4 hurricane, Delta weakened and stumbled ashore the Yucatan as a weakening Category 2. However, Delta reintensified in the Gulf, reaching Category 3 status again, and weakening a little as it struck Louisiana in a similar location to Laura six weeks earlier.

Another disaster was unfolding in the Western Pacific, as the short lived Tropical Storm Linfa made landfall in central Vietnam, dumping over 90 inches of rainfall. This area would later be hammered by Typhoon Molave, Tropical Storm Etau, and Typhoon Vamco.

In the later part of October, Hurricane Epsilon reached Category 3 status in the open Atlantic, followed by Hurricane Zeta which made a Category 1 landfall on the Yucatan Peninsula, before swinging into central Louisiana near its Category 3 peak intensity, and swept across New Orleans and into Mississippi.

In the Philippine Sea, Typhoon Goni formed near the end of October and reached a monstrous intensity as it approached Catanduanes in the Philippines. Goni peaked twice before landfall, with winds estimated to be in excess of 190mph. The storm made landfall only slightly weaker in the early hours of November 1st.

ANNUAL OVERVIEW

In early November, Hurricane Eta barrelled towards the coast of Nicaragua, making landfall shortly after its Category 4 peak. The cyclone survived back into the western Caribbean after traversing Nicaragua and Honduras, and swept around Cuba as a tropical storm before stalling and then turning northwards again, reaching Category 1 status briefly before striking the Gulf coast of Florida.
The misery in Central America doubled when Hurricane Iota formed in the middle of November, making landfall only miles from Eta's landfall location, also as a Category 4 storm after peaking as the only Category 5 hurricane of the Atlantic season this year. The two hurricanes made landfall thirteen days apart.

In late November, Cyclone Gati left forecasters speechless when it intensified from a weak tropical storm to a Category 3 equivalent cyclone within 12 hours as it neared the coast of Somalia. The same week, Cyclone Nivar formed in the Bay of Bengal and reached Category 1 status for a time, before striking the Chennai region and hovering along the coast northwards until it dissipated over Andhra Pradesh.

In December, Cyclone Yasa developed in the South Pacific and reached Category 5 status on approach to Fiji from the northwest. The storm weakened somewhat before arriving in Vanua Levu, still at Category 4 intensity.
At the same time, a rare cyclone was developing in the Eastern Mediterranean Sea, near Cyprus. This system proceeded to become a likely tropical storm as it stalled for some hours off the coast of Syria and Lebanon, making landfall on December 16th.

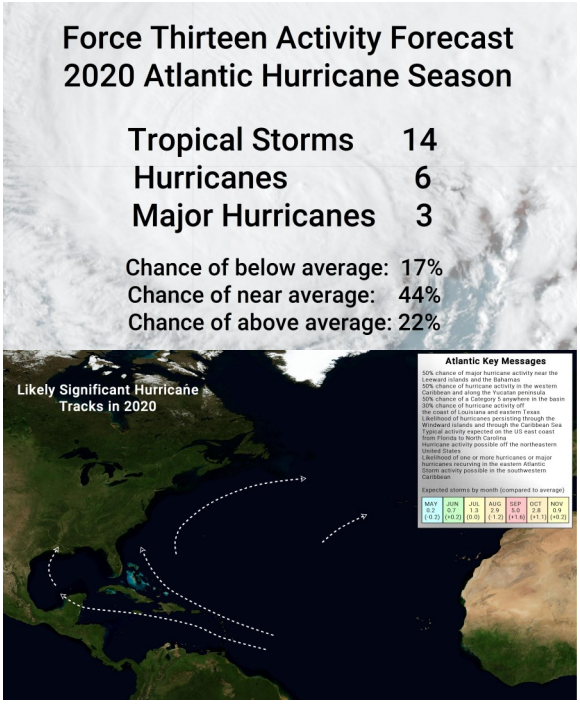
The year ended with Cyclone Chalane, which reached Madagascar as a tropical storm and then launched into the coast of Mozambique as a Category 1 equivalent cyclone on December 30, 2020.

With 108 tropical storms recorded in 2020, this year becomes the third busiest on record worldwide, after 2005 (109) and 1970 (110).

PRE-SEASON PREDICTIONS (APRIL)

North Atlantic Ocean

On April 7 2020, Force Thirteen released its first outlook for the Atlantic Hurricane Season, suggesting near average activity. This prediction was based with low confidence, and circumstances changed markedly in the next seven weeks before the second outlook was made.



Key Message Verification

- 50% chance of major hurricane activity near the Leeward Islands and the Bahamas

Did not verify

- 50% chance of hurricane activity in the western Caribbean and along the Yucatan Peninsula

Verified (Hurricanes Nana, Gamma, Delta, Zeta)

- 50% chance of a Category 5 anywhere in the basin

Verified (Hurricane Iota)

- 30% chance of hurricane activity off the coast of Louisiana and eastern Texas

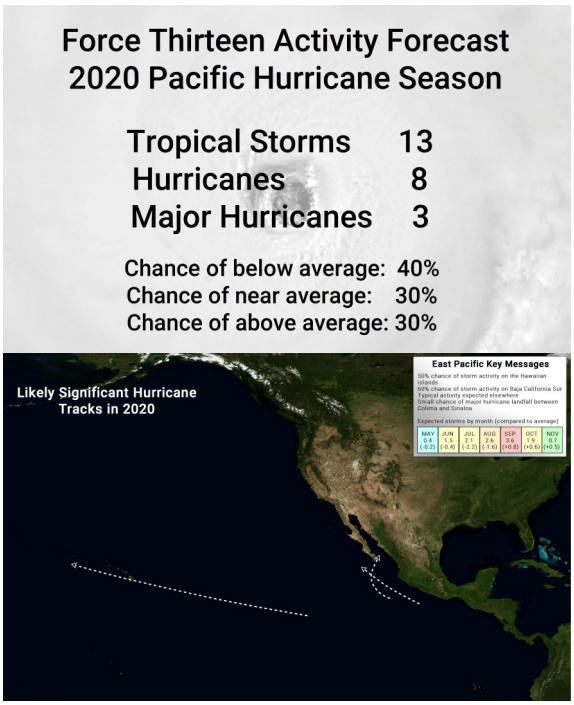
Verified (Hurricanes Laura, Delta, Zeta)

- Likelihood of hurricanes persisting through the Windward Islands and through the Caribbean Sea

Did not verify

East Pacific Ocean

On April 10, 2020, Force Thirteen released its projection for the Eastern Pacific Hurricane Season, suggesting near or below average activity with low confidence.
Seventeen storms ultimately formed, with only four hurricanes, and three major hurricanes.



Key Message Verification

- 50% chance of storm activity on the Hawaiian islands

Verified (Hurricane Douglas)

- 60% chance of storm activity on Baja California Sur

Mostly did not verify (No direct landfalls)

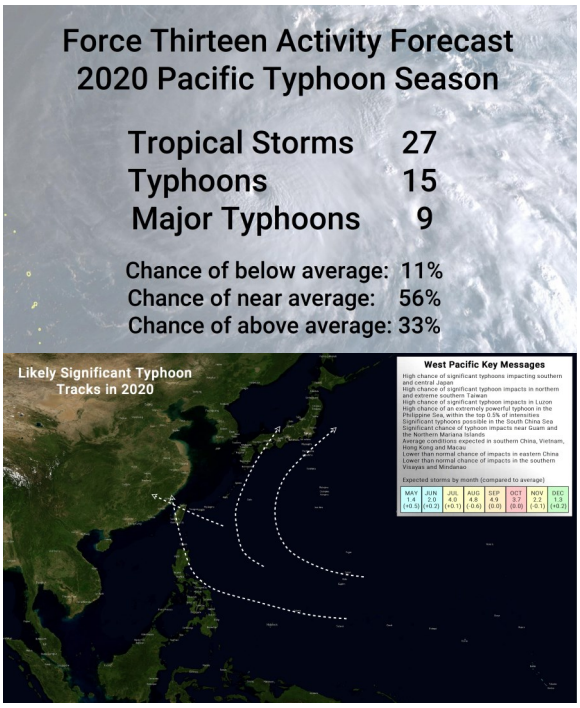
- Small chance of major hurricane landfall between Colima and Sinaloa

Did not verify

PRE-SEASON PREDICTIONS (APRIL)

West Pacific Ocean

On April 10, 2020, Force Thirteen released its projection for the Pacific typhoon season, strongly suggesting near average activity.
The season produced 24 tropical storms, 12 typhoons and 7 major typhoons.



Key Message Verification

- High chance of significant typhoons impacting southern and central Japan

Partially verified (Typhoon Haishen struck the extreme west of Japan, but most other storms missed the country this year)

- High chance of significant typhoon impacts in northern and extreme southern Taiwan

Did not verify

- High chance of significant typhoon impacts in Luzon

Partially verified (Typhoon activity was around average, with Goni severely affecting the southern extremity of Luzon)

- High chance of an extremely powerful typhoon in the Philippine Sea, within the top 0.5% of intensities

Verified (Typhoon Goni)

- Significant typhoons possible in the South China Sea

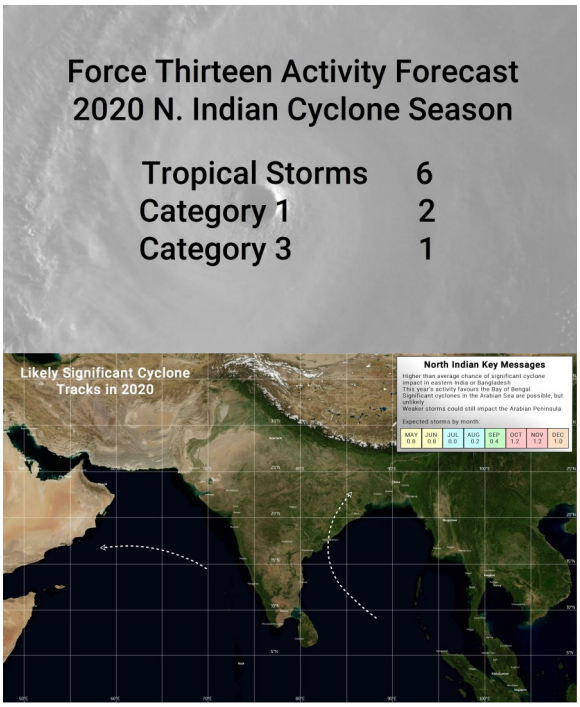
Verified (Typhoons Molave and Vamco)

- Significant chance of typhoon impacts near Guam and the Northern Mariana Islands

Did not verify

North Indian Ocean

On April 10, 2020, Force Thirteen released its projection for the North Indian Ocean cyclone season.
The season produced 5 tropical storms, 4 hurricane-strength cyclones and 2 majors.



Key Message Verification

- Higher than average chance of significant cyclone impact in eastern India or Bangladesh

Verified (Cyclone Amphan)

- Significant cyclones in the Arabian Sea are possible, but unlikely

(Cyclone Gati)

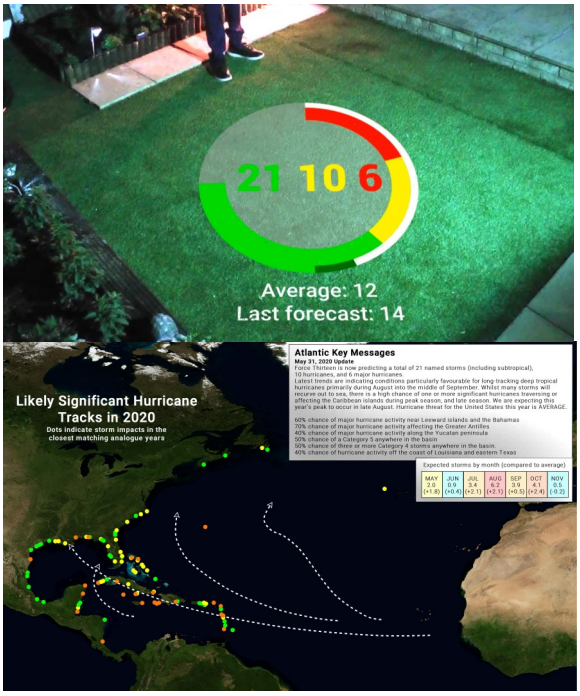
- Weaker storms could still impact the Arabian Peninsula

(Cyclone ARB 01)

PRE-SEASON PREDICTIONS (MAY 31)

North Atlantic Ocean

At the second prediction, the numbers were revised significantly upwards for the North Atlantic, forecasting 21 tropical storms, 10 hurricanes and 6 major hurricanes. The Key Messages were also updated.



Key Message Verification

- 60% chance of major hurricane activity near the Leeward Islands and the Bahamas

Did not verify

- 70% chance of major hurricane activity affecting the Greater Antilles

Did not verify

- 40% chance of major hurricane activity along the Yucatan Peninsula

Verified (Hurricane Delta)

- 50% chance of a Category 5 anywhere in the basin

Verified (Hurricane Iota)

- 50% chance of three or more Category 4 storms anywhere in the basin

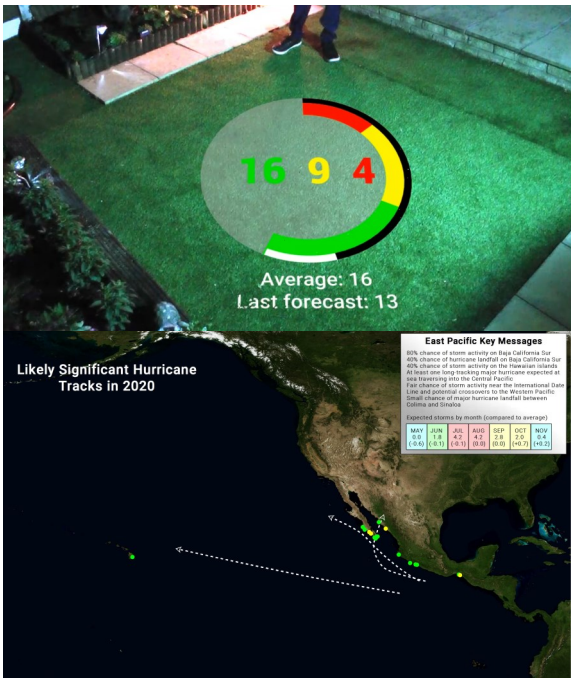
Verified (Hurricanes Teddy, Laura, Delta, Eta and Iota)

- 40% chance of hurricane activity off the coast of Louisiana and eastern Texas

Verified (Hurricanes Laura, Delta, and Zeta)

East Pacific Ocean

At the second prediction, the numbers were revised upwards in the Eastern Pacific, and while the tropical storm number was now close to the final total, the prediction significantly overestimated hurricane activity.



Key Message Verification

- 80% chance of storm activity on Baja California Sur

Mostly did not verify (No direct landfalls)

- 40% chance of hurricane landfall on Baja California Sur

Did not verify

- 40% chance of storm activity on the Hawaiian Islands

Verified (Hurricane Douglas)

- At least one long-tracking major hurricane expected at sea traversing into the central Pacific

Verified (Hurricane Douglas)

- Fair chance of storm activity near the International Date Line and potential crossovers to the Western Pacific

Did not verify

- Small chance of major hurricane landfall between Colima and Sinaloa

Did not verify

PRE-SEASON PREDICTIONS (MAY 31)

West Pacific Ocean

At the second prediction, the numbers were increased modestly, which was proved to be a push in the wrong direction by the season's final totals.

Key Message Verification

- 60% chance of at least one typhoon impacting southern Japan

Verified (Typhoon Haishen)

- 80% chance of at least one typhoon impacting central or northern Taiwan. 40% chance of more than one.

