STORM

USER MANUAL

SoFly

VERSION 1.00

INTRODUCTION

Welcome to STORM. Adding hurricanes, super storms and more to your simulator.

Thank you for choosing to install STORM. This brand-new product gives you access to dangerous and challenging weather conditions in Microsoft Flight Simulator.

You will be able to fly through historic hurricanes, take part in a range of thrilling missions and apply a number of global weather presets allowing you to experience difficult weather anywhere in the world.

In STORM you will find:

- **Historical hurricanes in accurate locations**
- **Fictional storms and hurricanes**
- **Global storm weather presets**
- **Landing challenges**
- **Educational missions about a number of hurricanes to complete at your leisure**
- **Exciting story-based missions**
- **New discovery flights**
- **Flight plans to the historic hurricanes***

This is our most feature-rich package yet providing simmers a range of different challenges and more in a single package. Our missions are designed for those looking for a more linear approach, whilst the included presets are perfect for the adventurers amongst you looking to find the hurricanes.

This manuaul will help you learn more about STORM, find the hurricanes and answer any support questions you may have.

We hope you enjoy STORM for Microsoft Flight Simulator.

*Not for the Xbox version due to limitations of the platform. Should this change, an update will be issued.

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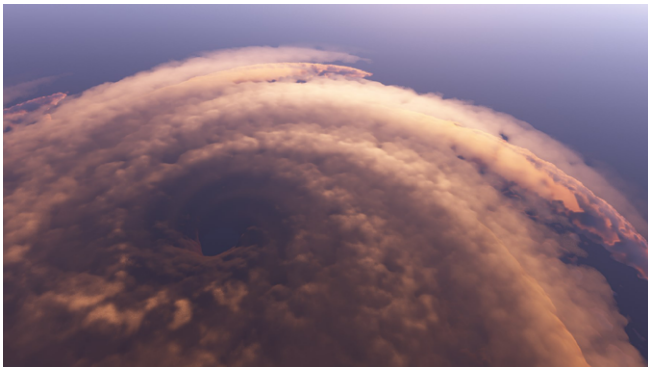


Getting Started

Storms & Hurricanes

Custom Content & Missions

More Help

Need Help or Support?

Visit our Support Portal

We know that sometimes you just need a bit of help. If something isn't quite right or you need a bit of guidance, contact our customer support team and we'll work to support you as best as we can. Either click on the box above or head to **sofly.io/support**

INSTALLATION

Installation of STORM will depend on where you purchased the product from. Please consult the relevant section below depending on where you purchased the product.

SoFly / SIMMARKET / FlightSim.to / FlightSim.com / SimShack

Once you have downloaded the ZIP file to your PC, you will need to extract the contents to your PC. Then, the included folder called 'sofly-storm' will then need to be copied to your Microsoft Flight Simulator 'Community Folder'.

The location of your 'Community Folder' will vary depending on where you have installed the simulator.

Now that the STORM folder is in the community folder, load up the simulator. You have installed STORM.

You can check by going to the 'Content Manager' within your simulator. You can learn how to find hurricanes in the next section.

OrbxDirect / Contrail

With a purchase on OrbxDirect or Contrail, you can take advantage of their automatic installation tool.

Load up with application (where you made the purchase) and install via that platform. It will automatically find the relevant files and folders and install STORM.

You can check by going to the 'Content Manager' within your simulator. You can learn how to find hurricanes in the next section.

Community Folder Location

For the Windows Store install:

C:\Users\[Your User Name]\AppData\Local\Packages\Microsoft.FlightSimulator_8wekyb3d8bbwe\LocalCache\Packages\

For the Steam install:

C:\Users\[Your User Name]\AppData\Local\Packages\Microsoft.FlightDashboard_8wekyb3d8bbwe\LocalCache\Packages\

Important: Windows 10 by default hides the "AppData" folder, so you will have to go to "View" in the menu of File Explorer, and select "Hidden items" so as to see it.

For the Custom install:

If you used custom location for your Flight Simulator installation, then proceed there.

In our case, it was: F:\MSFS\

Microsoft Flight Simulator Marketplace

Within the in-sim Marketplace, you can purchase STORM by clicking the 'Buy and Download' button. Once payment is approved, STORM will automatically download into your simulator.

****Xbox Owners****

Once you have installed STORM, you will need to restart the simulator. Open up the Xbox menu from your game controller, close Microsoft Flight Simulator and restart.

In rare instances, may need to restart your game console.

IMPORTANT NOTICE

You must ensure that the simulator is not running prior to the installation of STORM.

A MESSAGE FROM CAPTAIN SANDY

Hello adventurer and welcome to STORM.

If you are here today, it's because, like me, you have a passion to fly through terrifying, exciting and dangerous storms. My name is Sandy and I'm going to take you through everything you will need to know about STORM.

This new product will bring you closer to different types of STORMS around the world, with a big focus on hurricanes.

After you take off, find any of the points of interest dotted around here and I will tell you a bit more about what is included with your copy of STORM and how to access many of the cool features it provides.

Before I continue, let me first tell you that this information can be found online in our handy guide. Visit sofly.io/stormguide to easily access everything.

Now Take off and head to the first point of interest so I can tell you about weather presets.

Weather Presets

First of all, you will find a huge number of predefined weather presets. These presets will enable you to load in different types of storms. These storms will test your skills as a virtual pilot and are a great way to add a new challenge to your flying experience. The primary type of storm you will find in this pack is hurricanes.

NOTE:

After you have installed STORM, you can join Sandy in the cockpit on a short 30-minute flight around Jamaica where she will give you all this information about STORM. It's our new interactive manual and we hope you find it helpful.

Hurricane Presets

We have simulated a large number of hurricanes based on historical data. Each hurricane featured can be found in specific geolocations around the world. For example, you will find Hurricane Wilma out in the Carribean Sea between Jamacia and Mexico.

Why there?

Well, this was the point at which the hurricane was at its most intense. Each hurricane has an accurate sized 'eye', meaning you will have a fairly realistic representation of the storm. You can then fly through the hurricanes at your own peril. We have customised each storm so that they are all a little different, each providing its own sense of challenge.

Super Storms

In addition to the hurricane presets, we have also included a number of Super Storms. These Super Storms are towering, dangerous and intimidating. Seeing these storms should put a sense of dread into your mind.

These Super Storms are ferocious and should be avoided. But you're a storm chaser, so no doubt you will fly through them. That's all there is to learn about these unique storms. Now head to the next waypoint to learn more about the included global presets.

IMPORTANT NOTICE

Super Storms will be added in a future free update. Sim Update 9 broke this functionality and we're awaiting for Asobo / Microsoft to fix the bug.

Global Presets

There is also a range of global storm presets included. These presets will add global weather in a variety of conditions. Battle blizzards, succumb to sandstorms or take on terrifying torrential rain. Select any of these presets from your menu options.

Discovery Flights

To help familiarise yourself with STORM, you can take a more relaxed approach to storm chasing. A number of Discovery Flights are included. Soar above hurricanes or see Super Storms from afar before taking on the more challenging aspects of STORM.

Landing Challenges

Landing Challenges are the perfect introduction to these storms. Simply load up any of the included challenges and attempt to perfect your score of landing during some of the most intense weather we can offer. Not even a category 5 hurricane will stand in your way as you attempt to land at a variety of airports around the world.

Educational Flights

For those looking to learn more about hurricanes in general, we have a selection of flights for you to take part in. You will be able to take command in a number of flights that will see you overfly a number of the most interesting hurricanes of the past. Myself and senior first officer Jake will join you on a number of flights giving you educational information on each of the hurricanes we intend on flying over.

We have included flight plans for you so you can simply load up and fly. If you're using STORM on PC, you can also install the free FlyByWire A320NX for a more realistic flight which will start you at the gate and have you inputting the routing yourself.

