気象庁
Japan Meteorological Agency

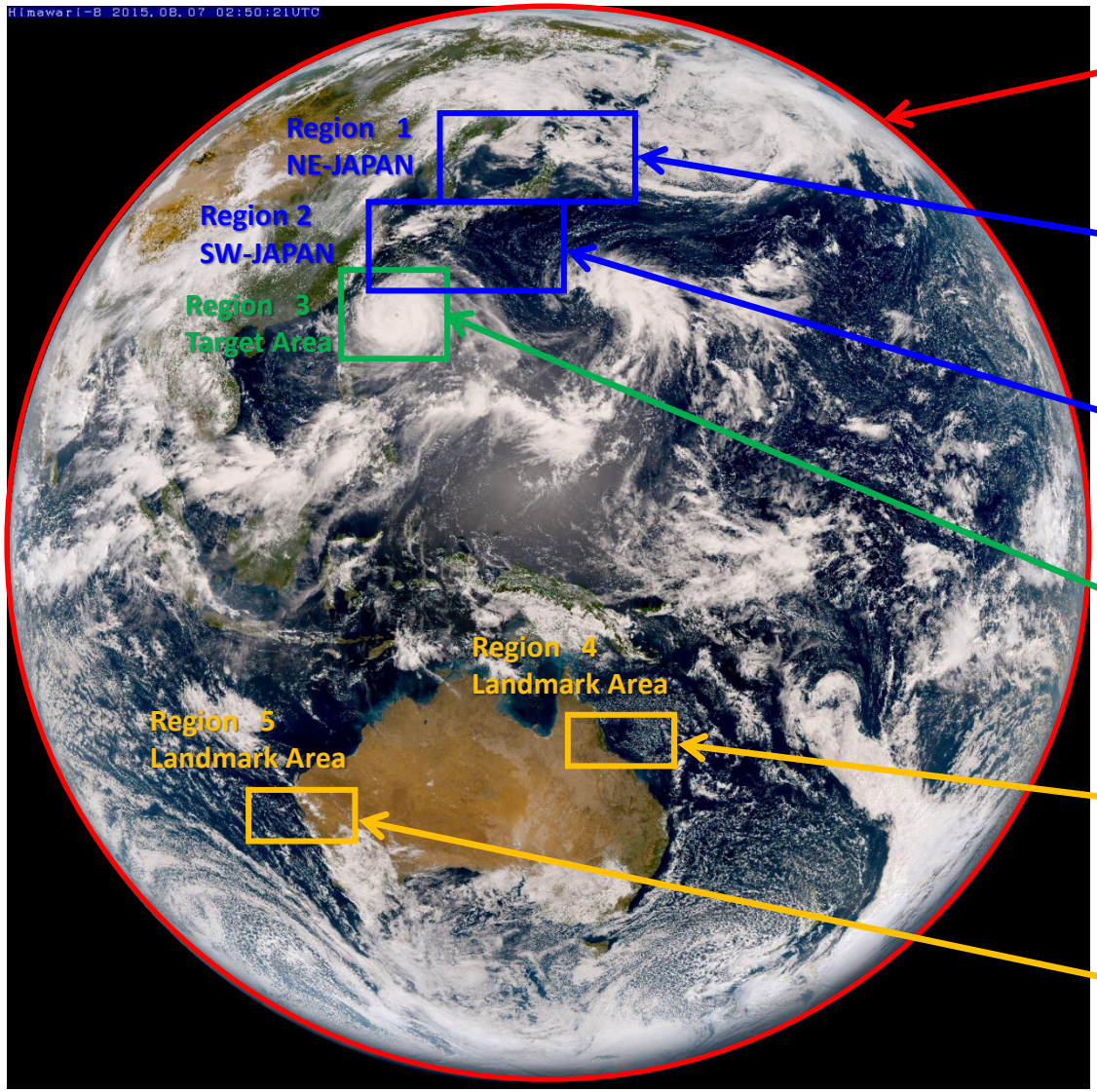
Protocol for Himawari-8/9 Request-driven Rapid Scan in WMO RA II and RA V
Draft v0.4, October 2017

RA II WIGOS Project
to Develop Support for NMHSs
in Satellite Data, Products and Training

The 5th Meetings of the Coordinating Group
21 October 2017, Vladivostok Russia

Overview of Himawari-8/9 Target Observation

Himawari-8/9 Observation Areas



Full disk

Interval : **10 minutes** (6 times per hour)

Region 1 JAPAN (North-East)

