Session 1: Enhancing Climate Crisis Preparedness through Climate Service

Climate-related Challenges in Hydrology

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Water-related challenges

A significant proportion of mining concessions in the Philippines is located in areas of high vulnerability for groundwater resources, including aquifer recharge zones, which could be negatively affected by mining. About 8 percent of mining concessions overlap proclaimed watersheds (forest areas protected by law to maintain groundwater quality and yield), where mining is prohibited.

Sources: JTT2019, 188.
This map shows the average exposure of water users in each country to water stress, the ratio of total withdrawals to total renewable supply in a given area. A higher percentage means more water users are competing for limited supplies. Source: WRI Aqueduct, Gassert et al. 2013.
Water-related challenges

Monitor water resources using conventional practices and space technology

Impact assessment of climate change and anthropogenic activities

Establish a sustainable water management system
Implementing climate information in water management

The Hydrologic Cycle

Hydro-hazards

- Floods
- Landslides
- Tsunamis
- Storms
- Heat waves/Cold spells
- Ocean Acidification
- Drought
- Waterborne disease
Implementing climate information in water management

Climate-related works:


Roles of climate science to enhance climate crisis preparedness

**Modified Coronas Climate classification map of the Philippines (PAGASA, 1992).**

**Type I** - Two pronounced season, dry from November to April and wet during the rest of the year. Maximum rain period is from June to September.

**Type II** - No dry season with a very pronounced maximum rain period from December to February. There is not a single dry month. Minimum monthly rainfall occurs during the period from March to May.

**Type III** - No very pronounced maximum rain period with a dry season lasting only from one to three months, either during the period from March to May. This type resembles type I since it has a short dry season.

**Type IV** - Rainfall is more or less evenly distributed throughout the year. This type resembles type 2 since it has no dry season.

Roles of climate science to enhance climate crisis preparedness

Official: Over 10,000 feared dead in Typhoon Haiyan

Sunshine de Leon, Thomas Maresca, Yamiche Alcindor, Doyle Rice and Katharine Lackey
USA TODAY
Published 5:07 a.m. ET Nov 9, 2013 | Updated 5:13 a.m. ET Nov 10, 2013

A view of the typhoon-ravaged city of Tacloban, Philippines, on Nov. 9. Dennis M. Sadowski, European Pressphoto Agency

Storm surge: Lost in translation and interpretation

By Lean Alfred Santos // 15 November 2013

The coast of Eastern Samar after Super Typhoon Haiyan hit the province, bringing with it strong winds, heavy rain and storm surge. Photo by: Conrad Navidad / IOM / CC-BY-NC-ND

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Roles of climate science to enhance climate crisis preparedness

(Source: http://www.nababaha.com/; UP DREAM Program)
Roles of climate science to enhance climate crisis preparedness

As of 19 November 2020

THOUSANDS TRAPPED IN PHILIPPINES AS TOLL FROM TYPHOO VAMCO RISES

As deaths mount, aid agency says it fears for safety of thousands of people trapped by floodwaters in Cagayan Valley.

People stand on a roof of a building after Typhoon Vamco resulted in severe flooding in the Cagayan Valley region in the Philippines [Philippine Coast Guard/handout via Reuters]
The Department of Environment and Natural Resources (DENR) launched on Wednesday, June 30 a watershed protection drive that was arguably triggered by the massive flooding experienced by Cagayan Valley last year at the hands of typhoon "Ulysses".

DENR Secretary Roy Cimatu (Screen grab from Zoom meeting)
Making climate information more applicable in water sector

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Take care and stay safe! 😊