Did not verify

- 40% chance of another typhoon impact in Luzon

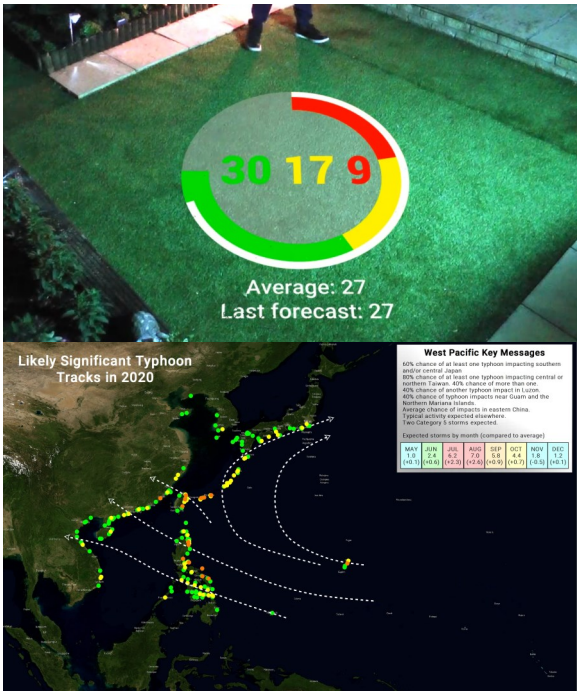
Verified

- 40% chance of typhoon impacts near Guam and the Northern Mariana Islands

Did not verify

- Two Category 5 storms expected

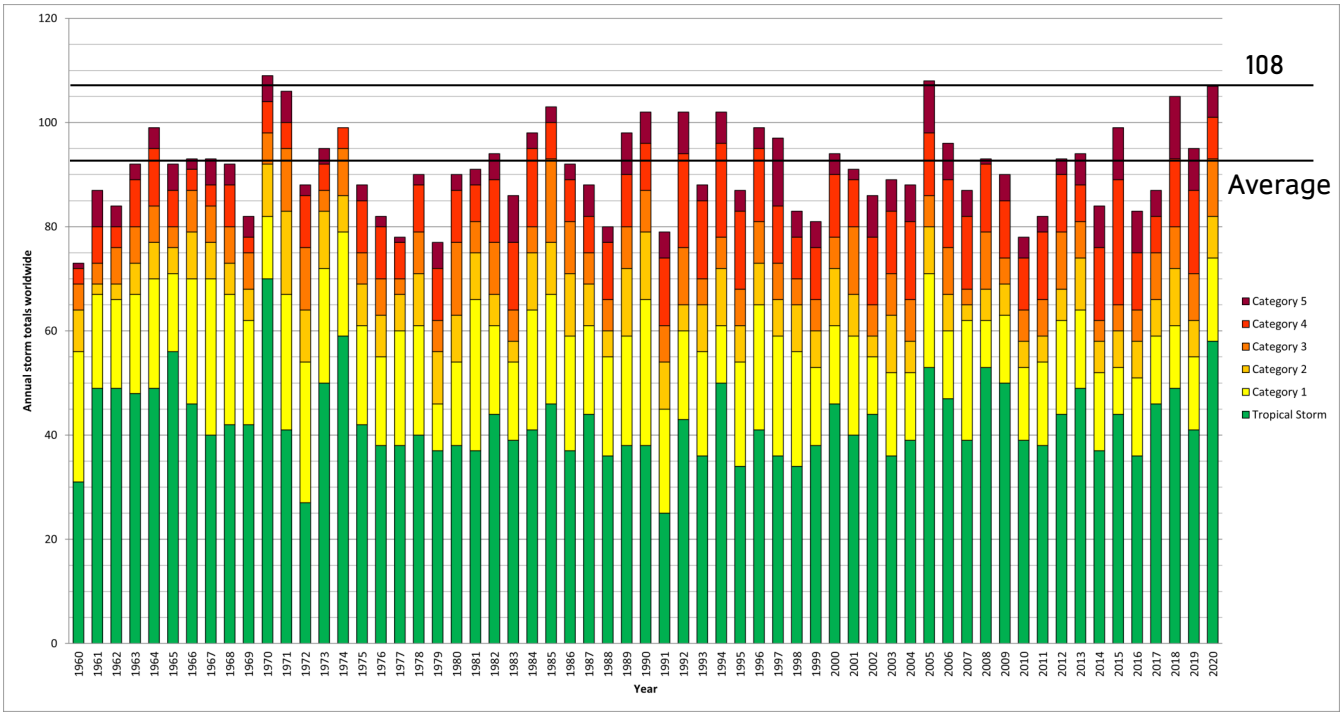
Verified

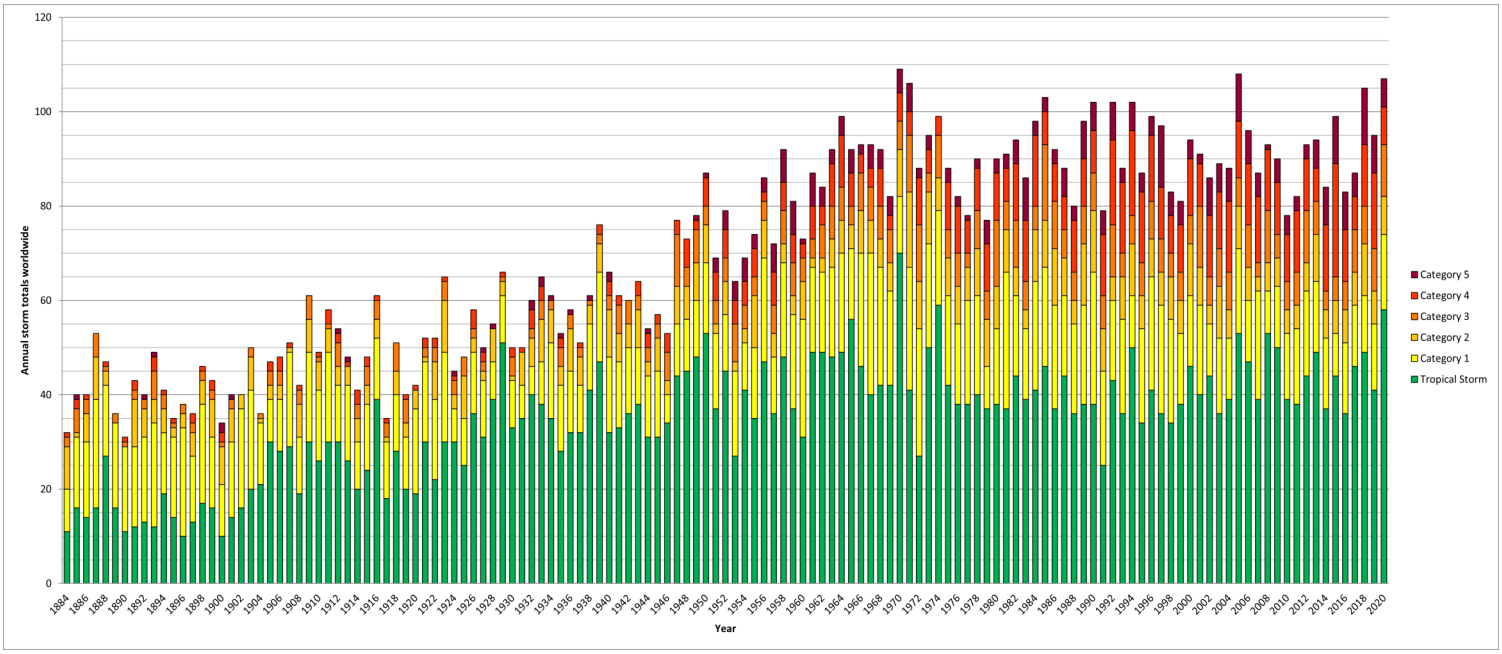


FORCE THIRTEEN

HISTORICAL PERSPECTIVE

With 108 tropical storms (1 subtropical), 2020 ends as the third most active year since 1960. The 1960-2020 average now stands at 92.4. Due to lack of satellite imagery, years prior to the 1960s are not typically included in the data. However, since the data is readily available, the 1884-2020 chart has also been included below the 1960-2020 chart. The historical numbers are slightly different compared to last year due to ongoing reanalysis.

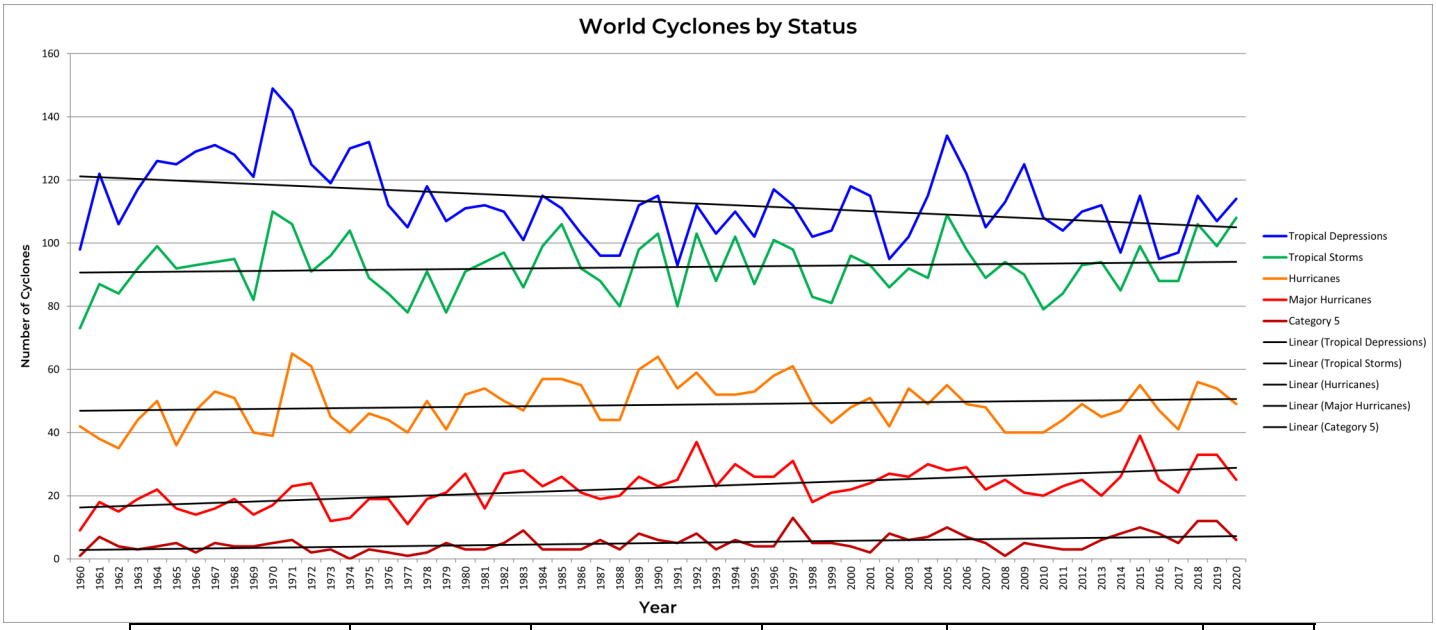




In 1884, only ship and land reports existed resulting in the lower numbers reported. These numbers gradually increased as shipping lanes handled more traffic in storm prone areas and communications were improved. Aircraft first intercepted cyclones in the 1940s, coinciding with a slight increase in numbers, possibly due to the beginning of air patrols after the war. Polar orbiting satellites started operating in the 1960s but often had gaps in their coverage, until geostationary satellites covered the Atlantic and Pacific by the mid 1970s. Since then, numbers have stabilised and have generally been fairly stable overall.

HISTORICAL PERSPECTIVE

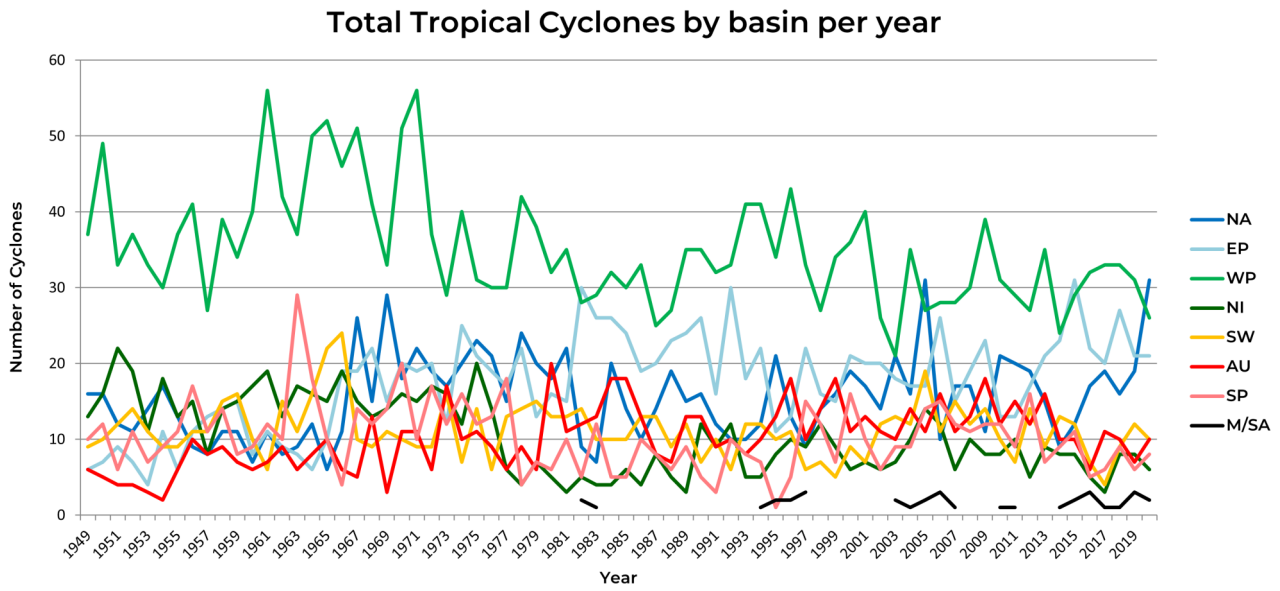
The following chart shows the trend with number of tropical depressions, storms, hurricanes, majors, and Category 5 storms. In the early years of satellite imagery, more tropical depressions were recognised, potentially due to the lack of quality of the images and more stringent criteria in place today. The reverse effect is likely true for the stronger storms, with primitive satellite imagery failing to detect or sufficiently justify a more intense storm. Until the late 1970s, satellite imagery was vastly inferior to reconnaissance planes in estimating a mature storm's intensity.



