

Scientists discover the world's cleanest air

6th June, 2020



Scientists have discovered what they believe to be the cleanest air on Earth. Researchers from Colorado State University and the Australian Bureau of Meteorology conducted research on the purity of the air above

Antarctica. They found a region over the Southern Ocean, between the south of Australia and Antarctica, that was "unaffected" by human activity. The scientists said the area they researched formed the atmosphere in the lower clouds. The analysis of the air showed that it was totally free from "anthropogenic aerosols". These are pollutants or particles derived from human activity, or dust from other continents. The scientists called this pollution-free area, "truly pristine".

The scientists analysed the structure of airborne microbes in the lower clouds over the Southern Ocean. They looked at the DNA of the microbes and tracked where they came from. Their analysis included monitoring wind trajectories to detect how far the microbes may have travelled. They found that the atmospheric eco-system was very much "isolated," self-contained, and free from contaminants from elsewhere in the world. The source of the microbes was the Southern Ocean, rather than airborne pollutants from other continents. The researchers concluded that the Southern Ocean is one of very few places on Earth that has been "minimally affected by anthropogenic activities".

Sources: newsweek.com / ecowatch.com / scitechdaily.com

Writing

It is impossible for the world to be pollution free. Discuss.

Chat

Talk about these words from the article.

discover / clean air / purity / region / atmosphere / clouds / pollutants / pristine / structure / microbes / analysis / eco-system / microbes / continent / Antarctica

True / False

- Researchers found the world's cleanest air in Colorado's mountains. T / F
- Researchers found an area that was not affected by human activity. T / F
- The area the researchers looked at was in the lower clouds. T / F
- Researchers said the area they monitored was pristine. T / F
- The scientists analysed the DNA of microbes in the air. T / F
- The scientists said the area under study was not an isolated eco-system. T / F
- The air the scientists studied had microbes from nearby continents. T / F
- The Southern Ocean is the only place on Earth unaffected by aerosols. T / F

Synonym Match

(The words in **bold** are from the news article.)

- | | |
|------------------------|----------------|
| 1. discovered | a. unspoiled |
| 2. conducted | b. revealed |
| 3. region | c. remote |
| 4. showed | d. carried out |
| 5. pristine | e. paths |
| 6. airborne | f. scant |
| 7. trajectories | g. found |
| 8. isolated | h. origin |
| 9. source | i. area |
| 10. few | j. in flight |

Discussion – Student A

- What do you think about what you read?
- What do you know about clouds?
- What would you advise your government regarding clean air?
- What do you think is contained in the DNA of air?
- What collocations do you know for the word 'air'?
- What damage have humans done to the air?
- What will our air be like in 50 years from now?
- What questions would you like to ask the scientists?

Phrase Match

- | | |
|---|------------------------|
| 1. discovered what they believe to be | a. airborne microbes |
| 2. conducted research on the purity | b. from human activity |
| 3. the atmosphere in | c. from elsewhere |
| 4. pollutants or particles derived | d. of the air |
| 5. scientists called this pollution-free area | e. the cleanest air |
| 6. scientists analysed the structure of | f. trajectories |
| 7. They looked at the | g. the lower clouds |
| 8. wind | h. places on Earth |
| 9. contaminants | i. "truly pristine" |
| 10. one of very few | j. DNA of the microbes |

Discussion – Student B

- How clean is the air where you live?
- How important is it for you to have perfectly clean air?
- How do you feel when the air is polluted?
- To what degree is 100% pure air a human right?
- What do you think of factories that create pollution?
- What activities do you do that creates pollution?
- Would you pay for clean air?
- How clean is the air where you live?

Spelling

- research on the ytrupi of the air
- a rngoie over the Southern Ocean
- ctfdafnuee by human activity
- the atorpmhese in the lower clouds
- parisclte derived from human activity
- scientists called this pollution-free area, "truly irntsepi"
- The scientists analysed the ttceurrus
- airborne eibmcsro
- free from oaimcatnsntn
- from other cenntotsin
- The researchers docdelucn that
- liymilamn affected by anthropogenic activities

Answers – Synonym Match

1. g	2. d	3. i	4. b	5. a
6. j	7. e	8. c	9. h	10. f

Role Play

Role A – Water Pollution

You think water pollution is the worst form of pollution. Tell the others three reasons why. Tell them why their forms of pollution aren't as bad. Also, tell the others which is the least damaging of these (and why): plastic pollution, noise pollution or light pollution.

Role B – Plastic Pollution

You think plastic pollution is the worst form of pollution. Tell the others three reasons why. Tell them why their forms of pollution aren't as bad. Also, tell the others which is the least damaging of these (and why): water pollution, noise pollution or light pollution.

Role C – Noise Pollution

You think noise pollution is the worst form of pollution. Tell the others three reasons why. Tell them why their forms of pollution aren't as bad. Also, tell the others which is the least damaging of these (and why): plastic pollution, water pollution or light pollution.

Role D – Light Pollution

You think light pollution is the worst form of pollution. Tell the others three reasons why. Tell them why their forms of pollution aren't as bad. Also, tell the others which is the least damaging of these (and why): plastic pollution, noise pollution or water pollution.

Speaking – Pollution

Rank these with your partner. Put the most dangerous forms of pollution at the top. Change partners often and share your rankings.

- | | |
|---------------------|--------------------|
| • Water pollution | • Noise pollution |
| • Plastic pollution | • Light pollution |
| • Air pollution | • Visual pollution |
| • Radioactive waste | • Littering |

Answers – True False

a	F	b	T	c	T	d	T	e	T	f	F	g	F	h	F
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Answers to Phrase Match and Spelling are in the text.