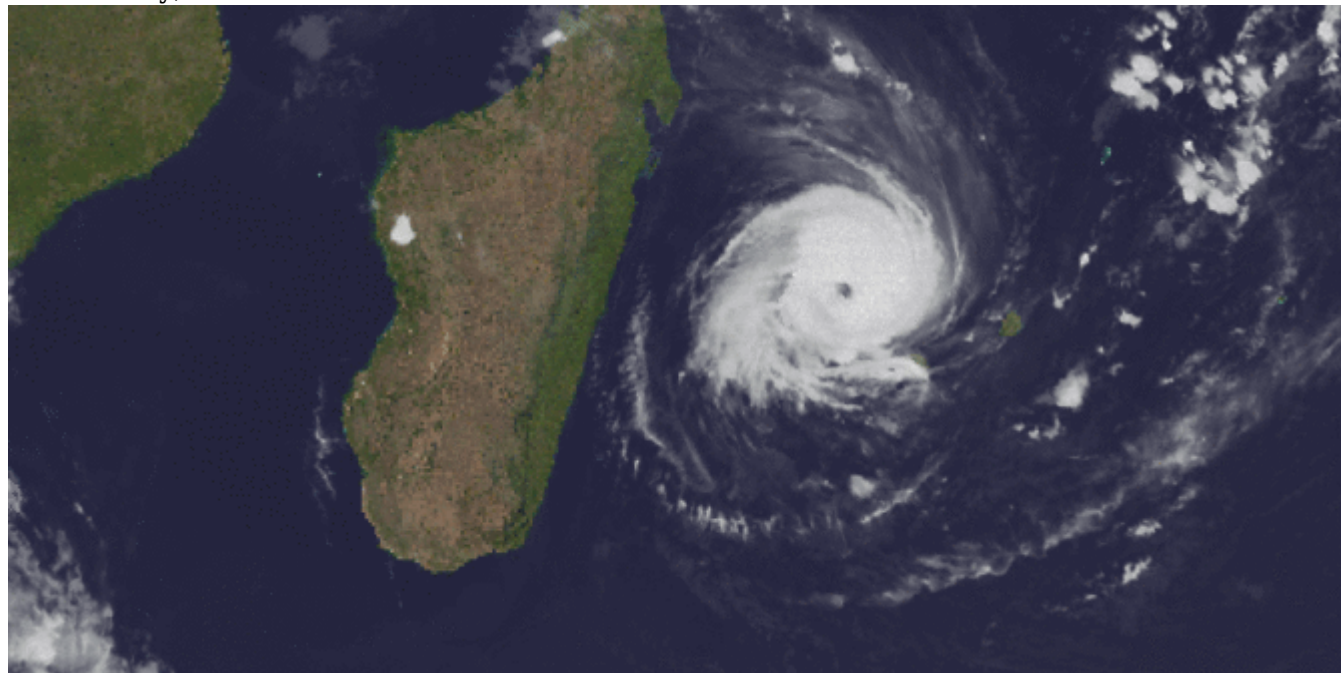


Hurricane Freddy: Still going strong

OPSGROUP Team

17 February, 2023



Update 7 March: Freddy has passed over Madagascar and initially deintensified, but with the warm waters of the Mozambique Channel feeding him, he is growing again. He is expected to reach category 2 levels with winds over 90knot. Landfall over Mozambique is forecast on March 11. The west coast of Madagascar, and the coastal regions of Mozambique, including FQMA/Maputo will see some bad weather for the next few days.

Update 21 February: Freddy is decreasing to a category 1 hurricane with wind speeds between 80-85knots. It is due to make landfall over Madagascar in the afternoon of Feb 21.

