(날씨) NOAA 의 스톰 체이서 탑승기 **JFKN.COM**

Severe weather threatens nearly 30 million Americans today after a string of tornadoes **rakes** the Midwest. Only on CBS this morning, we go tornado hunting with the crew of a research plane that is helping to save lives on the ground. Mark Strassman got a unique look at how scientists with the National Oceanic and Atmospheric Administration, or NOAA are researching tornadoes from the sky. He joins us from NOAA's aircraft operation center in Lakeland Florida for a story you will only see on CBS this morning. Mark, good morning.

Good morning, this is one of NOAA's hurricane hunters. It's built to fly right into the eye of monster storms. And for scientists aboard who study severe weather, its basic advantage is this: the closer they can get to a storm, the better the data they can collect. That's true with hurricanes and as we found out on a recent flight, also true with tornadoes.

Fasten your seatbelts. This research plane, about the size of a 737, is taking us straight toward what most pilots do anything to avoid: dangerous, even deadly weather. "We are a flying laboratory. We have the most sophisticated instrumentation in the world flying on this airplane" Ian Sears is a **meteorologist** aboard NOAA's P3 research plane, nicknamed "Kermit." It usually hunts hurricanes over the Atlantic, but this time the target is tornadoes over Louisiana. "It's very different, it's very dynamic, it changes very rapidly and it's much more unpredictable than a hurricane."

The plane carries three radars – two on the tail scan **vertically**, one underneath the **fuselage** scans **horizontally.** By flying with a storm as it develops, researchers can paint a 3-D picture of how a tornado forms. "Here is the cell we are targeting now? Dr. Conrad Ziegler, the lead scientist aboard, studies tornadoes at the National Severe Storms Laboratory in Oklahoma. " "We want to get as close, but not too close. We want to get close enough that the radar can measure finer details such as the circulations that produce tornadoes"

Flying just 2,700 feet over northeastern Louisiana, we spot a **supercell** thunderstorm off our left wing. It could **spawn** a tornado at any time. Kermit tries to stay six miles ahead of the storm's front edge – close, but not too close. Flight director Jess Williams navigates the team into position. "This mission is very dangerous. Got to keep an eye on the radar during the entire flight. I'm watching the radar right now as I'm talking to you. Things can develop within a matter of seconds on these cells that we're targeting" From the cockpit, we watched as a funnel drops to the ground near the town of Calhoun. Kermit comes alive – along with the crew of 16.

Cameras on the ground caught the twister, too. From a research perspective, they hit the jackpot. Not only were cameras rolling, the plane's radars captured the whole thing. I think people are going to be studying this particular event for many years just because of the amount of data we were able to collect from it" Best of all, this tornado killed nobody on the ground and it left behind a trail of data that will help forecasters better predict where and when the next one will strike. The scientists aboard told us this was one of the most successful tornado data collection flights ever. What they had learned will now go into a computer model to help forecasters identify which storms could produce a tornado.

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1. Severe weather threatens nearly 30 million Americans today
   심각한 날씨가 거의 3 천만 미국인들을 위협합니다.
2. after a string of tornadoes **rakes** the Midwest.
   미 중서부를 토네이도가 할퀸 이후에 말입니다.
3. Only on CBS this morning, we go tornado hunting with the crew of a research plane that is helping to save lives on the ground.
   본 방송에서만, 우리는 토네이도 추적에 나섰습니다. 연구용 비행기의 승무원들과, 지상의 생명을 구하는데 도움을 주는…
4. Mark Strassman got a unique look at how scientists with the National Oceanic and Atmospheric Administration, or NOAA are researching tornadoes from the sky.
   마크 스트라스맨이 국립해양대기청이 하늘에서, 학자들과 함께 유일한 보도를 해드립니다.
5. He joins us from NOAA's aircraft operation center in Lakeland Florida for a story you will only see on CBS this morning. Mark, good morning.
   그는 플로리다 레이크랜드의 NOAA 비행기 오퍼레이션 센터에서 보도를 합니다.

6. Good morning, this is one of NOAA's hurricane hunters.
   이것이 NOAA 의 허리케인 헌터들 중의 한 대입니다.
7. It's built to fly right into the eye of monster storms.
   이 비행기는 괴물폭풍의 중심으로 날아 들게 만들어졌습니다.
8. And for scientists aboard who study severe weather, its basic advantage is this:
   심각한 날씨를 연구하는 학자들에게, 기본적인 이점은 이것입니다.
9. the closer they can get to a storm, the better the data they can collect.
   폭풍에 더 가까이 할수록, 그들은 더 나은 데이타를 수집한다는 것입니다.
10. That's true with hurricanes and as we found out on a recent flight, also true with tornadoes.
    허리케인에게는 사실입니다..최근의 비행에서 알아낸 것처럼, 토네이도에서도 마찬가지입니다.
11. Fasten your seatbelts. This research plane, about the size of a 737, is taking us straight toward what most pilots do anything to avoid: dangerous, even deadly weather.
    허리띠를 졸라 메세요. 이 연구용 비행기는, 737 크기의, 우리를 많은 조종사들이 피하려는 곳으로 직접 데려갑니다. 위험하고 심지어는 치명적인 날씨에..