Missions

As an adventurer, you will no doubt want to really test yourself. That's why you will also find a selection of thrilling missions. Step into the cockpit of a number of aircraft and complete various missions and scenarios. You never know what you will be asked to do, or what might happen. Experience the thrill of the unknown as you complete these challenging tasks. That sums up everything with STORM.

Limitations

It's also important to be transparent about what STORM provides and also the limitations of the product. The first one to really know is that presets are set GLOBALLY. This means if you choose a storm preset, it will be set around the world. Likewise, for the hurricane presets, these natural disasters will only appear in their set locations.

Speaking of, each preset has the closest airport. The closest airport could still be hundreds of miles away from the storm. You can either go on an adventure to find the storm, or you can check out our online guide to help you locate it.

The hurricanes are also set as a GLOBAL preset. This means wind, pressure and other conditions are the same everywhere in the world, including up to 140mph winds outside of the storm itself. This is a limitation of the simulator. My advice: only load the preset when you're close to the hurricane.

Finally, you will find that missions and landing challenges do not record or save your scores. This, again, is limited by the simulator and third-party developers cannot access this information. Should this change, we may issue an update.

Need More Support

So that's STORM. We have packed as much content into a single package as possible and hope you get the thrill you're seeking. If your adventure requires more support from my associates at SoFly, you can reach out to the support team at sofly.io/support.

Best of luck with the rest of your exploration and see you in the next mission!

FINDING THE STORMS AND MISSIONS

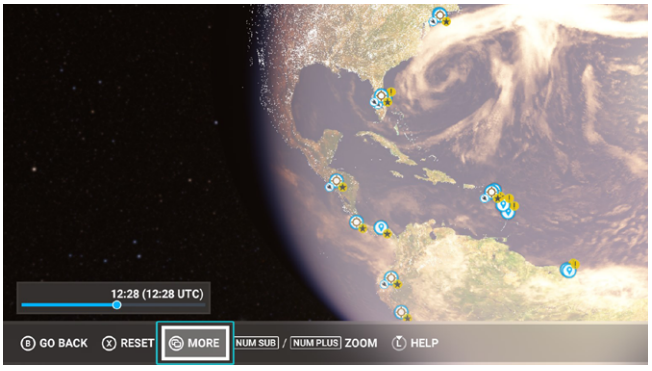
STORM comes packed with plentiful content. This includes presets for hurricanes, global weather, missions and more. As there are various locations to find STORM content, this section covers where you will be able to find each element.

Storms (e.g. Hurricanes, Global Presets)

Each of the storms included are in the 'Weather Preset' section. From the World Map menu, click on the 'Flight Conditions' box and then click on 'Preset' in the weather area. You will then see a number of new presets. Those installed with STORM will start with 'STM-' followed by the name of the storm.

Hurricanes and other storms (not the global presets) will list the name of the storm, the year of the storm and a nearby airport. Note that the airport listed may be up to 1000nm away from it.

You will also be able to change the storm from within your flight by using the in-sim tool bar to access the weather.

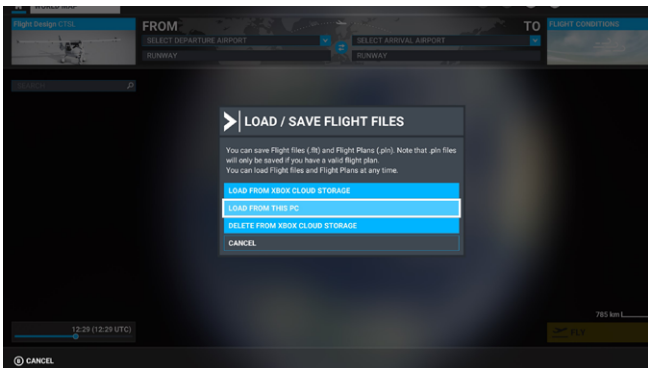


A list of included hurricanes can be found in a later section of this manual.

Storm Flight Plans*

In order to help you find our pre-defined storms a bit easier, we have included flight plans to and from a nearby airport. Remember these airports could be 1000nm away from the storm itself.

You can access these flight plans from the world map by loading in the pln file. Flight Plan files are located:



\sofly-storm\FlightPlans\

Remember to then choose the correct hurricane preset from the list in order for it to display with the flight plan.

*Not available for purchases made on Xbox.

Missions

STORM includes a number of challenges, bush trips and missions.

To find each of them, you will need to head to the 'Activities' menu screen and then '**Custom Content**'. Each of our missions is then split into the following categories:

- STORM: Introduction
- STORM: Discovery
- STORM: Landing Challenges
- STORM: Educational Airliner Flights
- STORM: Missions

Here's what you can expect in each of these categories.

STORM: Introduction

In order to welcome simmers to the concept of STORM, we have included a short 10-minute flight that gives you all the information you'll need about the product. Your in-sim guide will take you through what to expect in this product. Consider this some kind of virtual manual.

We have also added a secondary introduction flight that helps explain what hurricanes are, how they're formed and more.

STORM: Landing Challenges

Take part in a number of landing challenges at airports across the world. These challenges are designed to test your skills at landing in these tough conditions. You will be scored based on your performance. Note that the leaderboard functionality DOES NOT WORK. This is not accessible to third-party developers such as SoFly.

STORM: Discovery

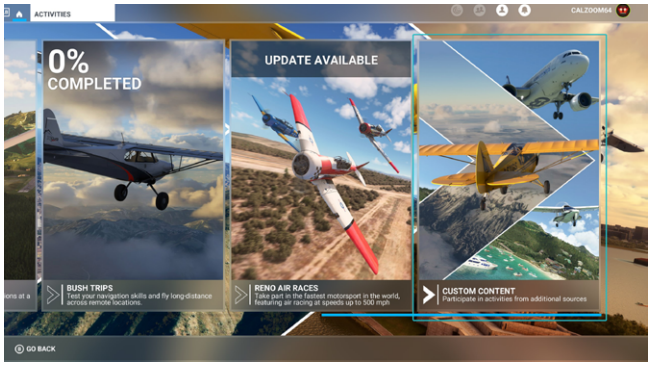
These slow-paced flights are designed to allow you to see storms and hurricanes without the fear of crashing.

STORM: Educational Airliner Flight

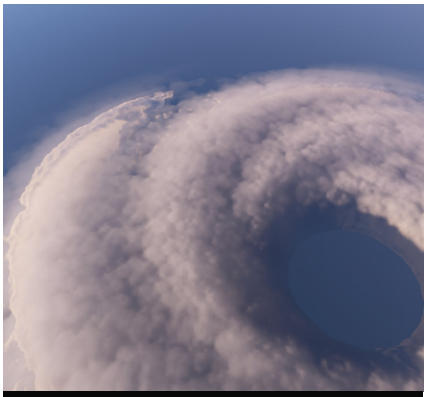
In these missions, you will have a co-pilot by your side giving you specific information on the hurricane as you embark on these flights. Each of these missions is designed around a specific hurricane and your co-pilot will give you information about each one providing a truly educational experience.

STORM: Missions

These story-based missions are a work of fiction, but provide you with a compelling and exciting reason to fly into these storms. You will be guided from ground to air and back to ground with specific objectives in mind.



HURRICANES



Bud (2012)

Peak Intensity Date:

24-May-2012

Coordinates

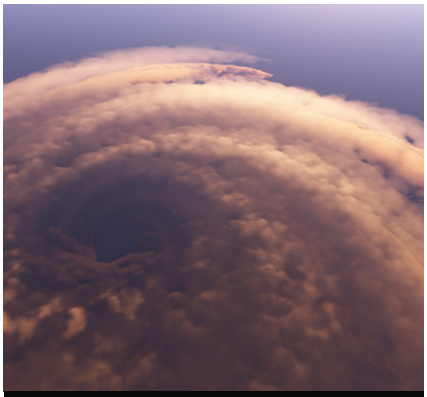
16°24’36.0”N 106°16’48.0”W

Nearest Airport

MMGL

Directions from Nearest Airport

Fly **298nm** on heading **209°**.