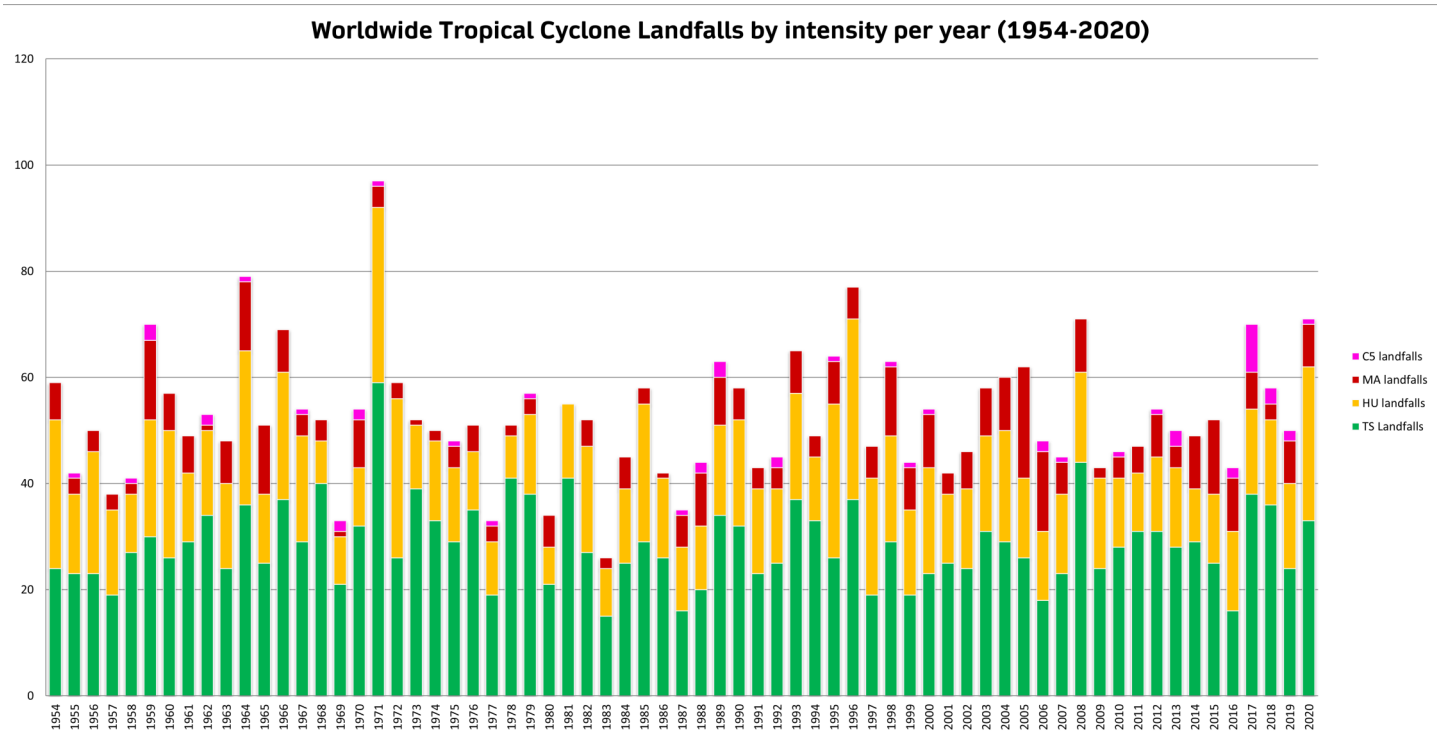
Year	Depressions	Tropical Storms	Hurricanes	Major Hurricanes	Cat 5
1994	110	102	52	30	6
1995	102	87	53	26	4
1996	117	101	58	26	4
1997	112	98	61	31	13
1998	102	83	49	18	5
1999	104	81	43	21	5
2000	118	96	48	22	4
2001	115	93	51	24	2
2002	95	86	42	27	8
2003	102	92	54	26	6
2004	115	89	49	30	7
2005	134	109	55	28	10
2006	122	98	49	29	7
2007	105	89	48	22	5
2008	113	94	40	25	1
2009	125	90	40	21	5
2010	108	79	40	20	4
2011	104	84	44	23	3
2012	110	93	49	25	3
2013	112	94	45	20	6
2014	97	85	47	26	8
2015	115	99	55	39	10
2016	95	88	47	25	8
2017	97	88	41	21	5
2018	115	106	56	33	12
2019	107	99	54	33	12
2020	114	108	49	25	6
1960-1999 Avg	114	92	49	21	4
1981-2020 Avg	109	93	50	25	6

HISTORICAL PERSPECTIVE

The following chart shows storm numbers by basin per year since 1949. The Western Pacific has seen the most activity each year apart from 1983, 2005, 2015, and now 2020. The basins shown are the North Atlantic, Eastern Pacific, Western Pacific, North Indian Ocean, South West Indian Ocean, Australian Region, South Pacific, and Mediterranean Sea/South Atlantic.



We have also provided landfall statistics for the preceding 66 years. A landfall is defined as the point in which the center of a cyclone moves over a landmass—this still applies when an eye is present, although some agencies define a landfall as the edge of the eye moving over land. An incidence of the storm's eyewall making landfall is usually defined as a *direct hit*.



FORCE THIRTEEN

THE 2020 DATASHEET

Since 2014, we have compiled datasheets showing all the storms of the year based on several criteria. This provides easy access to particular records about storms that occurred this year. The columns, reading from left to right, show: The storm name, basin of formation, date of formation (year, month, day), date of dissipation (year, month, day), Peak intensity in miles per hour, lowest central pressure in millibars, and Saffir-Simpson Hurricane Wind Scale Category.

2020	10	28	11	7	W. Pacific	Goni	195	887	5
2020	12	12	12	19	S. Pacific	Yasa	165	912	5
2020	5	16	5	21	N. Indian	Amphan	160	904	5
2020	8	31	9	8	W. Pacific	Haishen	160	910	5
2020	11	8	11	21	N. Atlantic	Iota	160	915	5
2020	4	2	4	10	Australia	Harold	160	927	5
2020	10	25	11	16	N. Atlantic	Eta	155	923	4
2020	8	15	8	30	N. Atlantic	Laura	155	935	4
2020	8	28	9	3	W. Pacific	Maysak	145	920	4
2020	7	20	7	28	E. Pacific	Douglas	145	949	4
2020	9	29	10	7	E. Pacific	Marie	140	945	4
2020	9	8	9	27	N. Atlantic	Teddy	140	946	4
2020	8	16	8	21	E. Pacific	Genevieve	130	950	4
2020	9	30	10	15	N. Atlantic	Delta	130	954	4
2020	11	8	11	16	W. Pacific	Vamco	125	950	3
2020	2	23	3	2	Australia	Ferdinand	120	952	3
2020	5	12	5	17	W. Pacific	Vongfong	120	957	3
2020	3	13	3	19	S. Indian	Herold	120	963	3
2020	8	21	8	27	W. Pacific	Bavi	115	942	3
2020	10	15	10	28	N. Atlantic	Epsilon	115	952	3
2020	10	24	10	30	W. Pacific	Molave	115	952	3
2020	2	6	2	10	Australia	Damien	115	954	3
2020	3	13	3	19	S. Indian	Irondro	115	959	3
2020	10	20	11	1	N. Atlantic	Zeta	115	966	3
2020	11	20	11	25	N. Indian	Gati	115	966	3
2020	9	9	9	19	N. Atlantic	Sally	110	966	2
2020	9	4	10	4	N. Atlantic	Paulette	105	965	2
2020	2	14	2	17	S. Indian	Gabekile	105	966	2
2020	8	1	8	6	W. Pacific	Hagupit	105	972	2
2020	10	16	10	26	W. Pacific	Saudel	100	967	2
2020	1	11	1	19	Australia	Claudia	100	969	2
2020	11	13	11	17	S. Indian	Alicia	100	970	2
2020	8	9	8	12	E. Pacific	Elida	100	975	2
2020	1	16	1	19	S. Pacific	Tino	90	958	1
2020	10	4	10	16	W. Pacific	Chan-hom	90	960	1
2020	2	9	2	15	S. Pacific	Uesi	90	964	1
2020	9	25	9	30	W. Pacific	Kujira	90	964	1
2020	7	20	7	29	N. Atlantic	Hanna	90	975	1
2020	8	17	8	19	W. Pacific	Higos	90	975	1
2020	7	23	8	6	N. Atlantic	Isaias	90	984	1
2020	6	2	6	5	N. Indian	Nisarga	85	972	1
2020	12	24	12	31	S. Indian	Chalane	85	976	1
2020	8	9	8	11	W. Pacific	Mekkhala	80	975	1

THE 2020 DATASHEET

2020	11	23	11	27	N. Indian	Nivar	80	982	1
2020	8	13	8	26	N. Atlantic	Marco	80	993	1
2020	9	18	9	26	W. Pacific	Dolphin	75	977	1
2020	9	30	10	6	N. Atlantic	Gamma	75	980	1
2020	10	29	11	8	W. Pacific	Atsani	75	991	1
2020	8	25	9	6	N. Atlantic	Nana	75	994	1
2020	12	13	12	16	S. Pacific	Zazu	70	980	TS
2020	12	7	12	11	S. Indian	Bongoyo	70	988	TS
2020	9	14	9	21	Mediterranean	01M	70	989	TS
2020	11	6	11	16	N. Atlantic	Theta	70	989	TS
2020	7	6	7	13	E. Pacific	Cristina	70	993	TS
2020	10	11	10	15	W. Pacific	Nangka	65	986	TS
2020	1	5	1	10	Australia	Blake	65	992	TS
2020	9	9	9	28	N. Atlantic	Beta	65	993	TS
2020	11	30	12	5	N. Indian	Burevi	65	995	TS
2020	12	14	12	17	Mediterranean	02M	65	1001	TS
2020	12	8	12	12	Australia	03S	60	990	TS
2020	3	14	3	16	Australia	Gretel	60	990	TS
2020	5	14	5	20	N. Atlantic	Arthur	60	990	TS
2020	12	9	12	11	S. Indian	03S	60	990	TS
2020	1	24	1	26	S. Indian	Diane	60	990	TS
2020	9	13	9	19	W. Pacific	Noul	60	990	TS
2020	5	29	6	11	N. Atlantic	Cristobal	60	991	TS
2020	2	23	3	2	Australia	Esther	60	993	TS
2020	2	21	2	23	S. Pacific	Wasi	60	994	TS
2020	9	13	9	17	E. Pacific	Karina	60	996	TS
2020	8	26	8	30	E. Pacific	Iselle	60	997	TS
2020	9	14	9	19	N. Atlantic	Alpha	60	998	SS
2020	7	14	7	26	N. Atlantic	Gonzalo	60	998	TS
2020	7	4	7	12	N. Atlantic	Fay	60	999	TS
2020	10	6	10	15	E. Pacific	Norbert	60	1000	TS
2020	1	24	1	26	S. Indian	Esami	50	994	TS
2020	11	6	11	11	W. Pacific	Etau	50	996	TS
2020	10	10	10	12	W. Pacific	Linfa	50	996	TS
2020	2	20	2	22	S. Pacific	Vicky	50	997	TS
2020	11	3	11	6	E. Pacific	Odalys	50	1000	TS
2020	8	13	8	19	N. Atlantic	Kyle	50	1000	TS
2020	9	5	9	15	N. Atlantic	Rene	50	1000	TS
2020	9	10	9	20	N. Atlantic	Vicky	50	1000	TS
2020	9	21	9	25	E. Pacific	Lowell	50	1001	TS
2020	8	8	8	11	W. Pacific	Jangmi	45	990	TS
2020	4	14	4	16	S. Indian	Jeruto	45	996	TS
2020	2	6	2	15	S. Indian	Francisco	45	997	TS
2020	8	26	8	28	E. Pacific	Hernan	45	1001	TS
2020	6	19	6	27	N. Atlantic	Dolly	45	1001	TS
2020	12	20	12	25	W. Pacific	Krovanh	45	1002	TS
2020	9	5	9	7	E. Pacific	Julio	45	1003	TS
2020	7	2	7	8	N. Atlantic	Edouard	45	1003	TS

THE 2020 DATASHEET

2020	11	17	11	19	E. Pacific	Polo	45	1004	TS
2020	8	7	8	18	N. Atlantic	Josephine	45	1005	TS
2020	5	24	5	29	N. Atlantic	Bertha	45	1006	TS
2020	8	9	8	13	W. Pacific	06W	45	1006	TS
2020	8	1	8	3	W. Pacific	Sinlaku	40	993	TS
2020	5	21	5	24	Australia	Mangga	40	996	TS
2020	3	11	3	14	Australia	21S	40	998	TS
2020	6	12	6	15	W. Pacific	Nuri	40	998	TS
2020	5	30	6	1	N. Indian	2	40	999	TS
2020	12	11	12	13	S. Pacific	04P	40	999	TS
2020	1	25	1	26	S. Pacific	12P	40	1000	TS
2020	8	29	9	6	N. Atlantic	Omar	40	1003	TS
2020	5	30	6	1	E. Pacific	Amanda	40	1004	TS
2020	8	16	8	17	E. Pacific	Fausto	40	1004	TS
2020	9	9	9	12	W. Pacific	12W	40	1004	TS
2020	6	24	6	27	E. Pacific	Boris	40	1005	TS
2020	7	20	7	21	E. Pacific	Seven-E	40	1006	TS
2020	9	12	9	21	N. Atlantic	Wilfred	40	1007	TS
2020	10	20	10	23	W. Pacific	20W	35	1003	TD
2020	8	13	8	16	E. Pacific	Ten-E	35	1004	TD
2020	7	28	8	2	N. Atlantic	10L	35	1005	TD
2020	4	25	4	26	E. Pacific	One-E	35	1006	TD
2020	7	13	7	14	E. Pacific	Six-E	35	1007	TD
2020	6	30	6	30	E. Pacific	Four-E	30	1006	TD

These intensity values are based upon existing information and our own analysis and is correct to our best estimations as of April 10, 2021. Many storms have their intensities measured by satellites alone, unless they make landfall or is intercepted by a reconnaissance plane. Thus, most typhoons and southern hemisphere cyclones at peak intensity are merely estimates and may be higher or lower.

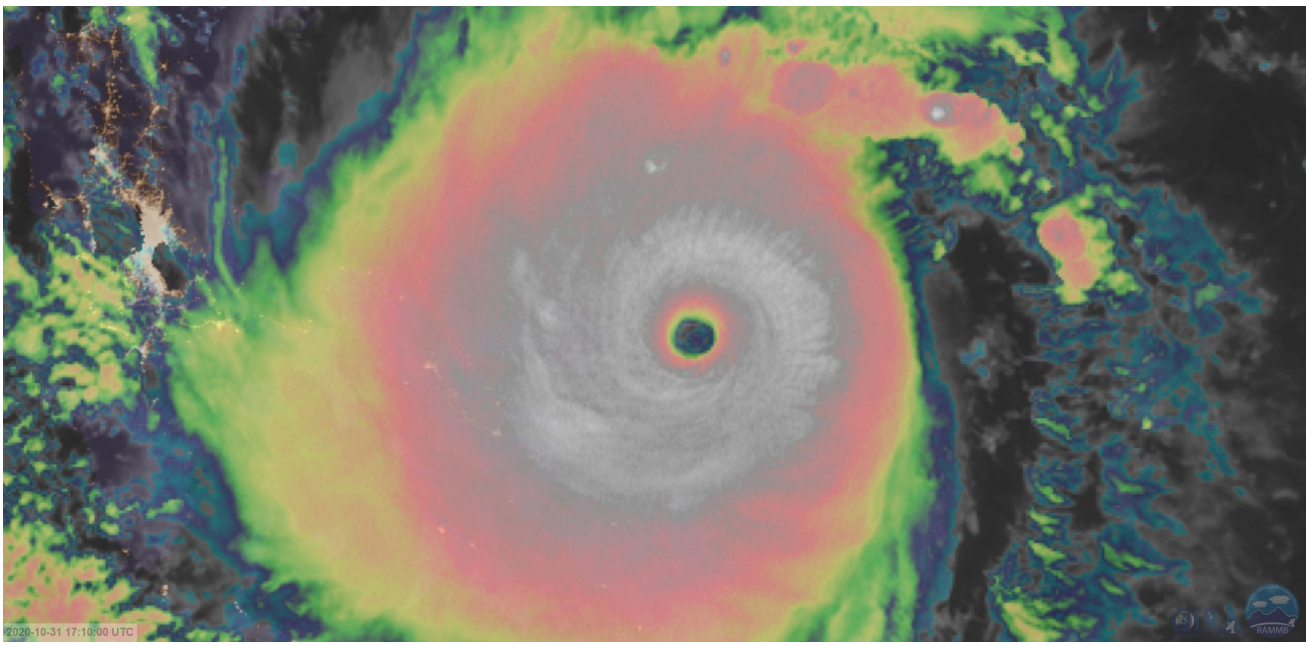


Image: Himawari-8 image of Typhoon Goni on approach to the Philippines on October 31, 2020

STORMS LISTED BY AMOUNT OF LANDFALLS

		Formed			Dissipated			Landfalls
Laura	N. Atlantic	2020	8	15	2020	8	30	5
Molave	W. Pacific	2020	10	24	2020	10	30	5
Eta	N. Atlantic	2020	10	25	2020	11	16	4
Isaias	N. Atlantic	2020	7	23	2020	8	6	4
Vongfong	W. Pacific	2020	5	12	2020	5	17	4
Goni	W. Pacific	2020	10	28	2020	11	7	3
Vamco	W. Pacific	2020	11	8	2020	11	16	3
Harold	Australia	2020	4	2	2020	4	10	2
Cristobal	N. Atlantic	2020	5	29	2020	6	11	2
Delta	N. Atlantic	2020	9	30	2020	10	15	2
Zeta	N. Atlantic	2020	10	20	2020	11	1	2
Chalane	S. Indian	2020	12	24	2020	12	31	2
Haishen	W. Pacific	2020	8	31	2020	9	8	2
Nangka	W. Pacific	2020	10	11	2020	10	15	2
Blake	Australia	2020	1	5	2020	1	10	1
Damien	Australia	2020	2	6	2020	2	10	1
Esther	Australia	2020	2	23	2020	3	2	1
03S	Australia	2020	12	8	2020	12	12	1
Amanda	E. Pacific	2020	5	30	2020	6	1	1
01M	Mediterranean	2020	9	14	2020	9	21	1
02M	Mediterranean	2020	12	14	2020	12	17	1
Bertha	N. Atlantic	2020	5	24	2020	5	29	1
Beta	N. Atlantic	2020	9	9	2020	9	28	1
Fay	N. Atlantic	2020	7	4	2020	7	12	1
Gamma	N. Atlantic	2020	9	30	2020	10	6	1
Gonzalo	N. Atlantic	2020	7	14	2020	7	26	1
Hanna	N. Atlantic	2020	7	20	2020	7	29	1
Iota	N. Atlantic	2020	11	8	2020	11	21	1
Nana	N. Atlantic	2020	8	25	2020	9	6	1
Sally	N. Atlantic	2020	9	9	2020	9	19	1
Amphan	N. Indian	2020	5	16	2020	5	21	1
Burevi	N. Indian	2020	11	30	2020	12	5	1
Gati	N. Indian	2020	11	20	2020	11	25	1
Nisarga	N. Indian	2020	6	2	2020	6	5	1
Nivar	N. Indian	2020	11	23	2020	11	27	1
Francisco	S. Indian	2020	2	6	2020	2	15	1
Yasa	S. Pacific	2020	12	12	2020	12	19	1
Bavi	W. Pacific	2020	8	21	2020	8	27	1
Hagupit	W. Pacific	2020	8	1	2020	8	6	1