Interval : **2.5 minutes** (4 times in 10 min)
Dimension : EW x NS: 2000 x 1000 km

Region 2 JAPAN (South-West)

Interval : **2.5 minutes** (4 times in 10 min)
Dimension : EW x NS: 2000 x 1000 km

Region 3 Target Area

Interval : **2.5 minutes** (4 times in 10 min)
Dimension : EW x NS: 1000 x 1000 km

Region 4 Landmark Area

Interval : **0.5 minutes** (20 times in 10 min)
Dimension : EW x NS: 1000 x 500 km

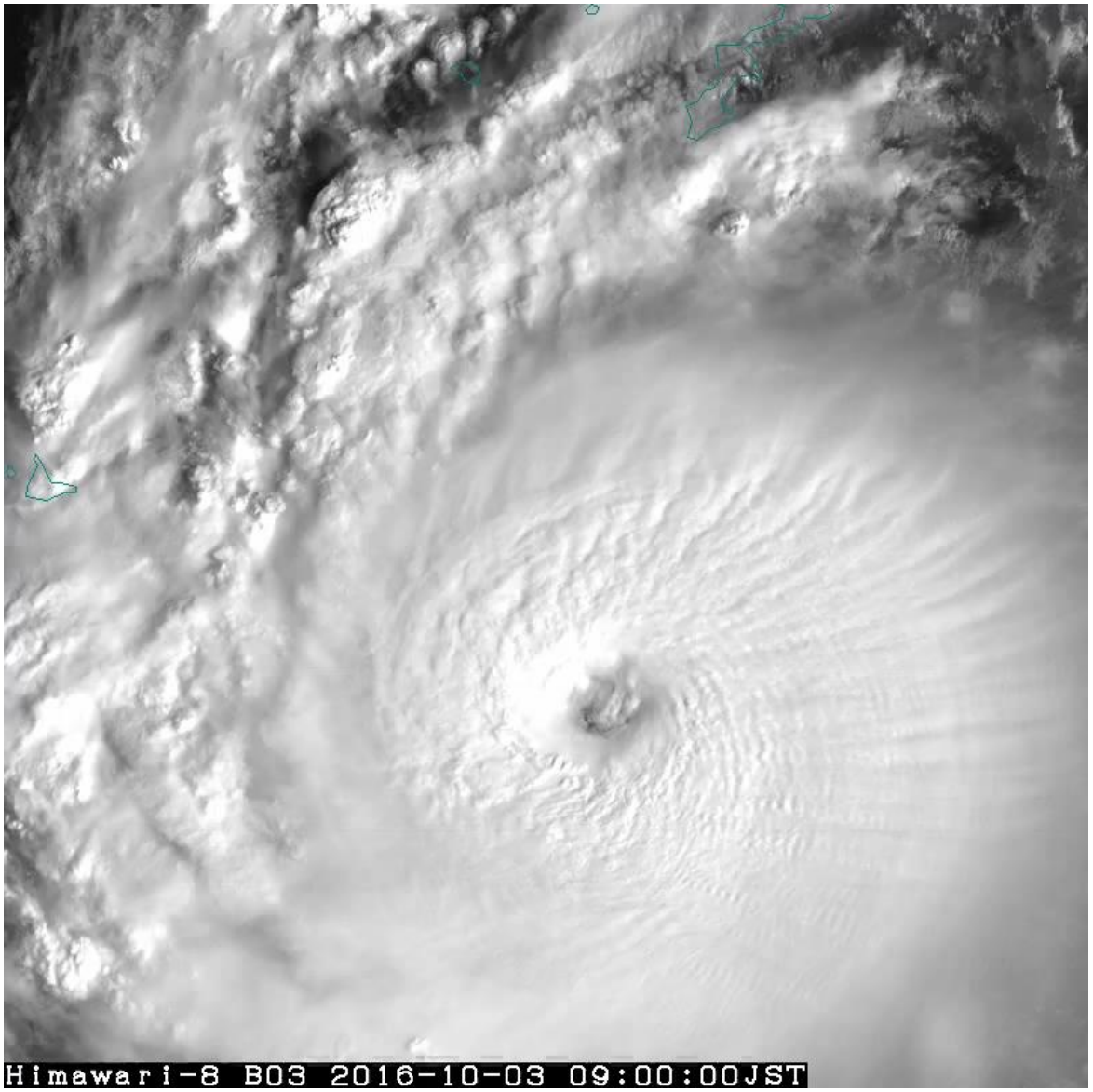
Region 5 Landmark Area

Interval : **0.5 minutes** (20 times in 10 min)
Dimension : EW x NS: 1000 x 500 km

