

Climate change in Russia's Arctic tundra

Level 3 • Advanced

1 Key words

Fill the gaps in the sentences using these key words from the text.

tundra	permafrost	swamp	wilderness	landslide
catastrophic	indigenous	itinerant	unmistakeable	impenetrable

- The _____ people of a particular place have lived there for a very long time before other people came to live there.
- A _____ situation or event causes a lot of damage or makes a lot of people suffer.
- A _____ is a heavy fall of earth and rocks down the side of a mountain or steep slope.
- A _____ is an area of land covered by water where trees and plants grow.
- _____ people or animals travel from place to place frequently.
- If a place is described as _____, it is impossible to get into or get through it.
- _____ is a large flat area of land without trees in very cold northern parts of the world.
- A _____ is an area of land where people do not live or grow crops and where there are no buildings.
- _____ is ground that stays permanently frozen.
- If something is described as _____, it is very easy to recognize.

2 What do you know?

Decide whether these statements are true (T) or false (F). Then check your answers in the text.

- Russia is the world's biggest country by geographical area.
- There are no polar bears in Russia.
- Reindeer give birth to their young in October.
- Global warming is happening at a faster rate in Russia than in other parts of the world.
- Temperatures of -50°C have been recorded in the Arctic regions of Russia.
- It is impossible to build railways on permafrost.

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Climate change in Russia's Arctic tundra: 'Our reindeer go hungry. There isn't enough pasture'

Luke Harding
20 October, 2009

- 1 It is one of the world's last great wildernesses, a 435-mile-long peninsula of lakes and squelching tundra stretching deep into the Arctic Ocean. For 1,000 years the indigenous Nenets people have migrated along the Yamal peninsula. In summer they wander northwards, taking their reindeer with them. In winter they return southwards.
- 2 But this remote region of north-west Siberia is now under heavy threat from global warming. Traditionally the Nenets travel across the frozen River Ob in November and set up camp in the southern forests around Nadym. These days, though, this annual winter pilgrimage is delayed. Last year the Nenets, together with many thousands of reindeer, had to wait until late December when the ice was finally thick enough to cross.
- 3 "Our reindeer were hungry. There wasn't enough pasture," Jakov Japtik, a Nenets reindeer herder, said. "The snow is melting sooner, quicker and faster than before. In spring it's difficult for the reindeer to pull the sledges. They get tired," Japtik said, speaking in his camp 25 kilometres from Yar-Sale, the capital of Russia's Arctic Yamal-Nenets district.
- 4 Herders say that the peninsula's weather is increasingly unpredictable – with unseasonal snowstorms when the reindeer give birth in May, and milder longer autumns. In winter, temperatures used to go down to -50°C. Now they are typically -30°C, according to Japtik. "Obviously we prefer -30°C. But the changes aren't good for the reindeer and ultimately what is good for the reindeer is good for us," he said, setting off on his sled to round up his itinerant reindeer herd.
- 5 Here in one of the most remote parts of the planet there are clear signs the environment is under strain. Last year the Nenets arrived at a regular summer camping spot and discovered that half of their lake had disappeared. It had drained away after a landslide. While landslides can occur naturally, scientists say there is unmistakable evidence that Yamal's ancient permafrost is melting. The Nenets report other curious changes – fewer mosquitoes and a puzzling increase in gadflies.
- 6 "It's an indication of the global warming process, like the opening of the Arctic waters for shipping this summer," says Vladimir Tchouprov, Greenpeace Russia's energy unit head. The melting of Russia's permafrost could have catastrophic results for the world, Tchouprov says, by releasing billions of tonnes of carbon dioxide and the potent greenhouse gas methane that were previously trapped in frozen soil.
- 7 Russia – the world's biggest country by geographical area – is already warming at one-and-a-half times the rate of other parts of the world. If global temperatures do go up by the 4°C many scientists fear, the impact on Russia would be disastrous. Much of Russia's northern region would be turned into impenetrable swamp. Houses in several Arctic towns are already badly subsiding.
- 8 Many Russians, however, are sceptical that climate change exists. Others rationalize that it might bring benefits to one of the world's coldest countries, freeing up a melting Arctic for oil and gas exploration and extending the country's brief growing season. Russia's scientific community seems sceptical of global warming and the Kremlin doesn't appear to regard the issue as a major domestic problem; public awareness of climate change in Russia is lower than in any other European country.
- 9 Western politicians, however, point out that it is in Russia's interests to take action on climate change and to push for ambitious targets at December's Copenhagen summit. "There is 5,000 miles of railway track built on permafrost. It could crumble as a result of melting," Ed Miliband, the UK secretary of state for climate change, pointed out during a recent visit to Moscow.

