World Journal of Pharmaceutical and Life Sciences
WJPLS
www.wjpls.org
SJIF Impact Factor: 5.088

STRATEGIES TO PREVENT MAJOR HURRICANES IN AMERICA

Dr. Freidoon Zibaei*

Animal Production Engineering, University of Shahrekord, Shahrekord, Iran Agriculture Office of Talesh, Gilan Province, Iran.

***Corresponding Author: Dr. Freidoon Zibaei**
Animal Production Engineering, University of Shahrekord, Shahrekord, Iran Agriculture Office of Talesh, Gilan Province, Iran.

Article Received on 27/01/2019 **Article Revised on 17/02/2019** **Article Accepted on 07/03/2019**

ABSTRACT

Objective: This study was conducted to map out effective strategies to prevent major hurricanes in America. *Methodology*: The current study executed the "Plan to Enhance Local Precipitation" by generating water vapor to act as a buffer and insulator between cold air masses, generally at higher altitudes, and warm air masses at lower altitudes. In this way, the energy of the cold and warm air masses is absorbed to prevent fast and strong movement of air masses which, in turn, reduces the speed and strength of hurricanes and even prevents occurrence of intense hurricanes. *Results*: This plan is able to prevent major hurricanes and heavy loss of life and property. By reducing the strength and speed of major hurricanes and even preventing their occurrence, and through maintaining cold energy at an altitude higher than the Earth's atmosphere in the marginal areas of the North Pole, which orients precipitation in the North Pole, this plan can help the North Pole region to bounce back to the situation it had in previous years. Among other important benefits of this plan is the generation of fresh water required for the establishment of green movement.

KEYWORDS: The Plan to Enhance Local Precipitation, the Plan to Enhance the Amount of Rainfall, Global Warming, Displacement of Warm and Cold Air Masses, Green Movement.

INTRODUCTION

Every year, powerful hurricanes hit the USA.

1. Statement of the Problem

Every year, powerful hurricanes hit the USA and sometimes cause hundreds of billions of dollars' worth of damage.

2. Contribution of Study

This study contributed to the existing knowledge of why these hurricanes happen with such intensity and strength, why they are more powerful every year, and how to prevent them.

3. Research objectives

This study was conducted to understand how to control such hurricanes, reduce their strength and speed, and even prevent them.

4. Outcome of Study

Findings of this study can be helpful in reducing the strength and speed of such hurricanes, preventing them from happening, and restoring the North Pole and bouncing it back to its previous situation.

5. Innovation of Study

The development of the "Plan to Enhance Local Precipitation" was the innovation of this study.

6. Literature Review

Considering the environmental conditions, the accessible amount of fresh water, dry air, and wind direction, the required number and engine displacement of water vapor generators in "the Plan to Enhance Local precipitation," and the capacity to generate water vapor and its density are determined. The generated water vapor must be injected into the environment as cold, heavy and dense or warm, light, and more dilute form. It is worth noting if water particles are injected at the end pipe of the blower, cold and heavy water vapor will be distributed in the environment due to the high suction power of the end fan and the resulting creation of vacuum.