Delta (2020)

Peak Intensity Date:

06-Oct-2020

Coordinates

18°30’00.0”N 83°18’00.0”W

Nearest Airport

MWCR

Directions from Nearest Airport

Fly **57nm** on heading **307°**.

Dorian (2019)

Peak Intensity Date:

01-Sep-2019

Coordinates

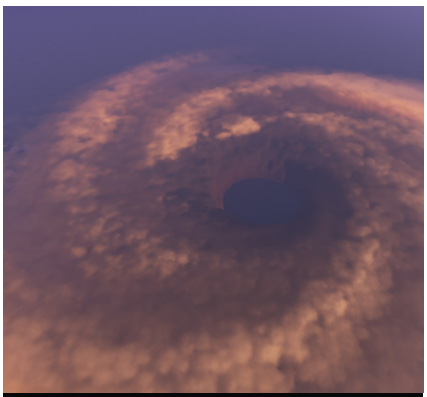
26°21’36.0”N 75°08’24.0”W

Nearest Airport

MYAN

Directions from Nearest Airport

Fly **176nm** on heading **72°**.



Felix (2007)

Peak Intensity Date:

03-Sep-2007

Coordinates

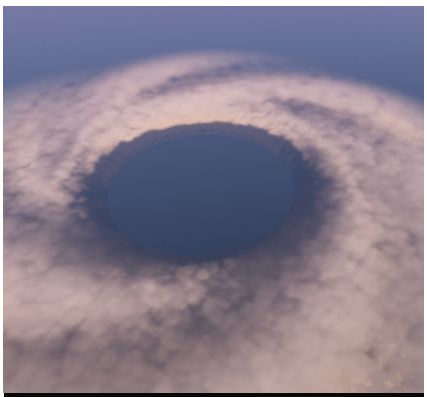
13°48’00.0”N 73°00’00.0”W

Nearest Airport

SKRH

Directions from Nearest Airport

Fly **136nm** on heading **6°**.



Florence (2018)

Peak Intensity Date:

11-Sep-2018

Coordinates

25°36’00.0”N 61°48’00.0”W

Nearest Airport

TXKF

Directions from Nearest Airport

Fly **431nm** on heading **174°**.

Fred (2009)

Peak Intensity Date:

09-Sep-2009

Coordinates

13°18’00.0”N 31°43’12.0”W

Nearest Airport

GVSF

Directions from Nearest Airport

Fly **402nm** on heading **275°**.

Grace (2021)

Peak Intensity Date:

21-Aug-2021

Coordinates

20°42’00.0”N 95°42’00.0”W

Nearest Airport

MMVR

Directions from Nearest Airport

Fly **99nm** on heading **12°**.

Harvey (2017)

Peak Intensity Date:

26-Aug-2017

Coordinates

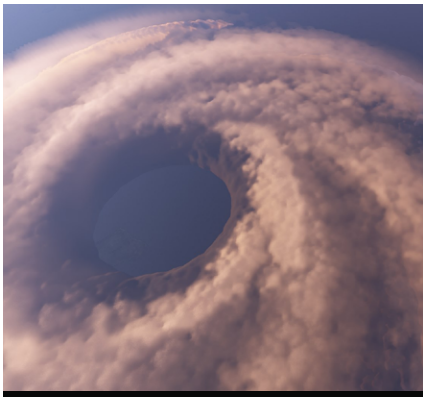
27°48’00.0”N 96°48’00.0”W

Nearest Airport

KCRP

Directions from Nearest Airport

Fly **39nm** on heading **81°**.



Irene (2011)

Peak Intensity Date:

24-Aug-2011

Coordinates

21°33’36.0”N 72°51’36.0”W

Nearest Airport

MBSC

Directions from Nearest Airport

Fly **74nm** on heading **283°**.

Irma (2017)

Peak Intensity Date:

05-Sep-2017

Coordinates

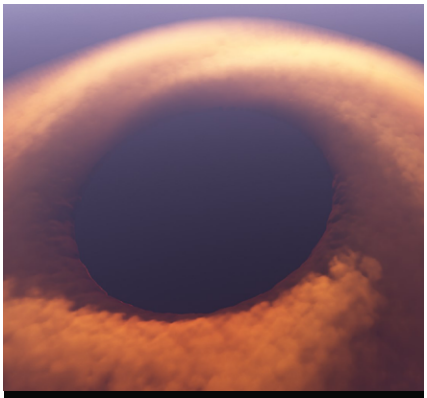
16°37’48.0”N 57°05’24.0”W

Nearest Airport

TFFR

Directions from Nearest Airport

Fly **257nm** on heading **100°**.



Isabel (2003)

Peak Intensity Date:

12-Sep-2003

Coordinates

21°36’00.0”N 55°42’00.0”W

Nearest Airport

TAPA

Directions from Nearest Airport

Fly **439nm** on heading **67°**.

Iselle (2014)

Peak Intensity Date:

04-Aug-2014

Coordinates

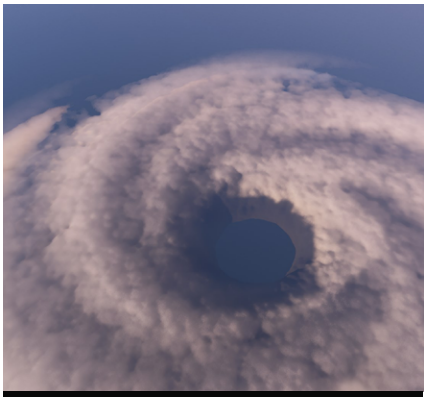
16°06’00.0”N 136°06’00.0”W

Nearest Airport

PHTO

Directions from Nearest Airport

Fly **1099nm** on heading **89°**.



Ivan (2004)

Peak Intensity Date:

13-Sep-2004

Coordinates

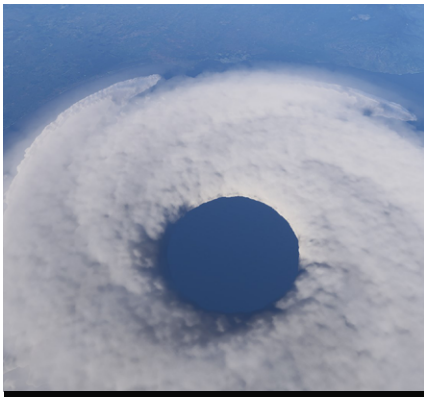
19°30’00.0”N 82°48’00.0”W

Nearest Airport

MWCR

Directions from Nearest Airport

Fly **83nm** on heading **285°**.



Karl (2010)

Peak Intensity Date:

17-Sep-2010

Coordinates

19°41’24.0”N 95°15’00.0”W

Nearest Airport

MMVR

Directions from Nearest Airport

Fly **60nm** on heading **55°**.

Katrina (2005)

Peak Intensity Date:

28-Aug-2005

Coordinates

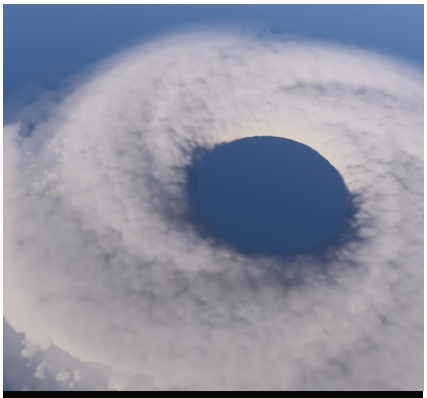
25°42’00.0”N 87°42’00.0”W

Nearest Airport

MMUN

Directions from Nearest Airport

Fly **284nm** on heading **353°**.



