

WEATHER RISK MANAGEMENT

- What WNI can do for Your Country -

19th August 2017

OGATA, Mitsuhiro

Risk Management Service Manager

WEATHERNEWS INC. (Japan)

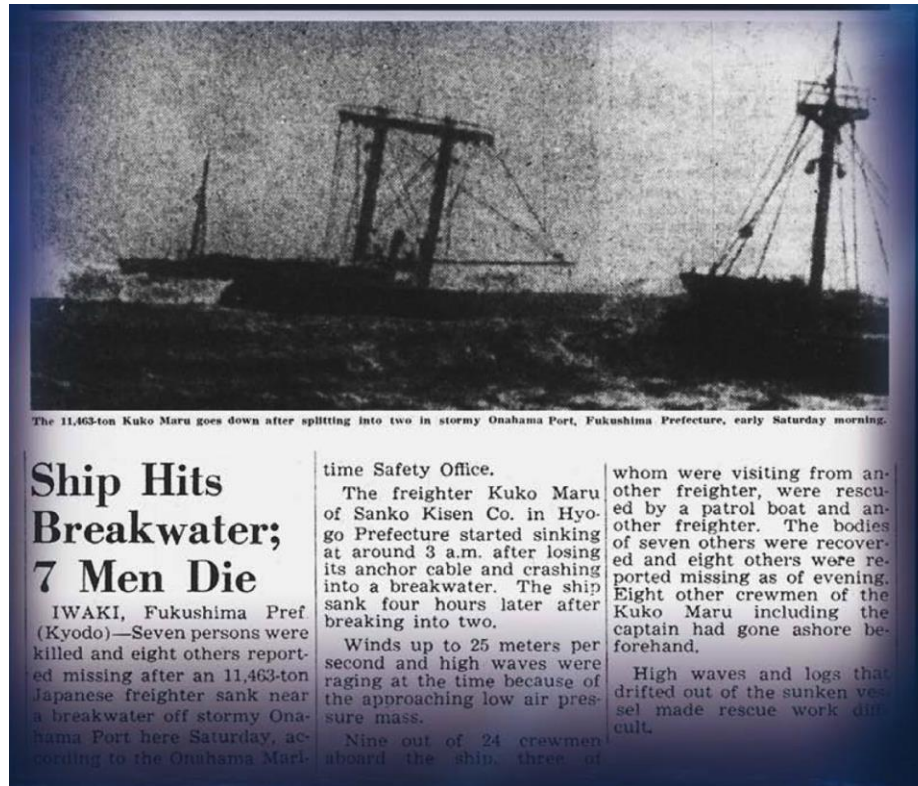


Agenda

1. About WNI (WEATHERNEWS INC.)
2. Partnership with APEC and NHMS
3. Disasters and Climate Change
4. Risk Communication for Agriculture
5. Risk Communication for Water Utilization
6. DB and Infrastructure for CCC
7. Conclusion and Closing

1. About WNI

The Origin of WNI



The 11,463-ton Kuko Maru goes down after splitting into two in stormy Onahama Port, Fukushima Prefecture, early Saturday morning.

Ship Hits Breakwater; 7 Men Die

IWAKI, Fukushima Pref. (Kyodo)—Seven persons were killed and eight others reported missing after an 11,463-ton Japanese freighter sank near a breakwater off stormy Onahama Port here Saturday, according to the Onahama Mari-

time Safety Office.

The freighter Kuko Maru of Sanko Kisen Co. in Hyogo Prefecture started sinking at around 3 a.m. after losing its anchor cable and crashing into a breakwater. The ship sank four hours later after breaking into two.

Winds up to 25 meters per second and high waves were raging at the time because of the approaching low air pressure mass.

Nine out of 24 crewmen aboard the ship, three of

whom were visiting from another freighter, were rescued by a patrol boat and another freighter. The bodies of seven others were recovered and eight others were reported missing as of evening. Eight other crewmen of the Kuko Maru including the captain had gone ashore beforehand.

High waves and logs that drifted out of the sunken vessel made rescue work difficult.

© Japan Times 1970.01.31

A Developed Low sending the Founder's Vessel Aground

1. About WNI

Total 44 Markets are covered by WNI Services

Risk communication service covering 44 markets

SEA Planning



Shipping



Oil & Gas



Offshore & Near Sea



Fishery



Aviation

SKY Planning

LAND Planning



Road Management



Railway



Transportation



Logistics



Local Government



Retailer



Event Management



Agriculture



Telecom Carriers



Facility Management



Energy



Construction



River Administration



Dam Operation Management



Manufacturing Management



Your Weather Station



Dynamic Climate Change



Terrestrial Phenomena



Air Quality Analysis



Insurance

1. About WNI



1. About WNI

ASIA : Tokyo, Seoul, Shanghai, Taipei, Hong Kong,
Hanoi, Bangkok, Manila, Singapore, Jakarta, Kathmandu, Mumbai



Globally active in 34 cities within 19 countries,



Japan

Global Service Center

USA

Oklahoma Service Center

Denmark

Copenhagen Service Center

Netherlands

Amsterdam Service Center

Philippines

Manila Operation Center

MYANMAR

YANGON OPERATION CENTER

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2. Partnership with APEC and NHMS



- 1) WNI Service and Support offices to 14 of 21 APEC countries.
- 2) 3 service operation centers in Tokyo, Manila and Oklahoma
- 3) Providing services to those countries in Commercial Aviation and Shipping.



2. Partnership with APEC and NHMS



BỘ TÀI NGUYÊN VÀ MÔI TRƯỜNG
TRUNG TÂM KHÍ TƯỢNG THỦY VĂN QUỐC GIA
NATIONAL HYDRO - METEOROLOGICAL SERVICE

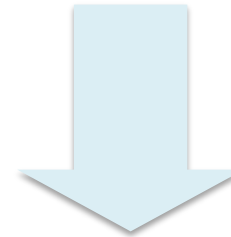


National Hydro-Meteorological
Service (NHMS)

WEATHERNEWS INC



Weather
Monitoring and Informing
for All Citizens' Safety



To Support
Business Weather
Risk Management

2. Partnership with APEC and NHMS

Signing Ceremony for Partnership

between NMHS and WNI on 29 Jan. 2015

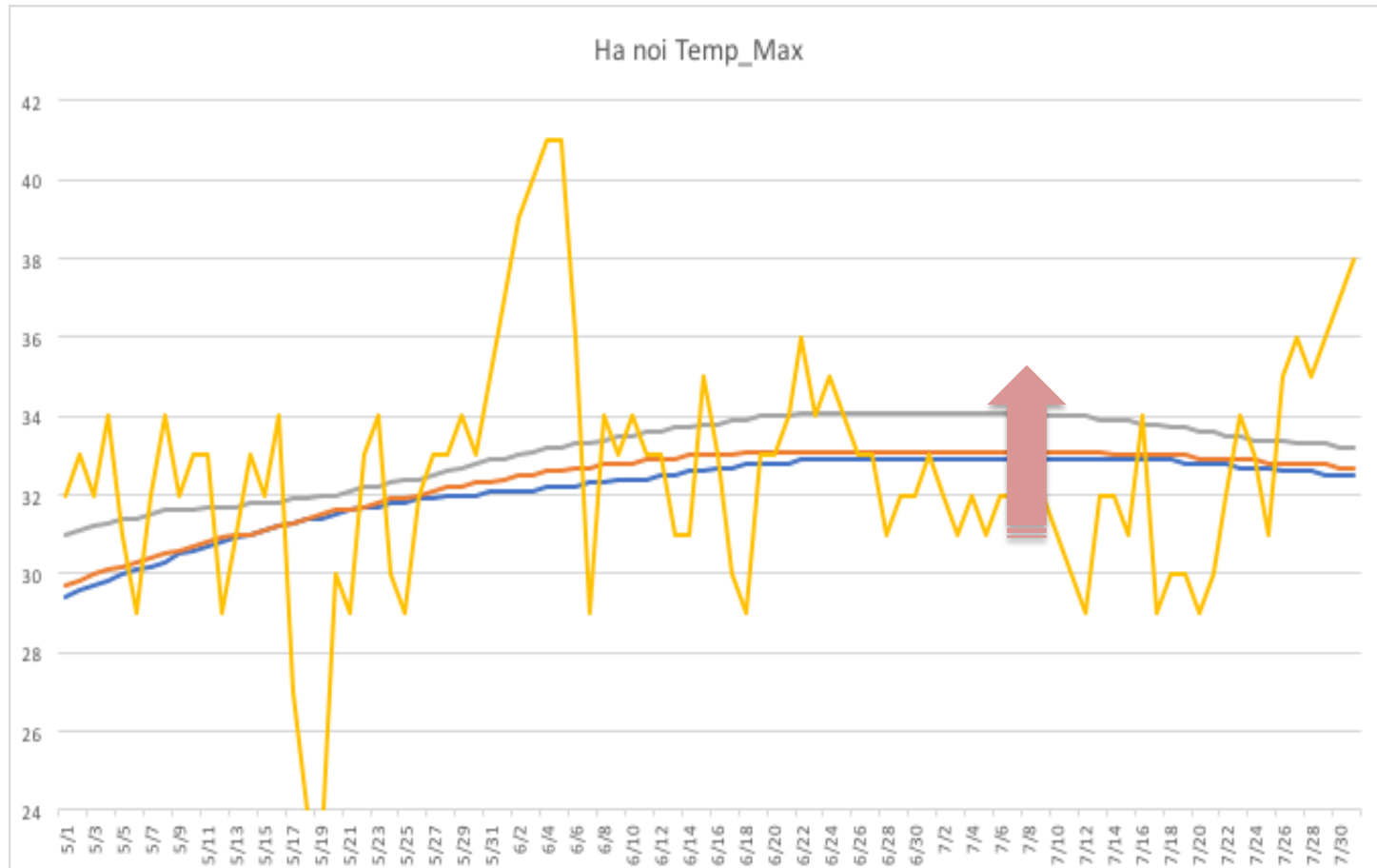


Next Step

- Enhancing data exchange
- Developing forecasting system for heavy rain
- Building new Service models

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- 3. Disasters and Climate Change**
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3. Disasters and Climate Change



