

## **Listening practice 1**

**You're going to listen to some news from the NASA. Read the following statements and answer true (T) or false (F).**

### **SCIENTISTS STUDY POLAR REGION**

1. Scientists will study ocean and sea ice samples for their physical, chemical, and biological characteristics.
2. They will see how the sunlight interacts with the ice surface.
3. The greenhouse gas carbon dioxide is a very important cause of global warming.

### **TDRS-1 RETIRED- GSFC**

1. The NASA's Tracking and Data Relay Satellite, TDRS 1, was retired two years ago.
2. TDRS1 was the first satellite used to support launches from the Kennedy Space Center in Florida.
3. TDRS-1 arrived at its final destination on July 13.

## KEY

### SCIENTISTS STUDY POLAR REGION

1. T
2. F
3. T

### TDRS-1 RETIRED- GSFC

1. F
2. T
3. F

#### SCIENTISTS STUDY POLAR REGION - GSFC

A NASA-sponsored mission in Alaska is exploring how changes in the Arctic's sea ice cover may be contributing to global warming. ICESCAPE, for Impacts of Climate on Ecosystems and Chemistry of the Arctic Pacific Environment," is working its way through the Bering Strait headed for the Chukchi and Beaufort seas. For the next few weeks, biologists and biogeochemists aboard a high-tech icebreaker called the "Healy" will study ocean and sea ice samples for their physical, chemical, and biological characteristics.

Don Perovich - "First we will be measuring how thick the ice is, we will be doing surveys along to see the variability and ice thickness and then we will also be looking at how sunlight interacts with that ice cover. What we will be doing is measuring how much sunlight reaches that surface, how much of that sunlight is reflected from the surface, how much sunlight is absorbed in the ice and how much is transmitted into the ocean."

Scientists want to determine how changes in the polar region may inhibit the ocean's ability to absorb carbon from the atmosphere. The greenhouse gas carbon dioxide is a leading cause of global warming.

#### TDRS-1 RETIRED- GSFC

It was the first satellite of its kind, able to relay commands, navigate, receive data and allow ground controllers to talk with space shuttle crews in orbit. Now, after years of continuous service to more than a dozen missions, NASA's Tracking and Data Relay Satellite, TDRS 1 is retiring.

(nat launch 1983) And Liftoff, liftoff of the orbiter Challenger and the sixth flight the Space shuttle!!!! We have a go for deploy!!!

Launched with shuttle Challenger on the orbiter's maiden voyage in 1983, TDRS 1 began NASA's move from a gap-filled system of ground-based stations to a space communications network with 24/7 capabilities.

Pete Vrotsos - "When the TDRS went up, it was for the shuttle, and so the shuttle was really the first mission to use it, and so eventually then, we had Earth Science missions and Space Science missions and obviously, I think the most famous is what we do with Hubble today that uses the TDRS space craft to relay all its marvelous pictures of the heavens."

Among other successes, TDRS1 was the first satellite used to support launches from the Kennedy Space Center in Florida in the early 1990s, and it relayed the first phone call between the South and North poles.

Pete Vrotsos – "When TDRS became a daily service for the National Science Foundation team at the South Pole they set up their day around when TDRS F1 was available, normally about 5 to 6 hours a day so they could do their emails, send files, you know, receive information, communicate with, you know, their families and loved ones. So, it was, for them it was an absolute game changer."

And, literally, the South Pole Station's lifeline. During a highly-publicized medical emergency there in 1999, U.S. doctors used TDRS1's high-speed connectivity to assist weather-stranded scientist Jerri Nielsen through her own breast-biopsy and chemotherapy.

TDRS-1 arrived at its final destination, about 22,500 miles above the Earth on June 13 and will be shut down this week to begin the updating of NASA's TDRS suite of nine satellites.