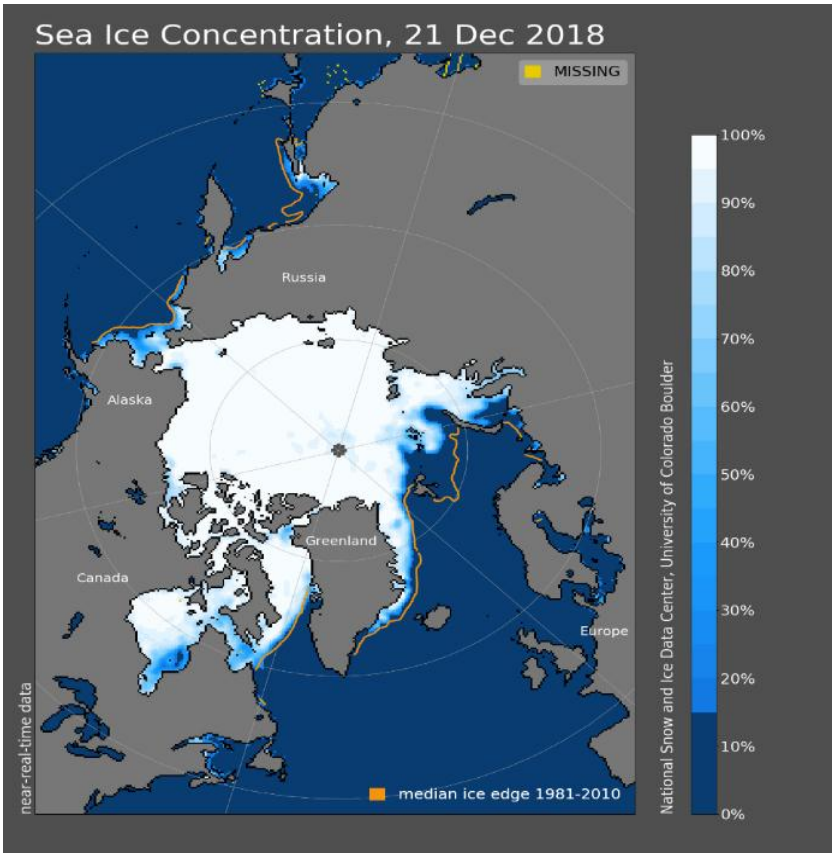
The generated mass of water vapor acts like a buffer or insulator between the cold and warm air masses and prevents their movement. In this way, it prevents displacement of warm and cold air masses; that is, it prevents air currents from strengthening and gaining speed and even prevents their displacement.

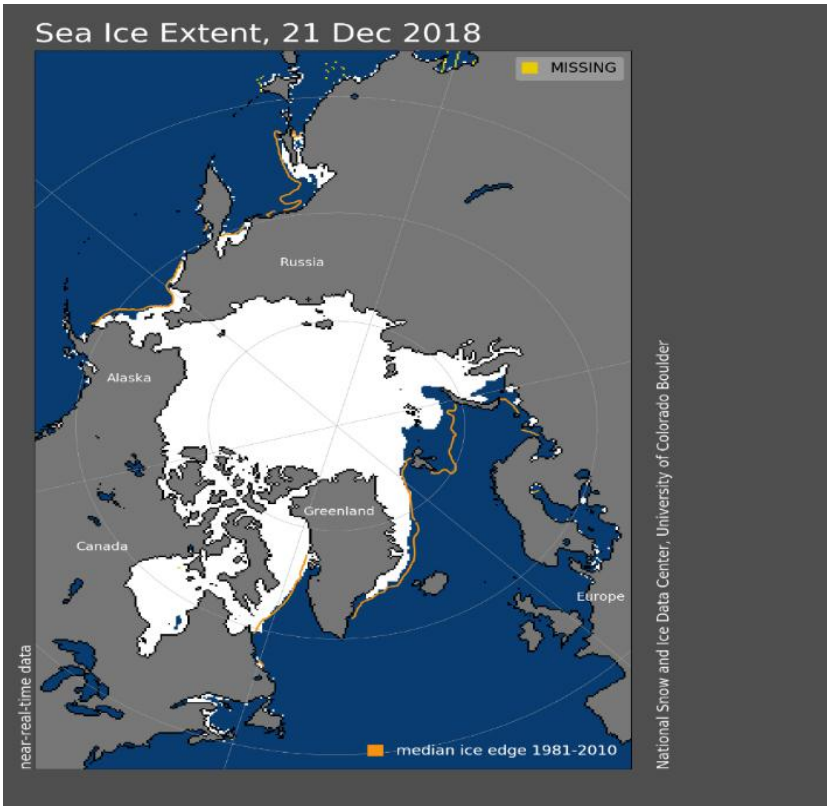
7. Methodology

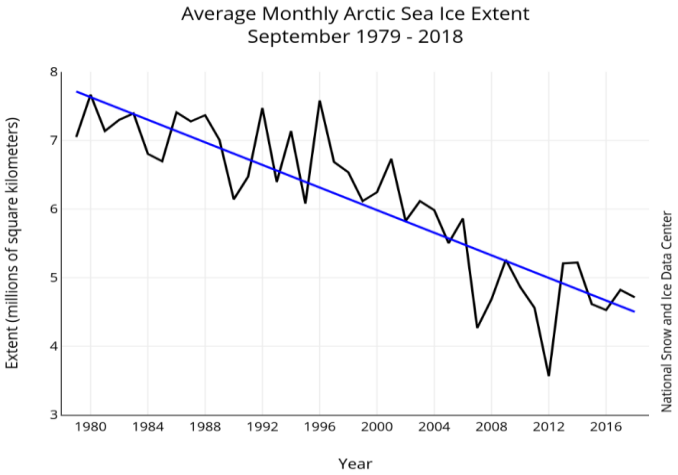
This research was conducted based on studying the documents of valid climate change monitoring resources.[1,2]

