

# WRF reduces damage from natural disasters

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*The Nation*

TO BETTER PREPARE for disasters in Southeast Asia and round the Indian Ocean, Bangkok-based Asian Disaster Preparedness has joined with IBM Thailand to establish the Weather Research and Forecasting (WRF) system to provide climate-risk management for all 23 countries throughout the region.

Among the countries involved are Bangladesh, Cambodia, Laos, Burma, the Philippines, Sri Lanka, Vietnam and Thailand.

The move is aimed at reducing the impact of disasters, droughts, floods and storms on people and their socio-economic systems.

According to a report, climate disasters cause damage worth over Bt6.5 billion a year, of which landslides cost Bt157 million and floods Bt6.4 billion.

Bhichit Rattakul, executive director of the Asian Disaster Preparedness Centre (ADPC) said the centre's role is to cooperate with local organisations in 23 countries, the Meteorological Department and the National Disaster Warning Centre, to provide climate forecasts and disaster warnings in order to build preparedness and prevent the worst of disaster damage.

The centre's Climate Risk Management base, which is equipped with an IBM supercomputer, will generate localised disaster risk information for the 23 countries in the next few months. The centre is at the Asia Institute of Technology.

To provide weather forecasts, the collection of climate data is required. To utilise the centre's high-performance computing abilities, each coun-

try needs to send raw climate information to the centre to generate tailor-made weather forecasts for each country.

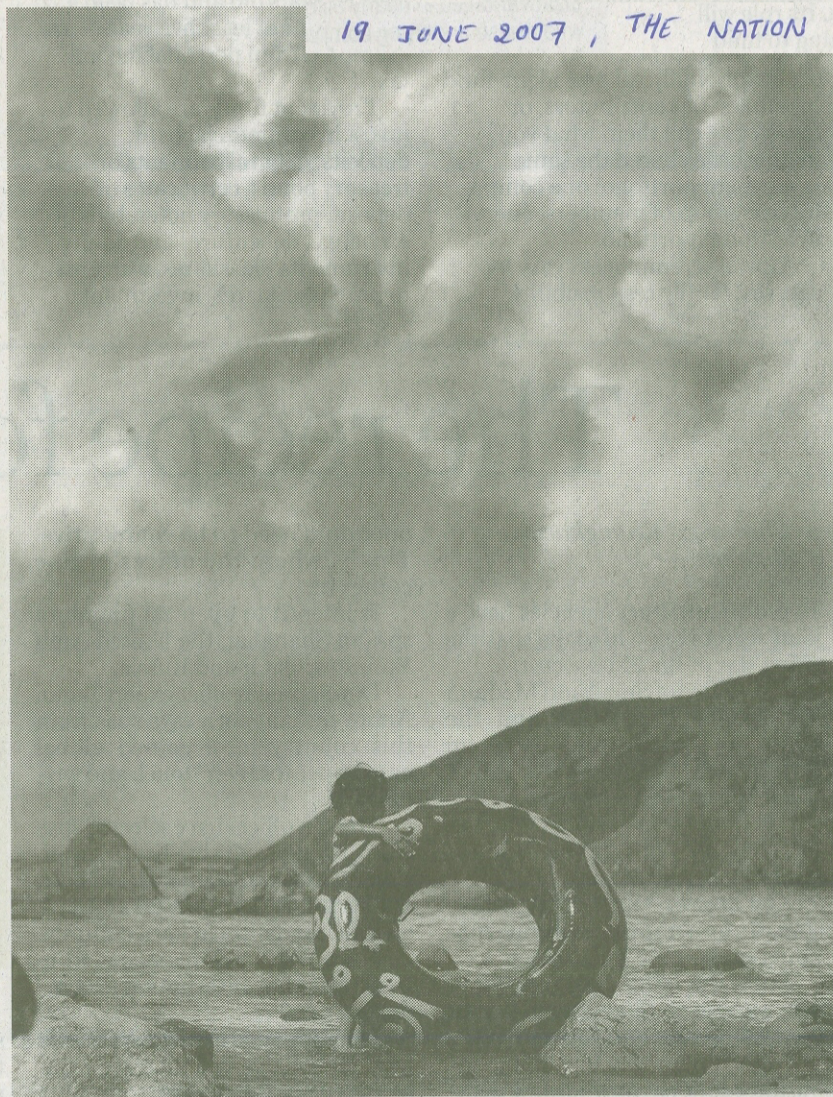
"The system complements and supports national systems providing hydro-meteorological disaster warnings and enhances disaster preparedness and the response capabilities in each country at both national and local levels," said Bhichit.

The centre's role is also to provide training in hydro-meteorological disaster warnings to the countries involved. It should enhance their national capacities in hydro-meteorological warnings to save lives and minimise losses from future events.

"Hydro-meteorological hazards have enormous impacts on people, their communities and the socio-economic systems on which they depend. The centre's WRF system will be able to provide the necessary support to participating countries to enable them to provide disaster-risk information at specific hot spots, with longer lead times to allow focused organisational responses," said Bhichit.

Suphaje Suthumpun, country manager of IBM Thailand, said the IBM supercomputer with a weather research and forecasting modelling system will enable the production of high-resolution images on grids of three square kilometres. That would improve lead times in the provision of disaster risk information products, enhance data sharing among the countries, and support hydro-meteorological disaster-risk research in the region, he said.

The centre's grid system is equipped with eight node clusters, with each node consisting of 16 cores, thus making a total of 128 CPUs. The



A SUPER-COMPUTER SYSTEM will give early warning of potentially disastrous weather around the Indian Ocean.

high-performance computing system of ADPC can generate a performance of nearly 900 billion calculations per second.

"It would enable the processing of large amounts of data from a variety of sources and the solving of complex equations necessary to produce high-resolution disaster-risk information," said Suphaje.

The centre's weather research and forecasting modelling system is powered by a 0.9-teraflop IBM supercomputer equipped with high performance software and storage systems.

The system can conduct numerous modelling tasks for climate forecasts that can be provided to the countries several days in advance.