

# Current understanding and Activities related to Typhoon in Korea

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Administrator of KMA  
PR of the Republic of Korea with WMO



Korea Meteorological Administration



Ministry of the Interior and Safety  
National Disaster Management  
Research Institute

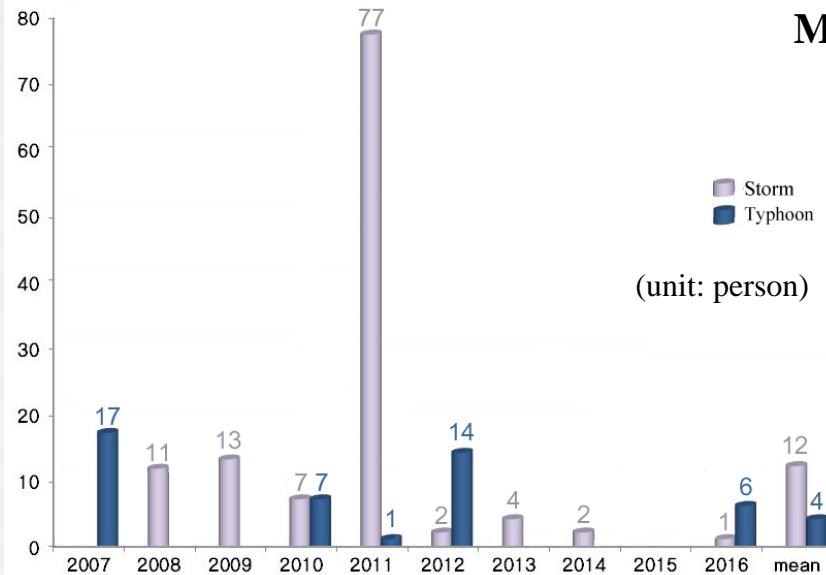


Ministry of Land, Infrastructure and Transport  
Han River Flood Control Office

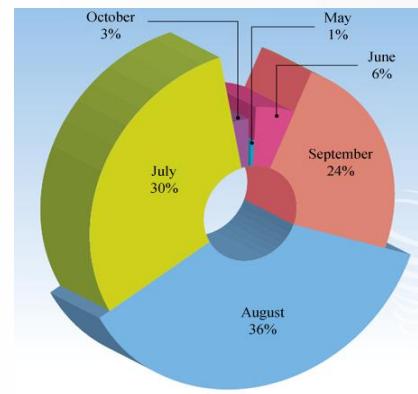


# Background

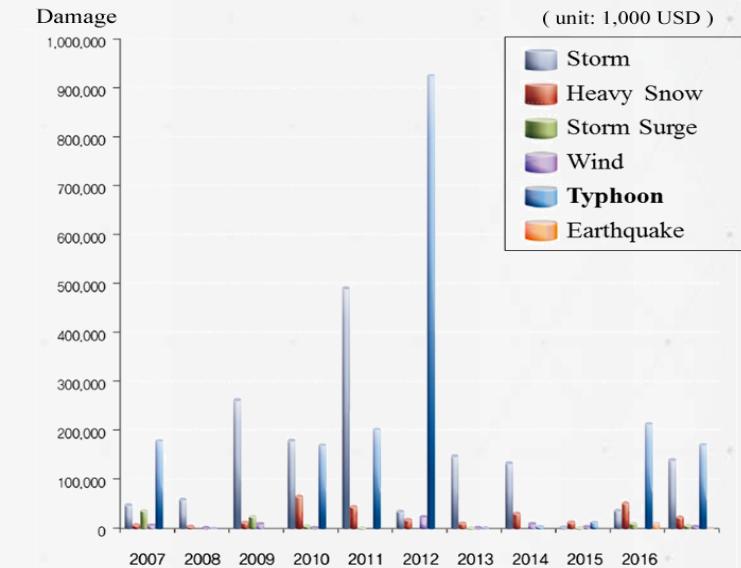
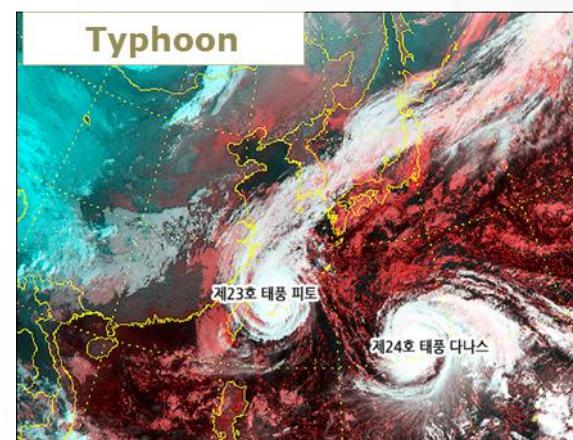
## Mortality & Economic Damage from Natural Disaster (2007-2016)