Laura (2020)

Peak Intensity Date:

26-Aug-2020

Coordinates

27°18’00.0”N 92°30’00.0”W

Nearest Airport

KLFT

Directions from Nearest Airport

Fly **174nm** on heading **187°**.

Madeline (2016)

Peak Intensity Date:

30-Aug-2016

Coordinates

18°54’00.0”N 146°42’00.0”W

Nearest Airport

PHTO

Directions from Nearest Airport

Fly **475nm** on heading **85°**.

Maria (2017)

Peak Intensity Date:

19-Sep-2017

Coordinates

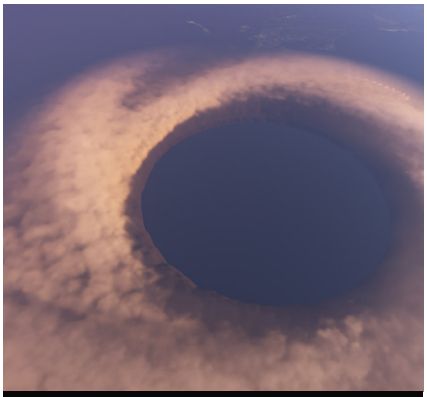
15°18’00.0”N 61°06’00.0”W

Nearest Airport

TDPD

Directions from Nearest Airport

Fly **19nm** on heading **156°**.



Matthew (2016)

Peak Intensity Date:

01-Oct-2016

Coordinates

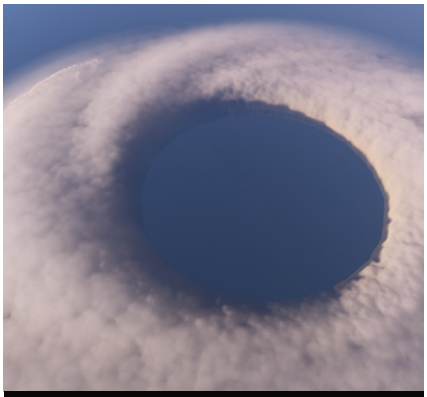
13°24’00.0”N 71°54’00.0”W

Nearest Airport

TNCA

Directions from Nearest Airport

Fly **123nm** on heading **307°**.



Michael (2018)

Peak Intensity Date:

10-Oct-2018

Coordinates

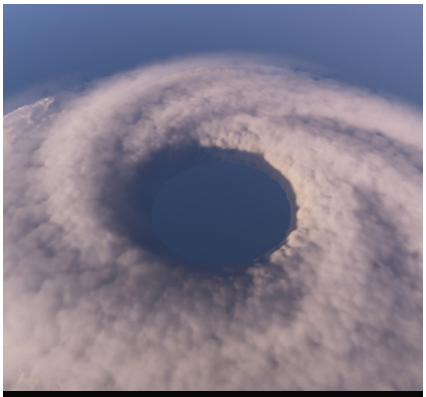
27°07’48.0”N 86°34’48.0”W

Nearest Airport

KTPA

Directions from Nearest Airport

Fly **219nm** on heading **262°**.



Olivia (2018)

Peak Intensity Date:

07-Sep-2018

Coordinates

18°54’00.0”N 129°12’00.0”W

Nearest Airport

KSAN

Directions from Nearest Airport

Fly **1052nm** on heading **211°**.

Otto (2016)

Peak Intensity Date:

24-Nov-2016

Coordinates

11°00’00.0”N 83°00’00.0”W

Nearest Airport

MROC

Directions from Nearest Airport

Fly **93nm** on heading **51°**.

Patricia (2015)

Peak Intensity Date:

23-Oct-2015

Coordinates

15°48’00.0”N 104°54’00.0”W

Nearest Airport

MMGL

Directions from Nearest Airport

Fly **298nm** on heading **192°**.

Raymond (2013)

Peak Intensity Date:

21-Oct-2013

Coordinates

16°06’36.0”N 102°13’12.0”W

Nearest Airport

MMZH

Directions from Nearest Airport

Fly **99nm** on heading **201°**.

Rina (2011)

Peak Intensity Date:

25-Oct-2011

Coordinates

17°17’24.0”N 83°59’24.0”W

Nearest Airport

MHPA

Directions from Nearest Airport

Fly **91nm** on heading **215°**.

Rita (2005)

Peak Intensity Date:

21-Sep-2005

Coordinates

24°18’00.0”N 86°12’00.0”W

Nearest Airport

MUHA

Directions from Nearest Airport

Fly **223nm** on heading **295°**.

Sandy (2012)

Peak Intensity Date:

25-Oct-2012

Coordinates

20°06’00.0”N 76°00’00.0”W

Nearest Airport

MUCU

Directions from Nearest Airport

Fly **122nm** on heading **320°**.

Walaka (2018)

Peak Intensity Date:

02-Oct-2018

Coordinates

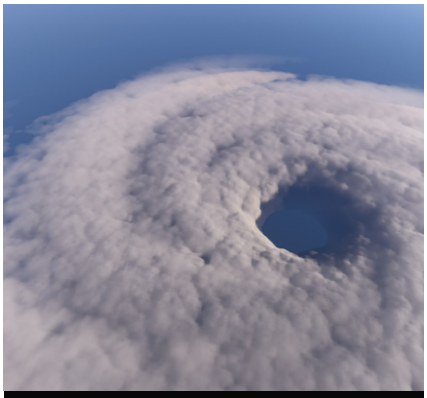
12°54’00.0”N 169°36’00.0”W

Nearest Airport

PHKO

Directions from Nearest Airport

Fly **882nm** on heading **235°**.



Willa (2018)

Peak Intensity Date:

22-Oct-2018

Coordinates

17°54’00.0”N 107°06’00.0”W

Nearest Airport

MMGL

Directions from Nearest Airport

Fly **266nm** on heading **228°**.

Wilma (2005)

Peak Intensity Date:

19-Oct-2005

Coordinates

16°46’48.0”N 82°00’36.0”W

Nearest Airport

MWCR

Directions from Nearest Airport

Fly **153nm** on heading **199°**.

FICTIONAL HURRICANES

Aurek

Peak Intensity Date:

Fictional

Coordinates

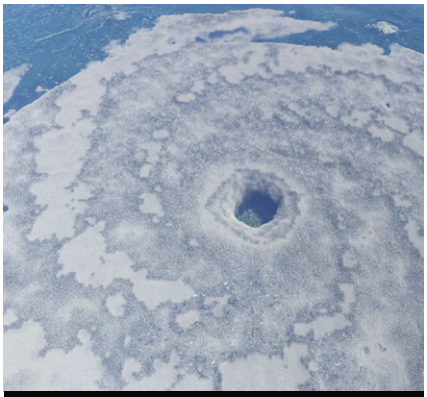
40°46’52.1”N 73°57’46.3”W

Nearest Airport

KJFK

Directions from Nearest Airport

Fly **12nm** on heading **330°**.



Besh

Peak Intensity Date:

Fictional

Coordinates

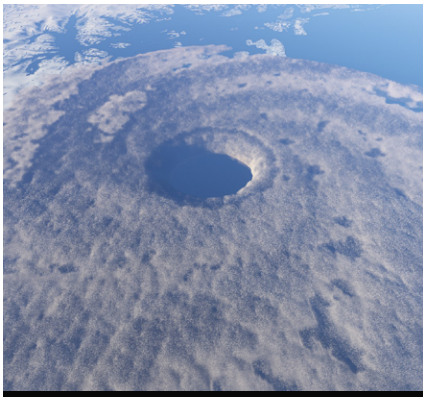
45°26’27.7”N 122°57’10.7”W

Nearest Airport

KPDX

Directions from Nearest Airport

Fly **18nm** on heading **225°**.



