

## New \$50 million interdisciplinary programme launched by NTU to study climate change



Minister for Sustainability and the Environment Grace Fu (centre) with (from left) Professor Benjamin Horton, director of NTU's Earth Observatory of Singapore (EOS); Professor Luke Ong, vice-president for research at NTU; Ms Trina Ng, PhD student at the Asian School of the Environment (ASE) and EOS; and Associate Professor Susanna Jenkins, associate chair (faculty) at ASE. PHOTO: NTU



**Cheryl Tan**

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SINGAPORE - A new \$50 million interdisciplinary research programme launched by Nanyang Technological University (NTU) on Wednesday will examine various aspects of climate change.

The Climate Transformation Programme, which will be led by NTU's Earth Observatory of Singapore (EOS), will look to create climate solutions and educate future leaders to form a resilient and sustainable world.

Speaking at a panel discussion of the programme at the EOS 15th anniversary celebration at Shangri-La Rasa Sentosa, Minister for Sustainability and the Environment Grace Fu said Singapore is modelling the impact of climate change both locally and regionally.

“This will help us to formulate in an iterative way solutions that will protect our people and protect our properties,” she said. It will allow Singapore to be prepared for dry months and enhance resilience against inland flooding for very wet months, for instance, she added.

She said the Government will share some of the findings with EOS and other agencies like the Meteorological Service Singapore, as well as its South-east Asian counterparts, so that they can be better prepared for varying weather patterns arising from climate change.

The programme will be supported by a \$50 million investment over seven years, with \$47 million from the Ministry of Education and the remaining amount from NTU. Research will be conducted under six strategic clusters.

For instance, the programme will look at the health impact from heat and air pollution fuelled by climate change, how climate change could affect business risks, as well as novel engineering solutions for climate adaptation.



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Giving some examples of the research programme, Professor Benjamin Horton, the director of EOS, said NTU has a partnership with insurance company Prudential to look into the health impact stemming from climate change and how it could affect one’s life insurance.

Another collaboration with luxury brand Chanel will help the company to diversify its supply chain, as increasing extreme weather events such as drought, forest fires and severe rainfall mean it would not be ideal to have all its suppliers in one location.

Other aspects of the programme will examine how biodiversity such as flora and fauna responds to climate change, mapping out ways in which the world could get to net-zero through a negative emissions pathway, for example by planting trees, and to tackle knowledge gaps in understanding and modelling climate change.

Three cross-themes – sustainable societies, satellite remote sensing and artificial intelligence – will integrate findings across the six clusters.

The programme will bring together researchers across many different disciplines at NTU, and other local universities such as the National University of Singapore, Singapore Management University and the Singapore University of Technology and Design, and research centres across the globe.

It is expected to recruit 30 doctorate students and close to 45 researchers for its projects over seven years, to develop climate leaders in fields ranging from the sciences to the humanities.

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Asked about the kind of knowledge gaps that the programme will seek to plug, Prof Horton told ST that while climate scientists are beginning to better understand the physical impact of climate change – such as sea level rise, flooding and heatwaves – it has yet to be properly quantified.

For instance, little is known about how climate change could affect natural ecosystems from rainforests to mangroves, how it could affect construction workers, as well as the world's finances and energy use.

Therefore, interdisciplinary studies – bringing together scientists, geologists, social scientists and business students – will be required to find solutions, he said.

He noted that the new programme has come at a time of climate emergency – with the first comprehensive health check of the Paris Agreement showing that countries must take more ambitious action to cut emissions and limit global warming to 1.5 deg C.

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