



1  
00:00:08,210 --> 00:00:06,260  
we've always thought of Saturn being the

2  
00:00:11,330 --> 00:00:08,220  
serene body it looks like a pearl in the

3  
00:00:13,230 --> 00:00:11,340  
sky with different hues to it due to

4  
00:00:15,089 --> 00:00:13,240  
different types of clouds

5  
00:00:17,310 --> 00:00:15,099  
what we're seeing is is that if you go

6  
00:00:19,290 --> 00:00:17,320  
through those phases and get down to the

7  
00:00:21,570 --> 00:00:19,300  
depths of Saturn you find a roiling

8  
00:00:23,490 --> 00:00:21,580  
atmosphere and a cyclone was probably

9  
00:00:27,089 --> 00:00:23,500  
one manifestation of this traumatic

10  
00:00:29,450 --> 00:00:27,099  
dynamics we didn't realize that there

11  
00:00:32,130 --> 00:00:29,460  
was a cyclone in the South Pole year ago

12  
00:00:33,660 --> 00:00:32,140  
was the surprise was we see essentially

13  
00:00:36,840 --> 00:00:33,670

the same type of a feature in a North

14  
00:00:42,119 --> 00:00:36,850  
Pole the North Pole has a hexagon around

15  
00:00:44,070 --> 00:00:42,129  
it you know these cyclones on Saturn are

16  
00:00:45,539 --> 00:00:44,080  
huge you can fit at least one earth in

17  
00:00:47,850 --> 00:00:45,549  
one case and tourists another case

18  
00:00:49,500 --> 00:00:47,860  
inside these things and they have

19  
00:00:51,719 --> 00:00:49,510  
powerful winds near the center of about

20  
00:00:53,939 --> 00:00:51,729  
300 miles an hour so in a lot of ways

21  
00:00:57,270 --> 00:00:53,949  
these are the most powerful cyclones

22  
00:00:58,979 --> 00:00:57,280  
ever seen both earth and Saturn work on

23  
00:01:01,200 --> 00:00:58,989  
the same laws of physics but the earth

24  
00:01:03,719 --> 00:01:01,210  
has this vast reservoir called an ocean

25  
00:01:05,520 --> 00:01:03,729  
which can take up heat and absorber from

26

00:01:07,109 --> 00:01:05,530

the Sun and then release it under the

27

00:01:11,160 --> 00:01:07,119

right conditions to create a hurricane

28

00:01:14,640 --> 00:01:11,170

on Saturn we have internal heat deep

29

00:01:16,050 --> 00:01:14,650

down it's been powered by processes that

30

00:01:17,940 --> 00:01:16,060

are happening deep into the atmosphere

31

00:01:20,160 --> 00:01:17,950

of Saturn what it shows us is there's

32

00:01:22,469 --> 00:01:20,170

some bizarre physics going on on Saturn

33

00:01:24,090 --> 00:01:22,479

that is it's drawing large amounts of

34

00:01:26,469 --> 00:01:24,100

energy from the inside of Saturn to

35

00:01:28,630 --> 00:01:26,479

power these storms

36

00:01:31,749 --> 00:01:28,640

we're talking again about a storm system

37

00:01:34,719 --> 00:01:31,759

that's about 20,000 kilometers across or

38

00:01:37,510 --> 00:01:34,729

even larger that's a gigantic storm

39

00:01:39,069 --> 00:01:37,520

system so it's the largest storm system

40

00:01:41,410 --> 00:01:39,079

of this type we've seen anywhere in the

41

00:01:47,919 --> 00:01:41,420

solar system and now we seem to of them

42

00:01:49,419 --> 00:01:47,929

on both poles it shows us that Saturn is