Hanoi Max. Air Temp May - July

— Ave. 1961-90

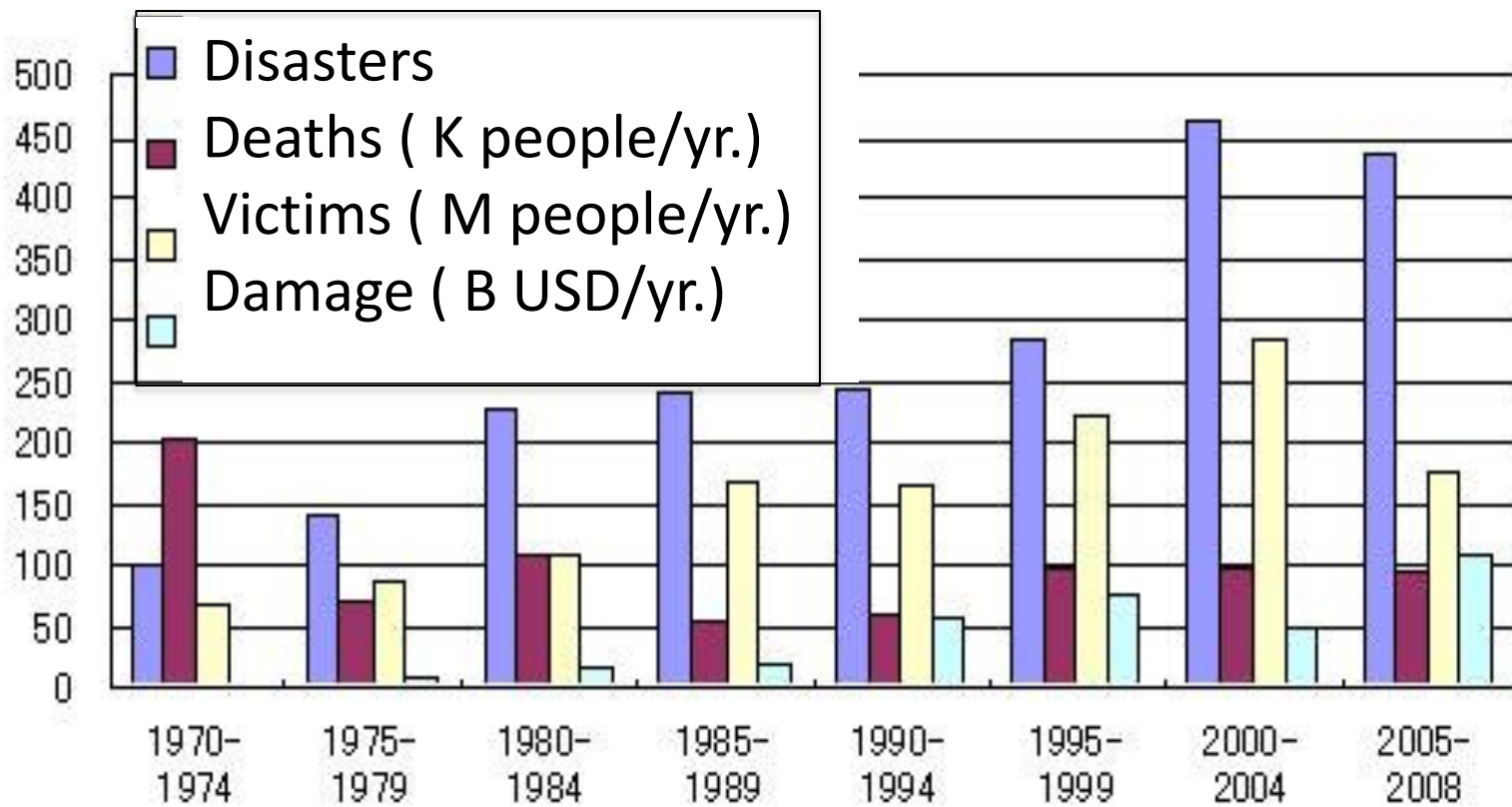
— Ave. 1971-2000

— Ave. 2007-2016

— 2017

3. Disasters and Climate Change

The Number of Global Disasters has 4 Times now



3. Disasters and Climate Change

Flooding in Hanoi, Vietnam in 2016



© Sankeibiz 2017

<http://www.sankeibiz.jp/macro/news/170510/mcb1705100500007-n1.htm>

3. Disasters and Climate Change

Flooding in Bangkok, Thailand in May 2017



© Newsclip.be 2017

<http://www.newsclip.be/article/img/2017/05/25/33114/24721.html>

3. Disasters and Climate Change

Taiwan / Southern China Typhoon, July 2016



© Earthreview.net 201

<http://earthreview.net/super-typhoon-nipartak-wrec-havoc-in-taiwan/>

3. Disasters and Climate Change

Typhoon 2017-05 NORU (2017.Jul.)



8/5 16:11 鹿児島県奄美市名瀬



8/7 16:15 山梨県大月市



8/8 8:46 滋賀県長浜市

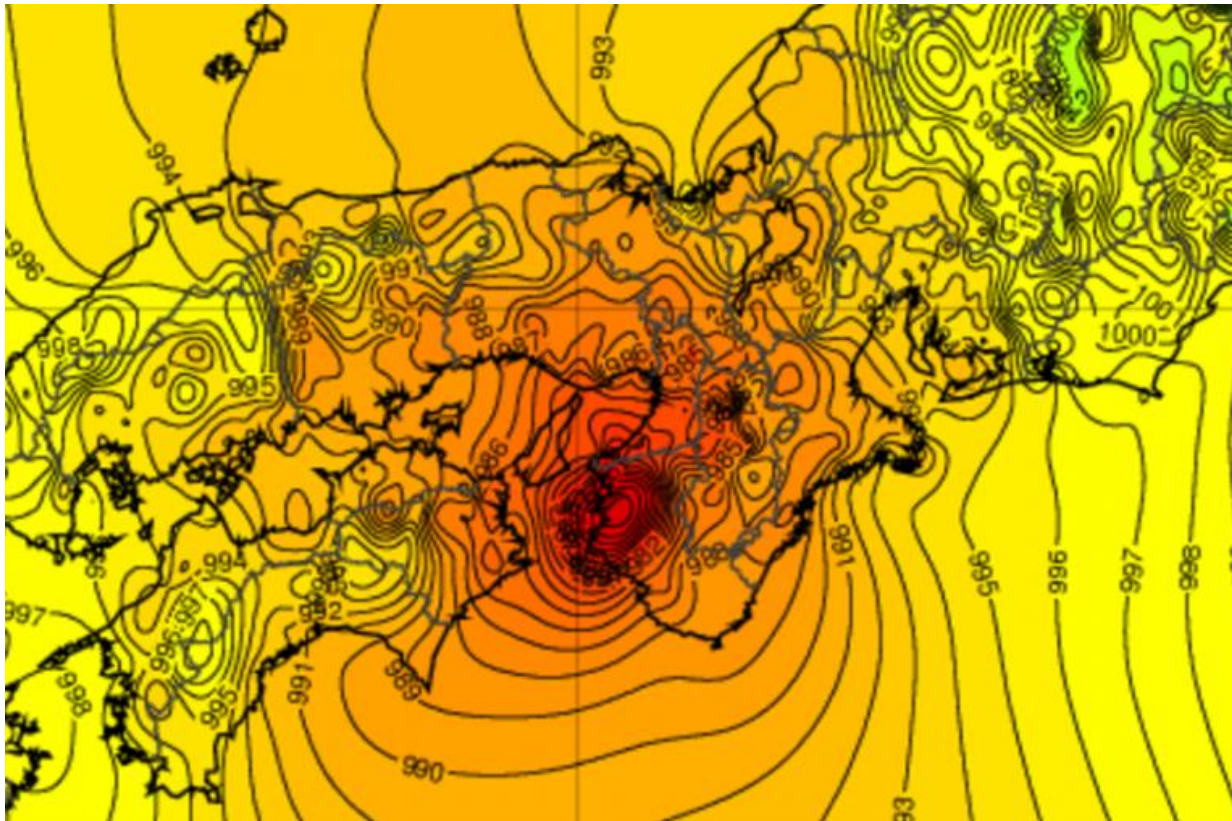


8/8 10:03 石川県白山市

© WEATHERNEWS INC. 2017

3. Disasters and Climate Change

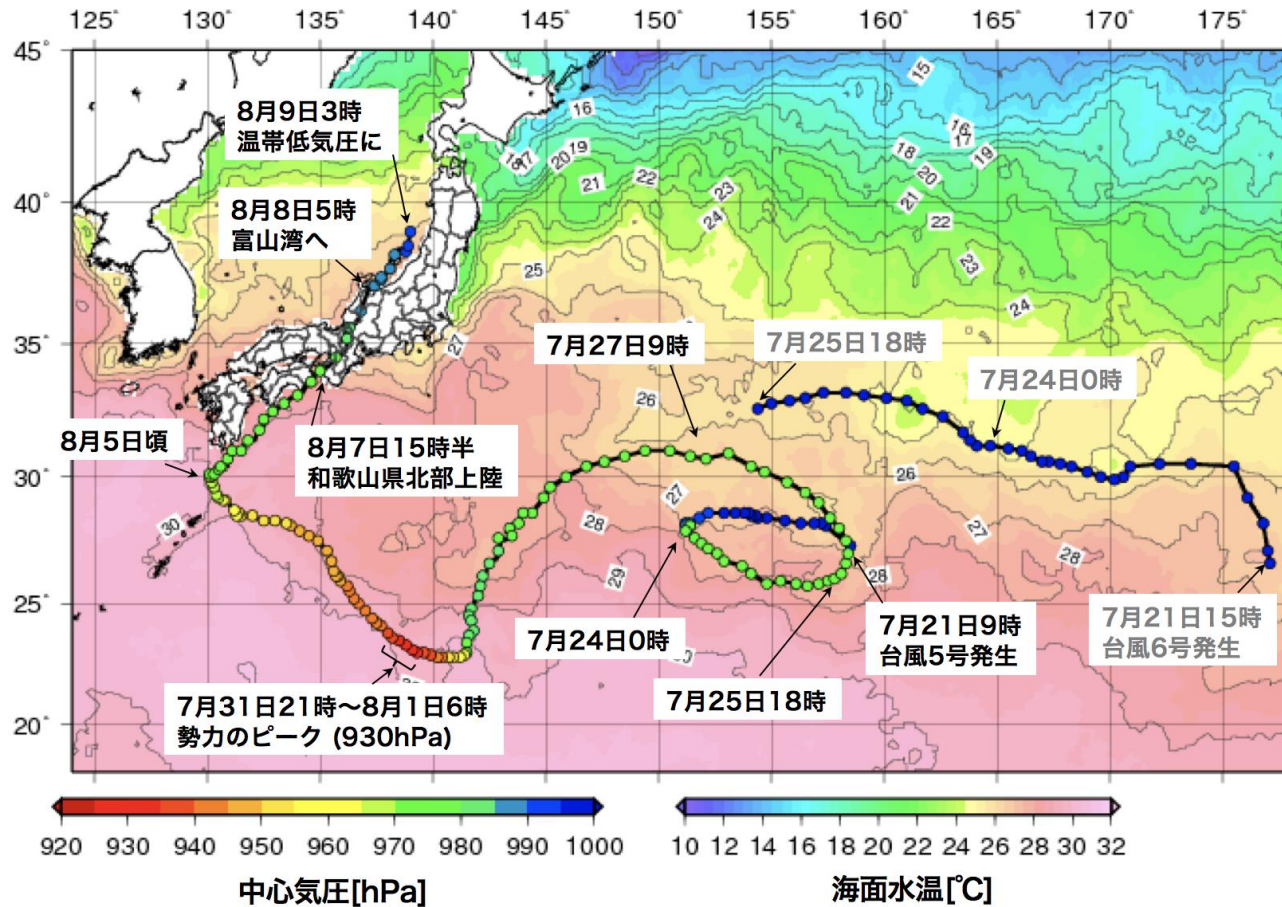
Typhoon 2017-05 NORU (2017.Jul.)