STORMS LISTED BY AMOUNT OF LANDFALLS

		Formed			Dissipated			Landfalls
Higos	W. Pacific	2020	8	17	2020	8	19	1
Jangmi	W. Pacific	2020	8	8	2020	8	11	1
Linfa	W. Pacific	2020	10	10	2020	10	12	1
Maysak	W. Pacific	2020	8	28	2020	9	3	1
Mekkhala	W. Pacific	2020	8	9	2020	8	11	1
Noul	W. Pacific	2020	9	13	2020	9	19	1
Saudel	W. Pacific	2020	10	16	2020	10	26	1
Sinlaku	W. Pacific	2020	8	1	2020	8	3	1

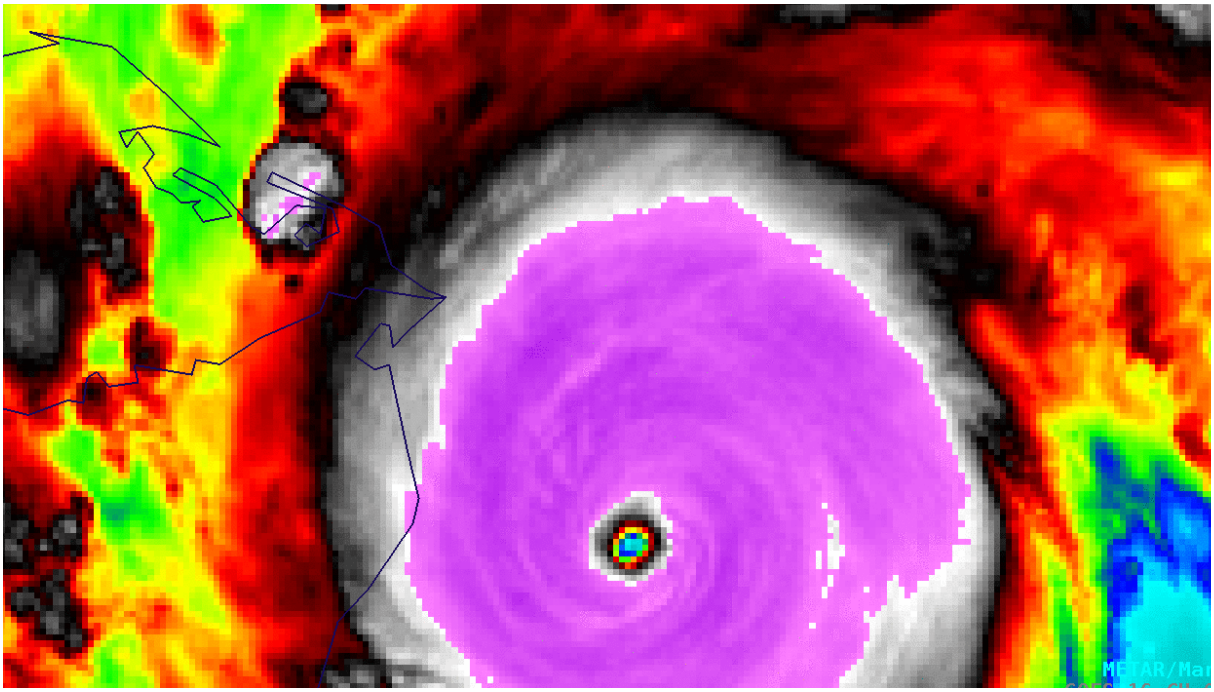


Image: GOES-16 Infra-red image of Hurricane Eta shortly before landfall in Nicaragua on November 2, 2020. Eta went on to make six landfalls across the Caribbean and Gulf of Mexico.

STORMS LISTED BY COUNTRIES AFFECTED

		Formed			Dissipated			Countries
Laura	N. Atlantic	2020	8	15	2020	8	30	6
Eta	N. Atlantic	2020	10	25	2020	11	16	6
Isaias	N. Atlantic	2020	7	23	2020	8	6	4
Harold	Australia	2020	4	2	2020	4	10	4
Chalane	S. Indian	2020	12	24	2020	12	31	3
Haishen	W. Pacific	2020	8	31	2020	9	8	3
Iota	N. Atlantic	2020	11	8	2020	11	21	3
Nana	N. Atlantic	2020	8	25	2020	9	6	3
Bavi	W. Pacific	2020	8	21	2020	8	27	3
Maysak	W. Pacific	2020	8	28	2020	9	3	3
Molave	W. Pacific	2020	10	24	2020	10	30	2
Goni	W. Pacific	2020	10	28	2020	11	7	2
Vamco	W. Pacific	2020	11	8	2020	11	16	2
Cristobal	N. Atlantic	2020	5	29	2020	6	11	2
Delta	N. Atlantic	2020	9	30	2020	10	15	2
Zeta	N. Atlantic	2020	10	20	2020	11	1	2
Nangka	W. Pacific	2020	10	11	2020	10	15	2
Amanda	E. Pacific	2020	5	30	2020	6	1	2
02M	Mediterranean	2020	12	14	2020	12	17	2
Hanna	N. Atlantic	2020	7	20	2020	7	29	2
Amphan	N. Indian	2020	5	16	2020	5	21	2
Burevi	N. Indian	2020	11	30	2020	12	5	2
Francisco	S. Indian	2020	2	6	2020	2	15	2
Hagupit	W. Pacific	2020	8	1	2020	8	6	2
Jangmi	W. Pacific	2020	8	8	2020	8	11	2
Noul	W. Pacific	2020	9	13	2020	9	19	2
Sinlaku	W. Pacific	2020	8	1	2020	8	3	2
Marco	N. Atlantic	2020	8	13	2020	8	26	2
Teddy	N. Atlantic	2020	9	8	2020	9	27	2
Diane	S. Indian	2020	1	24	2020	1	26	2
Tino	S. Pacific	2020	1	16	2020	1	19	2
Wasi	S. Pacific	2020	2	21	2020	2	23	2
Nuri	W. Pacific	2020	6	12	2020	6	15	2
Vongfong	W. Pacific	2020	5	12	2020	5	17	1
03S	Australia	2020	12	8	2020	12	12	1
Blake	Australia	2020	1	5	2020	1	10	1
Damien	Australia	2020	2	6	2020	2	10	1
Esther	Australia	2020	2	23	2020	3	2	1
01M	Mediterranean	2020	9	14	2020	9	21	1
Bertha	N. Atlantic	2020	5	24	2020	5	29	1

STORMS LISTED BY COUNTRIES AFFECTED

		Formed			Dissipated			Countries
Beta	N. Atlantic	2020	9	9	2020	9	28	1
Fay	N. Atlantic	2020	7	4	2020	7	12	1
Gamma	N. Atlantic	2020	9	30	2020	10	6	1
Gonzalo	N. Atlantic	2020	7	14	2020	7	26	1
Sally	N. Atlantic	2020	9	9	2020	9	19	1
Gati	N. Indian	2020	11	20	2020	11	25	1
Nisarga	N. Indian	2020	6	2	2020	6	5	1
Nivar	N. Indian	2020	11	23	2020	11	27	1
Yasa	S. Pacific	2020	12	12	2020	12	19	1
Higos	W. Pacific	2020	8	17	2020	8	19	1
Linfa	W. Pacific	2020	10	10	2020	10	12	1
Mekkhala	W. Pacific	2020	8	9	2020	8	11	1
Saudel	W. Pacific	2020	10	16	2020	10	26	1
21S	Australia	2020	3	11	2020	3	14	1
Gretel	Australia	2020	3	14	2020	3	16	1
Douglas	E. Pacific	2020	7	20	2020	7	28	1
Genevieve	E. Pacific	2020	8	16	2020	8	21	1
Hernan	E. Pacific	2020	8	26	2020	8	28	1
Julio	E. Pacific	2020	9	5	2020	9	7	1
Alpha	N. Atlantic	2020	9	14	2020	9	19	1
Arthur	N. Atlantic	2020	5	14	2020	5	20	1
Edouard	N. Atlantic	2020	7	2	2020	7	8	1
Epsilon	N. Atlantic	2020	10	15	2020	10	28	1
Paulette	N. Atlantic	2020	9	4	2020	10	4	1
2	N. Indian	2020	5	30	2020	6	1	1
Herold	S. Indian	2020	3	13	2020	3	19	1
Vicky	S. Pacific	2020	2	20	2020	2	22	1
Atsani	W. Pacific	2020	10	29	2020	11	8	1
Etau	W. Pacific	2020	11	6	2020	11	11	1

STORMS LISTED BY DEATH TOLL

		Formed			Dissipated			Fatalities
Eta	N. Atlantic	2020	10	25	2020	11	16	274
Linfa	W. Pacific	2020	10	10	2020	10	12	194
Molave	W. Pacific	2020	10	24	2020	10	30	117
Amphan	N. Indian	2020	5	16	2020	5	21	113
Vamco	W. Pacific	2020	11	8	2020	11	16	112
Laura	N. Atlantic	2020	8	15	2020	8	30	85
Iota	N. Atlantic	2020	11	8	2020	11	21	82
Maysak	W. Pacific	2020	8	28	2020	9	3	46
Amanda	E. Pacific	2020	5	30	2020	6	1	41
Gati	N. Indian	2020	11	20	2020	11	25	38
Goni	W. Pacific	2020	10	28	2020	11	7	33
Harold	Australia	2020	4	2	2020	4	10	28
Hagupit	W. Pacific	2020	8	1	2020	8	6	28
Noul	W. Pacific	2020	9	13	2020	9	19	18
Isaias	N. Atlantic	2020	7	23	2020	8	6	17
Cristobal	N. Atlantic	2020	5	29	2020	6	11	15
Nivar	N. Indian	2020	11	23	2020	11	27	13
Burevi	N. Indian	2020	11	30	2020	12	5	11
Haishen	W. Pacific	2020	8	31	2020	9	8	10
Krovanh	W. Pacific	2020	12	20	2020	12	25	10
Nangka	W. Pacific	2020	10	11	2020	10	15	9
Sally	N. Atlantic	2020	9	9	2020	9	19	9
Chalane	S. Indian	2020	12	24	2020	12	31	7
Zeta	N. Atlantic	2020	10	20	2020	11	1	7
Gamma	N. Atlantic	2020	9	30	2020	10	6	7
Higos	W. Pacific	2020	8	17	2020	8	19	7
Fay	N. Atlantic	2020	7	4	2020	7	12	6
Nisarga	N. Indian	2020	6	2	2020	6	5	6
Genevieve	E. Pacific	2020	8	16	2020	8	21	6
Delta	N. Atlantic	2020	9	30	2020	10	15	5
Hanna	N. Atlantic	2020	7	20	2020	7	29	5
Herold	S. Indian	2020	3	13	2020	3	19	5
Sinlaku	W. Pacific	2020	8	1	2020	8	3	4
Teddy	N. Atlantic	2020	9	8	2020	9	27	3
2	N. Indian	2020	5	30	2020	6	1	3
Tino	S. Pacific	2020	1	16	2020	1	19	2
Yasa	S. Pacific	2020	12	12	2020	12	19	2
Etau	W. Pacific	2020	11	6	2020	11	11	2
Bavi	W. Pacific	2020	8	21	2020	8	27	1
Francisco	S. Indian	2020	2	6	2020	2	15	1

STORMS LISTED BY DEATH TOLL

		Formed			Dissipated			Fatalities
Francisco	S. Indian	2020	2	6	2020	2	15	1
Marco	N. Atlantic	2020	8	13	2020	8	26	1
Nuri	W. Pacific	2020	6	12	2020	6	15	1
Vongfong	W. Pacific	2020	5	12	2020	5	17	1
Beta	N. Atlantic	2020	9	9	2020	9	28	1
Hernan	E. Pacific	2020	8	26	2020	8	28	1
Alpha	N. Atlantic	2020	9	14	2020	9	19	1
Paulette	N. Atlantic	2020	9	4	2020	10	4	1
Vicky	N. Atlantic	2020	9	10	2020	9	20	1

STORMS LISTED BY INJURED PERSONS

		Formed			Dissipated			Injured
Goni	W. Pacific	2020	10	28	2020	11	7	399
Molave	W. Pacific	2020	10	24	2020	10	30	186
Vongfong	W. Pacific	2020	5	12	2020	5	17	169
Haishen	W. Pacific	2020	8	31	2020	9	8	105
Vamco	W. Pacific	2020	11	8	2020	11	16	85
Iota	N. Atlantic	2020	11	8	2020	11	21	26
Harold	Australia	2020	4	2	2020	4	10	26
Isaias	N. Atlantic	2020	7	23	2020	8	6	20
Nisarga	N. Indian	2020	6	2	2020	6	5	16
Chalane	S. Indian	2020	12	24	2020	12	31	10
Hagupit	W. Pacific	2020	8	1	2020	8	6	8
Gati	N. Indian	2020	11	20	2020	11	25	6
Burevi	N. Indian	2020	11	30	2020	12	5	6
Arthur	N. Atlantic	2020	5	14	2020	5	20	5
Delta	N. Atlantic	2020	9	30	2020	10	15	3
2	N. Indian	2020	5	30	2020	6	1	3
Atsani	W. Pacific	2020	10	29	2020	11	8	3
Eta	N. Atlantic	2020	10	25	2020	11	16	2
Krovanh	W. Pacific	2020	12	20	2020	12	25	2
Sally	N. Atlantic	2020	9	9	2020	9	19	2
Sinlaku	W. Pacific	2020	8	1	2020	8	3	2
Hernan	E. Pacific	2020	8	26	2020	8	28	1

STORMS LISTED BY MONETARY DAMAGES

		Formed			Dissipated			$ millions
Laura	N. Atlantic	2020	8	15	2020	8	30	17758
Amphan	N. Indian	2020	5	16	2020	5	21	13717
Eta	N. Atlantic	2020	10	25	2020	11	16	6326.8
Sally	N. Atlantic	2020	9	9	2020	9	19	5750
Zeta	N. Atlantic	2020	10	20	2020	11	1	5045.2
Iota	N. Atlantic	2020	11	8	2020	11	21	4940
Delta	N. Atlantic	2020	9	30	2020	10	15	3936
Isaias	N. Atlantic	2020	7	23	2020	8	6	3542
Amanda	E. Pacific	2020	5	30	2020	6	1	900
Nisarga	N. Indian	2020	6	2	2020	6	5	803
Molave	W. Pacific	2020	10	24	2020	10	30	638
Haishen	W. Pacific	2020	8	31	2020	9	8	633
Nivar	N. Indian	2020	11	23	2020	11	27	500
Beta	N. Atlantic	2020	9	9	2020	9	28	500
Hanna	N. Atlantic	2020	7	20	2020	7	29	497
Vamco	W. Pacific	2020	11	8	2020	11	16	437
Hagupit	W. Pacific	2020	8	1	2020	8	6	411
Goni	W. Pacific	2020	10	28	2020	11	7	399
Cristobal	N. Atlantic	2020	5	29	2020	6	11	345
Yasa	S. Pacific	2020	12	12	2020	12	19	247
Noul	W. Pacific	2020	9	13	2020	9	19	175
Mekkhala	W. Pacific	2020	8	9	2020	8	11	159
Fay	N. Atlantic	2020	7	4	2020	7	12	150
Higos	W. Pacific	2020	8	17	2020	8	19	142
Gati	N. Indian	2020	11	20	2020	11	25	141
Harold	Australia	2020	4	2	2020	4	10	124
Paulette	N. Atlantic	2020	9	4	2020	10	4	50
Maysak	W. Pacific	2020	8	28	2020	9	3	40
Gamma	N. Atlantic	2020	9	30	2020	10	6	40
Teddy	N. Atlantic	2020	9	8	2020	9	27	40
Vongfong	W. Pacific	2020	5	12	2020	5	17	33
Chalane	S. Indian	2020	12	24	2020	12	31	32
Hernan	E. Pacific	2020	8	26	2020	8	28	31
Nana	N. Atlantic	2020	8	25	2020	9	6	24
Genevieve	E. Pacific	2020	8	16	2020	8	21	15
Marco	N. Atlantic	2020	8	13	2020	8	26	15
Sinlaku	W. Pacific	2020	8	1	2020	8	3	13
Bavi	W. Pacific	2020	8	21	2020	8	27	12
Tino	S. Pacific	2020	1	16	2020	1	19	9
Etau	W. Pacific	2020	11	6	2020	11	11	6
Nangka	W. Pacific	2020	10	11	2020	10	15	3