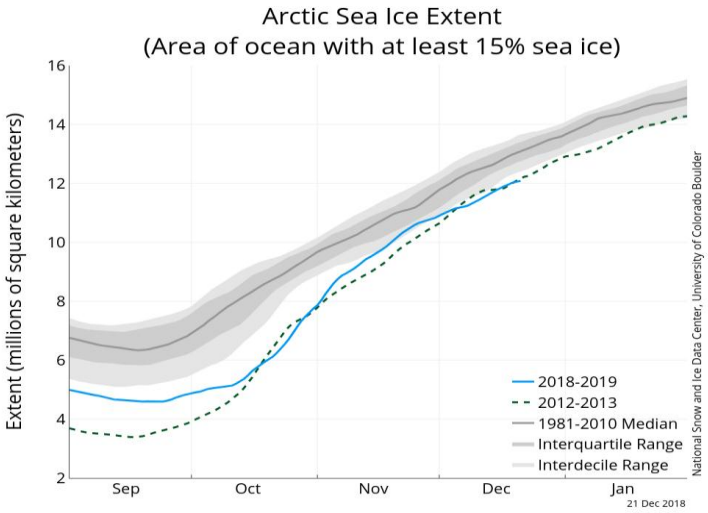
8. Ways of Preventing Dreadful Hurricanes in the United States"

