

[54] **METHOD AND APPARATUS FOR ALTERING A REGION IN THE EARTH'S ATMOSPHERE, IONOSPHERE, AND/OR MAGNETOSPHERE**

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[51] Int. Cl.<sup>4</sup> ..... **H05B 6/64; H05C 3/00; H05H 1/46**

[52] U.S. Cl. .... **361/231; 89/1.11; 380/59; 244/158 R**

[58] Field of Search ..... **361/230, 231; 244/158 R; 376/100; 89/1.11; 380/59**

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[57] **ABSTRACT**

A method and apparatus for altering at least one selected region which normally exists above the earth's surface. The region is excited by electron cyclotron resonance heating to thereby increase its charged particle density. In one embodiment, circularly polarized electromagnetic radiation is transmitted upward in a direction substantially parallel to and along a field line which extends through the region of plasma to be altered. The radiation is transmitted at a frequency which excites electron cyclotron resonance to heat and accelerate the charged particles. This increase in energy can cause ionization of neutral particles which are then absorbed as part of the region thereby increasing the charged particle density of the region.

**15 Claims, 5 Drawing Figures**

# CIA Are The Weathermen

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WEATHER MODIFICATION HISTORY

7/2-8/76

-- Betty Segal

Did the CIA order weather modification to ruin the Cuban sugar crop in 1969 and 1970, or didn't it?

Lowell Ponte, former researcher for International Research and Technology Corporation, a Pentagon "think tank," says the CIA and Pentagon ordered cloud-seeding off the shores of Cuba, to "milk" rain clouds, at a time when Castro's fortunes seemingly depended on a successful harvest of sugar cane.

The CIA has categorically denied it practiced cloud seeding anywhere except in Vietnam during that time period.

Ponte says the Cuban experiment was part of "Project Nile Blue," carried on officially starting in 1970 by the Pentagon's

Advanced Research Projects Agency (ARPA). Later exposure of the project by scientists opposed to the war revealed that weather experimentation there had begun as early as 1966. A computer model for "Nile Blue" was developed by the main computer installation, known as ILLIAC 4, located at Moffett Field in Mountain View.

Ponte says the Cuban cloud-seeding effort did produce erratic weather which cut down the sugar harvest those years, but that on the whole weather science is too "primitive" and unpredictable to produce certain re-

sults. He adds that "Nile Blue" was really aimed at "destabilizing" weather in the Soviet Union, China and Cuba, to ruin harvests and create political unrest.

## Destroying A Hurricane

The energy expended by a tropical hurricane is enough to drive all the machinery in the world for three or four years. Yet the Army, the Navy and the General Electric Company are collaborating in a daring meteorological experiment which is to determine whether or not the colossal vortex that we call a hurricane can be broken by making it precipitate the thousands of tons of water that it contains.

Earlier in the century physicists rightly scoffed at efforts to bring down rain out of the atmosphere by firing cannon or by scattering sand from airplanes. There is no scoffing at the latest proposal. By "sowing" the air with pellets of solid carbon dioxide, or with any one of a dozen chemicals, it is possible to precipitate water from a cloud in the form of snow which melts to become rain. Experiments made in this country and in Australia have proved as much. In any storm forces are precariously balanced. It is theoretically easy to upset that balance by a "triggering" action. The pellets of carbon dioxide are the triggers.

If the older attempts at rain-making came to nothing it was because it was not known how rain drops are created. Some years ago it was discovered that unless there is a nucleus, something around which moisture can wrap itself, there can be neither snowflakes nor droplets. The rest now seems simple. Little "seeds" of carbon dioxide snow scattered from a plane serve as much nuclei. In Australia considerable quantities of rain were thus precipitated earlier in the year during a drought. Will the same procedure work with a hurricane and will the hurricane simply disappear? If so science will have scored a dramatic, large-scale success in controlling one type of weather, and the West Indies Florida and other southeastern states will no longer have reason to dread visitation of wind and rain that annually blot out lives and destroy property worth hundreds of millions.

