

Are we in for stormy weather?

A single degree rise in temperature will lead to an increase in extreme weather events — from bad floods to longer droughts. And Malaysia is unlikely to be spared, writes **ELIZABETH JOHN**.

MALAYSIA can expect more extreme weather in coming years and being prepared isn't an option — it's a necessity, say experts.

From bad floods to longer droughts — extreme weather events are expected to become more frequent and more intense.

And adaptation measures to climate change, including extreme weather events, must be taken over the next 20 to 30 years regardless of whether this is caused by global warming brought on by human activities, or simply by natural changes in the climate.

This was the stark message from scientists and planners at a two-day national seminar on the socio-economic impact of extreme weather and climate change.

According to the findings of the latest assessment by the Intergovernmental Panel on Climate Change, a single de-

gree rise in global average temperature can lead to an increase in extreme weather events, explains Meteorology Department director-general Dr Yap Kok Seng.

Over the next two to three decades in the tropical region, where Malaysia lies, the temperature is expected to rise by half or 1°C.

"So, over that period, we must enhance efforts in disaster risk reduction and find ways to adapt to the coming changes," Yap told delegates.

Che Moin Umar, director of the Crisis and Disaster Management Directorate in the Prime Minister's Department, also stressed the importance of making disaster risk reduction policy, planning and implementation, a part of all development.

If surface temperatures increase, Malaysians can also expect thunderstorms to have more energy, Yap says.

And in the recent past, the country has also seen grow-



NATURAL DISASTER BY NUMBER OF DEATHS IN 2006



Earthquake	May	Indonesia	5,778
Typhoon Durian	Dec	Philippines	1,399
Landslide	Feb	Philippines	1,112
Heat wave	July	Netherlands	1,000
Heat wave	July	Belgium	940
Typhoon Bilis	July	China	820
Tsunami	July	Indonesia	802
Cold wave	Jan	Ukraine	801
Flash Flood	Aug	Ethiopia	498
Typhoon Samoai	Aug	China	373

COUNTRIES HIT BY NATURAL DISASTER IN 2006

China	35
United States	26
Indonesia, Philippines	20
India	17
Afghanistan	13
Vietnam	10
Australia, Burundi, Pakistan	8
Ethiopia, Mexico, Romania	7
Germany	6
Bangladesh, Canada, Japan, Kenya, Russia, Malaysia, Papua New Guinea, Somalia	5

VICTIMS (KILLED AND AFFECTED) OF NATURAL DISASTER IN 2006

	Total (per 100,000)
Malawi	34,331
Burundi	26,778
Kenya	11,935
Philippines	9,097
Afghanistan	7,194
China	6,753
Somalia	5,490
Thailand	5,040
Guyana	4,562
Vietnam	3,969

Source: Emergency Disasters Data Base

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Dr Yap Kok Seng

ing reports of waterspouts — small weak tornadoes that form over water.

“The reason for this is yet unknown. Is it global warming or climate variability? Or is it just more people with digital cameras capturing these phenomena?”

“The fact remains that the phenomenon exists in the country and there is photographic evidence of it.”

Yap also told delegates that rainfall patterns will change over the coming decades.

In the projections towards the end of the century, we will see less rainfall — by about five to 10 per cent — during the wetter months when the Northeast monsoon drenches the country.

On the other hand, we'll see more rainfall in June, July and August, which are traditionally dry months for the country.

A study by the National Hydraulic Research Institute of Malaysia (Nahrim) also supports a future of more weather extremes.

Nahrim found that there is

likely to be a substantial increase in mean monthly rainfall over the north-east coastal regions and over Kelantan and a decrease over Selangor and Johor.

Overall, the future outlook study also showed higher maximum and lower minimum rainfall in many sub-regions.

This could mean more extreme hydrological condi-

tions, said Nahrim,

In terms of river flow, Nahrim also found from its study, that the extremes will be most pronounced in Kelantan, Terengganu, Kedah and Pahang watersheds.

These are changes Malaysia can expect to see by the year 2050, the Nahrim study said.