1. The available data was investigated first.[1]

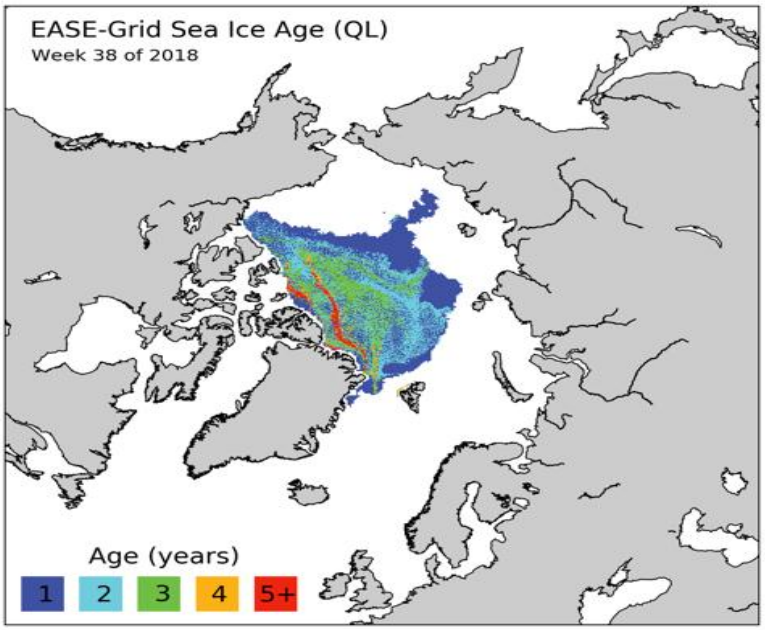








Ice Age Distribution During Week 38 in 2018

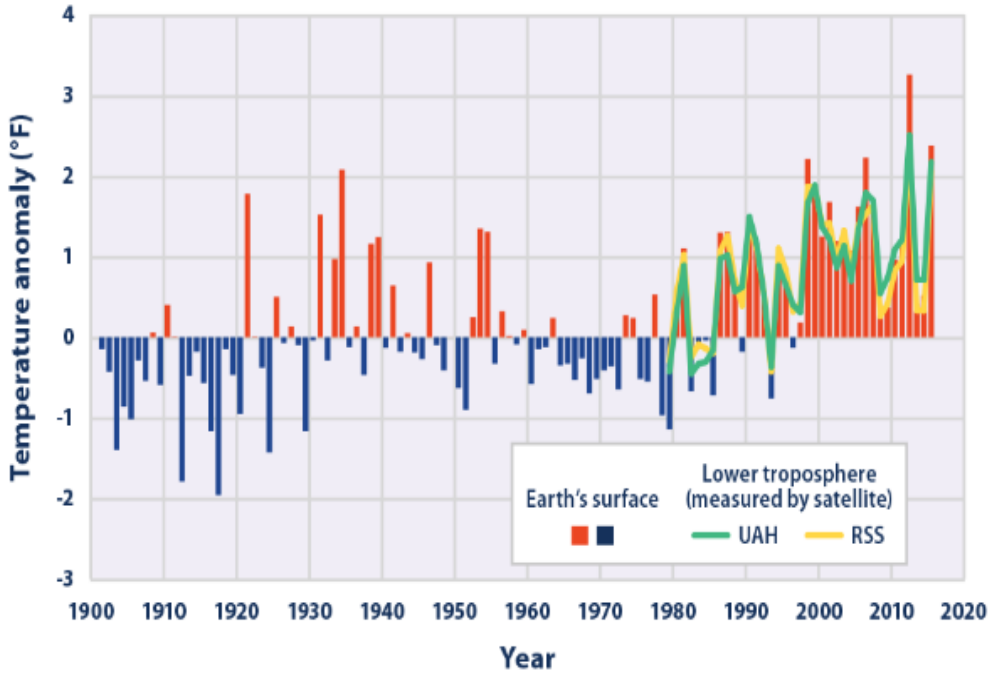


Examination of the data below reveals that the North Pole icecap is melting and its area is shrinking. The importance of this event for the present research is that, in addition to the reduction in the area and thickness of this icecap, vast amounts of cooling energy have been released into the environment as a result of ice melting.

2. The increasing trend of temperatures in the USA is studied.[2]

This indicator describes trends in average surface temperature for the United States and the world.

Figure 1. Temperatures in the Contiguous 48 States, 1901–2015

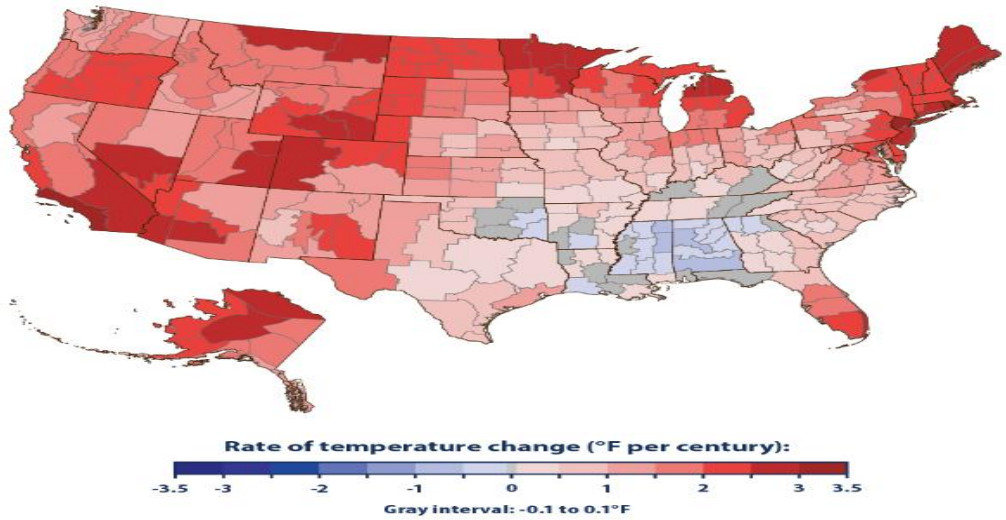


This figure shows how annual average temperatures in the contiguous 48 states have changed since 1901. Surface data come from land-based weather stations. Satellite measurements cover the lower troposphere, which is the lowest level of the Earth's atmosphere. "UAH" and "RSS" represent two different methods of analyzing the original satellite measurements. This graph uses the 1901–2000 average as a baseline for depicting change. Choosing a different baseline period would not change the shape of the data over time.