Cherek

Peak Intensity Date:

Fictional

Coordinates

59°49’47.4”N 148°38’51.6”W

Nearest Airport

PANC

Directions from Nearest Airport

Fly **90nm** on heading **135°**.

Cresh

Peak Intensity Date:

Fictional

Coordinates

48°31’00.6”N 126°05’01.5”W

Nearest Airport

CYVR

Directions from Nearest Airport

Fly **120nm** on heading **237°**.

Dorn

Peak Intensity Date:

Fictional

Coordinates

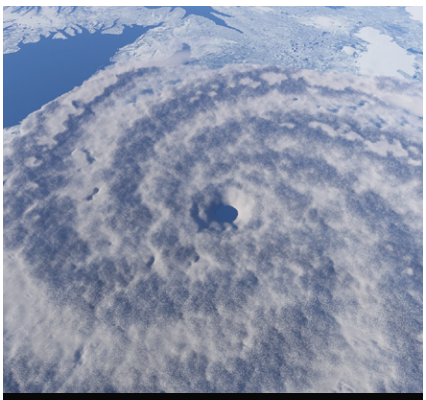
64°25’51.9”N 42°57’10.6”W

Nearest Airport

BGBW

Directions from Nearest Airport

Fly **210nm** on heading **40°**.



Enth

Peak Intensity Date:

Fictional

Coordinates

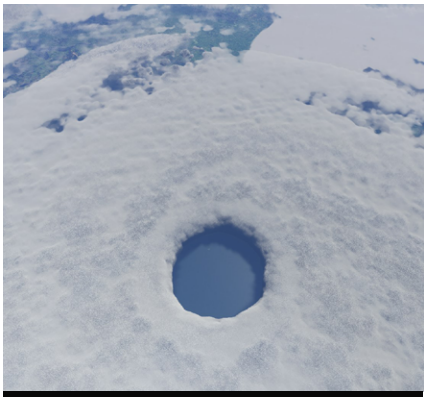
64°15’43.5”N 22°33’15.5”W

Nearest Airport

BIKF

Directions from Nearest Airport

Fly **17nm** on heading **20°**.



Esk

Peak Intensity Date:

Fictional

Coordinates

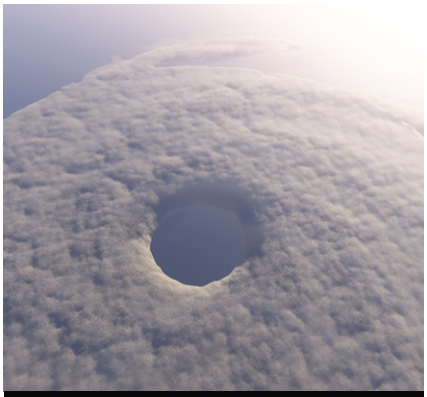
52°47’48.5”N 9°56’01.7”W

Nearest Airport

EINN

Directions from Nearest Airport

Fly **38nm** on heading **282°**.



Forn

Peak Intensity Date:

Fictional

Coordinates

37°41’56.5”N 25°42’46.0”W

Nearest Airport

LPPD

Directions from Nearest Airport

Fly **4nm** on heading **178°**.

Grek

Peak Intensity Date:

Fictional

Coordinates

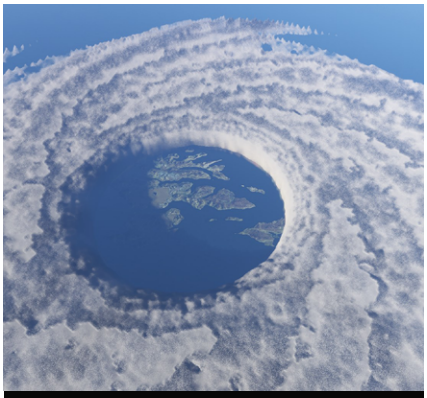
41°08’48.1”N 8°45’11.0”W

Nearest Airport

LPPR

Directions from Nearest Airport

Fly **6nm** on heading **218°**.



Onith

Peak Intensity Date:

Fictional

Coordinates

62°02’59.9”N 7°01’19.4”W

Nearest Airport

EKVG

Directions from Nearest Airport

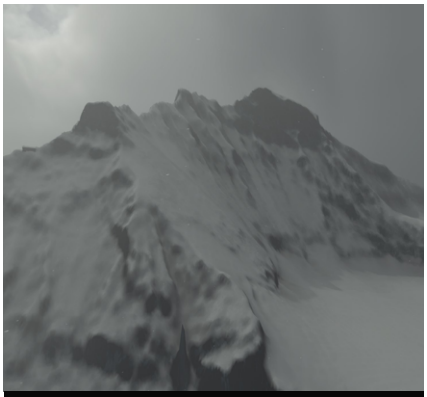
Fly **7nm** on heading **71°**.

GLOBAL PRESET CONDITIONS

Freezing Blizzard

Description

Add freezing cold and challenging conditions to your simulator. Careful as these temperatures may cause icing to build up on your aircraft.



Hail Storm

Description

Hail storm can cause potential issues to your aircraft so be careful when applying this preset to your sim. The cold and wind will certainly make you squirm when flying.

Torrential Rain

Description

This level of rainful could cause flooding very quickly. Torrential rain also makes manouvering around airports harder than normal thanks to the build up of water.

Low-Level Gusts

Description

Low-level gusts will cause the low ‘n slow flyers amongst you to have some fun.

Strong Winds

Description

Strong winds will batter your plane left and right, causing you to have pretty severe turbulence.

Shallow Fog

Description

Shallow fog covers the ground in a few hundred feet of cloud, rain and mist. These conditions will be fun for those looking to land at airports with few navigation aids.

Ultra Low Visibility

Description

For the ultimate challenge, ultra low visibility adds almost zero visiblity. This is a great option for pilots wanting to do some ILS training.

High Humidity Storms

Description

These high humidity storms will form huge thunderstorms with towering clouds. Experience wind, rain and turbulence in this high humidity situations.

Severe Thunderstorm

Description

These severe storms will cause even the toughest bird to struggle. These storms are big, bold and wild so take care.

Sandstorm

Description

Want to try flying through a sandstorm? Check out this preset for an authentic looking sandstorm which you can place anywhere in the world.

CUSTOM CONTENT AND MISSIONS

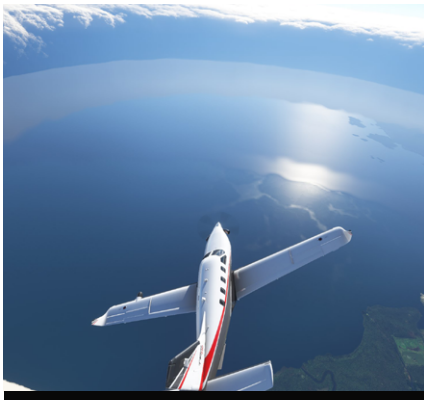
Intro to Hurricanes

MISSION TYPE

Introduction: Manual

Description

This is a 15 minute audio flight where you will learn all about hurricanes.



Intro to STORM

MISSION TYPE

Introduction: Manual

Description

An interactive manual and guide to STORM. Will take about 30 minutes.

Hurricane Discovery

MISSION TYPE

Discovery Flight

Description

A more relaxing flight over a hurricane in The Bahamas.

Sacramento Supercell

MISSION TYPE

Landing Challenge

Description

A towering supercell has appeared near the approach path in Sacramento. You will have to safely land at the airport whilst avoiding it's challenging conditions.