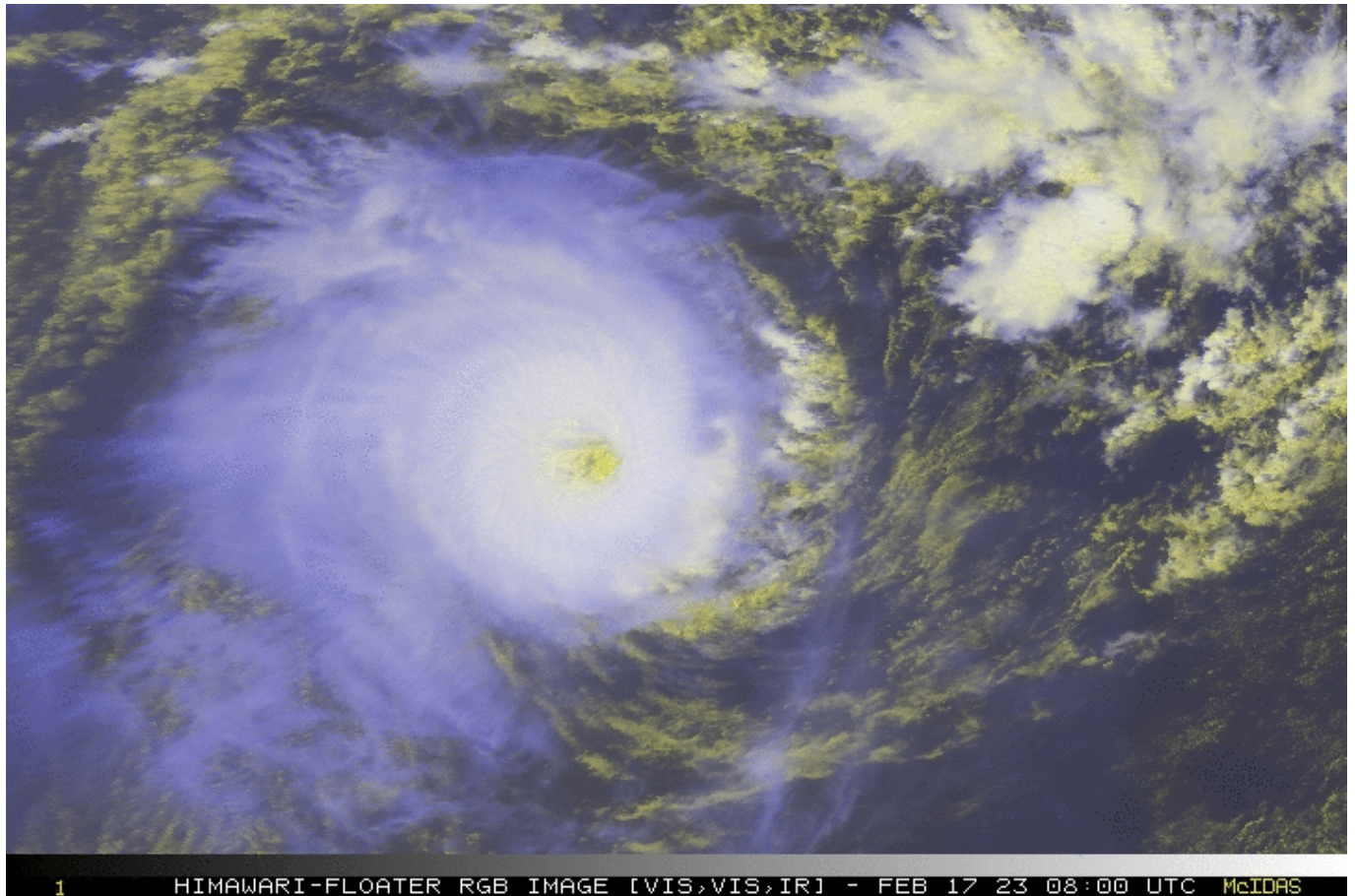
We don't often post about tropical storms unless they are monumental and expected to cause a severe level of disruption and damage.

Freddy is fairly big, and it's a Friday, so I figured I would give him his 10 minutes of fame.

Just how big?

He is currently a **Category 4 hurricane** which means his wind speeds are topping **120 knots**. The likes of Hurricane Katrina reached Category 5 levels (although she was only a 3 when she made landfall). Hurricane Harvey was a 4 when he hit Texas in 2017.

So Freddy is big, and Freddy is bad. But Freddy is also, currently, still **swirling about the Indian Ocean** and nothing more than a blob on your SigWx chart that you might detour around slightly.