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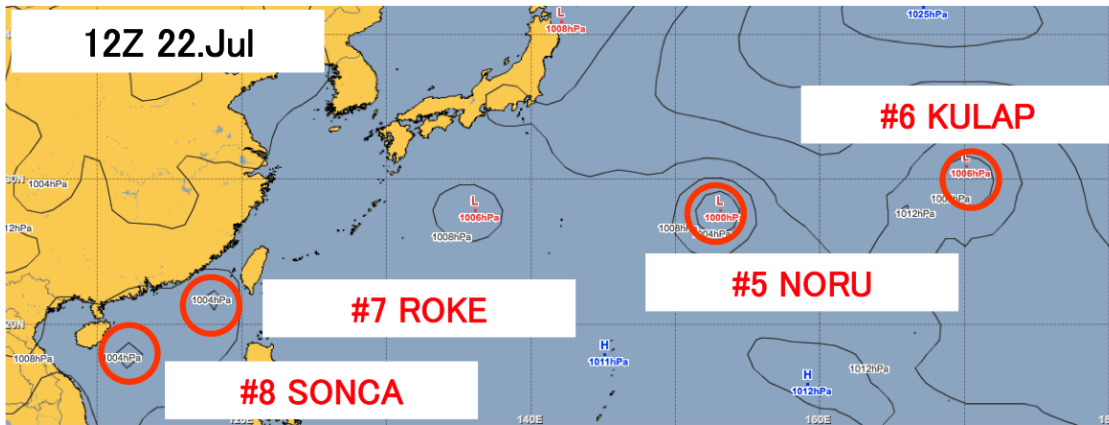
3. Disasters and Climate Change

Typhoon 2017-05 NORU (2017.Jul.)

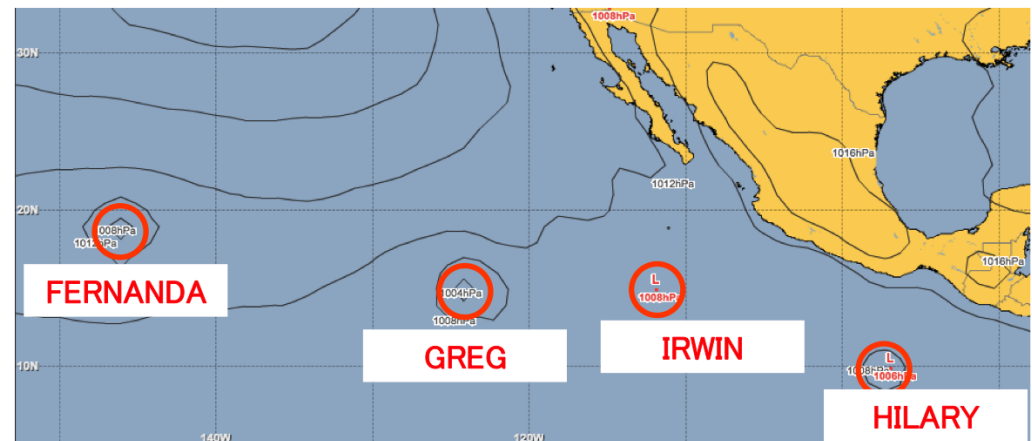


3. Disasters and Climate Change

Typhoon 2017-05 NORU (2017.Jul.)



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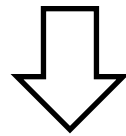


3. Disasters and Climate Change

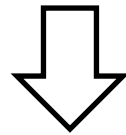
Global Tropical Storm Forecast

(Every 3-6 hours)

1) Actual Analysis



2) Tropical Storm Model output Evaluation



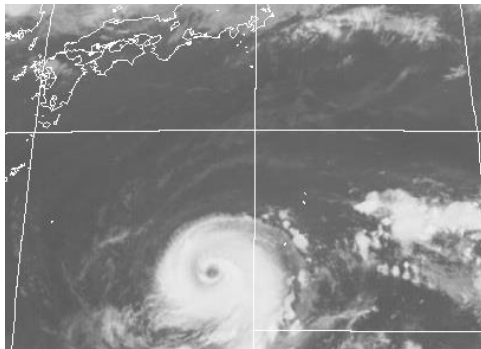
3) Forecast (Speed, direction, Pressure)

3. Disasters and Climate Change

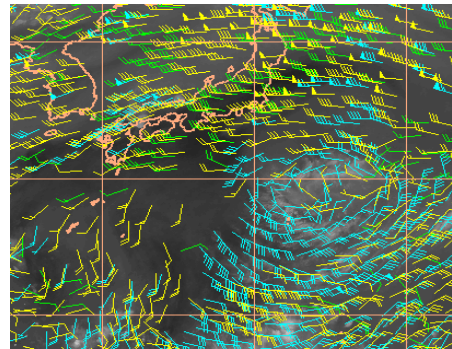
Global Tropical Storm Forecast

1) Actual Analysis

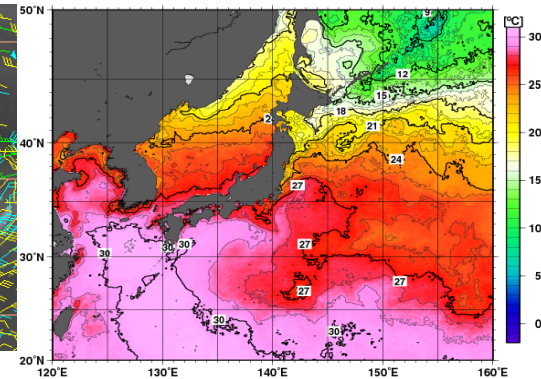
Satellite
Image



Upper Air
Condition



Sea Water
Temp.

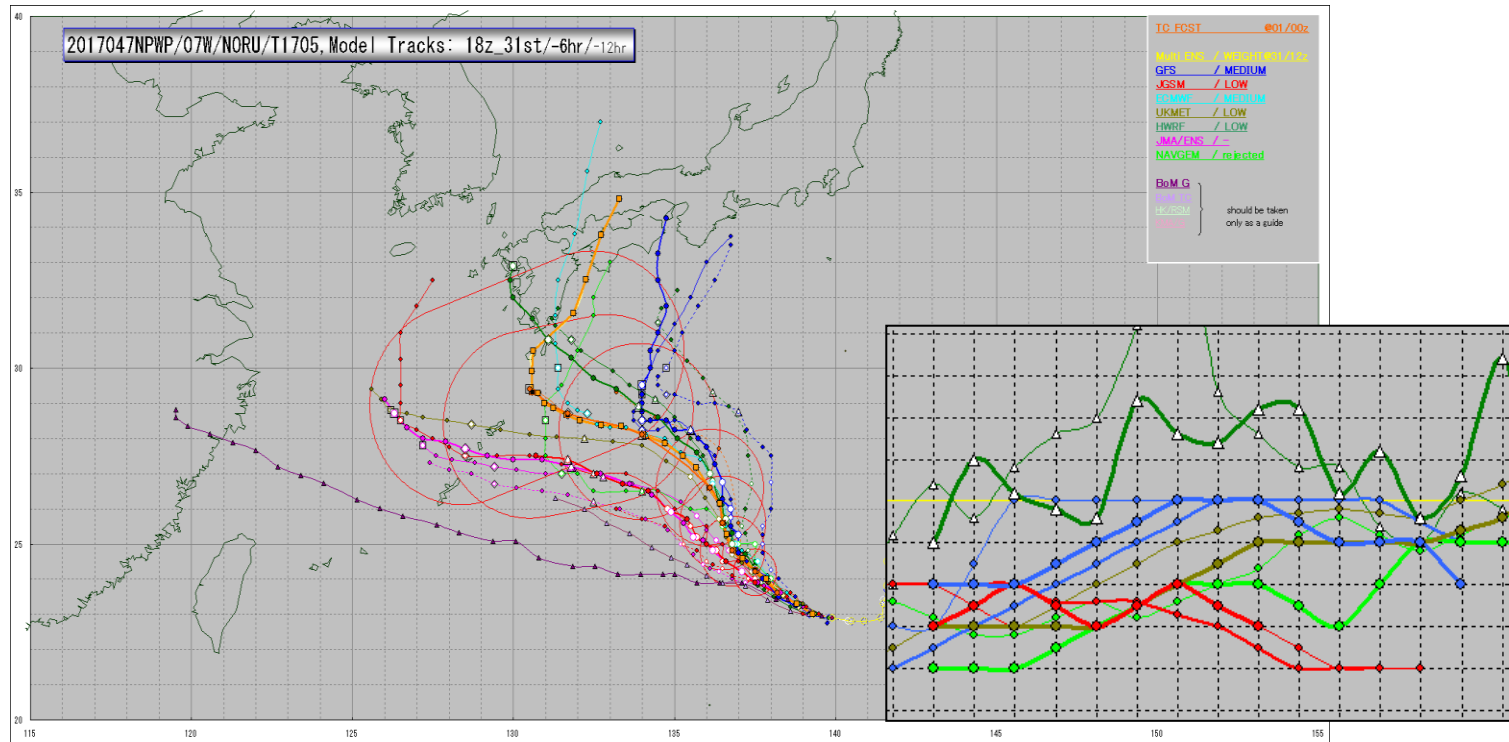


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3. Disasters and Climate Change