All Hail Alaska

MISSION TYPE

Landing Challenge

Description

You have finished a tour of Alaska with some paying customers onboard. However, the weather has made a turn for the worse and now you need to land in this hail storm.

Storm Chasing a CAT3

MISSION TYPE

Landing Challenge

Description

As an ambitious storm chaser, you decided today was a good day to fly your Cessna Caravan into the Category 3 hurricane. However, instant regret hits you and you need to land ASAP.

Turbulent Tampa

MISSION TYPE

Landing Challenge

Description

When you left this morning from Gatwick, you were told you would arrive before the hurricane would hit. However, the category 4 storm has now reached the coast as you land into Tampa.

CAT5 Into Barbados

MISSION TYPE

Landing Challenge

Description

In this highly (un)realistic landing challenge, your job is to land the A320NEO safely into Barbados. This is whilst battling the Category 5 hurricane. Good luck.

Supercell in Spain

MISSION TYPE

Landing Challenge

Description

Your VIP demands that you land ASAP at the nearest airport. The only thing is, the airport is surrounded by a giant Super Cell. With your job on the line, you have no choice but to land to keep your client happy.

Return to Base

MISSION TYPE

Landing Challenge

Description

Following a training program, you now need to return to base. However, your General has required you to land in the midst of a hurricane.

Urgent Supplies

MISSION TYPE

Landing Challenge

Description

You're carrying urgent suplies for the residents of Antigua and you have to deliver the goods. You will have to brave the storm and land at V.C. Bird International despite the awful conditions.

Low-Fuel in Bermuda

MISSION TYPE

Landing Challenge

Description

You have been holding above Bermuda for the past hour hopoing for the storm to pass, but you now have no choice but to land. You won't have any go-around opportunities as you're now low on fuel.

Engine Failure in the Storm

MISSION TYPE

Landing Challenge

Description

As you're on final approach into London Gatwick, you hear some weird sounds coming from the cabin. You should continue your approach to Gatwick, but be prepared to act quick in case an emergency should happen.

Hurricane Delta

(MROC - MUHA)

MISSION TYPE

Educational Airliner Flights

Description

You are the pilot in command of flight CMP115 and your job today is to safely fly 154 passengers to Cuba. On your trip today, you will overfly Hurricane Delta - a Category 4 hurricane.

Hurricane Wilma

(MKJP - MHTG)

MISSION TYPE

Educational Airliner Flights

Description

You are the pilot in command onboard flight BWA234 and your job today is to safely fly 124 passengers to Toncontin. You'll get to know Hurricane Wilma much better during this flight.

Hurricane Irene

(MUCU - MYSM)

MISSION TYPE

Educational Airliner Flights

Description

You are the pilot in command and your job today is to safely fly 132 passengers to the Bahamas. You'll get to know Hurricane Irene much better during this flight.

Hurricane Grace

(KAUS - MMVR)

MISSION TYPE

Educational Airliner Flights

Description

You are the pilot in command and your job today is to safely fly 142 passengers to Mexico. You'll get to know Hurricane Grace much better during this flight.

Hurricane Michael

(KAUS - MMVR)

MISSION TYPE

Educational Airliner Flights

Description

You are the pilot in command and your job today is to safely fly 119 passengers to Texas. You'll get to know Hurricane Michael during this flight.

Hurricane Sandy
(KMIA - MTCH)

MISSION TYPE

Educational Airliner Flights

Description

You are the pilot in command and your job today is to safely fly 89 passengers to Haiti. You'll get to know Hurricane Sandy better during this flight.

Hurricane Willa
(MMMX - KSAN)

MISSION TYPE

Educational Airliner Flights

Description

You are the pilot in command and your job today is to safely fly 101 passengers to San Diego. You'll get to know Hurricane Willa during this flight.

Hurricane Katrina
(KMSY - MMUN)

MISSION TYPE

Educational Airliner Flights

Description

You are the pilot in command and your job today is to safely fly 94 passengers to New Orleans. You'll get to know Hurricane Katrina during this flight.

Hurricane Matthew
(TNCA - MKJS)

MISSION TYPE

Educational Airliner Flights

Description

You are the pilot in command and your job today is to safely fly 112 passengers to Montego Bay.. You'll get to know Hurricane Matthew better during this flight.

Hurricane Maria
(TLPL - TKPK)

MISSION TYPE

Educational Airliner Flights

Description

You are the pilot in command and your job today is to safely fly 117 passengers to Saint Kitts. You'll get to know Hurricane Maria better during this flight.

IMPORTANT NOTICE

Only customers who have the FlyByWire A320NX aircraft insalled (on PC) will be able to choose the aircraft. This is a separate installation and not included in the STORM product. You will need to download and install this yourself.

Xbox users will be able to fly the educational flights with the included A320NEO from Asobo.

To the Eye

MISSION TYPE

Mission

Description

In this task, you are leading the reconnaissance to find out vital information surrounding Hurricane Thor. This task is dangerous, challening and something only YOU can do.

Reach for the Skies

MISSION TYPE

Mission

Description

Local satellites are down, meaning we are blind as to where the hurricane is. We know that it's a in a north westerly direction. So climb high and fast to quickly find the information we need before returning to base.

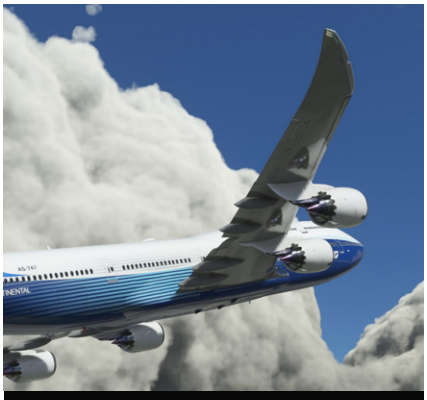
Day After Tomorrow

MISSION TYPE

Mission

Description

A freak storm has caused temperatures to plumit, resulting in a snow-covered New York. You will have to take on the challenging cold weather as you overfly possible danger.



Breezy Blast Off

MISSION TYPE

Mission

Description

You will fly to Antigua whilst overcoming a tropical storm. The storm's power is only getting more severe so you will need to leave quickly. Who knows what trouble you may have during the flight.

EDUCATIONAL AIRLINER FLIGHT ROUTES

Use these routes if you are using the FlyByWire A32NX

If you are using the FlyByWire A32NX to fly the educational routes, you will need to start the aircraft yourself and input a route. In order to help you fly the mission, these routes can be added to your MCDU.

Do note that these routes were made with **AIRAC Cycle 2205.**

You should be familiar with route formats and inputting the data into the MCDU. If you're not, then use the default A320 missions to complete these missions.

1 - Hurricane Delta 2020 - MROC - MUHA

MROC NANJ3R UB767 BLU UB767 PZA UZ751 SELEK KAVU4B MUHA

2 - Hurricane Wilma 2005 - MKJP - MHTG

MKJP GUDIL5 CRUTA MELVO TG017 TG015 TG014 TG013 TG012 TG011 TG010 MHTG

3 - Hurricane Irene 2011 - MUCU - MYSM

MUCU KINIS COMAL KNSLY G629 RAPPR PURPE ZSJ MYSM

4 - Hurricane Grace 2021 - KAUS - MMVR

KAUS BNDIA3 ICEMN J25 MAM UT48 AVALI T61 DURIB DURI1B MMVR

5 - Hurricane Michael 2018 - KTPA - KIAH

KTPA DORMR PSTOL REMIS Y280 LEV NNCEE1 KIAH

6 - Hurricane Sandy 2012 - KMIA - MTCH

KMIA SKIPS ACMEE BODLO HCN MTCH

7 - Hurricane Willa 2018 - MMMX - KSAN

MMMX ATUR2A UT133 OTAKA UT134 ZCL UT10 PPE UJ7 MXL IPL LUCKI1 KSANSELEK KAVU4B MUHA

8 - Hurricane Katrina 2005 -KMSY - MMUN

KMSY LEV L214 IRDOV UL214 NUDIS ITLOM UM782 CUN MMUN

9 - Hurricane Matthew 2016 - TNCA - MKJS

TNCA DAVUG AMBAS EDROD OMPAL GIVPE TUKDE AVRAT ZAVKI FERLU OLIPI MKJS

10 - Hurricane Maria 2017 - TLPL - TKPK

TLPL KISES A324 FOF A312 PPR A517 BIMBO SKB TKPK

You can also handfly these routes, use basic autopilot functions or even use the 'back on track' feature to help you navigate. Each mission will display the route in the VFR map as well as extra guidance.