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- 10 However, even Russians working in the Arctic are unconvinced that their country faces a serious climate-change problem. "It's rubbish. It's invented. People who spend too long sitting at home have made up climate change," Alexander Chikmaryov, who runs a remote weather station on the Yamal peninsula, said. A small community of Nenets hunters live nearby; otherwise there's nobody for a hundred kilometres. The weather here is, not surprisingly, bitterly cold; the sea freezes for nine months of the year.
- 11 In fact, Chikmaryov's own data suggests that global warming is a real problem here too. In 2008 the ice was 164cm thick; this year it is 117cm. Winter temperatures have gone up too – from lows of -50°C in 1914, when the station was founded, to -40°C today. Every year large

chunks of the coast fall into the sea. And there are other unnatural signs. On 15th August a large polar bear started rooting through the station's rubbish bin. "It was 7pm. The bear was enormous. We set off a flare. It ran off," she recalled. Polar bear sightings are becoming increasingly common – with the bears coming south from their far-northern habitat in search of food.

- 12 Back on the tundra Japitik was rounding up his reindeer. "I've lived all of my life in the tundra," he said. "The reindeer for us are everything – food, transport and accommodation. The only thing I hope is that we will be able to carry on with this life."

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3 Comprehension check

Choose the best answer according to the text.

- Why would the melting of Russia's permafrost have catastrophic results for the world?
 - Because the 5,000 miles of railway track built on it would be destroyed.
 - Because it would release billions of tonnes of carbon dioxide and methane into the atmosphere.
 - Because it would be an indication of the global warming process.
- Why is the rise in temperature from -50°C to -30°C a bad thing for the Nenets herders?
 - Because it isn't good for their reindeer and what is good for their reindeer is good for them.
 - Because they can't cross frozen rivers when the temperature rises to -30°C.
 - Because there are unseasonal snowstorms when the reindeer give birth.
- What will happen to Russia's northern region if global temperatures rise by 4°C?
 - It will turn into impenetrable swamp.
 - There will be so many mosquitoes that people won't be able to live there.
 - The growing season will be longer.
- What do many Russians think about climate change?
 - They are very worried about it and regard it as a major domestic problem.
 - They believe it will be a good thing for their country.
 - They do not believe that climate change exists.

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4 Find the word

Find the following words and phrases in the text.

1. an adjective meaning *far away from other cities, towns or people* (para 2)
2. a noun meaning *a visit to a place that is important to you* (para 2)
3. two different words both meaning *a vehicle that you sit on to travel over snow* (para 3/para 4)
4. a two-word expression meaning *under pressure* (para 5)
5. a verb referring to buildings meaning *to become damaged as a result of the land sinking* (para 7)
6. a two-word expression meaning *extremely cold* (para 10)
7. a noun meaning *a bright light or flame that burns brightly and is used as a signal in the dark* (para 11)
8. a noun meaning *the type of place that an animal normally lives in* (para 11)

5 Phrasal verbs

Match the phrasal verbs from the text with their meanings.

- | | |
|-----------------|--|
| 1. set up | a. flow out of somewhere |
| 2. round up | b. make something available |
| 3. drain away | c. people search through something with their hands; animals search by pushing with their nose |
| 4. free up | d. tell someone something |
| 5. push for | e. cause something to operate or make it explode |
| 6. set off | f. build a structure or put it in a particular place |
| 7. point out | g. try hard to achieve something |
| 8. root through | h. bring animals together in one place for a particular purpose |

6 Word building

Complete the sentences using the correct form of the word in brackets at the end of each sentence.

1. The weather is becoming increasingly _____ in some parts of the world. [PREDICT]
2. Global warming could have a _____ impact on Russia. [DISASTER]
3. Warmer temperatures could free up Russia's Arctic regions for oil and gas _____. [EXPLORE]
4. Many politicians are hoping for _____ targets at the Copenhagen summit. [AMBITION]
5. Many Russians are _____ that there is a serious climate-change problem. [CONVINCE]
6. _____ of polar bears are becoming increasingly common. [SIGHT]

7 Discussion

What practical measures should be undertaken to combat climate change?