guided READING

6 How much of the algae patches were found within 5k of a penguin colony?

7 Other than penguin, which other animal poo fertilses the algae?

9 What is a carbon sink?

1 How have they been mapping the green snow?

2 What is causing the green snow?

3 What is helping the algae to grow?

4 Why is there likely to be more green snow in the future?

BBC NEWS

Climate change will lead to more 'green snow' in Antarctica

Brief summary

Scientists from the University of Cambridge and British Antarctic Survey have been using satellites to map areas of 'green snow' in the Antarctic.

It's actually patches of millions of microscopic plants called algae growing across the surface of the snow. They found that the algae blooms are an important part of the carbon cycle in Antarctica and are naturally fertilised by animal poo. It's thought that the areas of green snow are likely to spread as global temperatures increase.

The algae grows on existing snow turning it bright green, patches of this green snow can even be seen from space!

It grows in warmer areas, where the average temperatures are just above zero degrees Celsius.

The team found that the spread of the green snow is influenced by animal poo! Marine birds and mammals' poo acts as a highly nutritious natural fertiliser which encourages algae growth.

Over 60% of the algae patches were found within five kilometres of a penguin colony. And other algae grew near birds' nesting sites.

Dr Matt Davey is from the University of Cambridge, he said this green snow is a "significant advancement in our understanding of land-based life on Antarctica and how it might change as the planet warms." He added: "Snow algae are a key component of the continent's ability to capture carbon dioxide from the atmosphere through photosynthesis."

They identified 1679 separate blooms of green algae on the snow surface, covering an area of 1.9 km2. This will 'take in' about 479 tonnes of carbon per year through the process of photosynthesis.

That is the same amount of carbon produced by about 875,000 average petrol car journeys in the UK.

Although rising temperatures mean snow in the Antarctic is melting in lower lying areas the scientists think the amount of snow algae will actually increase as the planet warms because it will still on higher ground.

One negative effect of the algae is that it darkens the white snow and this causes more of the sun's heat to be absorbed and this could lead to an increase in melting of snow and ice in the Antarctic.

10 What will happen to the carbon dioxide if it is not absorbed by the algae?

11 What is likely to happen to the amount of snow algae as the planet warms?

12 If there is an increase in green algae is this good or bad for Antarctica?

5 What does the temperature need to be for the algae to grow?

8 What is photosynthesis?