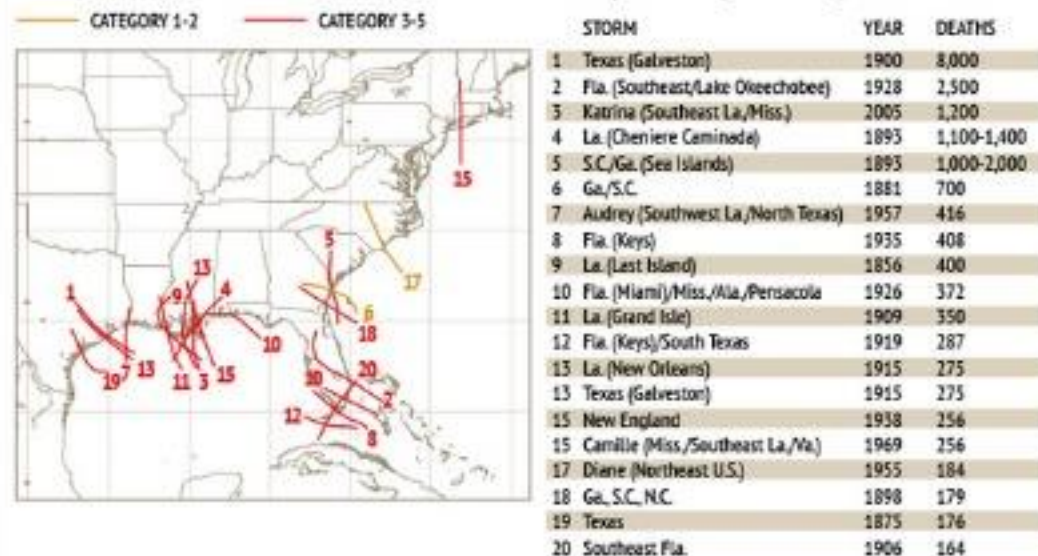
(N.Y. Times, 10th Sept. 1947)

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# Hurricanes: Deadliest and Costliest

Hurricane Sandy, which struck the U.S. in October 2012, is estimated to have caused upward of 110 fatalities in the U.S. and \$50 billion in damage (in 2012 dollars). The practice of giving storms names became widespread in World War II. Initially, only female names were used, but since 1979, storms have been given both male and female names.

## Deadliest Mainland United States Tropical Cyclones, 1851-2010



## Costliest Mainland United States Tropical Cyclones, 1851-2010

Adjusting for inflation, changes in personal wealth and coastal county population to 2005



Nov. 5, 2012

SOURCES: NOAA, U.S. NATIONAL WEATHER SERVICE, U.S. NATIONAL HURRICANE CENTER, EQUECAT



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**Waxmanski**

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(54) **HURRICANE AND TORNADO CONTROL DEVICE**

**Publication Classification**

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(52) **U.S. CL.** ..... **239/2.1; 239/14.1**