Monthly frequency of Typhoon



Mortality Damage from Natural Disasters



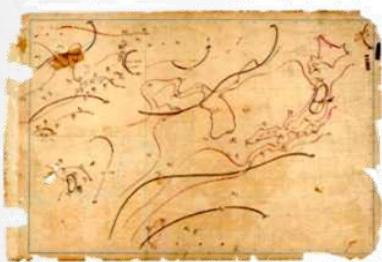
Economic Damage from Natural Disasters



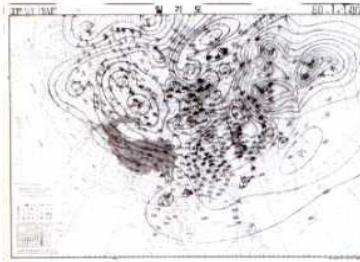
# Activities in KMA (WGM)

# History for Typhoon Forecast in KMA

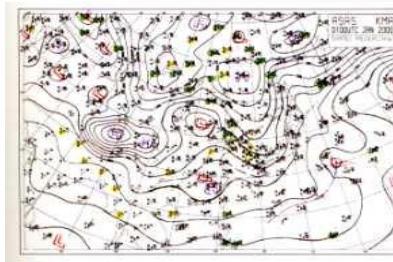
▼ 1905(1<sup>st</sup>)



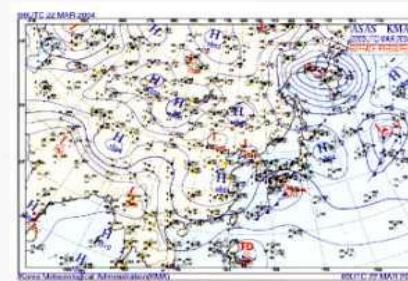
## ▼ 1980(manual)



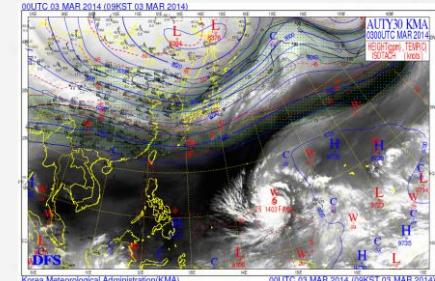
## ▼ 2000(Plotter)



▼ 2004(NWP system)



▼ 2018(NWP+Satellite)

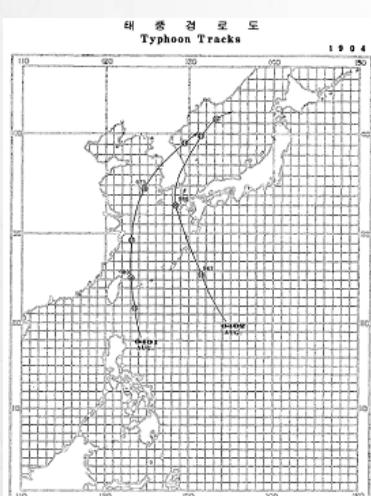


1905

**1980**

2000

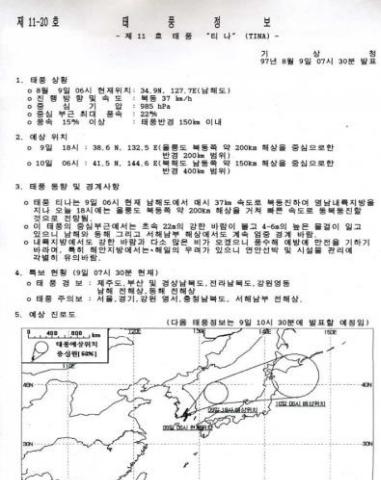
2018



▲ 1905

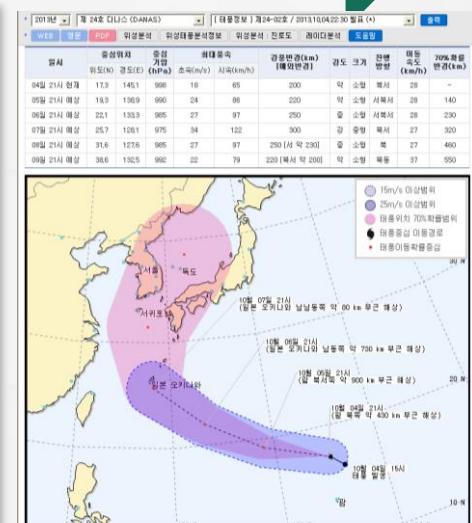
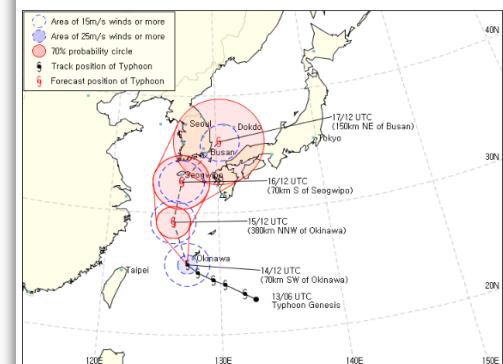