You should note that sound files will ONLY trigger if you're within 5nm of the waypoint assigned to it.

Finally, please remember that in order to use the FlyByWire A32NX with these missions, you MUST download it from their website. STORM does not include the aircraft. This also means that Xbox owners cannot use this aircraft, but can still take part in the missions by using the default A320.

ABOUT HURRICANES

Written by Rachel O'Sullivan

As with anything with SoFly, our aim is to educate whilst you simulate. STORM is no exception as we have asked a Geographer of Natural Hazards to put together a detailed piece on what hurricanes are and more.

You can also fly this audio tour in the simulator itself.

What is a hurricane?

A hurricane is an extreme weather occurrence. It is a rotating, organised system of clouds and thunderstorms that originate over tropical and sub-tropical waters, and has closed, low-level circulation. A hurricane's structure consists of bands of intense rainfall and high wind speeds around a calm central point called the eye, usually about 20 – 40 miles across. The diameter of a hurricane can vary considerably but is typically 300 miles wide.

Around the world hurricanes are also known as typhoons or tropical cyclones depending on where you are (see Figure 1 below). Generally, this kind of storm is known as a hurricane in the North Atlantic Ocean, Gulf of Mexico and Caribbean, as a typhoon in the North-West Pacific Ocean and as a tropical cyclone in the Indian Ocean, Bay of Bengal, and Australian waters.

Although hurricanes mainly occur in the tropical and sub-tropical regions close to the equator, there have been some anomalies. One such was Hurricane Catarina in 2004, the first ever recorded hurricane in the Southern Atlantic Ocean. However, this was very unusual, with some debate to whether it was a true hurricane.

What is a hurricane?

A hurricane begins its life as a tropical disturbance/depression over the ocean, from which it develops into a tropical storm and into hurricane status if conditions are right (Figure 2). However not all tropical storms will become hurricanes as a series of environmental conditions need to exist in order for a hurricane to form.

Hurricanes need warm ocean waters of at least 26°C and do not form within 5° latitude north and south of the equator due to the absence of the Coriolis Effect here responsible for the storm rotation. The warm ocean waters also need to extend to approximately 50 meters in depth. This ensures the storm has a large, plentiful water supply to grow and develop. As the warm ocean waters evaporate into the atmosphere, the air becomes humid. The water droplets change form and create clouds. As this continues, these clouds build up into a series of thunderstorm clouds.

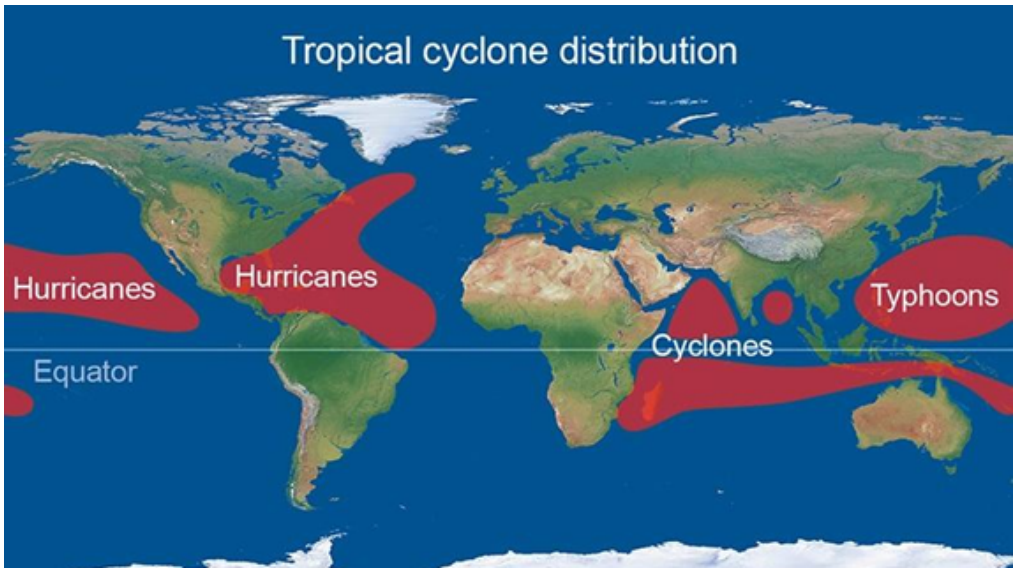
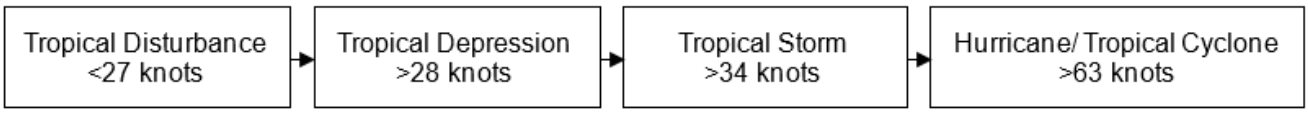


Figure 1: Map of Hurricane/ Tropical Cyclone general locations around the world

Figure 2: Stages of a Hurricane Formation



Additionally, there needs to be favourable atmospheric conditions which consist of a low vertical wind shear, allowing the main area of convection (vertical transport of heat and moisture into the atmosphere) to remain over the centre of the lowest pressure. If the area has a high wind shear the storm could disperse. The storm also requires a low surface pressure and an area of relatively high pressure above the growing storm. With light winds steering, the storm will begin to rotate. As the air evaporates from the warm surface waters, rises, and cools, it releases large quantities of latent heat. This is believed to be responsible for giving a hurricane so much energy. As the wind speed increases, the storm intensifies.

Once maximum sustained winds speeds reach over 63 knots (>74 mph) only then is it classed as a hurricane. The rotating winds create a circular centre point which is called the eye. The eye of the storm is generally calm and cloud free. However, the eye wall is considered the most dangerous part of the hurricane as it has the strongest winds, thickest clouds, and heaviest rain.

The exact origin and mechanisms of what makes a hurricane is somewhat unknown but the conditions leading to potential hurricanes can been identified. This allows us to monitor storms, their intensity and size as well as predict possible pathways. This means we can prepare and respond accordingly to help save lives and reduce impact.

When do hurricanes occur?

From historical records the areas of the globe affected by hurricanes tend to be over warmer parts of the ocean. Mainly originating over the western areas of ocean basins where cold currents do not exist. In each hemisphere, hurricanes are more likely to occur during the summer and autumn seasons of the year.

Direction and movement of hurricanes

The direction of rotation differs depending on the hurricane's location on earth. They rotate in a clockwise direction in the Southern Hemisphere and an anti-clockwise direction in the Northern Hemisphere. This is due to a force called the Coriolis Effect produced by the Earth's rotation.

Once a hurricane has developed, they typically move towards the west. To continue movement, they rely on energy created from heat and moisture. When the ideal conditions are lost, the storm will begin to disperse and typically move towards the poles.