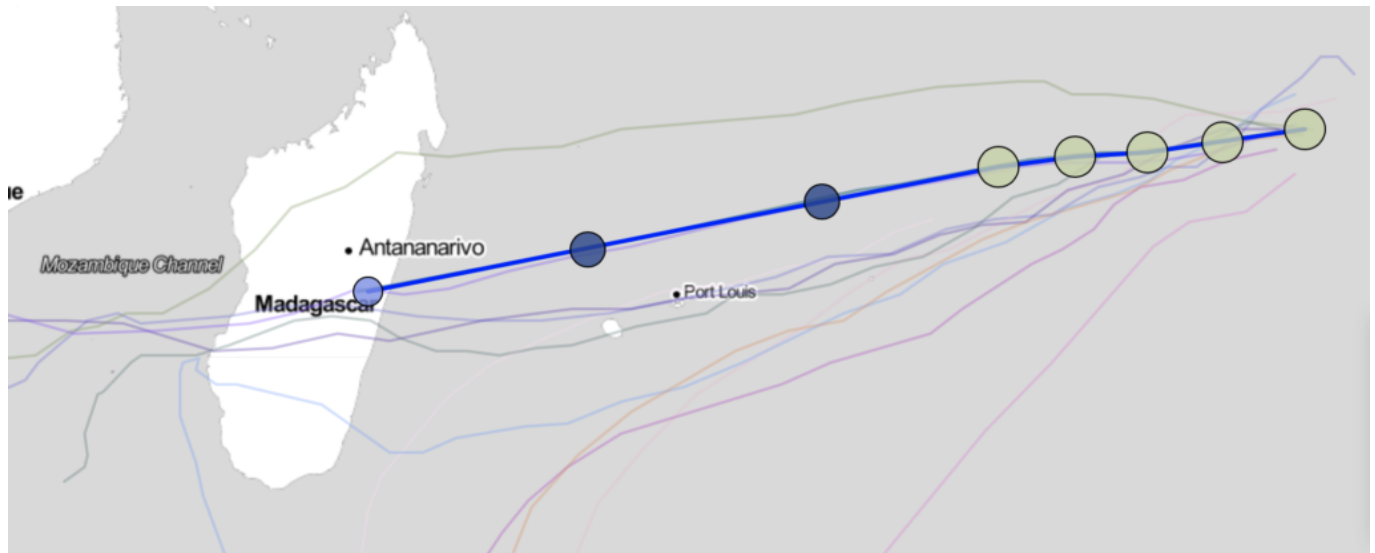
Where is Freddy heading?

Freddy is heading west, towards **Mauritius and Madagascar.**

He will reach the Port Louis area in the next 2 days, and is forecast to have **de-intensified to a Category 3**, with wind speeds around 110 knots. The following airports will likely experience severe weather conditions as the storm passes:

- **FIMP/Sir Seewoosaur Ramgoolam (Port Louis)**
- **FMEE/Roland Garros (Reunion)**

Landfall is forecast around Feb 22, south of **FMMI/Ivato (Antananarivo) Madagascar.**