Data source: NOAA, 2016[1]

Web update: August 2016

Figure 3. Rate of Temperature Change in the United States, 1901–2015



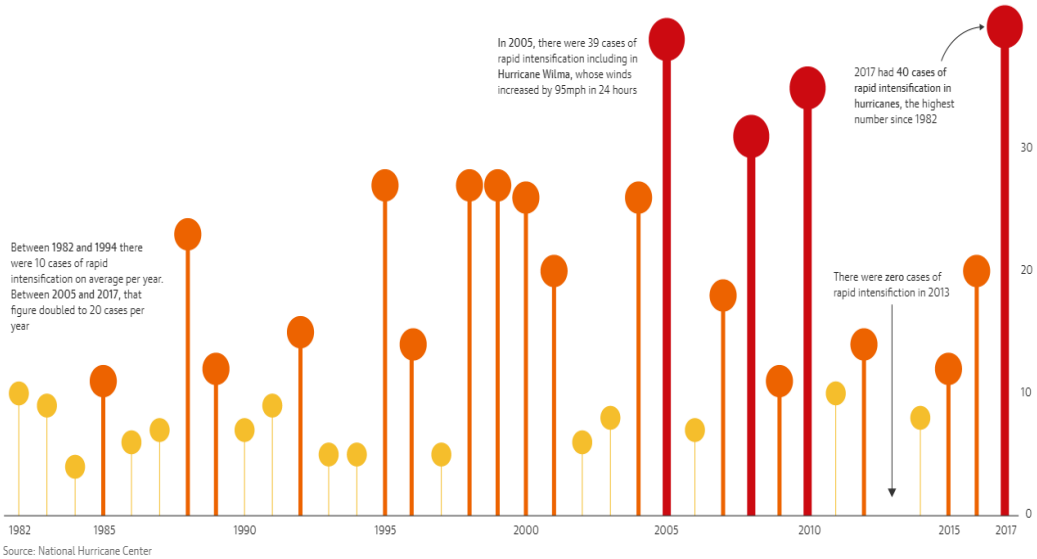
This figure shows how annual average air temperatures have changed in different parts of the United States since the early 20th century (since 1901 for the contiguous 48 states and 1925 for Alaska). The data are shown for climate divisions, as defined by the National Oceanic and Atmospheric Administration.

Data source: NOAA, 2016[2]
Web update: August 2016

Investigation of the available data indicates an ascending trend in temperatures in the USA and worldwide.

3. The rising trend in storm intensity happening in the USA is studied.[3] (It is important to note that these data were collected before the official and reliable announcement of the recent storm in the USA.).