STORMS LISTED BY MONETARY DAMAGES

		Formed			Dissipated			$ millions
Nangka	W. Pacific	2020	10	11	2020	10	15	3
Alpha	N. Atlantic	2020	9	14	2020	9	19	3
Saudel	W. Pacific	2020	10	16	2020	10	26	2
Arthur	N. Atlantic	2020	5	14	2020	5	20	0.112
Atsani	W. Pacific	2020	10	29	2020	11	8	0.1
Bertha	N. Atlantic	2020	5	24	2020	5	29	0.066
Gonzalo	N. Atlantic	2020	7	14	2020	7	26	0.01

STORMS LISTED BY BUILDINGS DAMAGED

		Formed			Dissipated			Buildings Damaged
Amphan	N. Indian	2020	5	16	2020	5	21	1,242,220
Laura	N. Atlantic	2020	8	15	2020	8	30	400,338
Molave	W. Pacific	2020	10	24	2020	10	30	314,645
Sally	N. Atlantic	2020	9	9	2020	9	19	230,000
Vamco	W. Pacific	2020	11	8	2020	11	16	165,866
Goni	W. Pacific	2020	10	28	2020	11	7	134,398
Linfa	W. Pacific	2020	10	10	2020	10	12	109,034
Iota	N. Atlantic	2020	11	8	2020	11	21	91,835
Vongfong	W. Pacific	2020	5	12	2020	5	17	49,955
Nivar	N. Indian	2020	11	23	2020	11	27	48,427
Hanna	N. Atlantic	2020	7	20	2020	7	29	45,006
Amanda	E. Pacific	2020	5	30	2020	6	1	30,000
Beta	N. Atlantic	2020	9	9	2020	9	28	20,000
Fay	N. Atlantic	2020	7	4	2020	7	12	15,000
Gati	N. Indian	2020	11	20	2020	11	25	14,000
Diane	S. Indian	2020	1	24	2020	1	26	10,454
Harold	Australia	2020	4	2	2020	4	10	7492
Yasa	S. Pacific	2020	12	12	2020	12	19	6184
Burevi	N. Indian	2020	11	30	2020	12	5	3486
Sinlaku	W. Pacific	2020	8	1	2020	8	3	2999
Maysak	W. Pacific	2020	8	28	2020	9	3	2800
Chalane	S. Indian	2020	12	24	2020	12	31	1537
Hernan	E. Pacific	2020	8	26	2020	8	28	1524
Nisarga	N. Indian	2020	6	2	2020	6	5	1470
Herold	S. Indian	2020	3	13	2020	3	19	1089
Eta	N. Atlantic	2020	10	25	2020	11	16	845
Krovanh	W. Pacific	2020	12	20	2020	12	25	577
Isaias	N. Atlantic	2020	7	23	2020	8	6	494
Etau	W. Pacific	2020	11	6	2020	11	11	400
Bavi	W. Pacific	2020	8	21	2020	8	27	100
Wasi	S. Pacific	2020	2	21	2020	2	23	64
Nana	N. Atlantic	2020	8	25	2020	9	6	24
Saudel	W. Pacific	2020	10	16	2020	10	26	5
Gonzalo	N. Atlantic	2020	7	14	2020	7	26	2
Arthur	N. Atlantic	2020	5	14	2020	5	20	1

STORMS LISTED BY BUILDINGS DESTROYED

		Formed			Dissipated			Buildings Destroyed
Amphan	N. Indian	2020	5	16	2020	5	21	82721
Goni	W. Pacific	2020	10	28	2020	11	7	37491
Vamco	W. Pacific	2020	11	8	2020	11	16	23203
Molave	W. Pacific	2020	10	24	2020	10	30	9147
Vongfong	W. Pacific	2020	5	12	2020	5	17	7650
Amanda	E. Pacific	2020	5	30	2020	6	1	7225
Laura	N. Atlantic	2020	8	15	2020	8	30	6028
Cristobal	N. Atlantic	2020	5	29	2020	6	11	3000
Eta	N. Atlantic	2020	10	25	2020	11	16	2354
Yasa	S. Pacific	2020	12	12	2020	12	19	2141
Iota	N. Atlantic	2020	11	8	2020	11	21	1667
Chalane	S. Indian	2020	12	24	2020	12	31	1591
Harold	Australia	2020	4	2	2020	4	10	644
Gati	N. Indian	2020	11	20	2020	11	25	642
Krovanh	W. Pacific	2020	12	20	2020	12	25	477
Linfa	W. Pacific	2020	10	10	2020	10	12	382
Hernan	E. Pacific	2020	8	26	2020	8	28	150
Diane	S. Indian	2020	1	24	2020	1	26	146
Herold	S. Indian	2020	3	13	2020	3	19	127
Burevi	N. Indian	2020	11	30	2020	12	5	99
Nisarga	N. Indian	2020	6	2	2020	6	5	23
Saudel	W. Pacific	2020	10	16	2020	10	26	4
Hanna	N. Atlantic	2020	7	20	2020	7	29	3
Isaias	N. Atlantic	2020	7	23	2020	8	6	3
Wasi	S. Pacific	2020	2	21	2020	2	23	2
Bertha	N. Atlantic	2020	5	24	2020	5	29	1
Francisco	S. Indian	2020	2	6	2020	2	15	1

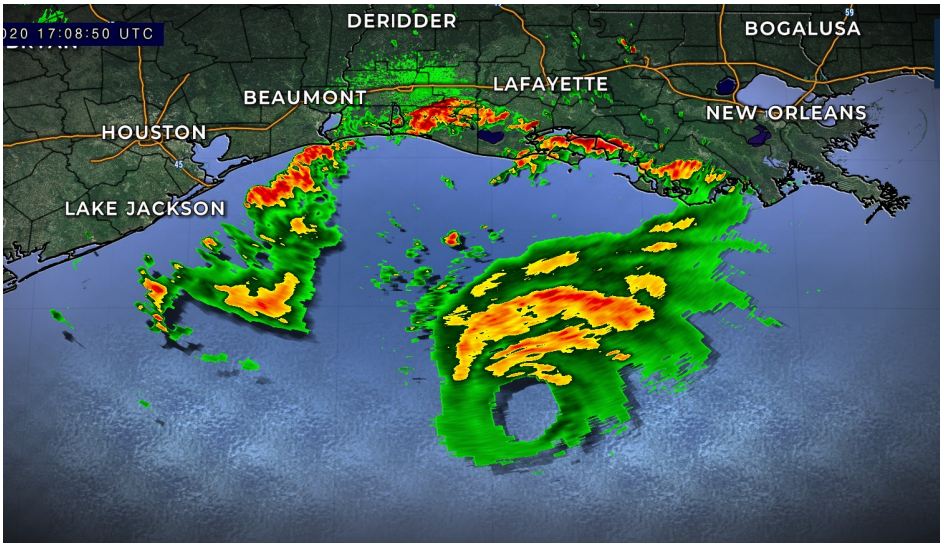


Image: Lake Charles radar image of Hurricane Laura on August 26, 2020. Laura was the costliest storm worldwide in 2020.

STORMS LISTED BY EVACUEES

		Formed			Dissipated			Evacuees
Amphan	N. Indian	2020	5	16	2020	5	21	4200360
Goni	W. Pacific	2020	10	28	2020	11	7	1453807
Molave	W. Pacific	2020	10	24	2020	10	30	1324682
Noul	W. Pacific	2020	9	13	2020	9	19	1000000
Vamco	W. Pacific	2020	11	8	2020	11	16	691312
Laura	N. Atlantic	2020	8	15	2020	8	30	461066
Hagupit	W. Pacific	2020	8	1	2020	8	6	200000
Vongfong	W. Pacific	2020	5	12	2020	5	17	182916
Nangka	W. Pacific	2020	10	11	2020	10	15	150000
Iota	N. Atlantic	2020	11	8	2020	11	21	144000
Eta	N. Atlantic	2020	10	25	2020	11	16	107576
Nisarga	N. Indian	2020	6	2	2020	6	5	100000
Burevi	N. Indian	2020	11	30	2020	12	5	85336
Higos	W. Pacific	2020	8	17	2020	8	19	65000
Yasa	S. Pacific	2020	12	12	2020	12	19	23090
Harold	Australia	2020	4	2	2020	4	10	7000
Gamma	N. Atlantic	2020	9	30	2020	10	6	5000
Amanda	E. Pacific	2020	5	30	2020	6	1	4219
Nana	N. Atlantic	2020	8	25	2020	9	6	4000
Delta	N. Atlantic	2020	9	30	2020	10	15	4000
Mekkhala	W. Pacific	2020	8	9	2020	8	11	3200
Maysak	W. Pacific	2020	8	28	2020	9	3	2760
Krovanh	W. Pacific	2020	12	20	2020	12	25	1626
Hernan	E. Pacific	2020	8	26	2020	8	28	1189
Diane	S. Indian	2020	1	24	2020	1	26	1121
Isaias	N. Atlantic	2020	7	23	2020	8	6	1000
Saudel	W. Pacific	2020	10	16	2020	10	26	645
Cristobal	N. Atlantic	2020	5	29	2020	6	11	619
Chalane	S. Indian	2020	12	24	2020	12	31	600
Tino	S. Pacific	2020	1	16	2020	1	19	200
2	N. Indian	2020	5	30	2020	6	1	50
Genevieve	E. Pacific	2020	8	16	2020	8	21	42
Bavi	W. Pacific	2020	8	21	2020	8	27	30

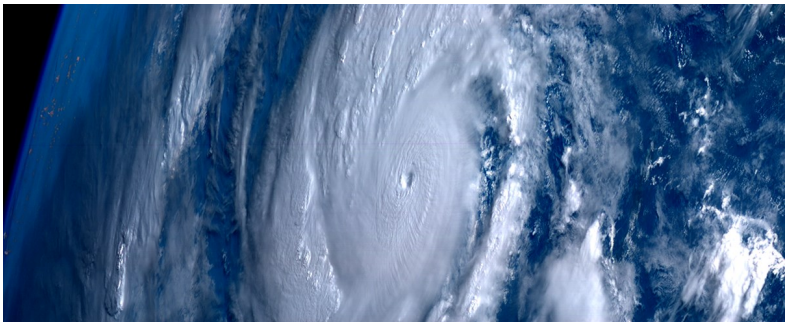
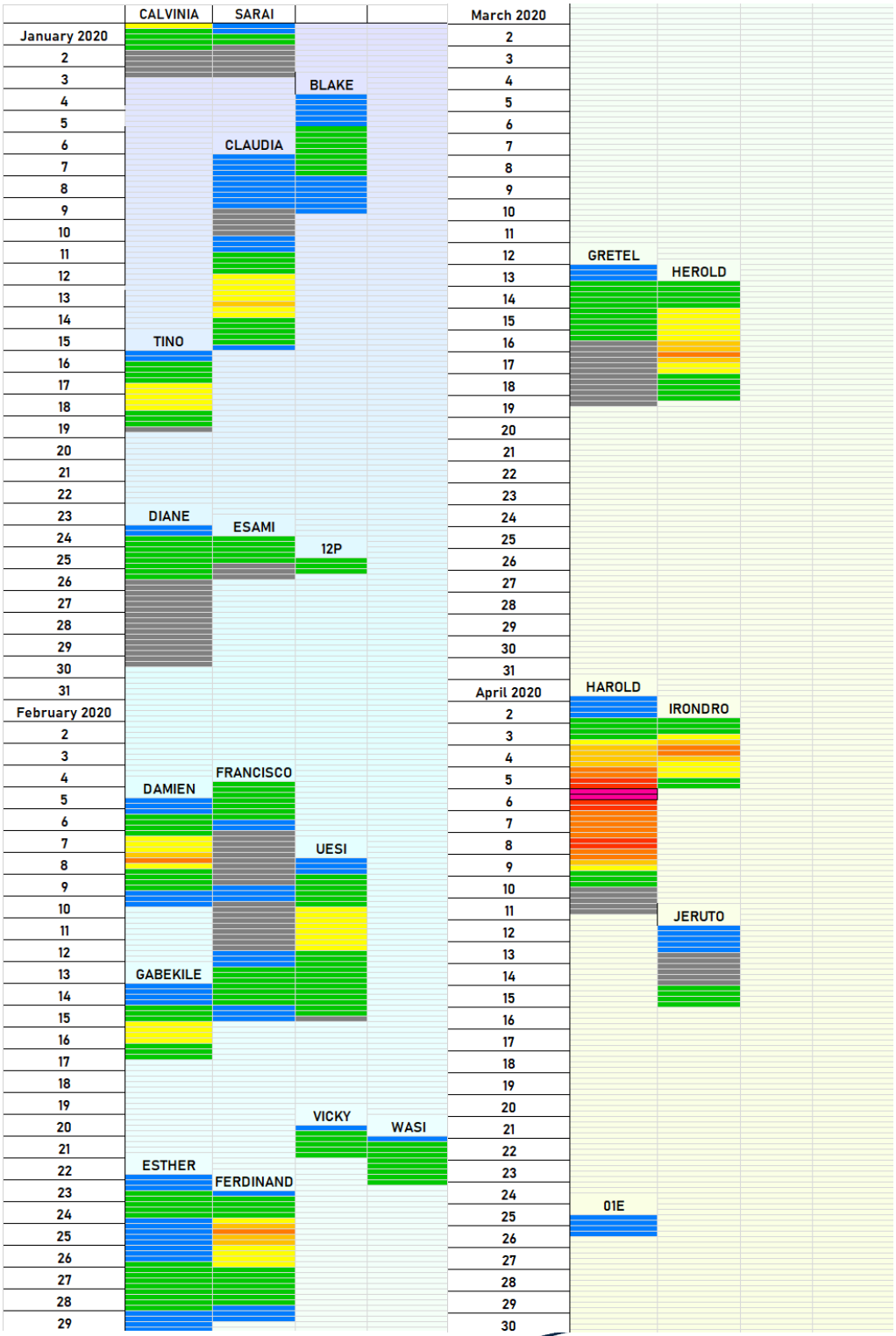


Image: Himawari-8 true color image of Cyclone Amphan, which was by some distance the most damaging storm of 2020, in terms of structural damages. This storm also prompted the most evacuations this year.