12. "We are a flying laboratory. We have the most sophisticated instrumentation in the world flying on this airplane"
    우리는 나르는 실험실 입니다. 우리는 이 비행기로 나르면서,세계에서 가장 정밀한 장비를 가지고 있습니다.
13. Ian Sears is a **meteorologist** aboard NOAA's P3 research plane, nicknamed "Kermit."
    Ian Sears 는 기상학자인데 커밋이란 별명을 가진 노아의 P3 연구용 비행기에 탑승을 하고 있습니다.
14. It usually hunts hurricanes over the Atlantic, but this time the target is tornadoes over Louisiana.
    이 비행기는 보통 대서양 상공의 허리케인을 조사하는데, 이번의 목표는 루이지아나 상공의 허리케인입니다.
15. "It's very different, it's very dynamic, it changes very rapidly and it's much more unpredictable than a hurricane."
    토네이도는 매우 다르고 다이네믹합니다. 매우 빠르게 변하고, 허리케인보다 훨씬 예측하기 힘듭니다.

16. The plane carries three radars – two on the tail scan **vertically**, one underneath the **fuselage** scans **horizontally.**
    비행기는 세개의 레이다를 가지는데, 꼬리에 있는 두개는 수직으로 스캔을, 동체 아래의 하나는 수평으로 스캔을 합니다.
17. By flying with a storm as it develops, researchers can paint a 3-D picture of how a tornado forms.
    폭풍이 발원할 때 같이 나르며, 과학자들은 토네이도가 어떻게 형성이 되는지 3D 사진을 찍습니다.
18. “Here is the cell we are targeting now?
    이 셀이 우리가 노리는 것인가요?
19. Dr. Conrad Ziegler, the lead scientist aboard, studies tornadoes at the National Severe Storms Laboratory in Oklahoma.
    선임학자인 Dr. Conrad Ziegler 는 오크라호마의 국립폭풍연구원에서 토네이도를 연구합니다.
20. “We want to get as close, but not too close.
    우리는 가능한 가깝게 가지를 원합니다만, 너무 가까이는 안됩니다.
21. We want to get close enough that the radar can measure finer details such as the circulations that produce tornadoes"
    우리는 충분히 다가가서, 레이다가 더 자세한 사진을 찍기를 원합니다. 토네이도를 만들어내는 흐름 같은 것 말입니다.

22. Flying just 2,700 feet over northeastern Louisiana, we spot a **supercell** thunderstorm off our left wing.
    북동부 루이지아나 상공 겨우 2700 마일에서, 좌현에서 토네이도를 만났습니다.
23. It could **spawn** a tornado at any time.
    이것은 언제든지 토네이도를 만들어 낼 수 있습니다
24. Kermit tries to stay six miles ahead of the storm's front edge – close, but not too close.
    키밋은 폭풍 전면에서 6 마일 앞서 있기를 원했습니다. 가깝게 그러나 너무 가까이는 아니게 말입니다.
25. Flight director Jess Williams navigates the team into position.

항공 디렉터인 Jess Williams 은 팀을 위치로 보냈습니다.

26. "This mission is very dangerous. Got to keep an eye on the radar during the entire flight.
    임무는 매우 위험합니다. 전 비행중 레이다를 가까이서 보아야 합니다.
27. I'm watching the radar right now as I'm talking to you.
    난 지금 말을 하는 중에도 레이다를 보고 있습니다.
28. Things can develop within a matter of seconds on these cells that we're targeting"
    우리가 노리는 셀들이 몇 초 내로 발전할 수 있습니다.
29. From the cockpit, we watched as a funnel drops to the ground near the town of Calhoun.
    조종실에서, 우리는 깔때기 구름이 Calhoun 시 근처에서 내려지는 것을 보았습니다.
30. Kermit comes alive – along with the crew of 16.
    케밋이, 16 명의 승무원과 함께 작동을 했습니다.

31. Cameras on the ground caught the twister, too.
    지상의 카메라도 토네이도를 녹화했습니다.
32. From a research perspective, they hit the jackpot.
    연구적인 관점에서는 그들은 잭 팟 를 터뜨린 것입니다.
33. Not only were cameras rolling, the plane's radars captured the whole thing.
    카메라만 돌아가는 것이 아니고, 비행기의 레이다는 전체를 녹화했습니다.
34. I think people are going to be studying this particular event for many years just because of the amount of data we were able to collect from it"
    제 생각에는, 사람들이 이 특별한 현상을 수년간 연구를 하려고 합니다. 그 이유는 수집할 수 있는 데이터의 분량 때문에 말입니다.
35. Best of all, this tornado killed nobody on the ground
    무엇보다도, 이 토네이도는 지상의 누구도 사망하지 않게 했습니다.
36. and it left behind a trail of data that will help forecasters better predict where and when the next one will strike.
    그리고 많은 데이터를 남겼는데, 이것은 예보가들에게 다음의 충격이 언제 어디에서 있을 것인지를 더 잘 예상하게 합니다.
37. The scientists aboard told us this was one of the most successful tornado data collection flights ever.
    탑승한 학자들은 이것은 가장 성공적인 데이터 수집들 중의 하나라고 했습니다.
38. What they had learned will now go into a computer model to help forecasters identify which storms could produce a tornado.
    그들이 배운 사실은, 이제 한 컴퓨터 모델에 입력이 되어, 예보가들이 어떤 폭풍이 토네이도를 만들어 내는지를 규명하는데 도움을 줄 것입니다.

Who will stop the rain
누가 비를 내리나?