2017 was the worst year for rapid intensification

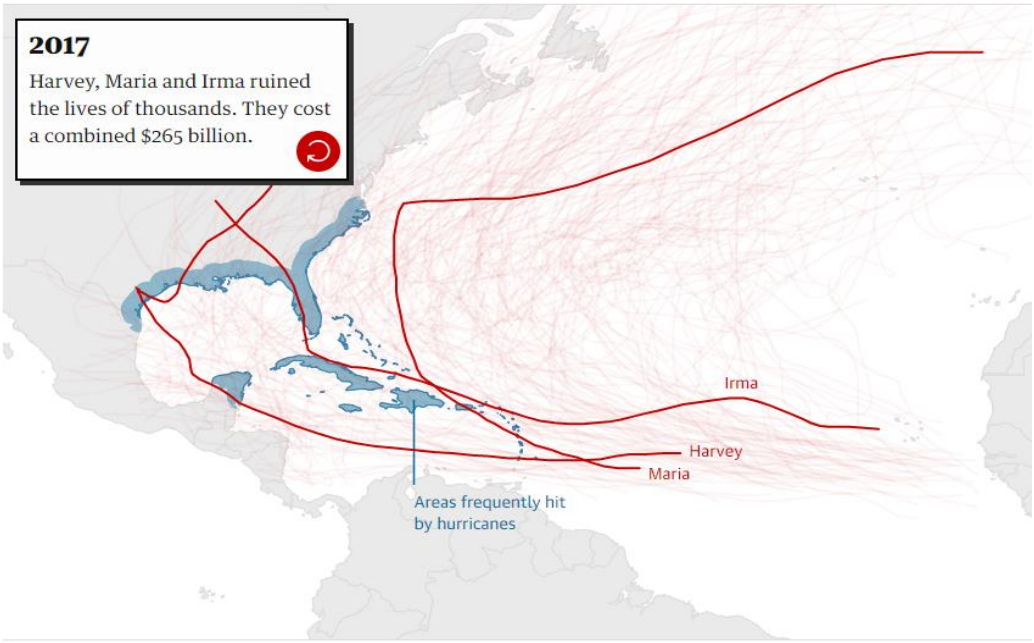


Source: National Hurricane Center

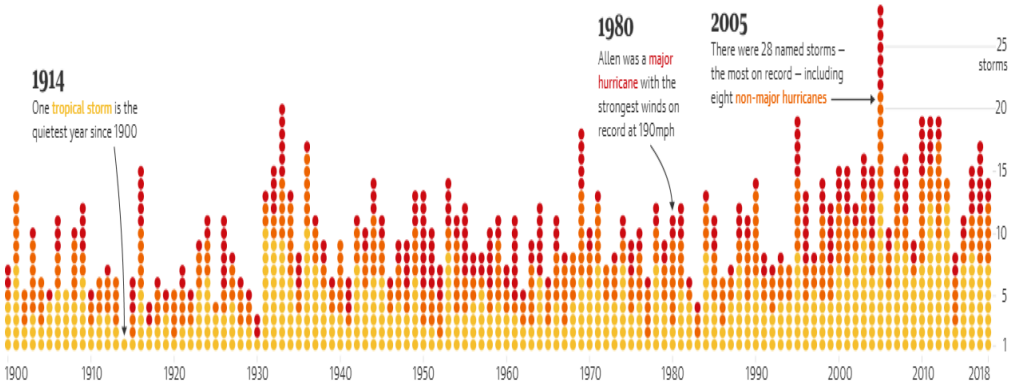
In 2017, there were 40 separate cases of RI - the most in at least 35 years. What's particularly worrying is when a storm transforms from a category 1 hurricane to a Category 5 monster in less than 24 hours. In the case of Hurricane Maria, this left people on the island of Dominica with insufficient time to prepare.

Rapid intensification was part of the reason why Maria cost an estimated $90bn (£70bn). Damage caused is often used to evaluate how bad a hurricane is, but with more people and more infrastructure in vulnerable areas, cost is a flawed measure. Maria is joined by Harvey and Irma inside the five costliest hurricanes to hit the US on record.

As Hurricane Michael approaches the Florida Panhandle after rapidly intensifying to a category 4 storm, coastal areas have been evacuated. The storm is the second to hit the US mainland this year after Hurricane Florence brought catastrophic rainfall and flash floods to the Carolinas. 2018 has now exceeded what was expected to be a year of "below normal" hurricane activity, with long-term trends indicating a worsening of the length and intensity of Atlantic storms.