▲ 1984  
(24hr forecast)



▲ 1997  
(36hr forecast)

No. 11 Typhoon NARI					KMA   2007.9.14 22:00
Date (UTC)	Present Location	Minimum Surface Pressure (hPa)	Maximum Sustained Wind (m/s)	Radius of 15 m/s (km)	Moving Direction and Speed(m/h)
ANALYSIS 200 UTC 14 Sep.	26.7 N, 127.2 E	946, 46	(166km/h)	200	NW, 19
FORECAST 200 UTC 15 Sep.	29.2 N, 126.9 E	960, 43	(168km/h)	200	NNW, 17
FORECAST 1200 UTC 16 Sep.	32.6 N, 126.6 E	966, 37	(139km/h)	200	NNE, 16
FORECAST 1200 UTC 17 Sep.	36.0 N, 130.3 E	980, 30	(106km/h)	180 (NNW 150)	NE, 21

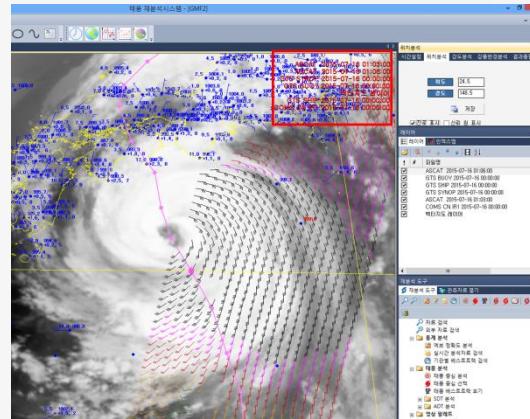
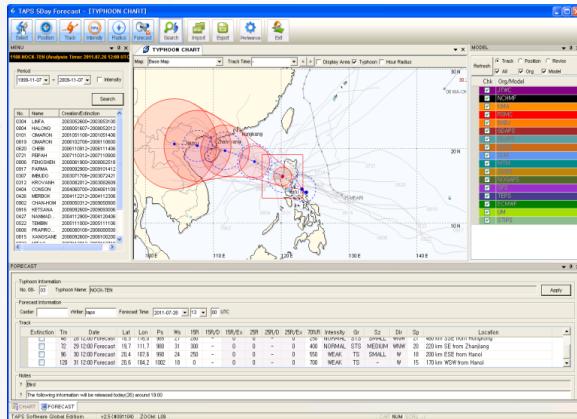


▲ 2010  
(120hr forecast)

# Activities in KMA (WGM)

## Development of Forecast Skill & International Cooperation

- ❖ In order to typhoon forecast, KMA has been developing the advanced Typhoon Operation System(TOS)



▲ Typhoon Operation System

▲ Typhoon Seasonal Prediction System

▲ Typhoon Best Track Analysis System

- ❖ KMA will continue to exchange information on WGM, such as typhoon forecast technologies, and experiences through the international cooperation



▲ Fellowship Program (April, 2017)



▲ 10th Korea-China Joint Workshop  
(May, 2017)



▲ 12th IWS(November, 2017)

# Activities in KMA (WGM)

## TRCG Research Fellowship since 2001

2001	Dr. PENG, Taoyong	China	2014	Ms. Bai Lina	China
2002	Miss YU, Hui	China		Mr. Nguyen Tung Thanh	Viet Nam
2004	Dr. Vicente B. MALANO	Philippines		Mr. Juanito S. Galang	Philippines
2005	Ms. Sugunyanee YAVINCHAN	Thailand	2015	Ms. Akhom THAMALANGSY	Lao PDR
2006	Mr. HOA, Vo Van	Viet Nam		Mr. Aldczar D. Aurelio	Philippines
2008	Ms. YING, Ming	China		Mr. Jose Frivaldo, JR	Philippines
2010	Mr. TRAN Quang Nang	Viet Nam		Mr. Somprat Srithagon	Thailand
	Mr. Kamol Promasakha Na SAKOLNAKHON	Thailand		Ms. DO Thi Thanh Thuy	Viet Nam
2011	Mr. Jori J. LOIZ	Philippines	2016	Mr. Boonthum Tanglumlead	Thailand
	Mr. Chukiat THAIJARATSATIAN	Thailand		Mr. Narongpon Thongsang	Thailand
2012	Mr. Renito B. PACIENTE	Philippines		Mr. Benison Jay N. Estareja	Philippines
	Ms. Plaiddao KHUMCHAIYAPHUM	Thailand			
	Mr. Bounteum SYSOUPHANTHAVONG	Lao PDR			
2013	Dr. Bonifacio Galt Pajulelas	Philippines	2017	Ms. Pensiri Trisataya	Thailand
	Mr. Nguyen Huu Thanh	Viet Nam		Ms. Chuapit Ngernchalad	Thailand
	Ms. Prapaporn Wongsaming	Thailand		Mr. Robert B. Badrina	Philippines
				Ms. Hoang Thi Mai	Viet Nam