Global Tropical Storm Forecast

2) Forecast Model Output Evaluations



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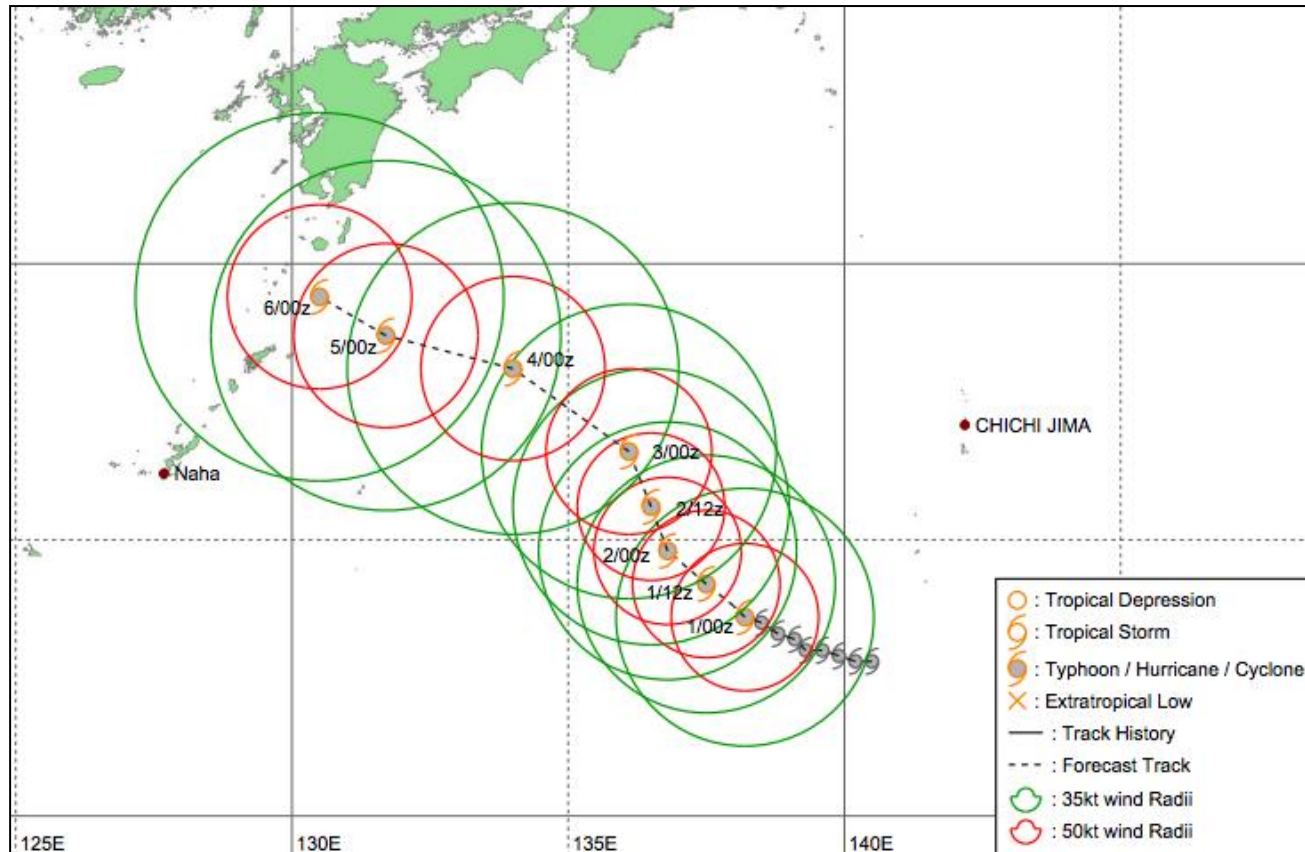
Movement Direction

Central Pressure

3. Disasters and Climate Change

Global Tropical Storm Forecast

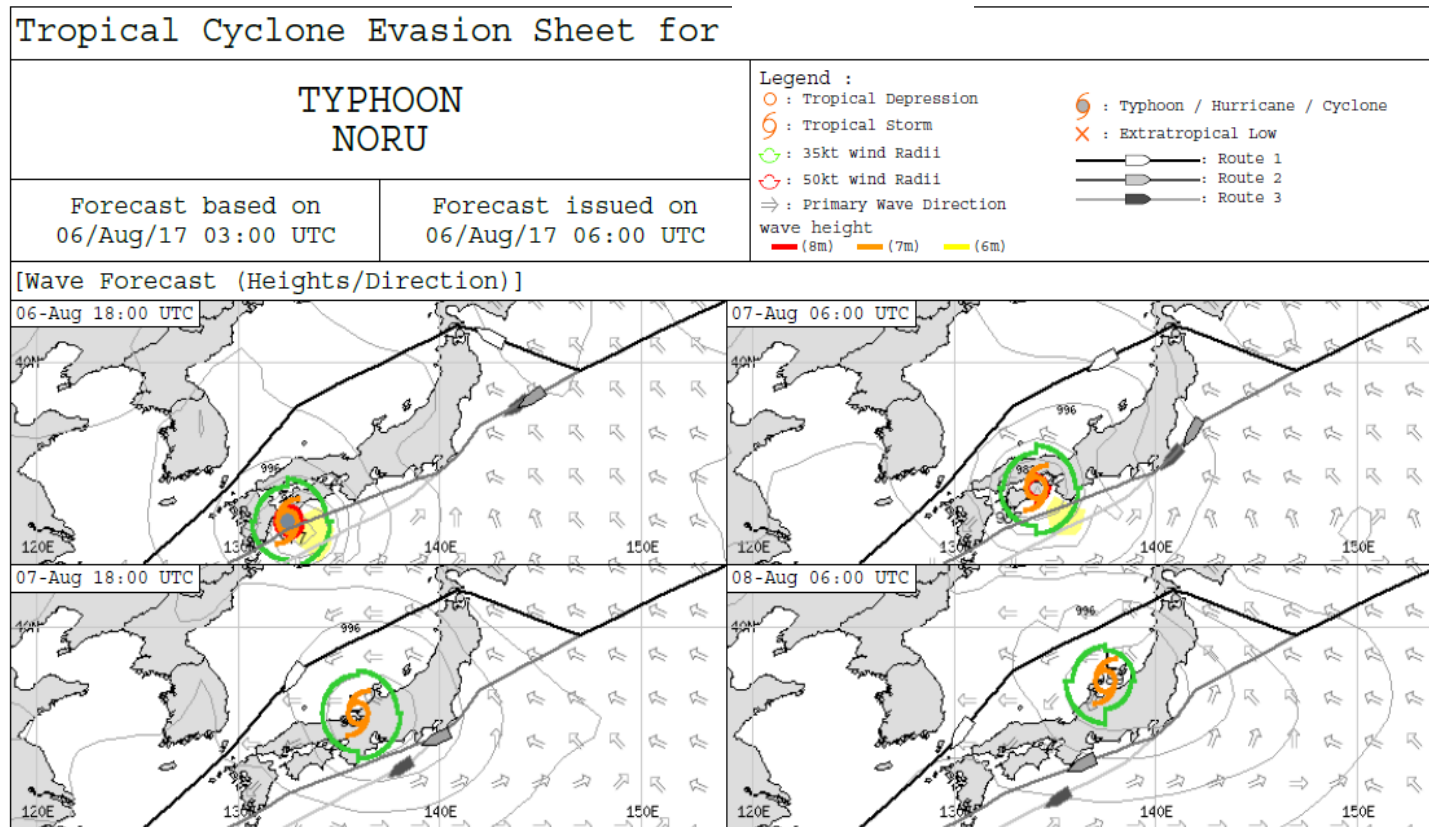
3) Forecast (Speed, direction, Pressure)



3. Disasters and Climate Change

WNI Service and Customer's Action (SEA)

ISSUE:Aug-06/0700UTC



3. Disasters and Climate Change

WNI Service and Customer's Action (SKY)

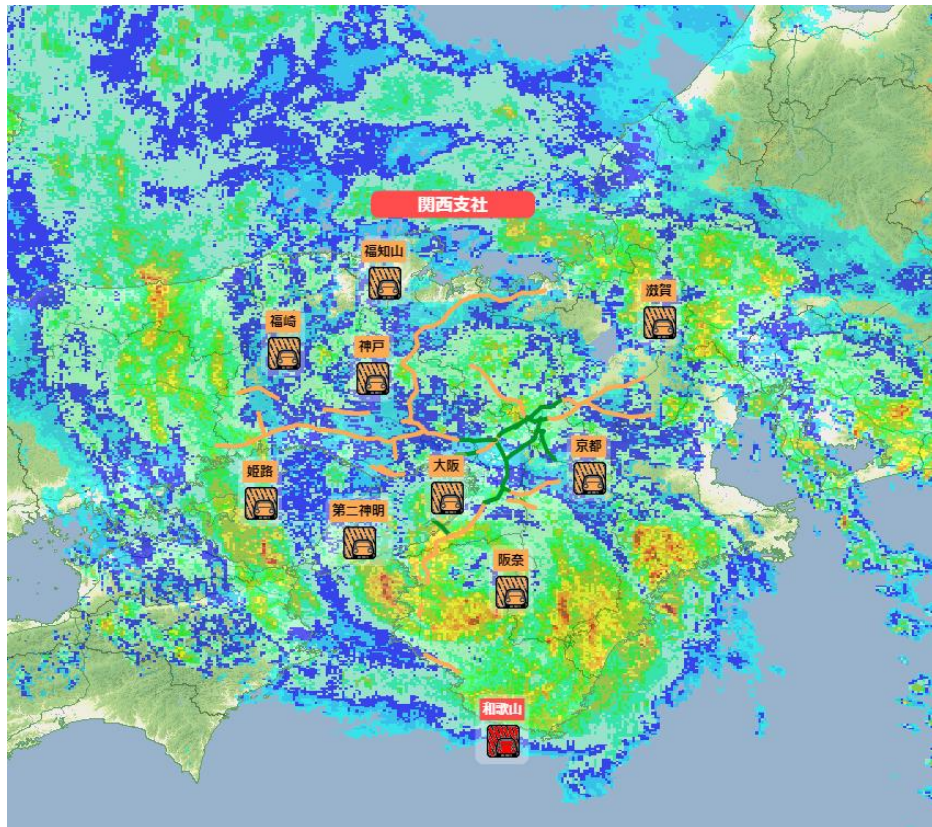
Customer: **Ground Handling & Evacuation Support**
 Typhoon "NORU"

Airport	Over 35KT area into	Over 50KT area into	Over 50KT area out	Over 35KT area out
RJKA/ASJ	8/4 00Z	8/4 09Z	8/5 15Z	8/6 04Z



3. Disasters and Climate Change

WNI Service and Customer's Action (LAND)