The number of storms is increasing

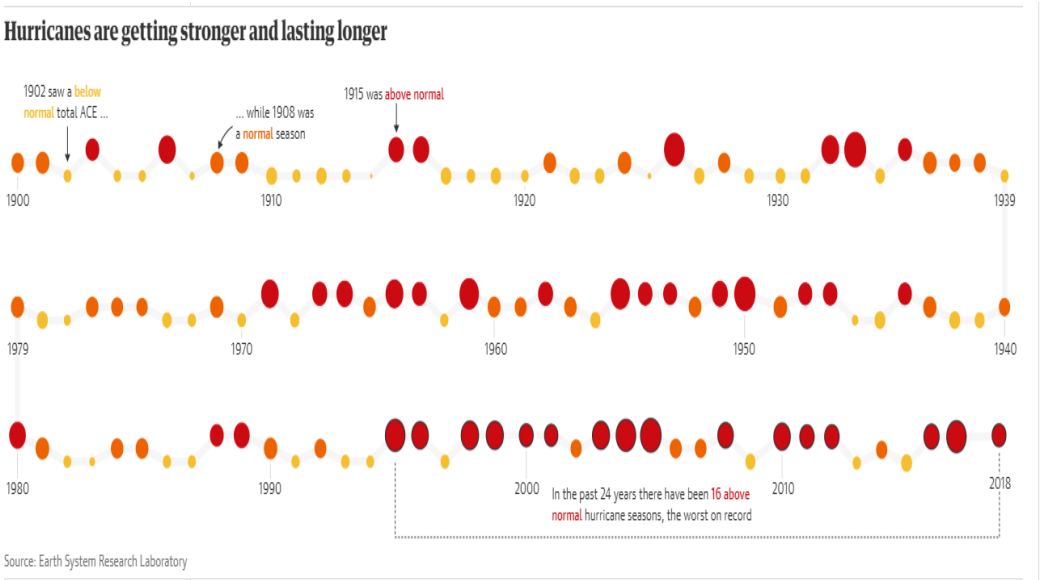


Source: National Hurricane Center

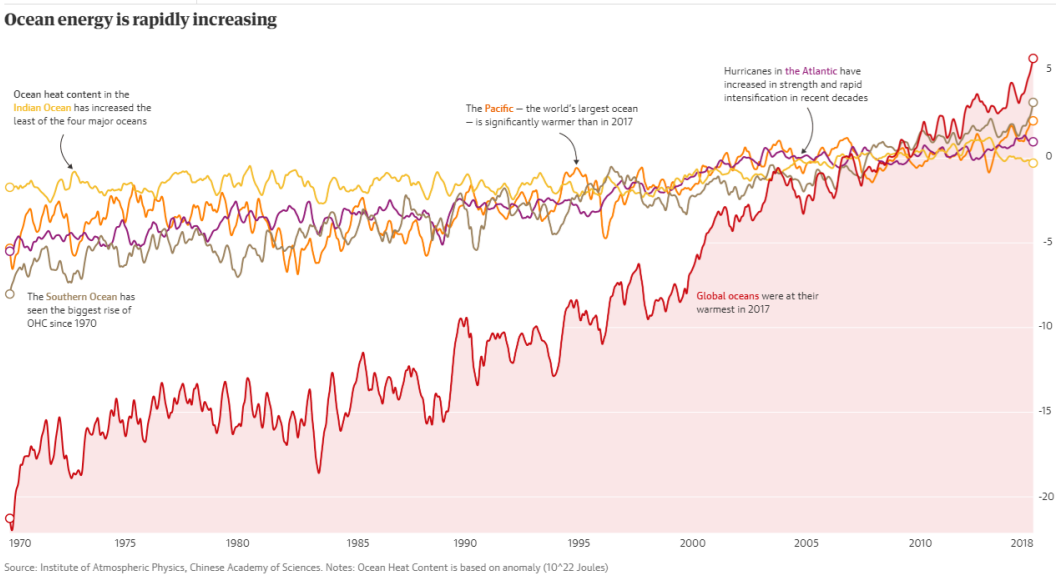
Category 5 hurricanes are the most severe but also the most rare - there have been just three in the past decade.

But these hurricanes aren't the only category of storm that cause significant damage. Hurricane Harvey showed us last year that a category 4 storm can last for several days and dump historic volumes of rain to almost sink an entire city.

To more accurately assess how bad a storm is, meteorologists use the Accumulated Cyclone Energy Index - or ACE - to account for the strength, frequency and duration of storms per year. The Atlantic Ocean is in the midst of its worst stretch on record.



The El Niño effect - which causes tropical storm development in the Atlantic to be suppressed - is a big reason why NOAA reduced the number of hurricanes forecast this year. However, new data suggests that hurricanes could become stronger, slower and wetter in the future.



Warmer waters have made the speed at which hurricanes intensify in strength faster in recent years. Meteorologists use the term "rapid intensification" - or RI - to describe a storm that increases its maximum sustained winds by at least 35mph within a 24-hour period.

Careful examination of the data shows that the number and intensity of storms have increased in recent decades. It must be noted that the USA, in addition to warm and dry weather, has extensive and hot deserts like the one in Nevada.

Water vapor masses should be directed towards the hot deserts by installing generators, which are described in the "Local Precipitation Enhancement Plan") all around the margins of the central deserts in the USA considering wind direction and movement of water vapor masses. The inlet air valve in the end pipes of the flues in the water vapor blower should be adjusted (smaller valve hole) so that the generated water is injected into the environment as cold and heavy vapor due to the strong suction of the end fan. Ultimately, this cold and heavy water vapor falls to the ground, specifically at night. Of course, in dry desert regions it is better (considering night weather forecasts, especially in cold seasons of the

year) to use warm and light water vapor in order to cover a larger area of the region covered by the plan.

