

IELTS Listening Practice - Section 4 No.1

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Assessment

Question 1 - 10

Complete the notes below.

Write **NO MORE THAN THREE WORDS AND/OR A NUMBER** for each answer

The Antarctic Polar View project maps Antarctic sea Ice by using 1. _____

Problems to navigate through the water:

- the safety of the ship
- the 2. _____ of the ship, the efficiency of the ship

NVSAT Satellite:

- Collect data
- Identify difference between open water and 3. _____
- Scientists can see surface of sea clearly by using 4. _____

Helicopter:

- **Advantage:** can map the sea in the air
- **Disadvantages:**
 - much more 5. _____ and 6. _____

The colour of the map is 7. _____

Problem of sending pictures on an Antarctic ship is 8. _____

Measure to the problem: compress images into 9. _____ format

The equipment scientists need for mapping is a 10. _____ on ship.

Exercise: Dictation

Christine: Welcome to “The Magic Earth”. I’m Christine. Today, we have invited a geographer Andrew Flemming – the leader from “The British Antarctic Survey” – to give us an introduction about “using satellites to map Antarctic sea ice”. Welcome Andrew Flemming.

Andrew Flemming: Thank you Christine. Well, as you know, cruising in the Southern Ocean isn’t always (1)_____. But as it is becoming important to find better ways of (2)_____ and (3)_____ because of increasing (4)_____, the Antarctic Polar View project is using satellites (5)_____ to help ships find the best way in the vast white continent.

There are very large (6)_____ in the water which might look beautiful and white with (7)_____, but I believe you do not want to hit it very fast with a ship. Otherwise your ship (8)_____, and therefore navigating through it is an important problem, not only in terms of the safety of the ship, but in terms of the (9)_____, and the (10)_____.

So you could have another choice for example, take a (11)_____ rather than spending an excessive amount of time going through an area of very thick ice. The quickest way to travel is (12)_____, but it is a difficult task to find these routes. (13)_____ is absolutely enormous. The only way of monitoring that area of ocean effectively is (14)_____.

Therefore, we use a satellite named (15)_____ which is a satellite that (16)_____ and picks up differences in (17)_____ and that helps us to see the difference between (18)_____.

(19)_____ allows the Antarctic team to see (20)_____ down to the surface of the sea. With detailed images, it’s even possible to see (21)_____ which can lead to dangerous ice falls.

Wherever possible we would use (22)_____ quite a lot and put them up in the air to map the ice and look for where we might find what we call “leads”, you know, which are large areas of clear water that the ship might be able to move through. But it is certainly a much more (23)_____.

Christine: So does the image that you get from the Polar View map give a good description of what you’re actually seeing out there on the sea?

Andrew Flemming: Yes, it does. We cannot yet know clearly about the (24)_____, but one

of the science researchers that we were doing (25)_____ was looking at doing some of that work using satellites as well, so that's going to be quite an exciting development.

The map was coloured in (26)_____. But it didn't take long to spot the difference between the (27)_____ and (28)_____. The first step is to take the image merely, which has to be sent to the ship.

Christine: How about others?

Andrew Flemming: (29)_____ in the Antarctic and on ships is (30)_____. And that has meant that we have to (31)_____, cut a lot, and delete some of the details in the image as a result.

Christine: Have you solved the problem?

Andrew Flemming: Yes. The normal way that we are doing this is by (32)_____ known as JPEG 2000. JPEG 2000 allows us to, No.1, compress the imagery a lot more, and secondly it allows us to (33)_____ of the image. So, it knows where the image is and allows us to position that on a map.

Christine: And how long does this take?

Andrew Flemming: I tested this January over a very (34)_____ and it took a few minutes. Sure. For us it's an enormous achievement, I mean we now know fairly well the kind of sea ice conditions we're likely to encounter, so it's a fantastic and useful system. We just (35)_____ on the ships.

Christine: That's great. Thanks for Andrew's introduction, and...

Answer Key

1. satellites
2. speed
3. (the) sea ice
4. radar
5. difficult
6. time-consuming
7. (shades of) grey
8. (poor) internet connection
9. jpeg2000
10. laptop

Transcript

Christine: Welcome to “The Magic Earth”. I’m Christine. Today, we have invited a geographer Andrew Flemming – the leader from “The British Antarctic Survey” – to give us an introduction about “using satellites to map Antarctic sea ice”. Welcome Andrew Flemming.

Andrew Flemming: Thank you Christine. Well, as you know, cruising in the Southern Ocean isn’t always plain sailing. But as it is becoming important to find better ways of navigating safely and avoiding future collisions because of increasing visitor ships, the Antarctic Polar View project is using satellites to map the sea ice to help ships find the best way in the vast white continent.

There are very large lumps of heavy ice in the water which might look beautiful and white with penguins dancing on top of it, but I believe you do not want to hit it very fast with a ship. Otherwise your ship will be damaged, and therefore navigating through it is an important problem, not only in terms of the safety of the ship, but in terms of the speed of the ship, and the efficiency of the ship.

So you could have another choice for example, take a quicker and cheaper route rather than spending an excessive amount of time going through an area of very thick ice. The quickest way to travel is to clear water channels , but it is a difficult task to find these routes. The area we’re dealing with is absolutely enormous. The only way of monitoring that area of ocean effectively is by using satellites.

Therefore, we use a satellite named NVSAT which is a satellite that collects information and picks up differences in ocean surface roughness and that helps us to see the difference between open water and the sea ice.

Radar allows the Antarctic team to see straight through the clouds down to the surface of the sea. With detailed images, it’s even possible to see cracks in the surface which can lead to dangerous ice falls.

Wherever possible we would use helicopters quite a lot and put them up in the air to map the ice and look for where we might find what we call “leads”, you know, which are large areas of clear water that the ship might be able to move through. But it is certainly a much more difficult and time-consuming operation.

Christine: So does the image that you get from the Polar View map give a good

description of what you're actually seeing out there on the sea?

Andrew Flemming: Yes, it does. We cannot yet know clearly about the thickness of the sea ice, but one of the science researchers that we were doing last summer was looking at doing some of that work using satellites as well, so that's going to be quite an exciting development.

The map was coloured in various shades of grey. But it didn't take long to spot the difference between the dark smooth open water and light textured areas of sea ice. The first step is to take the image merely, which has to be sent to the ship.

Christine: How about others?

Andrew Flemming: Internet connection in the Antarctic and on ships is notoriously poor. And that has meant that we have to compress the image a lot, cut a lot, and delete some of the details in the image as a result.

Christine: Have you solved the problem?

Andrew Flemming: Yes. The normal way that we are doing this is by compressing the images into a format known as JPEG 2000. JPEG 2000 allows us to, No.1, compress the imagery a lot more, and secondly it allows us to maintain the geographic position of the image. So, it knows where the image is and allows us to position that on a map.

Christine: And how long does this take?

Andrew Flemming: I tested this January over a very narrow dial-up satellite connection and it took a few minutes. Sure. For us it's an enormous achievement, I mean we now know fairly well the kind of sea ice conditions we're likely to encounter, so it's a fantastic and useful system. We just need a laptop on the ships.

Christine: That's great. Thanks for Andrew's introduction, and...