管内	7日(月)		8日(火)	
	日中	夜間	日中	夜間
豊田	Orange	Red	Yellow	White
名古屋	White	Yellow	Yellow	White
飯田	White	Yellow	Yellow	White
多治見	White	Orange	White	White
羽鳥	Yellow	Orange	White	White
彦根	Yellow	Orange	White	White
岐阜	White	Orange	Yellow	White
高山	White	Orange	Yellow	White
桑名	Orange	Red	White	White
津	Orange	Red	White	White

 短時間暴降の
発生可能性あり
 連続降量の
発生可能性あり
 総合判断による通行止
の可能性がある
 連続降量による通行止
の可能性がある

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- 7. Conclusion and Closing**

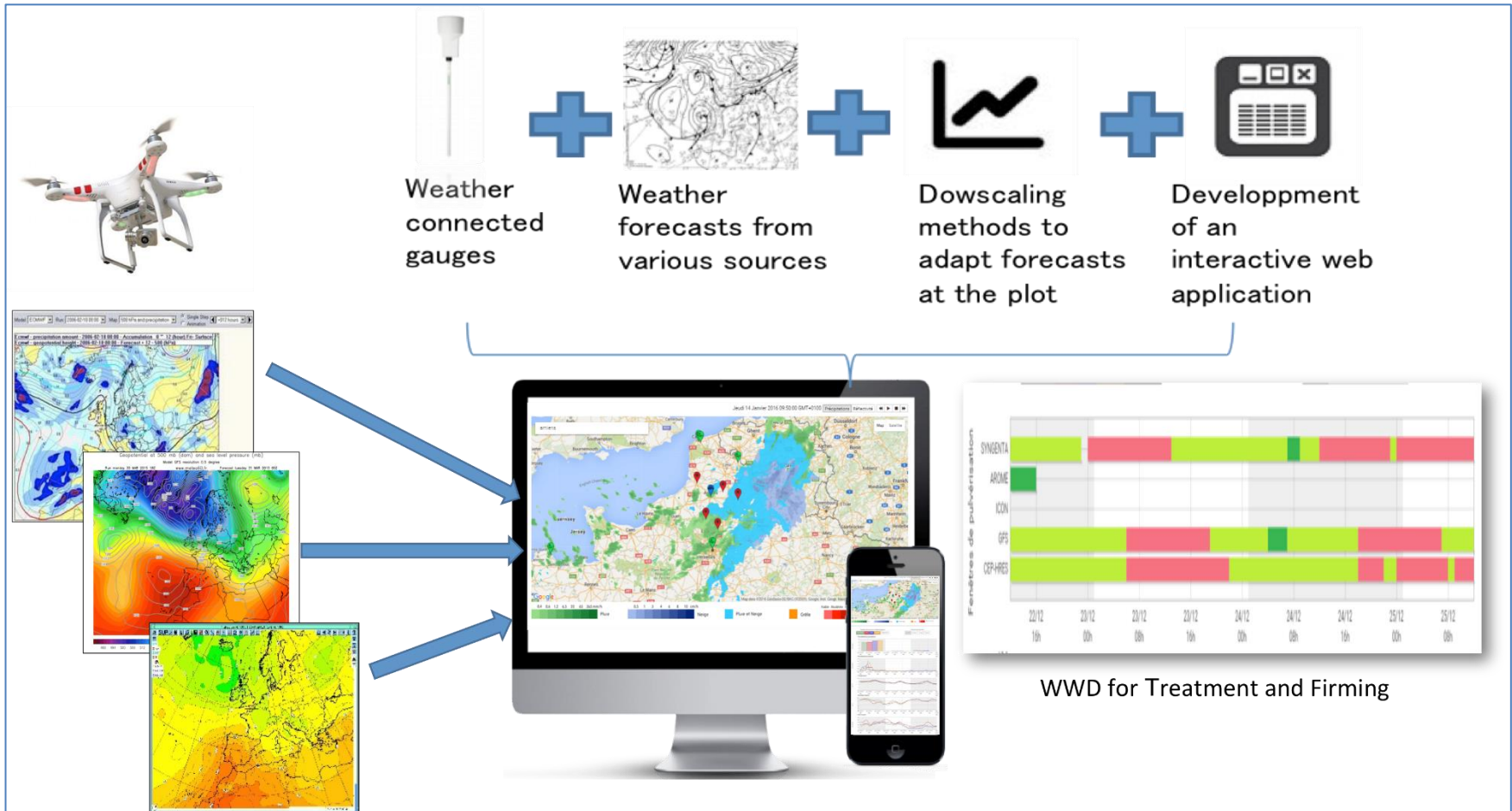
4. Risk Communication for Agriculture

Agriculture Weather Risk Management System

- 1) Local **Observation** (OBS) Networking System
- 2) Field Actual **Condition Monitoring & Alarming**
(Air Temp., Precipitation, Humidity, Soil Moisture)
- 3) **Site-Specific Forecasting** Based on OBS Data
- 4) **Scheduling** Treatment and Harvesting WWDs
- 5) **Informing System** (Web, Tablet)