2020 STORM TIMELINE

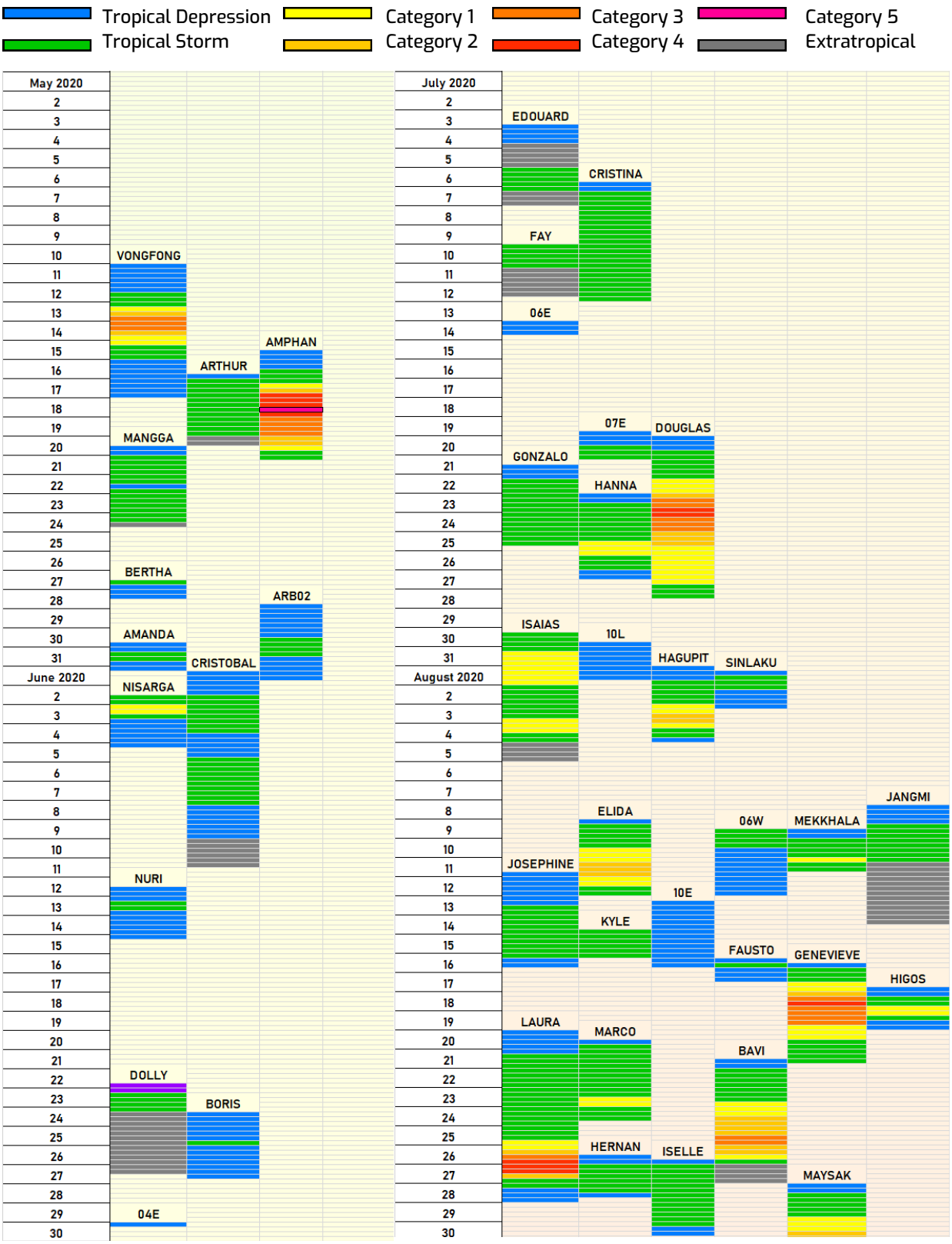
Below shows the progression at six-hourly intervals of worldwide tropical cyclone activity in 2020. All intensity categories are in correspondence with the Saffir-Simpson Hurricane Wind Scale.

Tropical Depression
Tropical Storm
Category 1
Category 2
Category 3
Category 4
Category 5
Extratropical



FORCE THIRTEEN

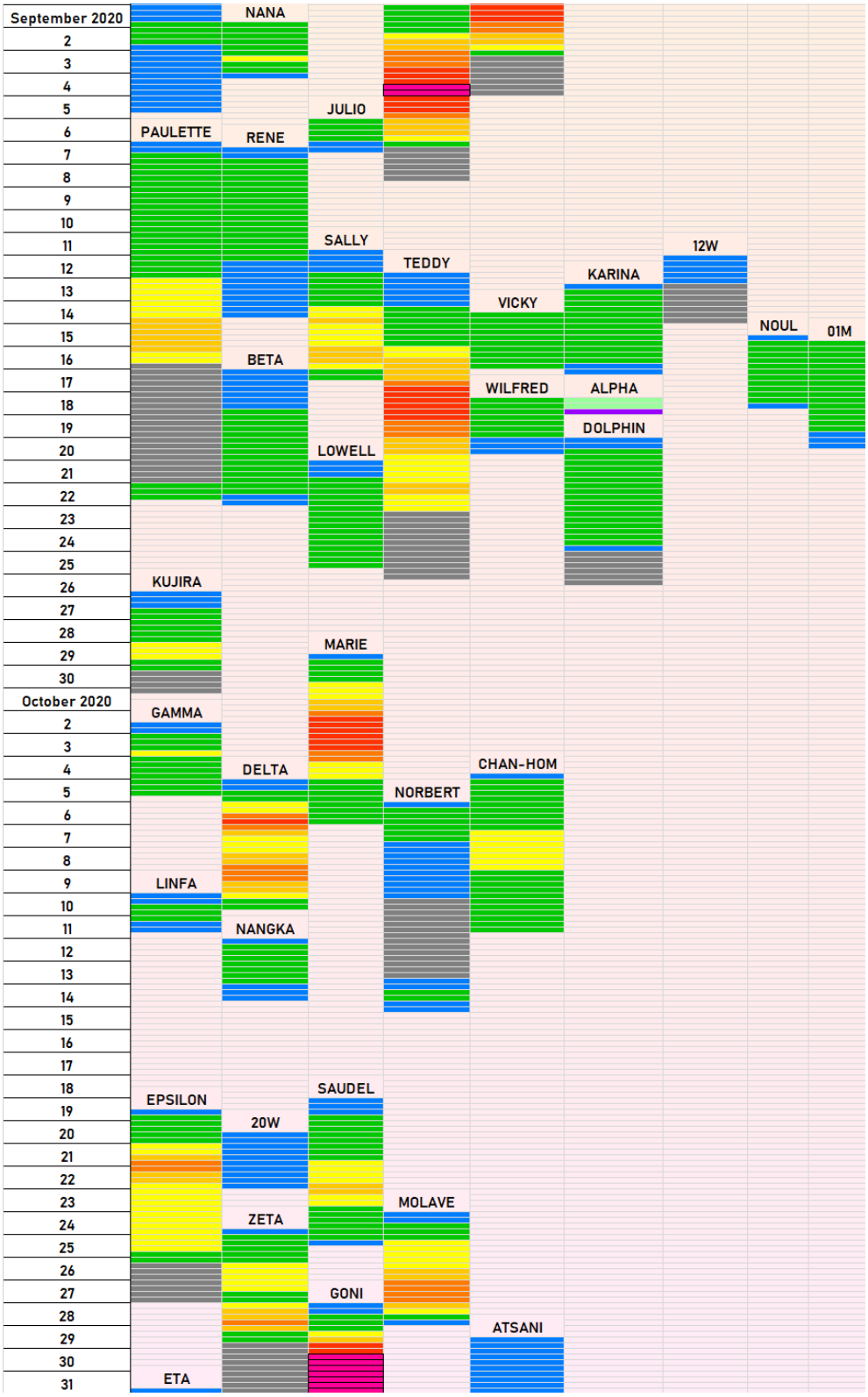
2020 STORM TIMELINE



FORCE THIRTEEN

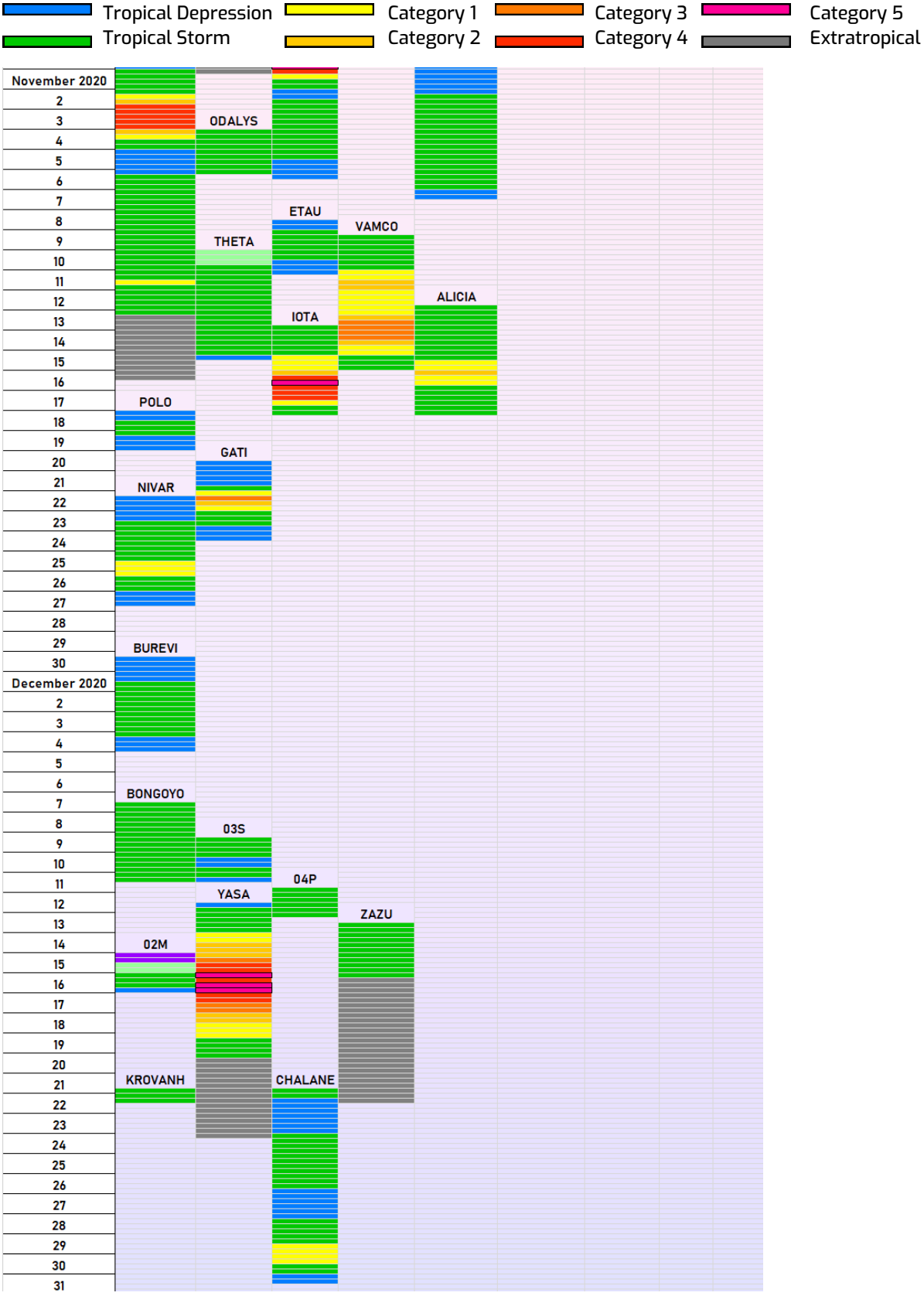
2020 STORM TIMELINE

Tropical Depression
Tropical Storm
Category 1
Category 2
Category 3
Category 4
Category 5
Extratropical



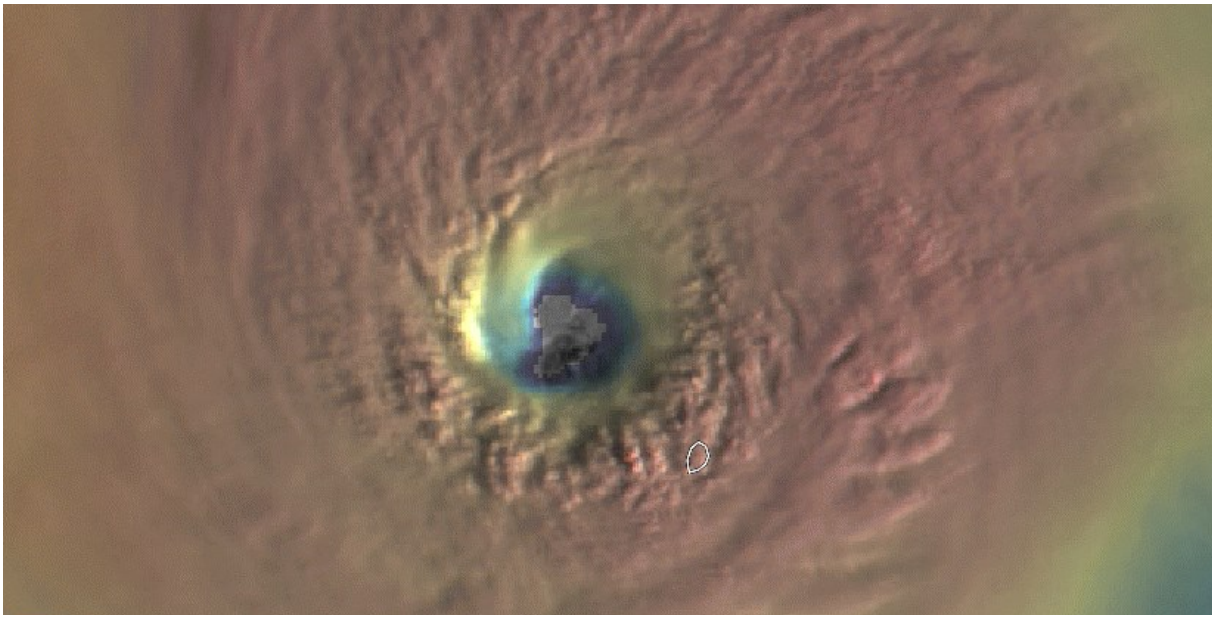
FORCE THIRTEEN

2020 STORM TIMELINE



FORCE THIRTEEN

2020 RECORDS



The next page will show all the records set in 2020 for intensity and longevity.
In the records section of this report, all storms that set their record in 2020 will be counted as part of this year's records, even if they formed or dissipated in a different calendar year. If a storm's record encompasses multiple years (as could be seen in longevity records, for instance), the record will be counted towards both years.