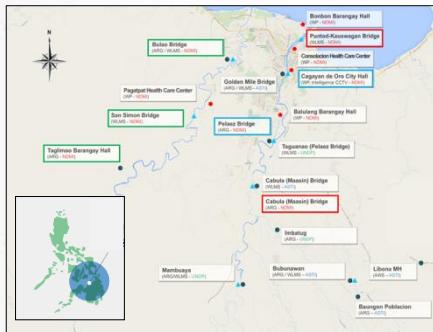
# Activities in NDMI (WGDRR)

## International Cooperation Project & Knowledge Sharing

- ❖ To build a resilient country towards disaster, NDMI has been conducting International Cooperation Project since 2013
- ❖ In flood-area, we installed **Automatic Rainfall Warning System** and **Flash Flood Alert System**.



### Project with Philippines (2013 ~ 2015)



657  
Typhoon WASHI  
in 2011  
↓  
**no casualty**  
Typhoon TEMBIN  
in 2017

- Contribute to reduce mortality in Cagayan de Oro City, Philippines



### Project with Vietnam and Lao PDR (2016 ~ )



Lao Cai in  
Vietnam

Vang Vieng  
and  
Oudomxay in  
Lao PDR

- Project with Vietnam and Lao PDR are successfully conducted, and it will be continued until 2019



### Annual Meeting on WGDRR

- 12<sup>th</sup> WGDRR Annual Meeting in Ulsan
- 13<sup>th</sup> Annual meeting on WGDRR will be held in Ulsan, ROK



Dr. SHIM Jae Hyun  
Chair of WGDRR



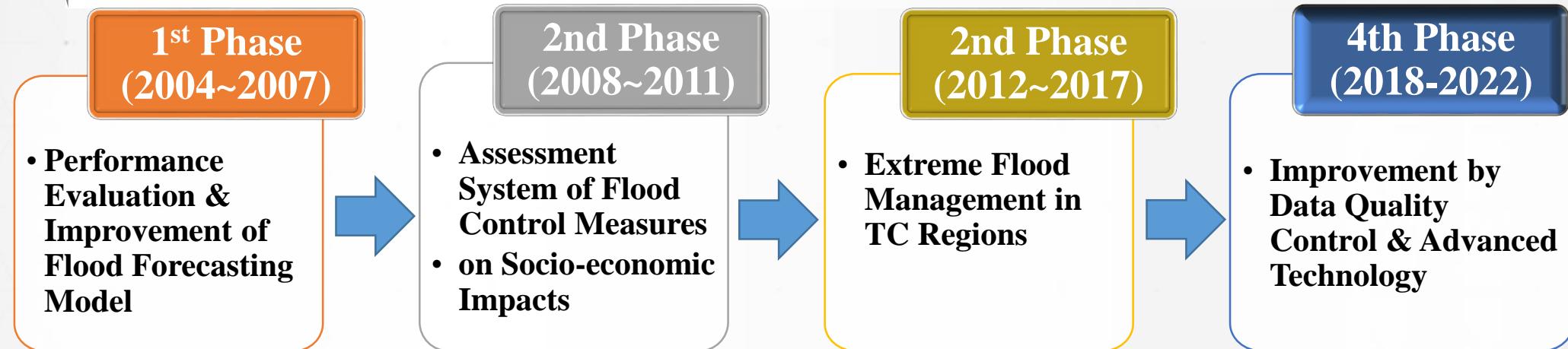
### Expert Mission on WGDRR

- 2017 Knowledge Sharing in Hawaii
- Expert Mission in 2018 will be announced soon

# Activities in HRFCO (WGH)

## Annual Operating Plan (AOP)

**HRFCO leads AOPs to enhance the capacity against flood continuously**



WGH Workshop & Meeting in Seoul



Dr. CHO Hyo Seob  
Vice-Chair of WGH

Han River Flood Control Office



49<sup>th</sup> Session Kintanar Award winning

# Thank you