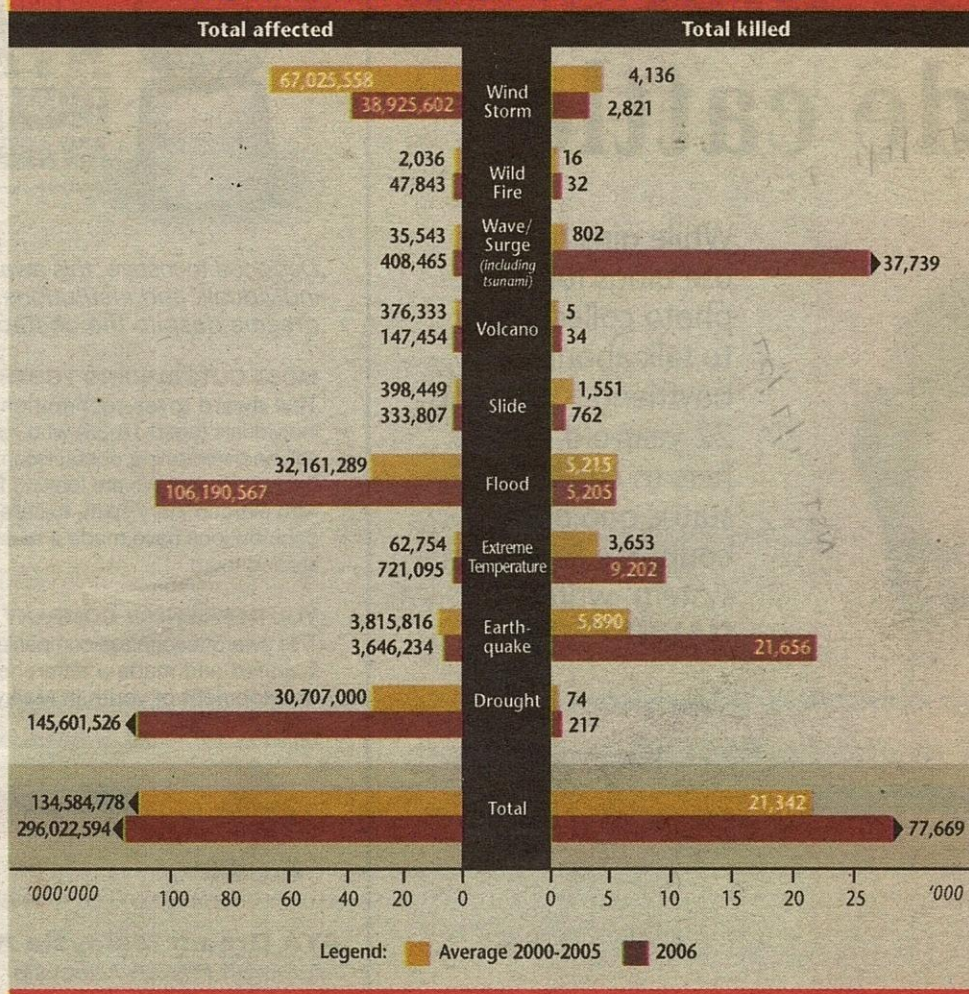
Most importantly, the findings point to the need for a

review of water resources in peninsular Malaysia.

This is because previous studies, which were used as the basis of the current water resources development master plan, had not taken climate change into account.

Without adequate measures to deal with floods and droughts, said speakers at the conference, the impact could be severe.

HUMAN IMPACT BY DISASTER TYPES



FLOOD OF WOES

NEWS of more extreme weather has had many agencies worried, among them the Agriculture Department, which says this sector is the most vulnerable to such changes.

Last year's floods affected 7,000 farmers in Johor and losses of agricultural produce totalled RM84 million.

During the now infamous 1998 drought, about 1,580 square kilometres of land in hard-hit Sabah was engulfed by wild fires, of which more than 100 sq km were agricultural lands.

More than 7,200 farmers in the State were impacted by the droughts, shouldering losses of RM7 million.

Hill padi crops were totally wiped out in some villages, prompting authorities to send in food aid.

So the department is viewing extreme weather and climate change as among its most serious threats, the department's

Mustafa Kamal Baharuddin said.

Agriculture in Malaysia contributes 3.6 per cent of the GNP and at least a third of the country's population depends on the sector for their livelihood.

And flooding is one of the things the agriculture sector is most concerned about, said Mustafa, who heads the Soil Resource Management and Conservation division.

Nine per cent of the all land area in Malaysia is flood prone and as many as 3.5 million people have become flood victims over the years.

In the December 2006 floods that hit several southern states, production of crude palm oil decreased by about 27 per cent.

Excessive rainfall could also mean a loss of tapping days for rubber, hasten the spread of some fungus and diseases in crops and increase soil erosion in croplands.

Prolonged rainfall will also



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affect the sunshine hours, reducing crop yield.

Without adequate measures, occurrence of floods could cause a great deal of damage to the sector, said Mustafa.

In areas where prolonged droughts will be a future concern, the department will have to deal with problems like sustaining the flooded padi systems.

At present, Malaysia grows 70 per cent of the rice the country needs.

It has been projected that for every degree celcius rise, rice

grain yields may decline by nine to 10 per cent.

To deal with the problem, the department has mapped agricultural zones in peninsular Malaysia according to their rainfall, environment and soils, and matched them to crops.

They are also developing plant varieties tolerant to high temperatures and working on introducing agriculture insurance to minimise risk, but would like to see the formation of a multi-agency working group that can deal with climate change issues.