

COVER STORY

Call of the Antarctica

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BASED on the World Meteorological Organisation annual report in 2015, the occurrence of droughts, heat waves, floods and tropical storms two years ago were caused by the change in global climate. These phenomena have resulted in the loss of human and animal lives as well as destruction of property.

The report also showed an increase in atmospheric and sea temperatures, sea levels and greenhouse gases as well as extreme weather conditions.

Although there was an increase of only a 2°C in the Earth's temperature between 1950 and 2000, it was enough to adversely impact the Arctic area surrounding the North Pole and Antarctica surrounding the South Pole.

Therefore, understanding and predicting how climate will change over the next century is of vital importance to both the economy and society.

Scientists know that climate varies naturally on many time scales and that people are affecting climate, particularly through emissions of greenhouse gases.

According to scientific research by foreign scientists, Malaysia has a tropical rainforest climate which is the main gateway for reactive gases to get into the atmospheric layer.

This will subsequently contribute to the rise of temperature in Europe, Asia and even the Antarctica.

“We have been doing research in the Antarctica for years and our findings are comparable or on par with those by international scientists.

WAYAN SUPARTA
ANGKASA researcher



Wayan Suparta installing lightning sensors.



Mohd Shahrul Mohd Nadzir getting up close and personal with Antarctica penguins.

The greenhouse gases released into the troposphere and stratosphere will affect the ozone layer leading to global warming hence the importance of climate change study.

Universiti Kebangsaan Malaysia's Space Science Centre (ANGKASA) head Professor Dr Marlia Abdulrahman said it is important for researchers and scientists to go on more scientific expeditions especially in the Antarctica for many reasons. One of them is the space weather effect which is most similar over the equatorial and polar regions.

"Atmospheric irregularities over these regions will disturb radio signals such as GPS signals. This occurs especially during night time over the polar and equatorial areas. This error could be mitigated as recently many flights that use GPS for navigation travelled over the polar region, for example, the North Pole," she said.

Another reason why the Antarctica is important is because of the global effects on sea water sea levels are rising and global weather patterns are determined from the Antarctica.

This region is experiencing the fastest degree of increase in environmental temperature and studying these effects will provide a greater understanding of how microbial ecosystems will be affected in the not too distant future.

ANGKASA fellow researcher Associate Professor Dr Wayan Suparta said many discoveries in Antarctica, especially research on climate change that correlates with the weather and climate in Malaysia, have been made by Malaysian scientists.

"That alone answers the question why we do research in Antarctica. If there are no correlations between Malaysia and the Antarctica, what is the