

48-hour alert before floods

FLOOD WARNING: Rainy season will serve as litmus test for newly-installed early warning system

**ROY SEE WEI ZHI
AND S.K. THANUSHA DEVI**

KUALA LUMPUR
news@nst.com.my

THIS monsoon season shall be the first real test for a newly-installed early warning and flood forecasting system which is a collection of software and weather apparatus.

The system, operational since last month, is able to forecast floods two days before they happen.

The Drainage and Irrigation Department (DID) has installed the system at five river basins, namely Sg Kelantan, Sg Pahang, Sg Johor, Sg Muda and Sg Kelang.

DID water resources and hydrology division director Hanapi Mohamad Noor said the robust system, which measured air pressure, humidity, wind speed, temperature and previous flood patterns, would enable the system to detect floods along river banks and low-lying areas.

Given the two-day advance notice, he said

the public would have ample time to prepare for evacuation or to save their valuables.

"There is still some minor tuning that can be incorporated to the newly-developed system to improve its accuracy in forecasting future floods."

The DID has been working hard to implement the warning system along with improving the department's information dissemination infrastructure.

"The DID has successfully launched a new flood alert website, <http://infobanjir.water.gov.my>, that is more user-friendly compared with the old one.

"The public can easily browse and share the information with their friends through public social-networking sites such as Facebook and Twitter," Hanapi said.

The website provided real-time river water levels at specified flood warning telemetric stations.

It will also announce details on current floods and on possible occurrence of floods, based on the new forecast system.

Rural vs urban: Varying impact of rainfall due to different surface types

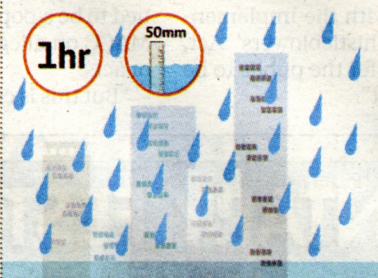
INFOGRAPHIC: NST



Heavy but brief rainfall will not cause floods because the soil has a capacity to absorb water below the land surface.



Intermittent but prolonged rainfall will trigger floods because the soil becomes over-saturated with rain water after long hours. Floods occur when the soil can no longer "store" rain water.



Heavy but brief rainfall will induce floods in urban areas as the drainage system can only cope with a certain volume of water in a certain amount of time before overflowing.



Intermittent rainfall gives the urban drainage system time to discharge rain water regardless of duration. Unlike in rural areas, rain water will not seep into the ground due to non-water-absorbing surfaces present in urban areas such as concrete or tar.

There is no saying how much rainfall would culminate in a flood as there are no specific thresholds that can be applied to the entire country. Each area is different from a hydrological point of view.