Image: GOES-16 Vis/Sandwich imagery of Hurricane Iota on the morning of November 16, 2020

INTENSITY AND LONGEVITY RECORDS

Most intense central pressures

World

1. Typhoon Goni	887mb
2. Cyclone Amphan	904mb
3. Typhoon Haishen	910mb

Atlantic

1. Hurricane Iota	915mb
2. Hurricane Eta	923mb
3. Hurricane Laura	935mb

Eastern Pacific (includes Central)

1. Hurricane Marie	945mb
2. Hurricane Douglas	949mb
3. Hurricane Genevieve	950mb

Western Pacific

1. Typhoon Goni	887mb
2. Typhoon Haishen	910mb
3. Typhoon Maysak	920mb

North Indian Ocean

1. Cyclone Amphan	904mb
2. Cyclone Gati	966mb
3. Cyclone Nisarga	972mb

South Indian Ocean

1. Cyclone Ferdinand	952mb
2. Cyclone Damien	954mb
3. Cyclone Irondro	959mb

South Pacific Ocean

1. Cyclone Yasa	912mb
2. Cyclone Harold	927mb
3. Cyclone Tino	958mb

Strongest Wind Speeds

World

1. Typhoon Halong	195mph
2. Cyclone Yasa	165mph
3. Multiple storms	160mph

Atlantic

1. Hurricane Iota	160mph
2. Hurricane Eta	155mph
=. Hurricane Laura	155mph

Eastern Pacific (includes Central)

1. Hurricane Douglas	145mph
2. Hurricane Marie	140mph
3. Hurricane Genevieve	130mph

Western Pacific

1. Typhoon Goni	195mph
2. Typhoon Haishen	160mph
3. Typhoon Maysak	145mph

North Indian Ocean

1. Cyclone Amphan	160mph
2. Cyclone Gati	115mph
3. Cyclone Nisarga	85mph

South Indian Ocean

1. Cyclone Ferdinand	120mph
=. Cyclone Herold	120mph
3. Cyclone Damien	115mph

South Pacific Ocean

1. Cyclone Yasa	165mph
2. Cyclone Harold	160mph
3. Cyclone Tino	90mph

Most intense Category 4 storms

World

1. Typhoon Maysak	920mb
2. Hurricane Eta	923mb
3. Hurricane Laura	935mb

Strongest 24 hour average wind

World

1. Typhoon Goni	185mph
2. Typhoon Haishen	156mph
3. Cyclone Yasa	155mph
=. Cyclone Amphan	155mph

Most intense Category 3 storms

World

1. Typhoon Bavi	942mb
2. Typhoon Vongfong	950mb
3. Typhoon Molave	952mb
=. Hurricane Epsilon	952mb
=. Cyclone Ferdinand	952mb

Most Intense 24 hour average air pressure

World

1. Typhoon Goni	896mb
2. Cyclone Yasa	915mb
3. Cyclone Amphan	916mb

INTENSITY AND LONGEVITY RECORDS

Longest duration as a tropical storm or stronger

World

1. Hurricane Eta	264 hours
2. Hurricane Paulette	240 hours
3. Hurricane Teddy	216 hours

Atlantic

1. Hurricane Eta	264 hours
2. Hurricane Paulette	240 hours
3. Hurricane Teddy	216 hours

Eastern Pacific (includes Central)

1. Hurricane Douglas	186 hours
2. Hurricane Marie	174 hours
3. Tropical Storm Cristina	138 hours

Western Pacific

1. Typhoon Goni	180 hours
2. Typhoon Chan-Hom	162 hours
=. Typhoon Vamco	162 hours

North Indian Ocean

1. Cyclone Amphan	114 hours
2. Cyclone Nivar	84 hours
3. Cyclone Burevi	66 hours

South Indian Ocean

1. Cyclone Chalane	144 hours
2. Cyclone Herold	132 hours
=. Cyclone Alicia	132 hours

South Pacific Ocean

1. Cyclone Yasa	180 hours
2. Cyclone Uesi	156 hours
3. Cyclone Tino	72 hours

Longest duration as a Category 5 storm

World

1. Typhoon Goni	42 hours
2. Cyclone Yasa	18 hours
3. Typhoon Harold	12 hours
=. Typhoon Haishen	12 hours

Atlantic

1. Hurricane Iota	6 hours

Eastern Pacific (includes Central)

None

Western Pacific

1. Typhoon Goni	42 hours
2. Typhoon Haishen	12 hours

North Indian Ocean

1. Cyclone Amphan	6 hours

South Indian Ocean

1. Cyclone Ambali	6 hours

South Pacific Ocean

1. Cyclone Yasa	18 hours
2. Cyclone Harold	12 hours

Longest duration at sub-900mb

World

1. Typhoon Goni	24 hours

Longest duration at Category 4 or stronger

World

1. Typhoon Goni	60 hours
2. Multiple storms	48 hours

Longest duration at sub-920mb

World

1. Typhoon Goni	48 hours
2. Cyclone Yasa	24 hours
3. Cyclone Amphan	18 hours

Longest duration at Category 1 or stronger

World

1. Hurricane Teddy	174 hours
2. Hurricane Paulette	150 hours
3. Cyclone Harold	144 hours

Longest duration at Category 4 without strengthening

World

1. Hurricane Teddy	36 hours
2. Hurricane Eta	30 hours
=. Typhoon Maysak	30 hours

Longest duration at Category 3 without strengthening

World

1. Typhoon Molave	24 hours
2. Typhoon Vamco	24 hours
3. Typhoon Vongfong	18 hours

Longest duration at Category 2 without strengthening

World

1. Hurricane Paulette	36 hours
2. Hurricane Sally	24 hours
3. Hurricane Elida	18 hours

Longest duration at Category 1 without strengthening

World

1. Hurricane Isaias	60 hours
2. Cyclone Uesi	48 hours
3. Typhoon Chan-Hom	42 hours

INTENSITY AND LONGEVITY RECORDS

Longest duration at Tropical Storm w/o strengthening

World

1. Tropical Storm Cristina	138 hours
2. Tropical Storm Gretel	126 hours
=. Tropical Storm Beta	126 hours

Shortest Cyclone Duration

World

1. Tropical Depression 04E	6 hours
2. Multiple cyclones	18 hours

Longest Cyclone Duration

World

1. Hurricane Eta	300 hours
2. Hurricane Paulette	252 hours
=. Hurricane Teddy	252 hours

Average minimum central pressure by basin

1. South Indian	981mb	5. South Pacific	976mb
2. Australian Region	976mb	6. North Atlantic	982mb
3. Western Pacific	972mb	7. North Indian	970mb
4. Eastern Pacific	989mb		

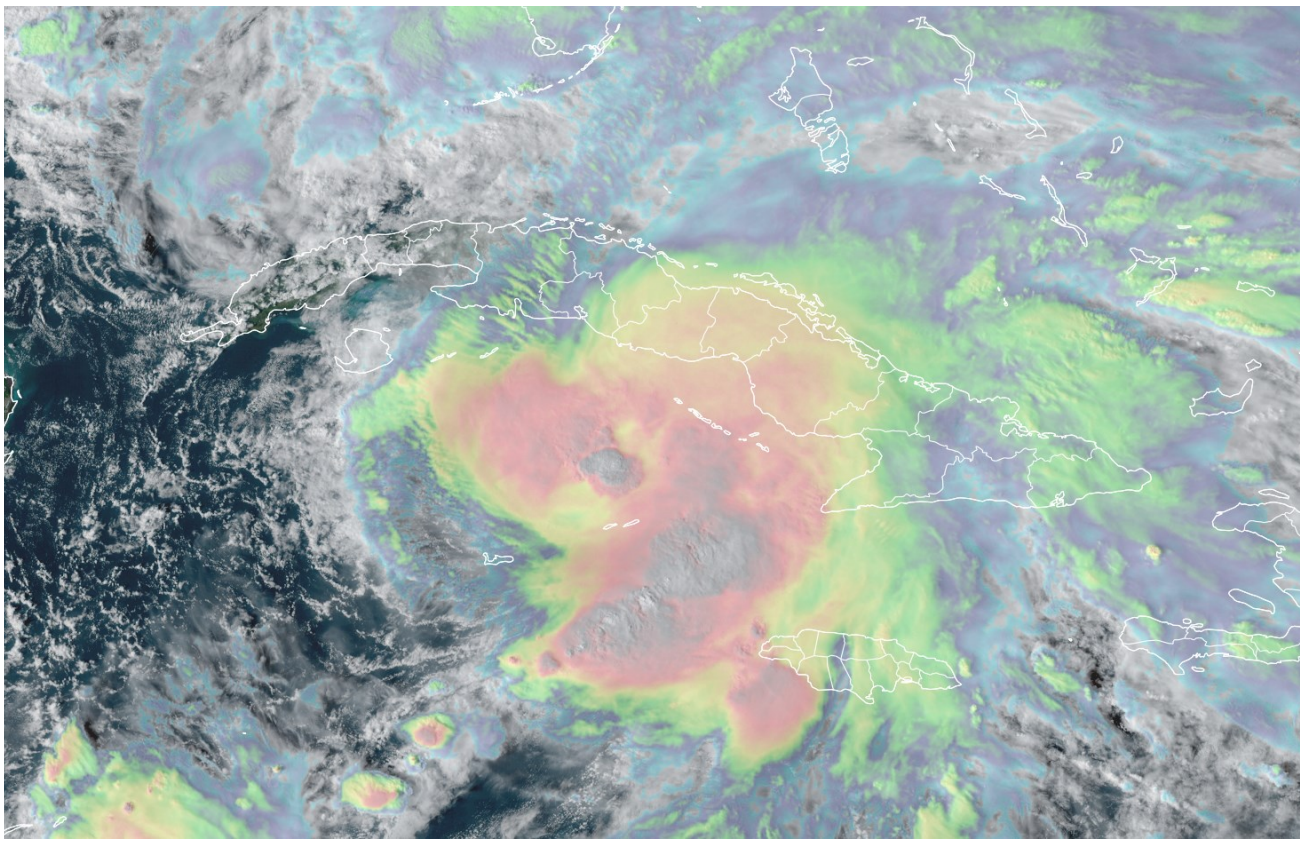


Image: GOES-16 satellite image of Tropical Storm Eta in its second phase, after striking Central America as a hurricane. Eta was the longest lasting storm of 2020.

ACTIVITY RECORDS

Most tropical storms or stronger active simultaneously **World** 1. Seven, on September 15-16 2. Five, on September 14-15 =. Five, on September 22	Most Tropical Storms or stronger active in a 30-day period **World** 1. Twenty, from August 21-September 20 =. Twenty, from August 22-September 21 =. Twenty, from September 6-October 6
Most hurricanes active simultaneously **World** 1. Three, on September 16	
Most Category 3 storms active simultaneously **World** No instances of more than one active simultaneously in this year.	Most Category 4 storms active simultaneously **World** No instances of more than one active simultaneously in this year.
Most consecutive days with a tropical storm active **World** 1. Forty-nine, from August 8 to September 25 2. Thirty-one, from October 19-November 19	Most consecutive days with two tropical storms active **World** 1. Twenty, from September 6-25 2. Seventeen, from August 18-September 3 3. Eleven, from October 19-29
Most consecutive days with a hurricane active **World** 1. Fifteen, from October 21-November 4 2. Eleven, from September 13-23	Most consecutive days with two hurricanes active **World** 1. Five, from October 25-29 2. Three, from April 3-5 =. Three, from September 14-16
Most consecutive days with a major hurricane active **World** 1. Six, from April 4-9	Most consecutive days with two major hurricanes active **World** None

LANDFALL RECORDS

Strongest landfalls

World

1. Typhoon Goni	180mph
2. Cyclone Harold	160mph
3. Hurricane Laura	155mph

Most landfalls

World

1. Hurricane Laura	5
=. Typhoon Molave	5
3. Hurricane Eta	4
=. Hurricane Isaias	4
=. Typhoon Vongfong	4

Most hurricane landfalls

World

1. Typhoon Molave	5
2. Hurricane Isaias	3
=. Typhoon Vongfong	3
=. Vamco, Goni	3

Most major hurricane landfalls

World

1. Typhoon Goni	2
=. Cyclone Harold	2

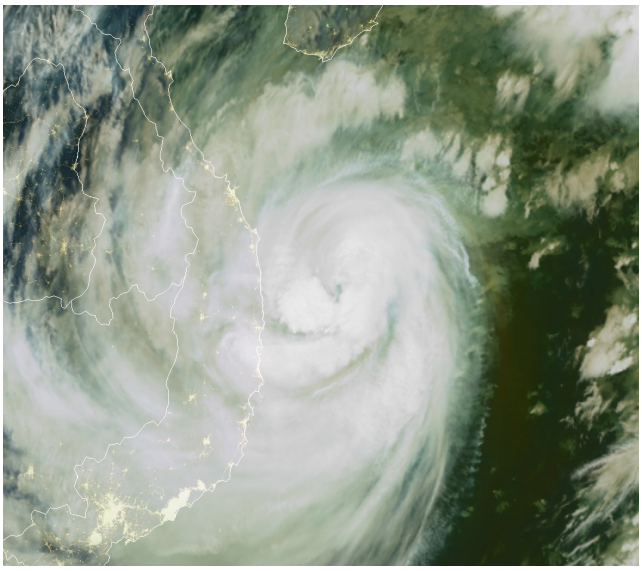


Image: Himawari-8 Geocolor IR satellite image of Typhoon Molave on October 27, 2020, shortly before its final landfall in Vietnam, after previously making four typhoon landfalls in the Philippines.

LOCATION AND MOVEMENT RECORDS

Furthest north Category 5 cyclone

Basin	Storm	Latitude	Date	Year
N. Atlantic	Iota	13.5	November 16	2020
Highest lat since	Dorian	26.7	September 2	2019
E. Pacific				
Highest lat since				
W. Pacific	Haishen	23.2	September 4	2020
Highest lat since	Hagibis	24.4	October 10	2019
N. Indian	Amphan	14.7	May 18	2020
Highest lat since	Fani	17.6	May 2	2019
S. Indian				
Lowest lat since				
S. Pacific	Yasa	-14.6	December 16	2020
Lowest lat since	Ita	-12.8	April 10	2014

Furthest south Category 5 cyclone

Basin	Storm	Latitude	Date	Year
N. Atlantic	Iota	13.5	November 16	2020
Lowest lat since	Joan	11.9	October 22	1988
E. Pacific				
Lowest lat since				
W. Pacific	Goni	13.6	October 31	2020
Lowest lat since	Wutip	12.0	February 23	2019
N. Indian	Amphan	13.6	May 18	2020
Lowest lat since	New record			
S. Indian				
Highest lat since				
S. Pacific	Harold	-16.1	April 6	2020
Highest lat since	Winston	-17.5	February 20	2016

LOCATION AND MOVEMENT RECORDS

Furthest north tropical storm

Basin	Storm	Latitude	Date	Year
N. Atlantic	Epsilon	49.4	October 26	2020
Highest lat since	Ernesto	49.7	August 17	2018
E. Pacific	Genevieve	25.3	August 21	2020
Highest lat since	Lorena	27.9	September 22	2019
W. Pacific	Bavi	41.5	August 27	2020
Highest lat since	Lingling	43.1	September 7	2019
N. Indian	Amphan	24.5	May 21	2020
Highest lat since	Mora	24.6	May 31	2017
S. Indian	Alicia	-7.4	November 14	2020
Lowest lat since	Lili	-4.0	April 21	2019
S. Pacific	Harold	-9.8	April 2	2020
Lowest lat since	Mona	-6.9	January 1	2019

Furthest south tropical storm

Basin	Storm	Latitude	Date	Year
N. Atlantic	Gonzalo	9.7	July 23	2020
Lowest lat since	Kirk	7.7	September 22	2018
E. Pacific	Boris	11.0	June 25	2020
Lowest lat since	Hilary	9.2	July 22	2017
W. Pacific	Krovanh	9.6	December 21	2020
Lowest lat since	Wutip	4.4	February 19	2019
N. Indian	Burevi	7.8	December 1	2020
Lowest lat since	Fani	2.1	April 25	2019
S. Indian	Calvinia	-30.6	January 1	2020
Highest lat since	Fundi	-32.6	February 8	2015
S. Pacific	Uesi	-28.7	February 13	2020
Highest lat since	Gita	-32.6	February 19	2018

Fastest measured cyclone movement

World

1. Hurricane Zeta 58mph
2. Hurricane Epsilon 57mph
3. Tropical Storm Edouard 40mph

Slowest measured cyclone movement

World

1. Tropical Storm Norbert 1mph
=. Hurricane Gamma 1mph
=. Tropical Storm Beta 1mph
=.Tropical Storm Cristobal 1mph

CHRONOLOGICAL RECORDS

Earliest and latest Category 5 cyclones (with regard to local season)

Basin	Storm	Earliest	Year	Storm	Latest	Year
N. Atlantic	Iota	November 16	2020	Iota	November 16	2020
Previous record	Dorian	September 2	2019			
E. Pacific						
Previous record						
W. Pacific	Haishen	September 4	2020	Goni	November 1	2020
Previous record	Wutip	February 23	2019	Halong	November 6	2019
N. Indian	Amphan	May 18	2020	Amphan	May 18	2020
Previous record	Fani	May 2	2019	Kyarr	October 28	2019
S. Indian				Ambali	December 6	2019
Previous record				Cilida	December 21	2018
S. Pacific	Yasa	December 15	2020	Harold	April 7	2020
Previous record	Sina	November 26	1990			

Earliest and latest Category 3+ cyclones (with regard to local season)

Basin	Storm	Earliest	Year	Storm	Latest	Year
N. Atlantic	Laura	August 26	2020	Iota	November 16	2020
Previous record	Gert	August 13	2017	Otto	November 24	2016
E. Pacific	Douglas	July 23	2020	Marie	October 4	2020
Previous record	Barbara	July 2	2019	Willa	October 24	2018
W. Pacific	Vongfong	May 13	2020	Vamco	November 14	2020
Previous record	Wutip	February 22	2019	Phanfone	December 25	2019
N. Indian	Amphan	May 17	2020	Gati	November 22	2020
Previous record	Fani	April 30	2019	04B	November 24	1995
S. Indian				Herold	March 17	2020
Previous record				Kenneth	April 25	2019
S. Pacific	Yasa	December 15	2020	Harold	April 9	2020
Previous record	Evan	December 14	2012	Donna	May 8	2017