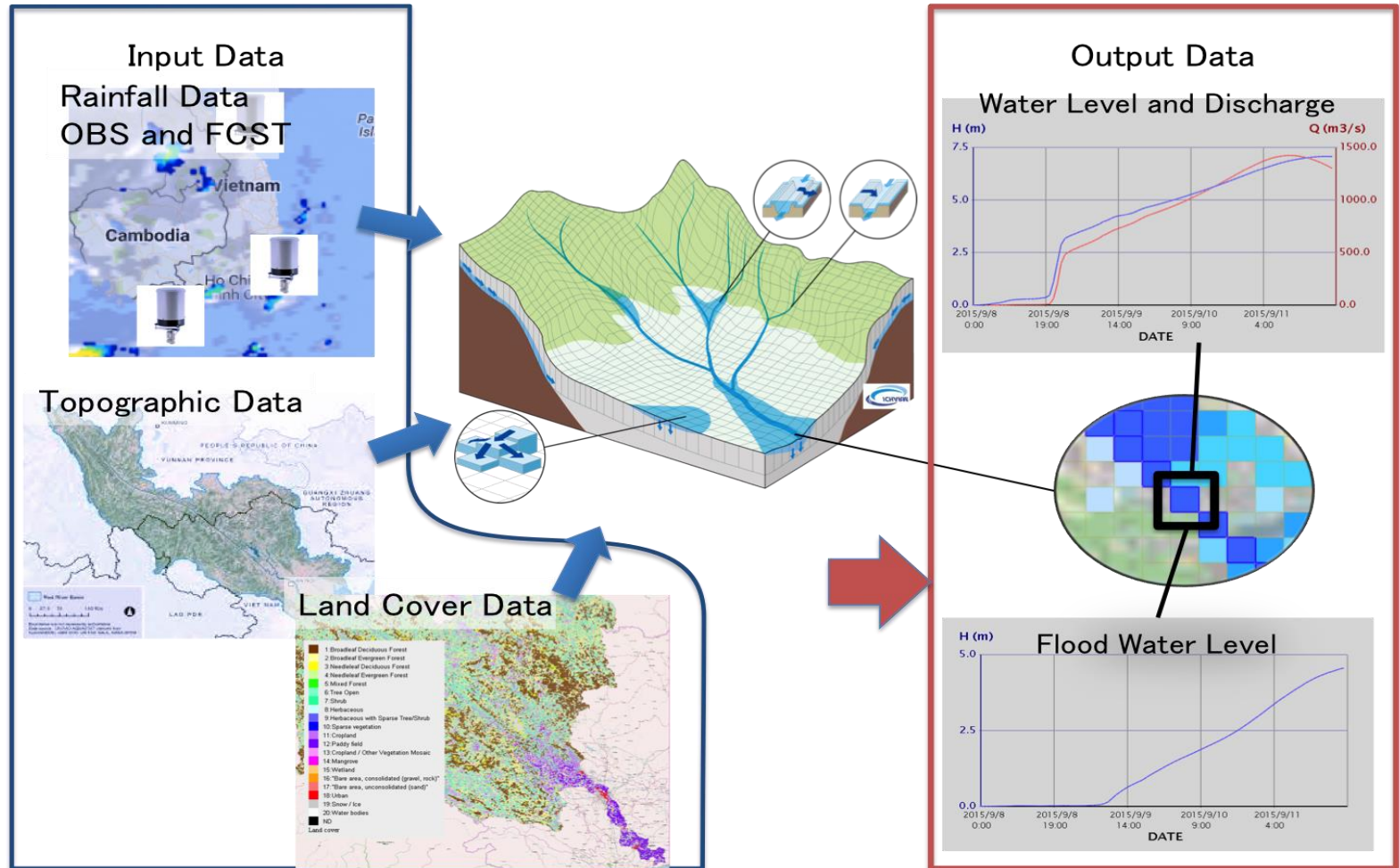
4. Risk Communication for Agriculture

Agriculture Weather Risk Management System

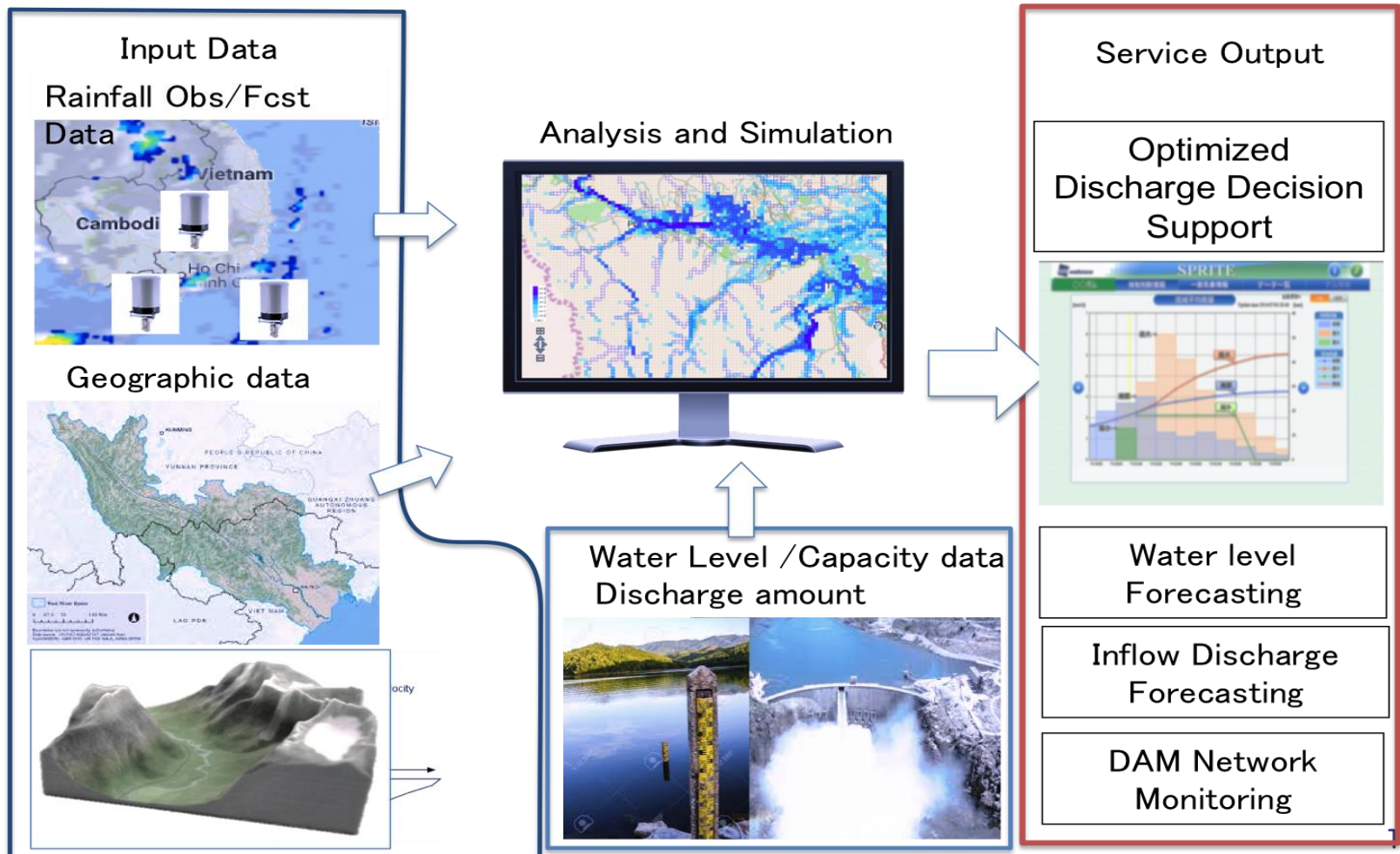


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5. Risk Communication for Water Utilization Water Level and Discharge Management System



5. Risk Communication for Water Utilization Dam Operation Management System



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6. DB and Infrastructure for CCC

Observation & Eye-Servation

1 Information Proprietary Infrastructure

- WNI Satellite : 1 in orbit
- WITH Radar : 80 installations
- WITH Sensors : 3,000 locations
- TSUNAMI Radar : 30 installations
- Live Cameras : 900 locations
- Volcano Monitoring : 50 cameras
- Micronet : 10,000 locations
- Pollen Robo : 1,000 locations
- Yure Station : 1,000 locations



2 Supporter Information



Weather reports from an average 130,000 people per day
250,000 people participating during typhoons

3 Observation data from official sources all over the world



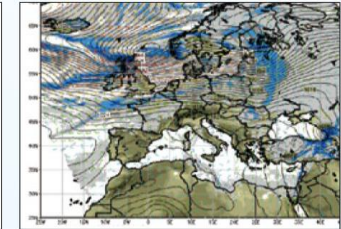
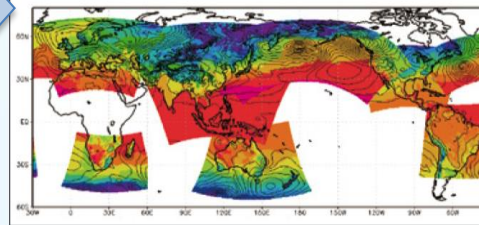
Data from the JMA, NOAA, WMO, etc.

Analysis + Forecast

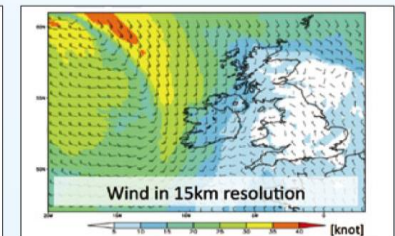
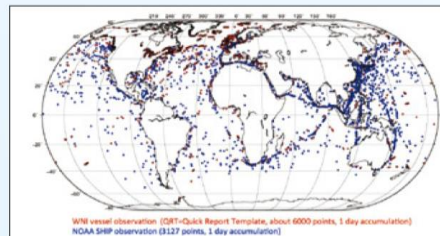
1 The world's largest data base of weather, maritime conditions and geologic al phenomenon