Target Area Observation

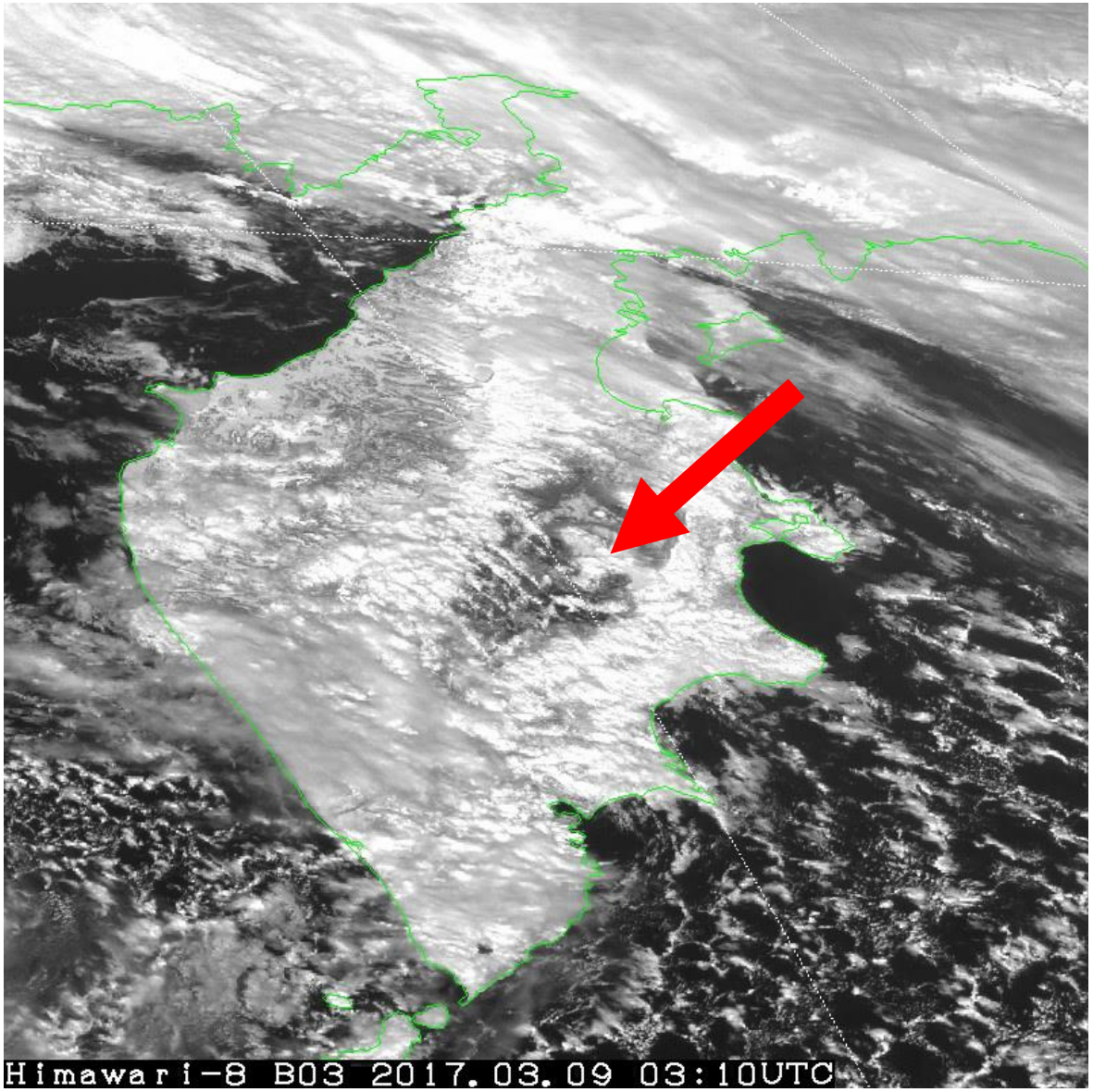
- Covering 1000 km x 1000 km every 2.5 minutes
- Flexible to change its position in AHI's FOV
- Utilized for JMA's international services not covered by the 2.5-min Japan Area Observation
  - Normally focused on an area of active volcanoes in the domain of the Tokyo VAAC (e.g. Kamchatka Peninsula)
  - Pointed to a typhoon once it occurs in the responsibility area of the RSMC Tokyo Typhoon Center based on JMA's typhoon prediction and its priority

Typhoon



13, Oct. 2016 typhoon Chaba,
Band 03 (0.64 µm, visible)

Volcano Eruption



Mt. Shiveluch
in Kamchatka Peninsula,
Band 03 (0.64 µm, visible)

Outline of the latest draft protocol v0.4, October 2017

Please note that this protocol is still “draft” version

Purpose and Scope

- This protocol describes a mechanism under which **NMHSs of WMO RA II and RA V Members** except for JMA (hereinafter referred to as the "Requesters") make requests for **the Target Area Observation** over selected areas provided **by the operational satellite** of Himawari-8 and -9.