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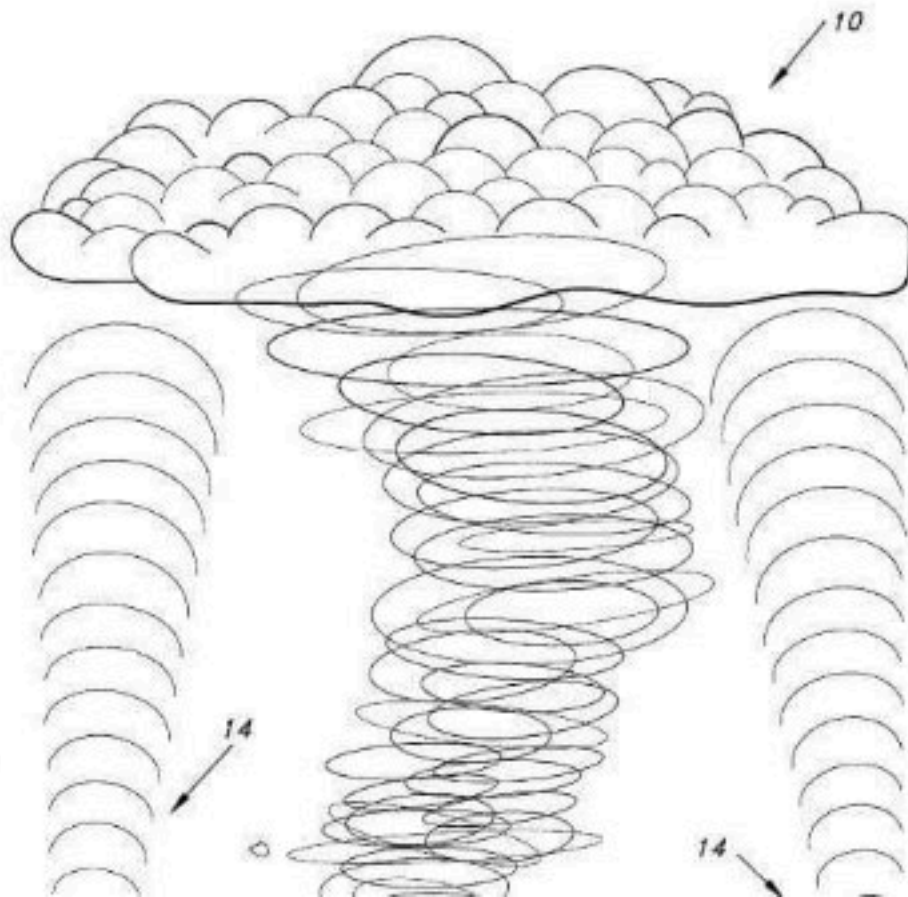
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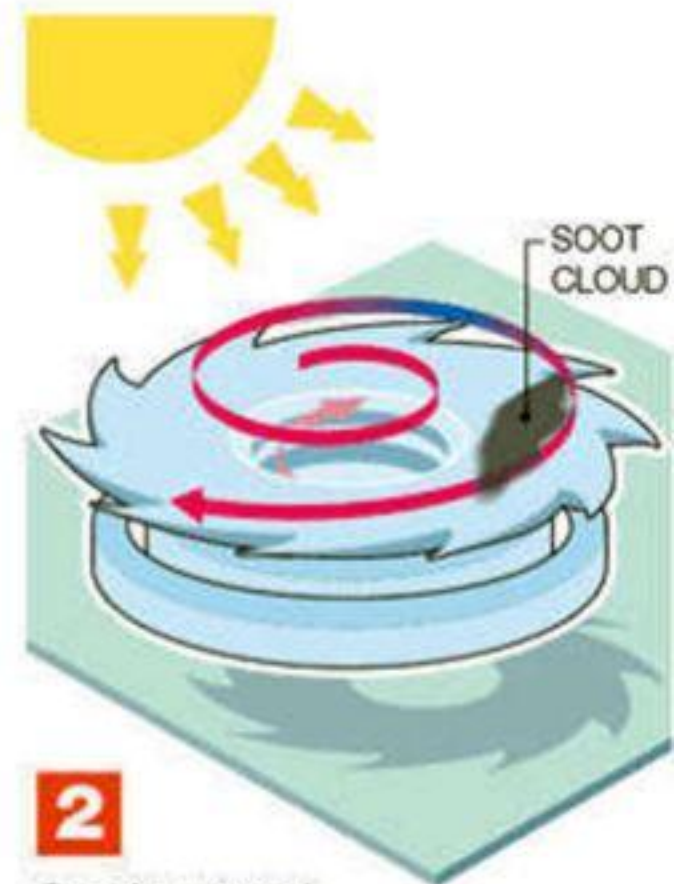
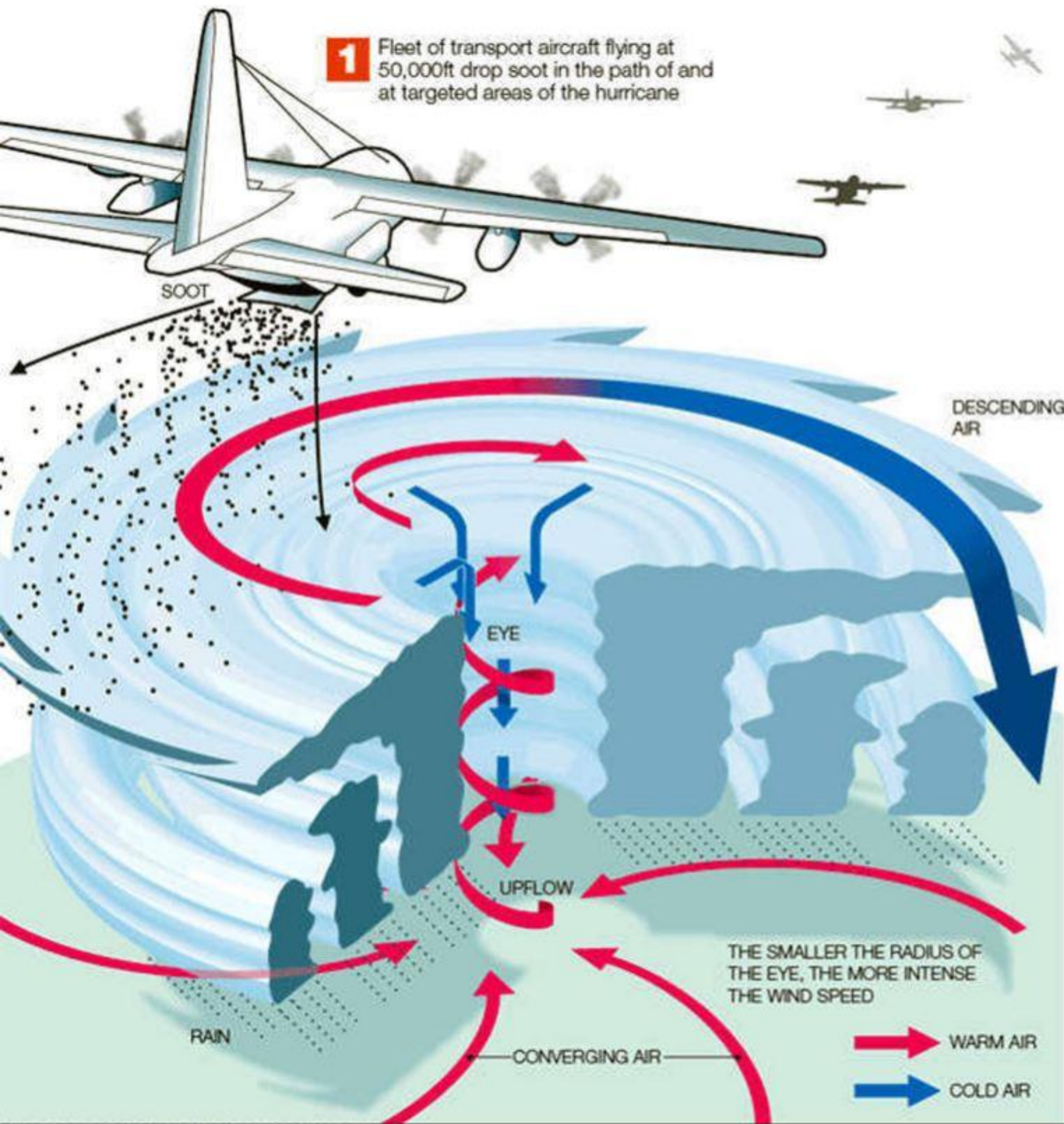
(22) **Filed: Nov. 2, 2001**