Since the long distance functions as a barrier to the implementation of the "Primary Precipitation Enhancement Plan".[4,5] at present, it is better to launch the "Plan to Enhance Local Precipitation",[6] in the margins of hot deserts and in other parts of country with very warm and dry air a large number of times using large quantities of water vapor to raise the relative humidity of the environment. In addition to increasing percentage of precipitation, this plan is able to prevent dramatic temperature changes.

Considering the environmental conditions, the accessible amount of fresh water, dry air, and wind direction, the required number and engine displacement of water vapor generators in "the Plan to Enhance Local precipitation," and the capacity to generate water vapor and its density are determined. The generated water vapor must be injected into the environment as cold, heavy and dense or warm, light, and more dilute form. It is worth noting if water particles are injected at the end pipe of the blower, cold and heavy water vapor will be distributed in the environment due to the high suction power of the end fan and the resulting creation of vacuum.

The generated mass of water vapor acts like a buffer or insulator between the cold and warm air masses and prevents their movement. In this way, it prevents displacement of warm and cold air masses; that is, it prevents air currents from strengthening and gaining speed and even prevents their displacement.

When a cold and heavy air mass at a higher altitude replaces a warm and light air mass at a lower altitude, for each kilometer difference in the altitude this displacement raises the temperature of the cold air mass by 10-12˚C as it moves toward a lower altitude.

When the warm and the cold air masses contact the water vapor mass produced by the generators, they release some of their energy into this water vapor mass and thus lose some of their strength.

A clear and natural example of this phenomenon, based on which this paper was written, can be readily seen in the environment. If we look carefully at warm rainy summer monsoons in high-mountain regions (altitudes higher than 1000 or 2000 meters) with heavy snowfall located adjacent to low-altitude plains (altitudes of 100 meters or less), we will notice that these very low-altitude plains generate warm strong winds because of their higher temperatures. If clouds cover these plains, warm winds will stop blowing because these clouds (which result from the warming up and melting of the snow on the mountains) prevent displacement of cold and warm air masses. In the highlands covered with snow, solar radiation melts snow and a cold and heavy air mass is produced whereas in the low-altitude plains no snow or little snow has fallen. Now, if a cloud mass moves between the higher altitudes with a vast amount of cold energy and the plains areas with higher temperatures caused by solar radiation, it will prevent displacement of cold and warm air masses and generation of warm monsoons. This is exactly what happens in the "Plan to Enhance Local precipitation," in which water vapor must be artificially produced by generators in various regions of the United States to prevent the occurrence or reduce the intensity of powerful hurricanes.

The implementation of green movement is important in balancing temperatures in arid areas and in preventing excessive temperature rise in them.[4,5,6,7]

9. RECOMMENDATIONS

- It is recommended to implement the "Plan to Enhance Local Precipitation" in order to prevent occurrence of major hurricanes in the USA.
- It is recommended to implement the green movement (tree planting, reforestation of forests and rangelands, etc.) in order to preserve humidity and achieve temperature balance at the ground level so as to cope with global warming and restore the ozone layer.

10. REFERENCES

1. NSIDC: Arctic sea Ice News and Analysis. (4 December 2018).
2. EPA (United States Enviromental Protection Agency) 2018.
3. Guardian, (10 Oct 2018).
4. Freidoon Zibaei, "a Plan to Increase the Amount of Rainfalls" or "Rain Trap," published on www.ijptonline.com and www.ResearchGate.net, (July 2016).
5. Freidoon Zibaei, "A Plan to Increase the Amount of Rainfalls" or "Rain Trap" to do green movement to cope the global warming, published on www.wjpls.org and www. ResearchGate.net, (March 2018).
6. Freidoon Zibaei, Local Precipitation Increasing Project: "Quasi-Rain Trap" or "Cloud Trap," published (update) on www.ResearchGate.net, (Jun2018).
7. Freidoon Zibaei, Control and Reduction of the Terrifying Storms Strength in the United States. update ResearchGate, (10 Feb2019).