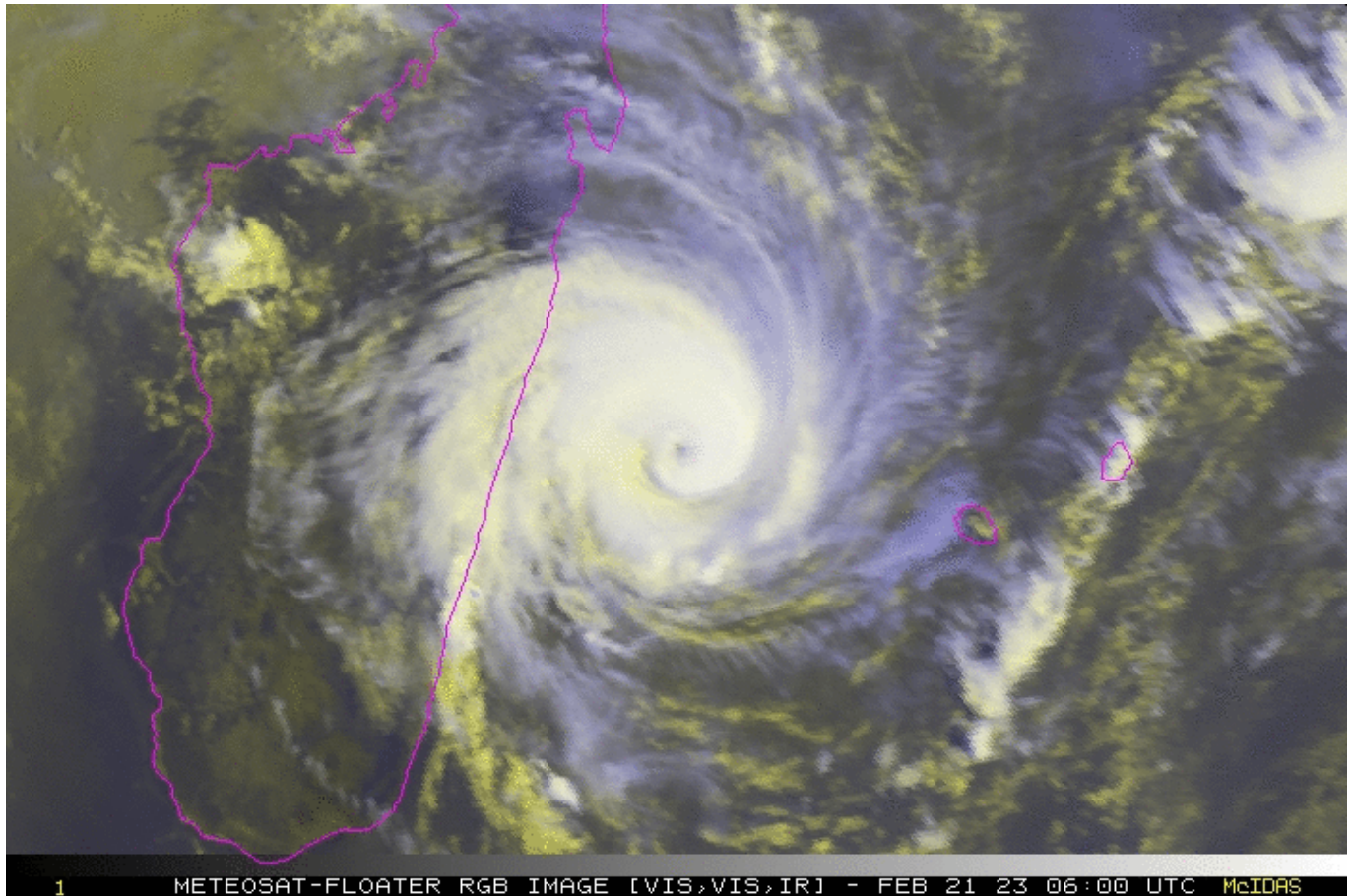


Forecast track. Source: Cyclocane

How much disruption is expected?

When Freddy makes landfall he is expected to have reduced to a **Category 2 hurricane**, with winds around 90 knots. However, **the region lacks good infrastructure** and damage may be increased because of this.

The airports in this area are relatively remote, island airports, with **few diversion options** (particularly if the weather is hammering them all) so plan that fuel and those alternates accordingly if you are in the region over the next few days.