- The protocol is expected to publicize the risk of severe phenomena to society and demonstrate the value of short interval regional observation.

Basic Principle

1. JMA may at any time give the highest priority to the Target Area Observation based on circumstances of Japan or JMA rather than requests from the Requesters. It means that requests from the Requesters can be overridden or interrupted.

2. JMA will consider requests from the Requesters on a best-effort basis in consideration of operational limitations, and it does not ensure its instantaneity, integrity and availability.

3. Among requests from the Requesters, the highest priority will be given to the one for a tropical cyclone or for a volcanic eruption.

4. Observation duration by each request from the Requesters shall not exceed 48 hours, and any extension requires a further request.

Request Management

- Requesters in RA II submit their requests to JMA directly.
- Based on the feasibility conducted in 2015, the Requesters in RA V submit their requests to AuBoM.
- AuBoM, who plays a broker role in the protocol, manages requests from RA V and informs JMA of one request for a certain time slot.

Registration

- Requesters are required to be registered in advance by using the Registration Form (Annex I).

- In the form, an e-mail address from which requests will be sent must be specified so that JMA and AuBoM can confirm its validity.

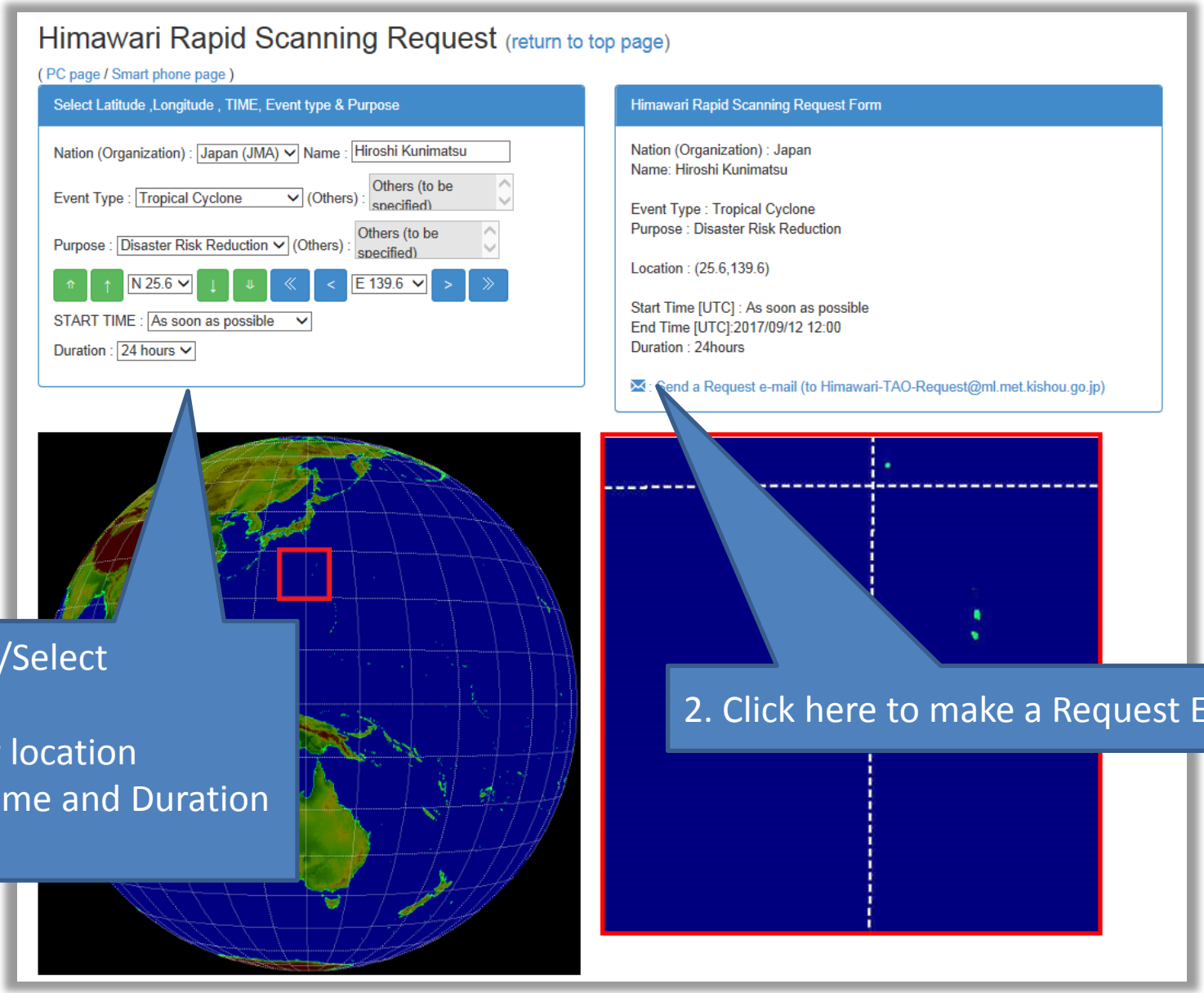
Request Procedure

- Requesters shall send the Request Emails, which are created through a **website**, from the registered email addresses.

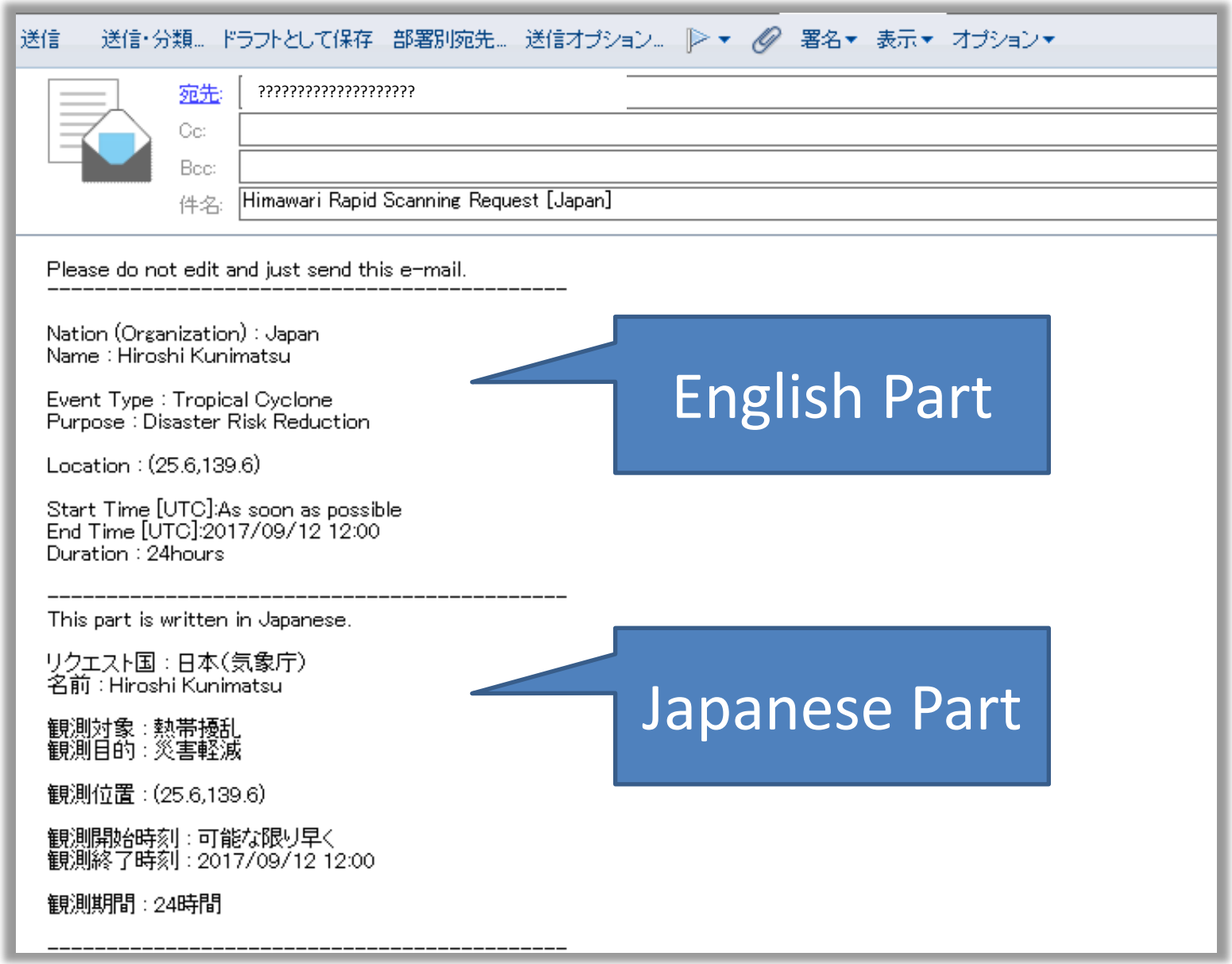
- The Request Email notifies JMA of request information including a center position and start/end times of observation, and it triggers subsequent procedure.