Whilst most hurricanes occur and disperse over the ocean, some reach land where they can be a considerable danger to life and cause severe damage to property, infrastructure, and the environment.

How are hurricanes categorised?

The Beaufort wind force scale is a descriptive table designed to estimate wind speeds using visual observations, developed in 1805 to aid sailors. Force is scaled from 0 (calm) – 12 (Hurricane). This scale is still used around the world today for estimates of wind strength.

When the conditions are determined to be of hurricane force by various means, the Saffir-Simpson Hurricane Wind Scale is used to classify hurricanes into categories according to the storm's present intensity using wind speed. Additionally, it is used to estimate potential property damage as well as coastal and inland flooding. It doesn't however take all secondary hazards into account. The categories range from 1 to 5, with 3 to 5 considered a major storm.

See Table 1 on the next page.

CATEGORY	WINDS (mph)	WINDS (knots)	DAMAGE
Tropical Storm	**39-73**	**34-63**	**Minor wind and water-related damage**
1	**74-95**	**64-82**	**Minimal:** Damage to building structures possible, primarily to unanchored older model mobile homes. Damage to poorly constructed signs, shrubbery, and trees. Loose outdoor items become projectiles. Numerous power outages.
2	**96-110**	**83-95**	**Widespread from very strong winds:** Some roofing material, door, and window damage. Considerable damage to trees, vegetation, mobile homes, and piers. Widespread power outages up to several days.
3 (major)	**111-129**	**96-112**	**Extensive from dangerous winds:** Some structural damage to small residences and utility buildings with minor amount of wall failures. Mobile homes destroyed. Many trees uprooted or snapped. Power outages lasting several days or weeks.
4 (major)	**130-156**	**113-136**	**Devastating from extremely dangerous winds:** Some wall failures with complete house roof structure failures. Extensive damage to doors, windows, and trees. Major erosion to beach areas. Electricity unavailable for weeks. Terrain well inland may be flooded.
5 (major)	**>156**	**>137**	**Catastrophic:** Complete roof failure on many residences and industrial buildings. Some complete building failures with small buildings blown over or away. Power outages for weeks or months. Major flood damage to lower floors of building near shoreline. Massive residential evacuation may be required.

Table 1: The Saffir-Simpson Hurricane Wind Scale

Some are more destructive than others due to location, intensity, and pathway. A large size hurricane doesn't necessarily mean that it will be a major storm category. They can also be more destructive due to secondary hazards occurring as a result of the hurricane.

Weather and Hazards associated with hurricanes

Hurricanes are a type of meteorological hazard, relating to atmospheric weather patterns or conditions. Hurricanes produce heavy rainfall and very strong winds which can lead to a number of secondary hazards further affecting people, businesses, and services.

As hurricanes reach coastal regions they can cause storm surges, with waves recorded as high as 8.5m during Hurricane Katrina in 2005. Storm surges can cause hazards such as coastal flooding, dangerous tidal conditions, drowning, erosion, and structural damage. Heavy rainfall can lead to extreme flooding inland, landslides, contamination of water supplies, disease, and drowning.

Winds can reach extremely high speeds; the highest peak wind speed recorded being 215mph during Hurricane Patricia in 2015. Strong winds conditions could affect the environment and livelihoods through loss of vegetation, livestock, and crops. Along with, contributing to and spreading urban & woodland fires. It is also likely to disrupt transportation as well as cause injuries and death. Tornadoes have also been known to occur during hurricanes, adding to the risk to life and property.

How and Why are hurricanes named?

A short, distinctive name is given to differentiate storms and help with communications. Tropical storms as well as hurricanes are given a name. That name stays with the storm if it develops into a hurricane. Names are especially important in communications as tropical storms can last a week or more, with multiple storms happening at the same time across different locations. Therefore communications, advisories and warnings can then be issued and broadcast in the correct areas, for the correct storm.

Each year tropical storms are named in alphabetical order according to a list produced by the World Meteorological Organisation (WMO). In the Atlantic basin, there is a list of male and female names used to identify storms which is rotated every six years. For that reason, when referring to a past hurricane or tropical storm, you would use its name and year of occurrence. The only time a name is retired and replaced is if it was a storm so deadly or costly that future use is considered inappropriate, for example Hurricane Charley (USA) in 2004 and Typhoon Haiyan (Philippines) in 2013.

Living with hurricanes

People who live in areas at risk from hurricanes are encouraged to prepare for the hurricane season each year. They can prepare by ensuring they have emergency supplies, a plan to shelter safely, a plan to stay connected and an evacuation plan if needed - especially in areas vulnerable to storm surges. People can also take steps to protect their homes by preparing for wind and flooding. Wind preparation includes securing items outside, protecting windows with permanent storm shutters or pre-cut plywood and trimming back trees/ vegetation. Flood preparation includes cleaning out drains and gutters, stocking up on protective materials such as sandbags and considering elevating any electrics in the home.

When at home during a hurricane people should stay away from windows and doors, consider the use of a designated storm shelter or an interior room during high winds and moving to higher ground before flooding occurs. Before the storm, it is highly advised to leave to a safe place if asked to evacuate.

Warning systems and Monitoring

Storms can be monitored in a variety of ways such as using satellites, radar, reconnaissance aircraft, sea surface observations via ships & buoys, and land observations. All of which are important tools used to track and predict hurricanes.

Most national weather services in more developed countries have forecasting systems for hurricanes and associated hazards, and can distribute information to appropriate authorities/parties for warnings. Forecasting information for the public is typically released in a tiered approach. Early storm detection and accurate monitoring are required for effective forecasting and warning systems. Monitoring takes place over a number of days before a hurricane reaches the coastline. In the USA, hurricane warnings are issued 36 hours in advance when conditions are expected and hurricane watches are issued 48 hours in advance when conditions are possible, with updates/advisories to the public regularly.

If the storm is close to landfall, warnings are issued more frequently and include more detailed information for the areas under threat. Warning systems differ from area to area. Warning systems for extreme weather include television and radio broadcasts, weather radio, text/app alerts, social media, and outdoor sirens.

A GUIDE TO FLIGHT SIMULATOR EXTENDED EDITION

If you enjoyed STORM then you will love our in-depth guide teaching you everything you need to know about Microsoft Flight Simulator.

A Guide to Flight Simulator: Extended Edition features over 500 stunning pages designed to help newcomers and experienced simmers alike get the most out of their flight sim experience. From ATC to UI and everything in between, A Guide to Flight Simulator will make you a pro in no time.

Take full advantage of the included presets from Weather Preset Pro and apply them to any of the tutorial lessons found in A Guide to Flight Simulator to make you the best virtual pilot.

DYNAMIC AND UPDATED GUIDE

The world of flight simulation doesn't stand still and nor does our guide. Feedback from the community goes into future free updates. We know there's a lot to learn so we're always updating the guide to help you out.

CONFIGURE CONTROLS

Learn how to configure your controls with the new flight simulator or simply understand how the menu system works. A Guide to Flight Simulator will give you all of that detail in an easy to follow way.

FEEL INSPIRED IN THE NEW WORLD

A Guide to Flight Simulator features a detailed look at each airport, aircraft and also gives you some inspiration on where to travel next. Find your next destination with our visual guide helping you all along the way.

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Thanks to everyone involved.

STORM would not have been possible without the dedication, passion and support by some amazingly talented individuals.

Calum Martin

CEO and Founder of SoFly

Lisa Carpenter

Director of Business Development and Customer Care

Rachel O'Sullivan BSc

Consultant - Geography and Natural Hazards Specialist

Beta Testers

Adam E

Ian W

Jake H

Maurice M

Nick H

Patrick M

Paul R

Ricky H

Video Production

AviationLads

Special Thanks

f99mlu for creating BushMissionGen which was used in the creation of STORM.

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