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**By Email: [nlomarda@wmo.int](mailto:nlomarda@wmo.int)**

The Secretary-General  
World Meteorological Organization  
7 bis, avenue de la Paix  
Case Postale 2300  
CH 1211, Geneva 2  
Switzerland  
(Attn: Ms. Nanette Lomarda - Senior Scientific Officer  
WWRP, Research Department)

Dear Ms Nanette Lomarda,

**WMO 3<sup>RD</sup> INTERNATIONAL WORKSHOP ON TROPICAL CYCLONE LANDFALL  
PROCESSES (IWTCLP-III), 8-10 DECEMBER 2014, JEJU, REPUBLIC OF KOREA**


This is in reference to the email from Mr Bruce Harper dated 25 August 2014 and your email dated 2 October 2014 regarding the above subject.

2. I would like to express my sincere appreciation to the WMO for the kind invitation to participate in the WMO 3<sup>rd</sup> International Workshop on Tropical Cyclone Landfall Processes (IWTCLP-III) to be held in Jeju, Republic Korea from 8 to 10 December 2014.

3. In this regard, I am glad to nominate Mr Nursalleh K Chang, Meteorological Officer of R&D Section, MetMalaysia to participate in the above workshop. However, due to our budget constraint, we would like to request WMO kind assistance to provide full financial support for Mr Nursalleh. The one page abstract is also attached for your kind attention and due consideration.

Thank you and I look forward to your favourable reply.

Yours sincerely,

  
**(DATO' CHE GAYAH ISMAIL)**  
Director General  
Malaysian Meteorological Department  
and Permanent Representative of Malaysia with WMO

NURSALLEH K Chang@NURSALLEH Bin Kasim

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## JMA Storm Surge Model application in Malaysia

### Abstract

There are only two occasions of direct tropical storm hit on Malaysia namely Tropical storm Greg (21 – 27 Dec 1996) and typhoon Vamei (26 Dec 2001 – 1 Jan 2002). The former had caused 230 casualties, destroyed 4925 houses in Sabah state with estimated loss around USD 280 million. Typhoon Vamei caused heavy rain and a landslide at Gunung Pulai, Johore which destroyed four houses and killed five people and lead to an estimated USD 4.2 million loss. Although Malaysia is not located on the west north pacific tropical storm path, it is still essential to monitor the sea level rise from piling of sea water over the coast of eastern peninsular Malaysia due to persistent strong north easterly of cold surge wind during boreal winter. Sea level rise might also occur during the approach of TS over Malaysia waters. A coincident of sea level rise due to storm/monsoon surge and high tide could lead to flood over low lying coastal areas. These situation can be worse if the weather adverse. To mitigate the effects of such disasters, the Malaysian Meteorological Department (MMD), which is responsible for issuing storm surge warnings, operates a numerical storm surge model which was adopted from JMA Storm Model to provide the basis for these warnings. The model runs two times a day and provides up to 180-hour predictions of storm surges and sea levels for 26 points along the Malaysia coastline. When a TC enters the vicinity of Malaysia, the model predicts multiple scenarios of storm surges with different meteorological forcing fields to take into account the uncertainty in TC track forecasts. It also can be used to identify the inundated area with the usage of very high topography data of the most affected coastal areas.