(57) **ABSTRACT**

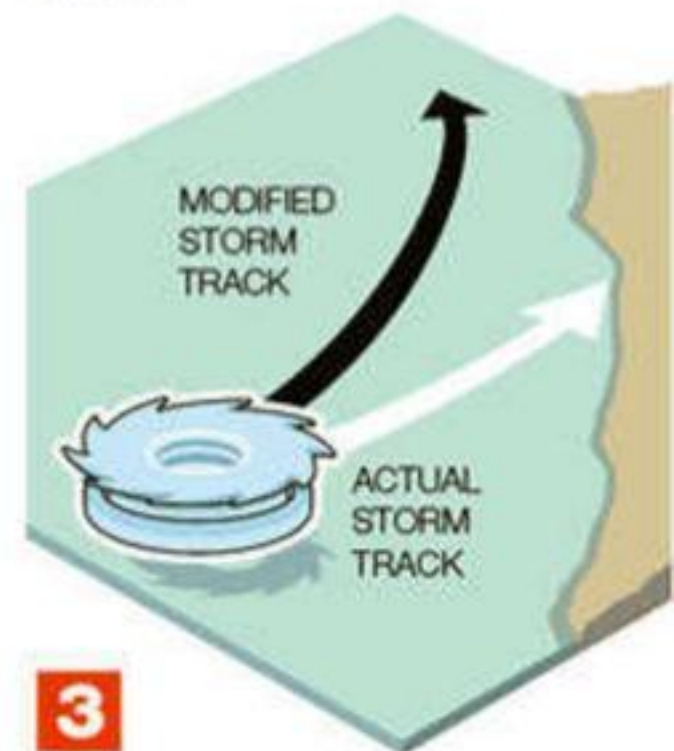
A method is disclosed for affecting the formation and/or direction of a low atmospheric weather system. Audio generators are positioned to project sound waves toward a peripheral area of a weather system. The sound waves are generated at a frequency to affect the formation of the weather system in a manner to disrupt, enhance or direct the formation. The sound waves can also be projected in a manner to cause the system to produce rain.



# HOW TO HALT A HURRICANE



**2** Soot is warmed by the sun, heating the cool air around it at the very top of the hurricane. This reduces the flow of air within the hurricane and slows it down



**3** Depending on where and when the soot is dropped the now weakened hurricane will change course