Follow Freddy

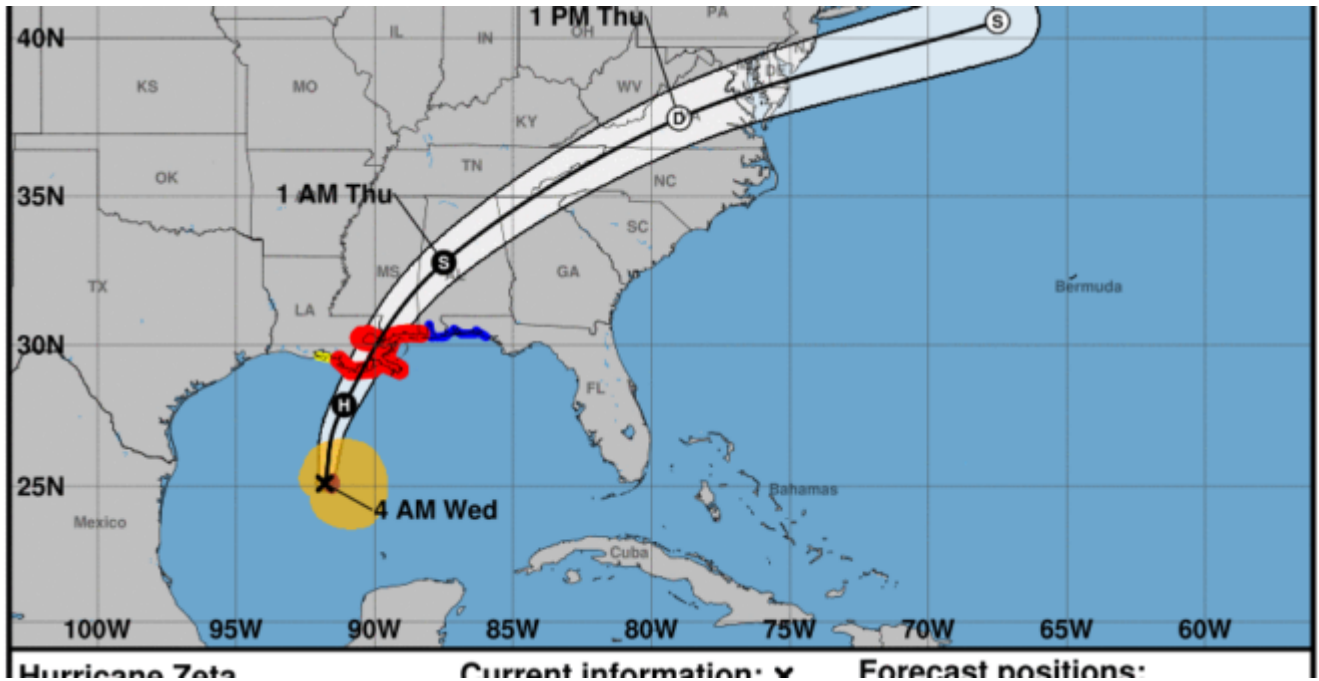
You can track Freddy here.

We also recommend staying in contact with handling agents and confirming conditions with them prior to operating. Here are two contact suggestions in case you need:

- General Aviation Mauritius, FIMP: ops.mru@yulounge.com / +230 603 6666
- General Aviation Service, FMMI: info@gasaviation.com / +255 743 775 439

2020: A Record Breaking Hurricane Season

OPSGROUP Team
17 February, 2023



It has been a record breaking season for the Hurricanes. We are not talking the Carolina based NHL team. We are talking actual hurricanes.

2020 has now tied with 2005 as the most active hurricane season in history. No surprise there given what's gone on in 2020 so far.

Hurricane Zeta became the 11th hurricane of the year. It is also the earliest in a season that 27 storms have needed naming (2005's Zeta only formed at the end of November).

2005 is still (thankfully) beating 2020 in terms of major hurricanes.

What is the difference?

'Hurricane' comes from an old world which means 'god of the storm'. 'Typhoon' comes from the beast Typhon - a Greek monster who fathered the sphinx, Cerberus and the super lion Nemean that Hercules had to kill. The etymology of the word 'Cyclone' is less terrifying, but they all boil down to the same thing -

They are fancy terms for great, big, mess-making, flash-booming, horror storms. Whether it is a Hurricane, a Cyclone, or a Typhoon just comes down to where in the world it is wreaking havoc.

Hurricanes, Cyclones, Typhoons also get individual names if they get big enough. Some of these names get retired if they cause too much damage and destruction - like Katrina in 2005.

A full list of Hurricane names can be found [here](#).

So, what are they?

They are "large-scale, atmospheric wind-and-pressure systems characterised by a low pressure at the centre, and by a circulating wind motion". They spin counterclockwise in the Northern Hemisphere, and clockwise in the Southern Hemisphere.

Buys-Ballot famously stated if you stand with your back to the wind in the Northern Hemisphere then the low pressure will be to your left. I wouldn't recommend standing with your back to a Hurricane though.

These storms only get classified as a Storm if the tropical depression they form from gets mean enough -

basically, winds exceeding 39 mph. If the storm's winds exceed 74 mph it gets reclassified as a Hurricane.

Hurricane's also get classified from 1-5 based on their capacity for damaging things.