EYE AND SIZE RECORDS

Largest Eyes
World

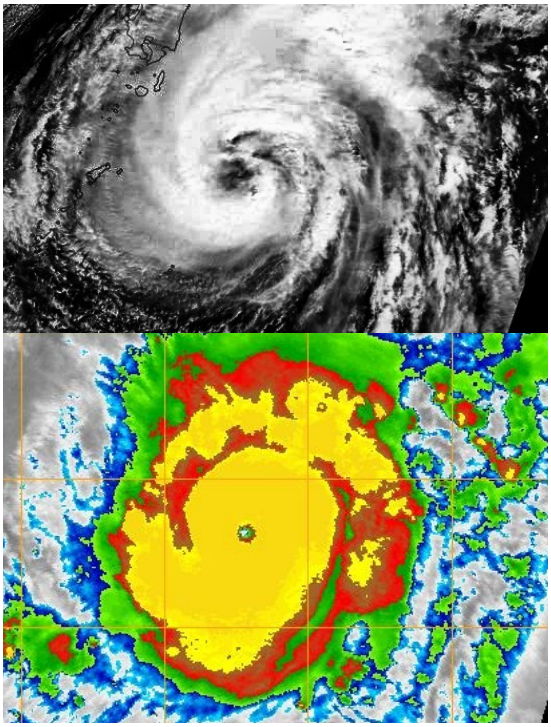
1. Typhoon Chan-hom	90nm
2. Hurricane Teddy	72nm
3. Typhoon Maysak	54nm

Smallest Eyes
World

1. Typhoon Goni	7nm
=. Hurricane Eta	7nm
3. Hurricane Marie	8nm
=. Cyclone Amphan	8nm

Warmest Eyes
World

1. Typhoon Goni	26.9°C (80.4°F)
2. Hurricane Douglas	24.4°C (75.9°F)
3. Typhoon Haishen	21.8°C (71.3°F)



Images from top to bottom:
1. TERRA visible image of Typhoon Chan-Hom near the Japanese islands
2. Himawari-8 Navy infra-red image of Typhoon Goni late on October 30, 2020, as it approached the Philippine islands during its first peak

Largest Storm Size
World

1. Hurricane Teddy
   950nm
2. Hurricane Epsilon
   750nm
3. Typhoon Haishen
   625nm

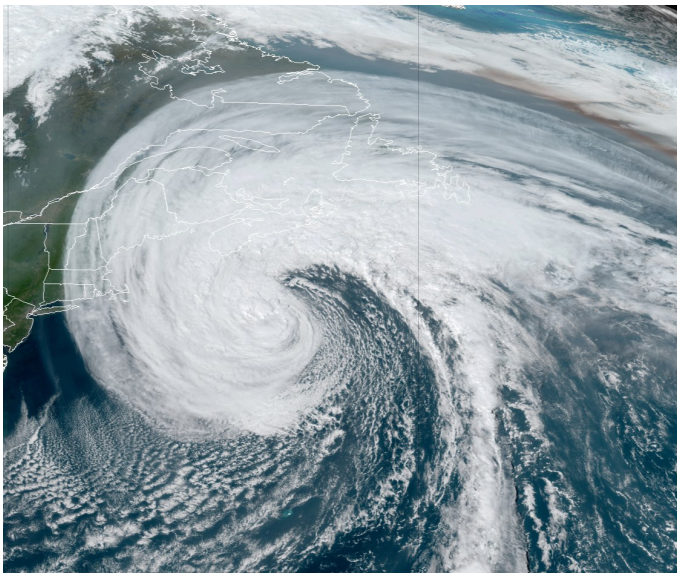


Image: GOES-16 Geocolor image of Hurricane Teddy near its largest wind extent on September 22, 2020

INTENSIFICATION RECORDS

Fastest over a 12 hour period

World

1. Cyclone Gati	+70mph
2. Typhoon Goni	+60mph
3. Hurricane Delta	+45mph
=. Hurricane Eta	+45mph

Fastest over a 24 hour period

World

1. Typhoon Goni	+90mph
2. Cyclone Amphan	+85mph
3. Hurricane Eta	+80mph
=. Hurricane Iota	+80mph
5. Hurricane Delta	+75mph

Fastest time to increase wind speeds by 100mph

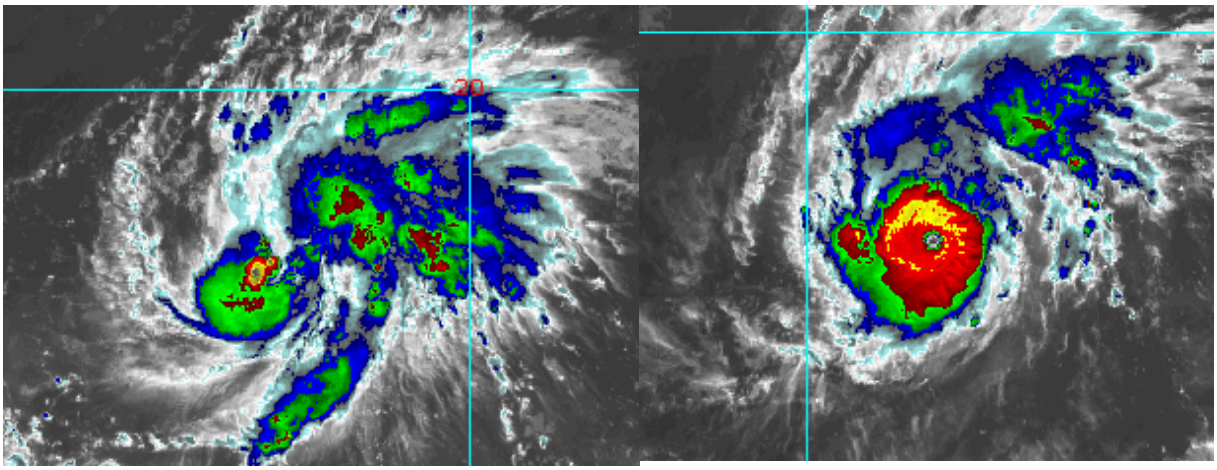
World

1. Typhoon Goni	30 hours
2. Hurricane Delta	36 hours
=. Hurricane Eta	36 hours
=. Cyclone Amphan	36 hours

Fastest time to decrease pressure by 100mb

World

1. Typhoon Goni	48 hours



Above: Comparison images of Typhoon Goni taken 24 hours apart, from 02:00 UTC on October 29 and 30, 2020, during its explosive intensification phase. Goni dropped 100mb in pressure in around 48 hours.

FORCE THIRTEEN DURING 2020

Due to world circumstances during 2020, our service took advantage of higher internet usage rates and more time available for our team to work on products, and this led to huge growth of Force Thirteen during the year. This of course was also brought about by the exceptional amount of activity in the Atlantic basin.

The biggest game changer during 2020 was the more stable Automated Streaming Service, which began to run during July and stayed active for large parts of the season, attracting a much larger amount of passing traffic.

2020 sets another new record for amount of views on the Force Thirteen YouTube channel by a large distance, and broke several other records across out platforms and subsidiary channels.

All of these aspects, and a critique of our actual coverage, will be covered in further detail in this section of the report.

FORECASTING CRITIQUE AND STORM COVERAGE

In total, there were 591 videos uploaded on the Force Thirteen main channel throughout 2020, which was 15 less than in 2019.

There were also 54 (+22) videos on Force Thirteen Xtra, 20 (+1) on Force Thirteen UK & Ireland, 330 (+81) on Force Thirteen AU & Oceania, 122 (-14) on Force Thirteen US & Caribbean, and 42 (-1) on Force Thirteen's Tropical Archive. Additionally, Force Thirteen's Gaming channel produced 25 (+13) videos and Space Thirteen uploaded one.

Several advances were made in 2020 on our storm coverages and updates, with major improvements made to the storm update format and faster rendering and upload times. The team pivoted our content to be much more friendly towards Search Engine Optimisation this year, which likely had a direct impact on our reach.

In April, our network launched Force Thirteen Earthquakes—primarily a 24/7 stream of earthquakes around the world, with earthquake animations scheduled to begin in 2021.

In May, regular plans of the day started to be produced in our Contributor Hub, leading to more structure within the team and higher productivity and organisation.

The team's ability was tested fairly early with the major threat posed by Cyclone Amphan, which was dealt with solidly, particularly on our social media accounts which reached new levels on Twitter in particular.

Storm coverage itself tended to run for longer with more resources than in previous years, with many more storm updates and social media presence than in previous seasons. The major highlight of our coverage in 2020 was our coverage of Hurricane Laura, which included a twelve hour live stream led by four different teams through the night as Laura made landfall in Louisiana.

Towards the end of the year, efforts started to be pushed towards training up more members to produce content, so that the responsibility was less heavy on individuals or small groups.

In September, Force Thirteen HQ acquired another machine dedicated to running 24/7 live streams, and in October, editing software was upgraded and gradually production was moved to the new software over the next few months. This was a lengthy transition as the previous software had been in use since the beginning, nine years prior.

Other major streaming events occurred during Typhoon Goni, when viewing records were shattered as it made landfall in the Philippines, as well as during Hurricane Iota when solo teams led coverage under very severe circumstances.

With technological advancements, some 24/7 streams were upgraded to 4K resolution, with more visual improvements on live streaming graphics.

VIEWING STATISTICS

2020 had approximately 10,913,956 views on the channel during the year. This figure may be inaccurate by up to 5,000 each way. By comparison, 2019 finished with 5,415,283 views.

October 31 set a new record daily viewcount, at 1,090,752. This demolished the old record of 246,298 on September 1, 2019. That day also set a subscriber record at 4,433 (previous record 943 on September 1, 2019).
This day also set a watch time record of 3.2 million minutes (previous record 1.3 million on September 1, 2019).
October 25-31 also set a new weekly record for views, with 1,924,275. The previous record was set in September 2018 (1,171,021)
2020 also set new records for 1st, 3rd, 4th, 7th and 8th busiest months.

In terms of watch time (amount of minutes viewers spent viewing the videos), 2020 also comes out on top, with 37,136,292 minutes of viewing time, collectively. The previous year logged 14,322,774 minutes.

In 2020, approval rate also reached a new record, with 159,929 likes compared to 75,885 last year.
Typically, the amount of dislikes has also been the highest on record this year, with 4,742 dislikes compared to 2,539 last year. The actual approval rating sits at 97.1%

In 2020, comments on YouTube videos amounted to 952.146, compared to 234,570 in 2019.

The subscriber base has grown by a further 26,876 in 2020, beating the largest increase of 18,152 set in 2018.

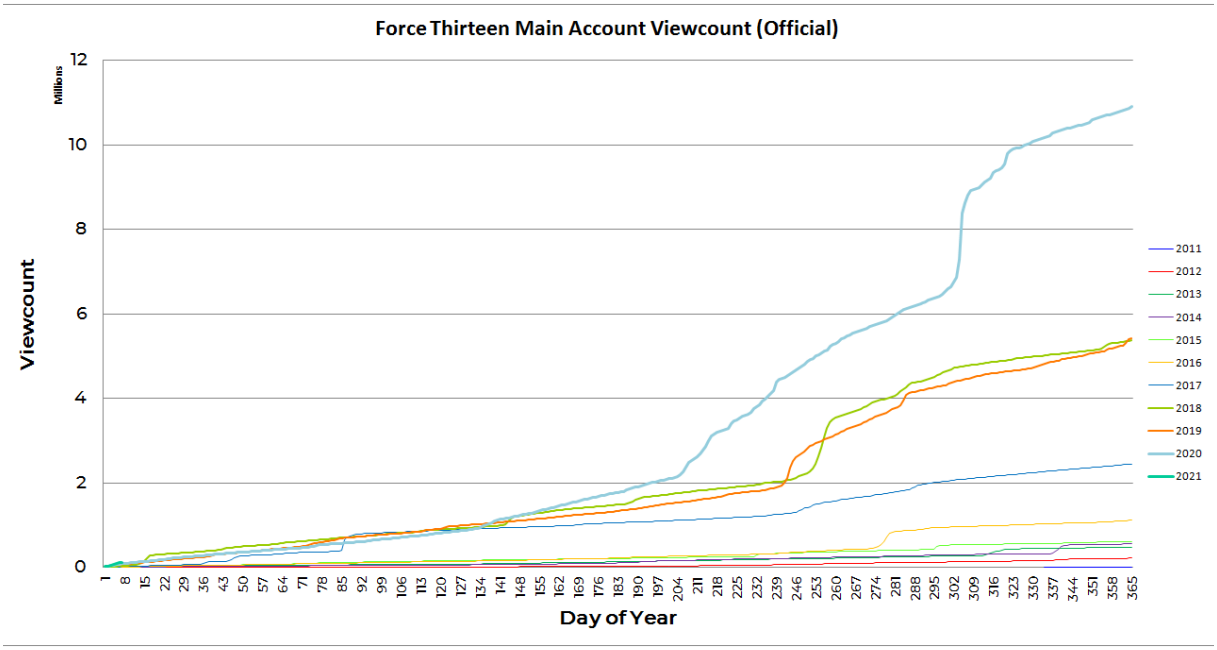
On multiple storm coverage events, concurrent viewcounts soared above 3,000, with peak numbers during Typhoon Goni at a remarkable 6,692—well above the previous record of 1,800 set during Hurricane Dorian.

Normally, the below table would compare viewcounts with the previous year by country, but due to errors beyond our control, the 2019 data is incomplete. Below shows the top ten countries by viewcounts in 2020.

Country	2020
United States	4,931,817
Philippines	2,209,869
Canada	310,095
United Kingdom	281,004
India	268,771
Vietnam	181,601
Mexico	147,506
Hong Kong	131,821
Jamaica	131,614
Australia	117,471

VIEWING STATISTICS

Channel	2020 Viewcount	2019 Viewcount
Main Channel	10,913,956	5,415,283
Force Thirteen Xtra	243,768	188,719
Force Thirteen UK & Ireland	31,873	3,048
Force Thirteen AU & Oceania	28,739	26,018
Force Thirteen US & Caribbean	114,686	36,697
Force Thirteen's Tropical Archive	68,286	55,061
Force Thirteen Earthquakes	166,102	N/A
Force Thirteen Gaming	5,323	999
Total	**11,572,733**	**6,378,962**



WAYS TO CONTACT FORCE THIRTEEN

OUR CHANNELS AND OUTLETS

Force Thirteen Main
Website—www.force-13.com
YouTube—https://www.youtube.com/Forcethirteen
Twitter—https://twitter.com/ForceThirteen
Facebook—https://www.facebook.com/ForceThirteen
Discord server—https://discord.gg/forcethirteen
Patreon - https://www.patreon.com/forcethirteen

Merchandise Store
https://force-thirteen.creator-spring.com/

Force Thirteen Australia and Oceania
https://www.youtube.com/channel/UCXWD4Mhv_GelNfjymzjaCsg
https://twitter.com/ForceThirteenAU

Force Thirteen United Kingdom and Ireland
https://www.youtube.com/ForceThirteenUKI
https://twitter.com/ForceThirteenUK
https://www.facebook.com/forcethirteenuki/

Force Thirteen United States and Caribbean
https://www.youtube.com/ForcethirteenUS
https://twitter.com/ForceThirteenUS

Force Thirteen Xtra
https://www.youtube.com/channel/UCM1feLT3ey9e8DOXFzBThFQ

Force Thirteen Earthquakes
https://www.youtube.com/channel/UC84LQh_S7n3Hxt6K-bSKdUQ

Force Thirteen Gaming
https://www.youtube.com/channel/UC53rPGlsgMNa2CjLvwkxmMA
https://www.twitch.tv/force13gaming/

Space Thirteen
https://www.youtube.com/channel/UCkowt-7879OZAxzn5c-lo-A

Tropical Archive and Tropical Archive MORE
https://www.youtube.com/user/TropicalArchive

Cyclone History
http://www.cyclonehistory.com/
https://twitter.com/CycloneHistory
https://www.youtube.com/channel/UCdPIHDLOGBB99Wr__tREdjg

WAYS TO CONTACT FORCE THIRTEEN

POINTS OF CONTACT

All general questions about the organisation, including this report, media and business enquiries

E-mail: contact@force-13.com

Please use this e-mail if none of the options below better apply to you.

Force Thirteen Weatherdesk
E-mail: aow@force-13.com

Force Thirteen Website
E-mail: webops@force-13.com

Force Thirteen Australia
E-mail: david@force-13.com

Force Thirteen Philippines
E-mail: ph@force-13.com