2 Proprietary forecasting models



3 High resolution weather analysis



6. DB and Infrastructure for CCC

WNI Satellite 1R launched from Kazakhstan on July 14, 2017



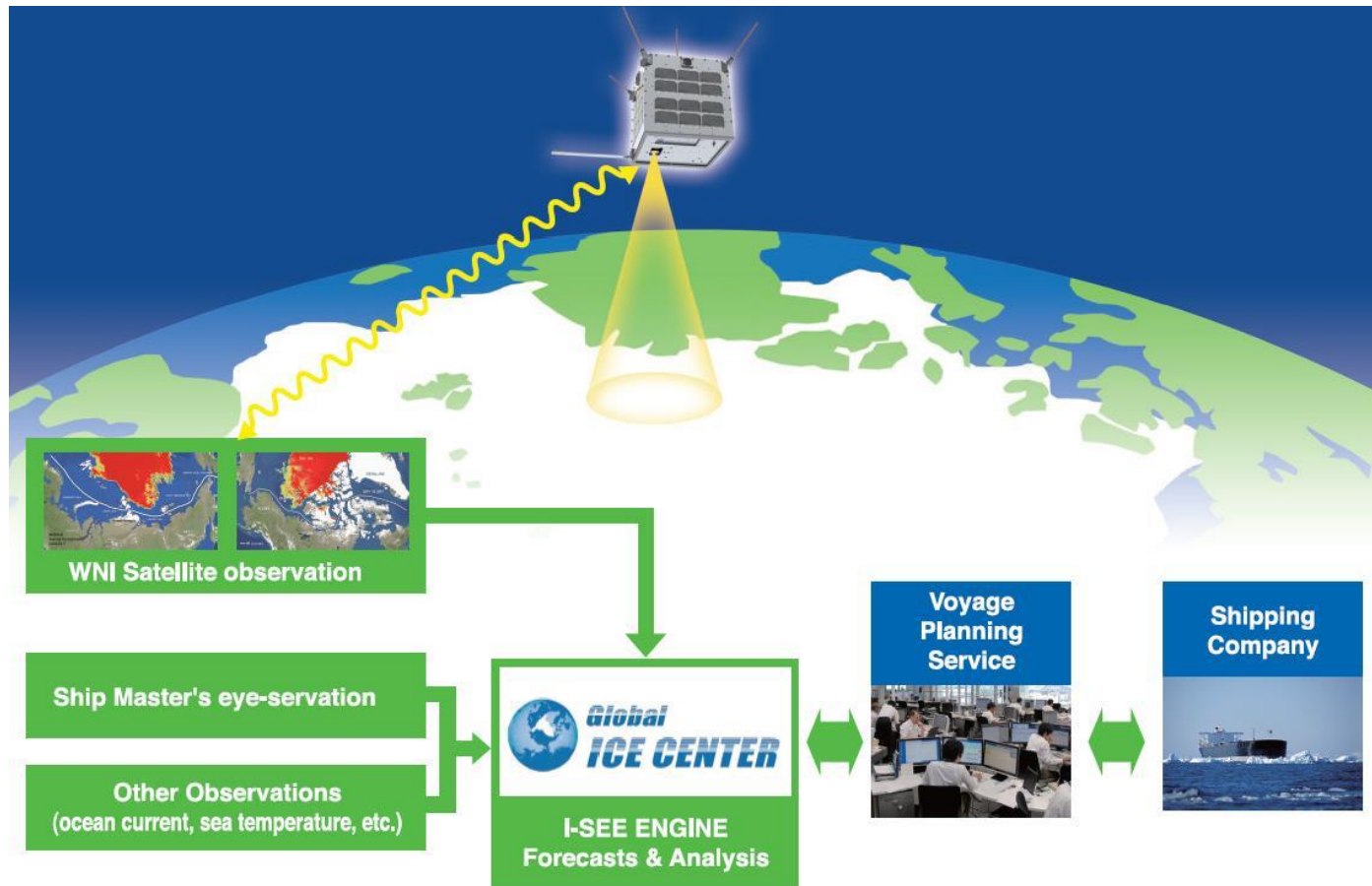
6. DB and Infrastructure for CCC

WNI Satellite 1R launched from Kazakhstan on July 14, 2017

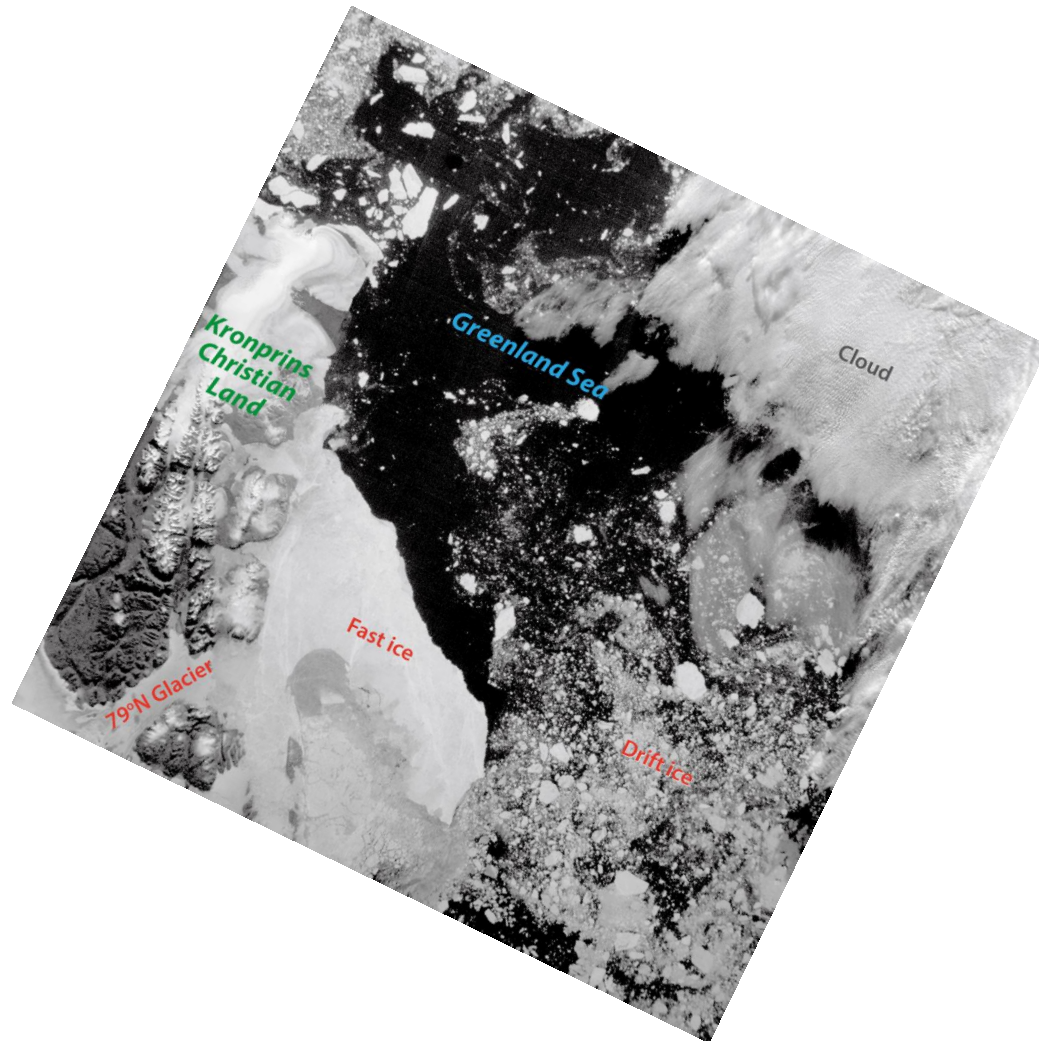


6. DB and Infrastructure for CCC

WNI Sat 1R Polar Orbit

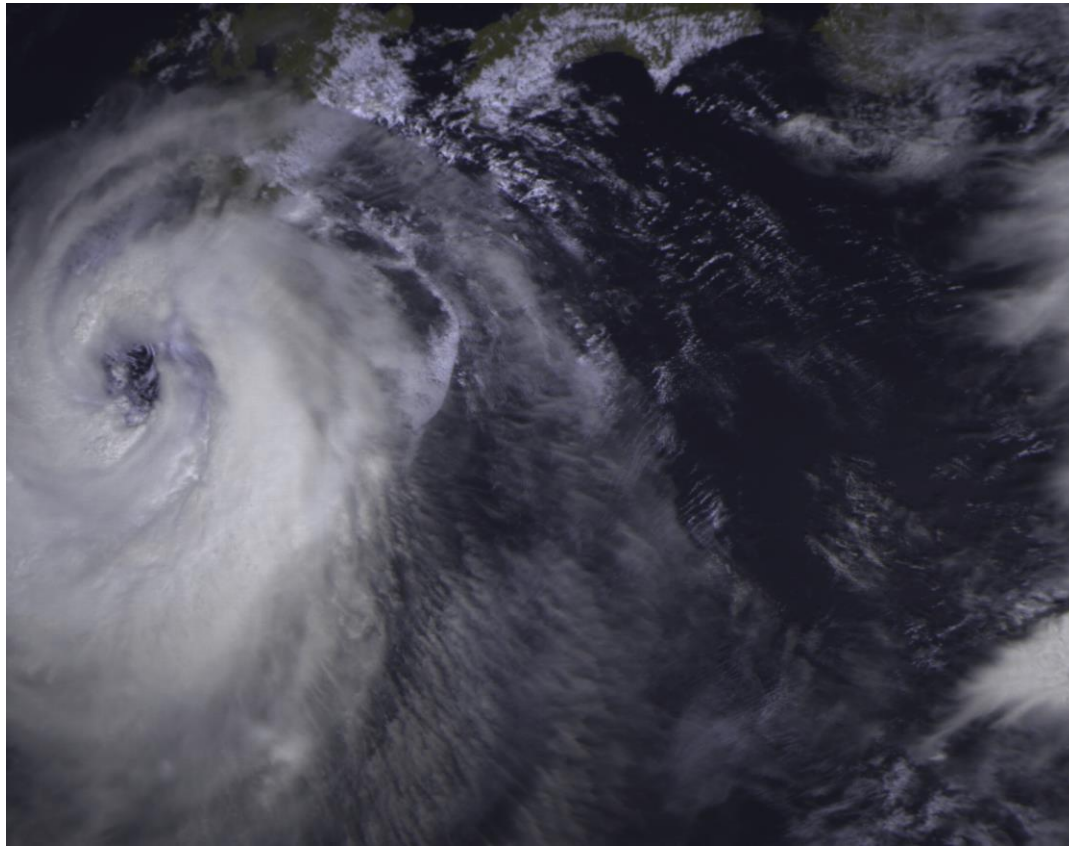


6. DB and Infrastructure for CCC



6. DB and Infrastructure for CCC

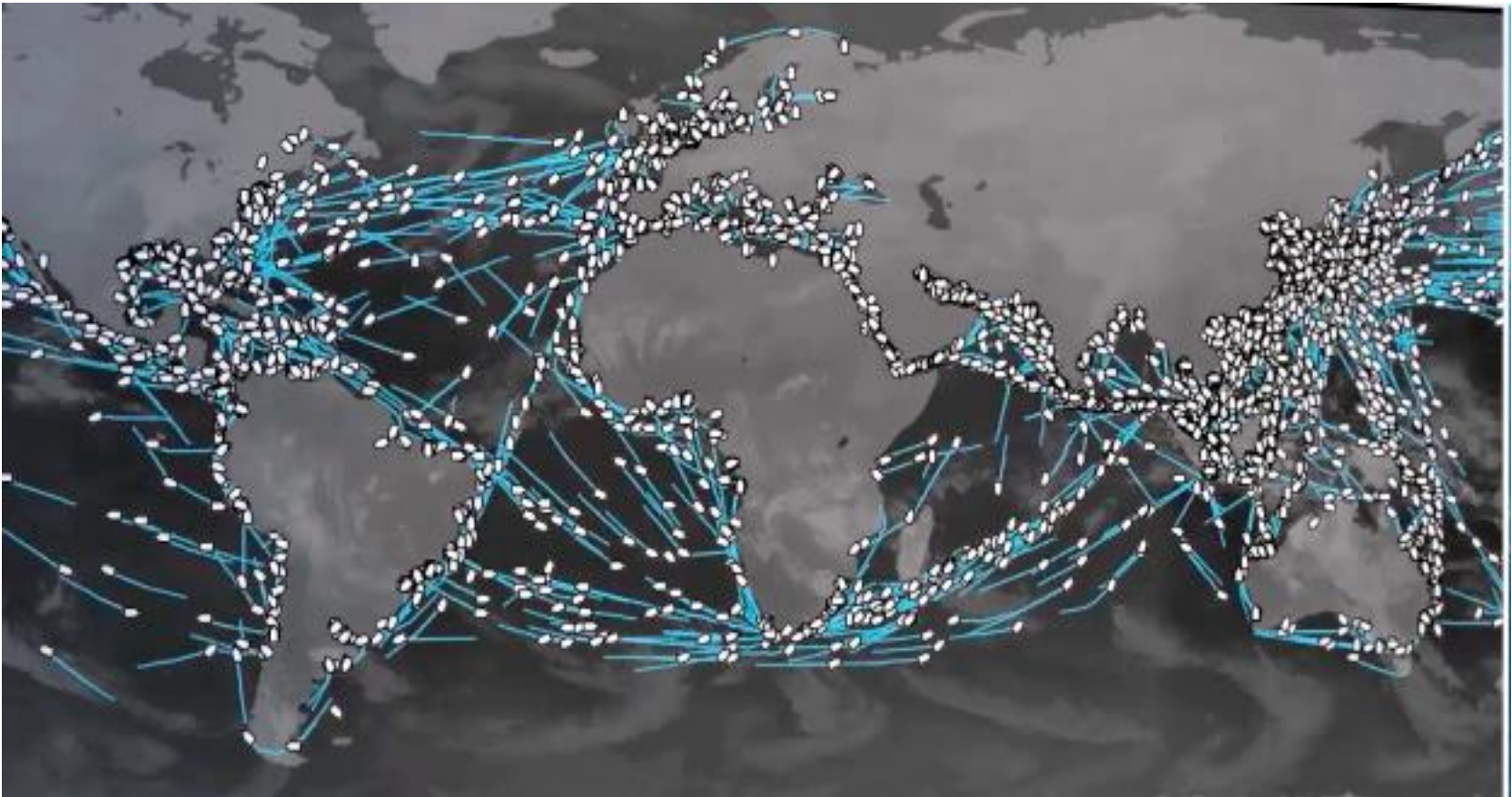
Typhoon 2017-05 NORU 2017. Jul



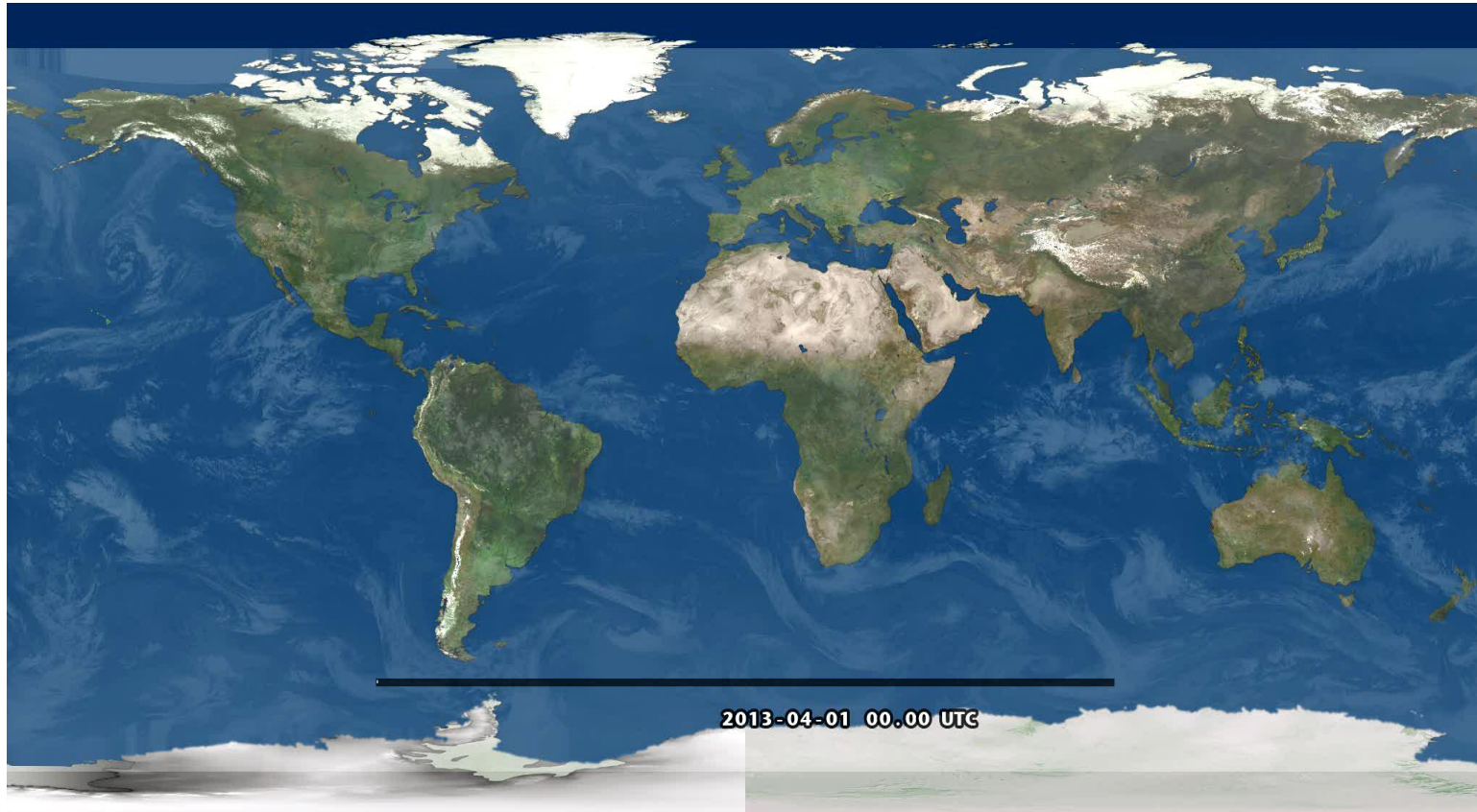
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6. DB and Infrastructure for CCC

Climate Change is from Ocean

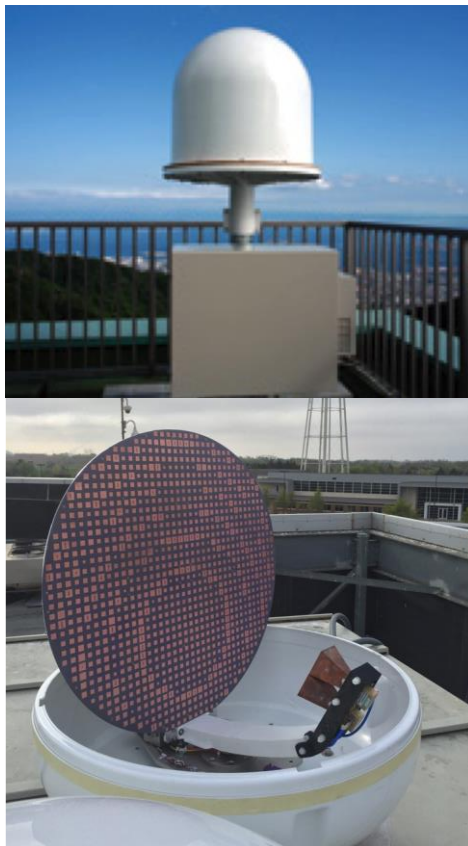


6. DB and Infrastructure for CCC

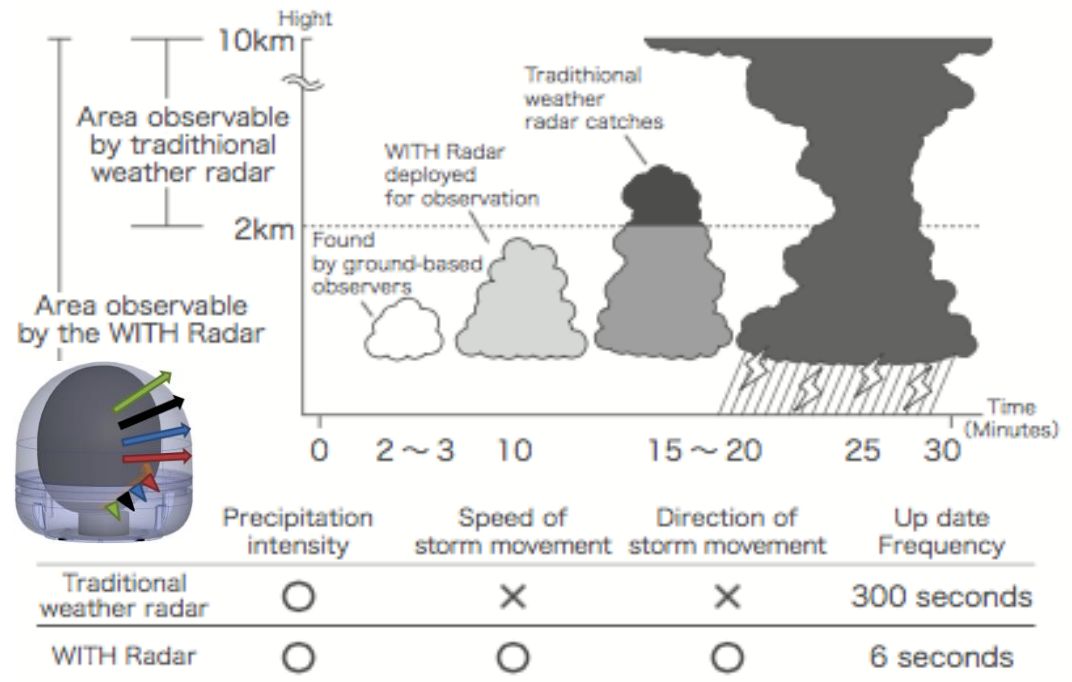


6. DB and Infrastructure for CCC