Category	Sustained Winds	Types of Damage Due to Hurricane Winds
1	74-95 mph 64-82 kt 119-153 km/h	Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96-110 mph 83-95 kt 154-177 km/h	Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
3 (major)	111-129 mph 96-112 kt 178-208 km/h	Devastating damage will occur: Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4 (major)	130-156 mph 113-136 kt 209-251 km/h	Catastrophic damage will occur: Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5 (major)	157 mph or higher 137 kt or higher 252 km/h or higher	Catastrophic damage will occur: A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

Why does aviation hate them?

Well, mainly because of the weather they bring. The crazy winds, serious rainfall and flooding, and power outages they cause.

How can we avoid them?

Meteorology departments track storms and try to forecast their movement. Some of the movement is based on air currents and sea currents (because hot water feeds them) amongst other things. From this they can create what are called Spaghetti models which help forecast where the storm will travel.

Agencies such as NOAA also (on purpose) fly airplanes into them. These Lockheed WP-3D Orion aircraft have 4 turboprops and are pimped out with probes for measuring every wind and pressure change to help scientists see what is going on inside.

Little salute to the pilots who do those flights!

These aircraft measure everything! They have radars which can scan the storm vertically and horizontally, and can even drop probes to test the water temperature.



Satellites monitor storms as well, but mainly just send down horrifying photos of how massive they are.

All this information gets fed to sites, some of which we monitor...

What do we tell you?

We check a site called Cyclocane which tells us about active tropical storms, and their forecast paths. We try to give an alert about severe weather forecasts, and alerts on airports that are cancelling operations due to weather.

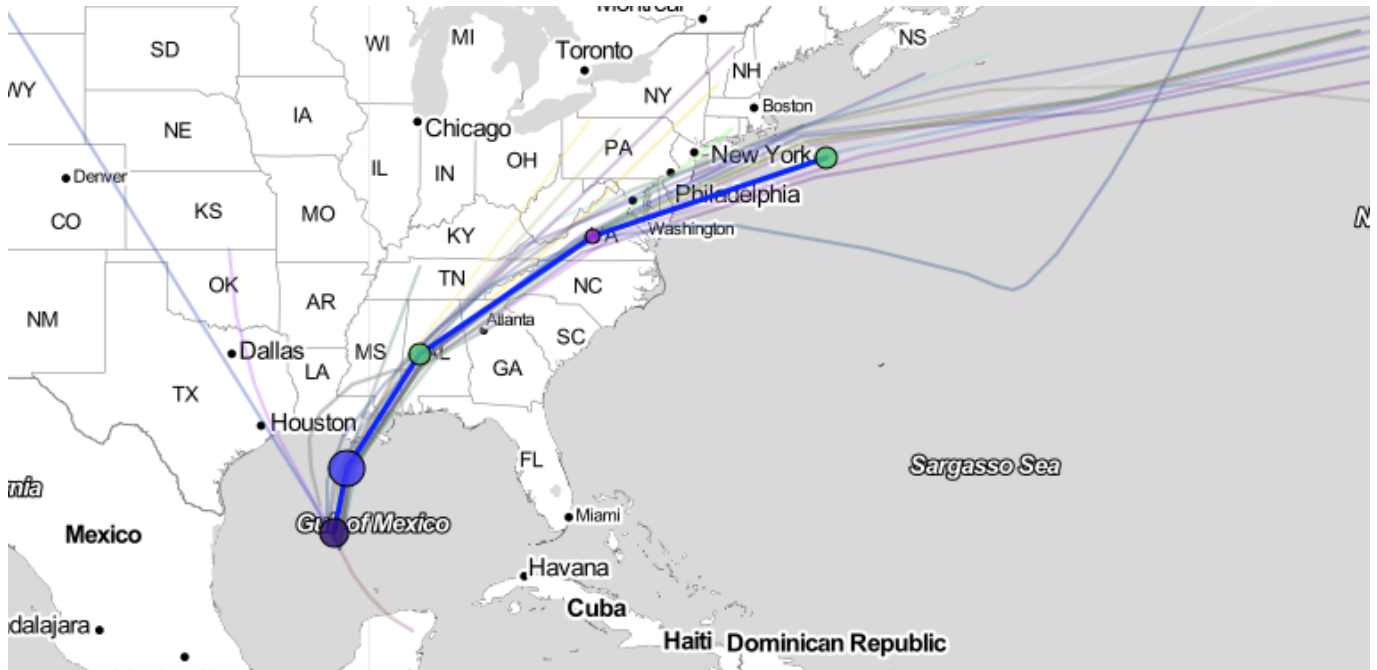
We also check other weather forecast sites, and NOAA for warnings on serious weather which might affect operations.