WNI New Observation Network of 200 EAGLE Radars

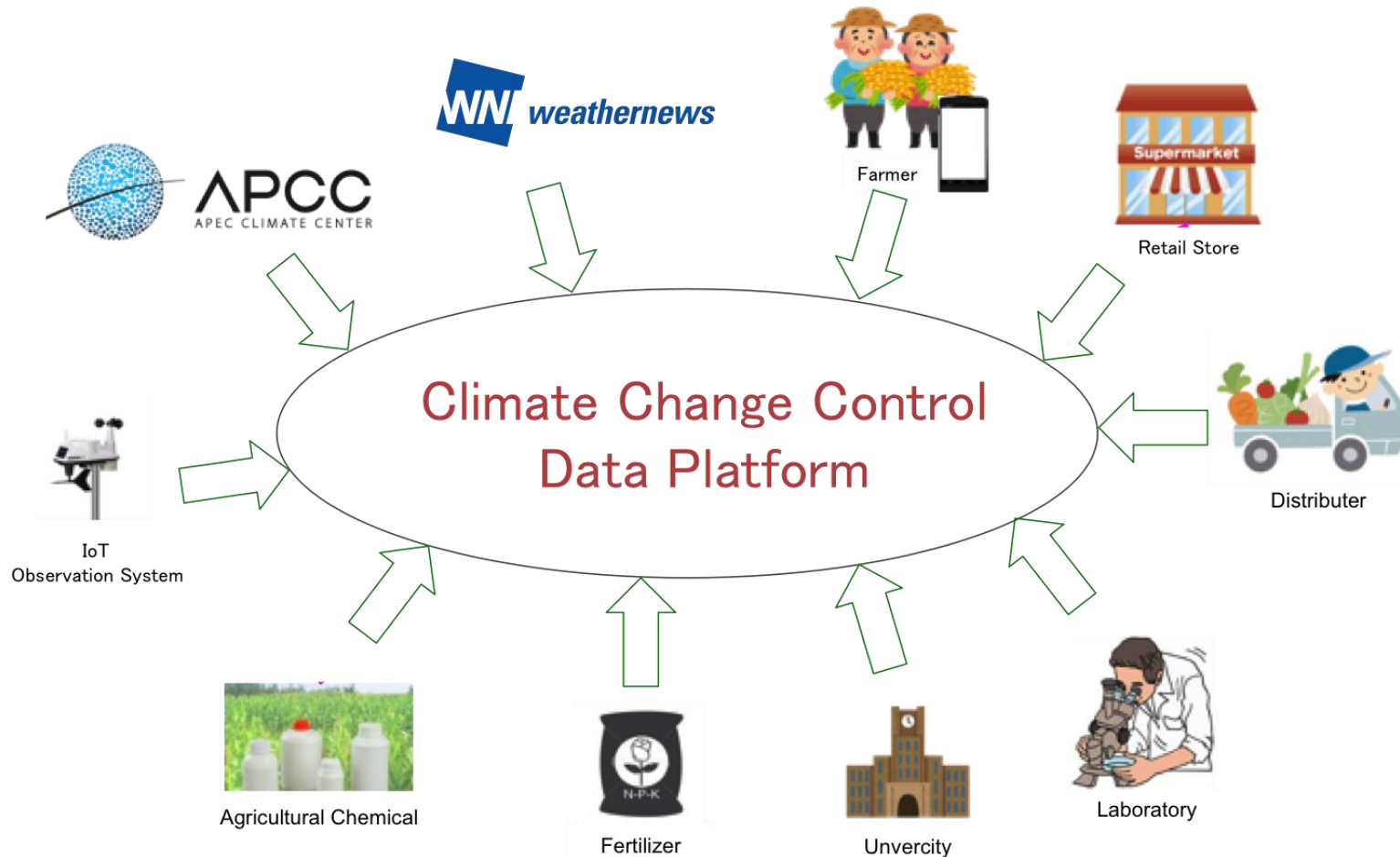


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WNI will produce 200 EAGLE radars from April in 2018 and install them in the Asia region for its Observation Network.

6. DB and Infrastructure for CCC



6. DB and Infrastructure for CCC

Weather Risk Management

Calendar base to Climate Change Control base

C to CCC

Rain and Temp.

7. Conclusion and Closing

- 1) WNI, Risk Communication (RC) Company will be working for APEC
- 2) Need to change from C to CCC
- 3) WNI will deploy OBS Infrastructure in APEC
- 4) APEC CCC Data Platform with WNI

Closing

CHANGE

C
T = Taboo

CHANGE !!!!!

“ Thank you for your time,

we are looking forward to hearing from you at our table .“

OGATA, Mitsuhiro ogata@wni.com

WEATHERNEWS INC.



1. About WNI

WNI supports the Ten Basic Values of Each Customer