Zeta...

Zeta is a serious storm. Still currently over the water, it is strengthening and is expected to bring storm surges and extreme winds of over 100 mph

There are storm surge, tidal and hurricane warnings in place for Florida and Louisiana.

It is expected to turn North on October 28 or 29, and is expected to make land fall close to New Orleans late in the evening of October 28



ZETA Land Hazards

NWS Local Hurricane Statements

New Orleans LA AL282020 **ZETA EXPECTED TO BRING HURRICANE CONDITIONS AND STORM SURGE TO A PORTION OF THE NORTHERN GULF COAST TODAY**
 Birmingham AL AL282020 **Tropical Storm Watch Expanded Across Southeast Central Alabama**
 Tallahassee FL AL282020 **AIR FORCE HURRICANE HUNTER AIRCRAFT REPORTS THAT ZETA IS STRENGTHENING**
 Lake Charles LA AL282020 **AIR FORCE HURRICANE HUNTER AIRCRAFT REPORTS THAT ZETA IS STRENGTHENING**
 Jackson MS AL282020 **HURRICANE ZETA CONTINUES NORTHWARD, FORECAST TO MAKE LANDFALL LATER TODAY**
 Mobile AL AL282020 **ZETA EXPECTED TO BRING TROPICAL STORM CONDITIONS AND STORM SURGE TO THE AREA LATE THIS AFTERNOON AND OVERNIGHT**
 Peachtree City GA AL282020 **Remnants of Hurricane Zeta is expected to impact portions of north and west Georgia late today into Thursday**

Tonga battered by Cyclone Gita

David Mumford
 17 February, 2023

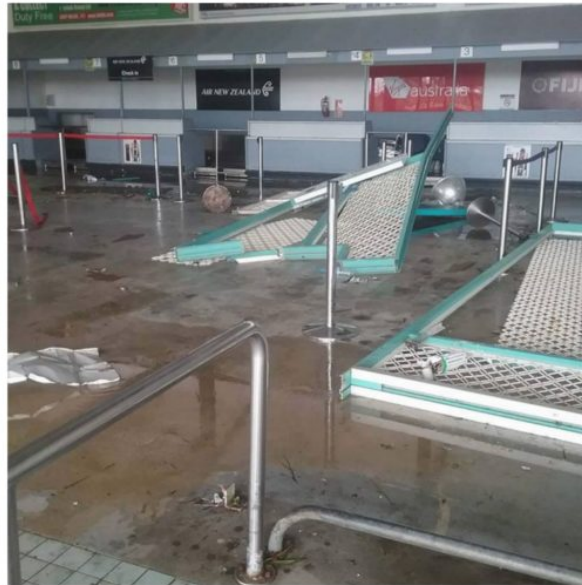


On Feb 14, operations resumed at Tonga's main international airport, NFTF/Fua'amotu, after it was closed for 2 days for the passage of Tropical Cyclone Gita.

The cyclone caused extensive damage across Tonga, and the government has declared a state of emergency. According to the British Met office, Gita was the most powerful Cyclone to hit Tonga in over 60 years, battering the island nation with winds of over 120kts at its peak.

At least 30 people were reportedly injured during the storm, and around half the buildings suffered damage in Nuku'alofa, the capital of Tonga. Roads across the main island of Tongatapu have been obstructed by storm wreckage and downed power lines, and widespread power outages have also been reported.

At the airport itself, the domestic terminal is still closed due to damage sustained in the storm, and now all domestic flights are using the international terminal instead. Here's some photos of the damage at the airport:



Gita has since moved westwards into open waters as the equivalent of a Category 4 hurricane, with winds of over 100kts, but it's now expected to head south-west across the ocean, narrowly avoiding direct hits on Vanuatu and New Caledonia – although heavy rain, strong winds and storm surge will affect these areas.