- Request procedure is different between RA II and RA V.

Request Website



Request Email Automatically Generated



送信　送信・分類...　ドラフトとして保存　部署別宛先...　送信オプション...　署名　表示　オプション

宛先: ??????????????????

Cc:

Bcc:

件名: Himawari Rapid Scanning Request [Japan]

Please do not edit and just send this e-mail.

Nation (Organization) : Japan
Name : Hiroshi Kunimatsu

Event Type : Tropical Cyclone
Purpose : Disaster Risk Reduction

Location : (25.6,139.6)

Start Time [UTC]:As soon as possible
End Time [UTC]:2017/09/12 12:00
Duration : 24hours

This part is written in Japanese.

リクエスト国 : 日本(気象庁)
名前 : Hiroshi Kunimatsu

観測対象 : 熱帯擾乱
観測目的 : 災害軽減

観測位置 : (25.6,139.6)

観測開始時刻 : 可能な限り早く
観測終了時刻 : 2017/09/12 12:00

観測期間 : 24時間

English Part

Japanese Part

Procedure for RA II

NMHSs in RA II

1. Send Request Email to JMA

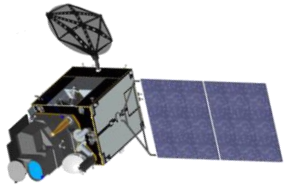
MSC/JMA

2. Reply by e-mail

(if the request can be realized)

3. Change relevant settings

Request-driven observation



Observation result

- HimawariCloud
- Himawari Real-Time Image (Website)

Procedure for RA V

AuBoM (broker)

2. Assign priority (if necessary) and Forward Request Email to JMA

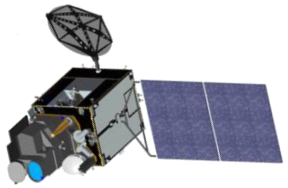
MSC/JMA

3. Reply by e-mail

(if the request can be realized)

4. Change relevant settings

Request-driven observation



Observation result

- HimawariCloud
- Himawari Real-Time Image (Website)

NMHSs in RA V

1. Send Request Email to AuBoM

Data Access

- Target Area Observation data are disseminated via the HimawariCloud service.

- Related imagery is also available on the Himawari Real-time Image website at: **http://www.data.jma.go.jp/mscweb/data/himawari/sat_tga.php**

Feedback

- After the requested observation, the Requesters shall provide JMA with feedback on how they utilize the observation data.

Way Forward

- JMA will continue to coordinate detail of the request procedure with AuBoM and finalize the protocol.

- JMA aims to implement this protocol from beginning of 2018.

Thank you!

Благодарю вас!

Background of the protocol

Back ground of the Protocol (1/2)

- The 67th WMO Executive Council (May 2015)
  - JMA willingly decided to develop a protocol through which NMHSs can request the Target Area Observation of Himawari-8/9.
- Joint RA-II/V Workshop on WIGOS for Disaster Risk Reduction (Oct. 2015)
  - Jakarta Declaration
  - One of its goals, *"developing a protocol for NMHSs of the countries in the region to request event-driven rapid scan imagery"*
- RA II WIGOS Project to Develop Support for NMHSs in Satellite Data, Products and Training
  - Its work plan 2017-2020 including *"(i) To develop a protocol for NMHSs of the countries in the Region to request event-driven rapid scan imagery; and (ii) to assist NMHSs to utilize rapid scan data in support of DRR in response to their requests"*

Back ground of the Protocol (2/2)

- JMA-AuBoM joint feasibility study on request-driven Target Area Observation with Himawari-8 (Feb-Mar 2016)
- Initial draft protocol kindly prepared by WMO Space Programme (March 2017)
- JMA's initiative for developing the protocol
  - Draft v0.1 reported at IPET-SUP-3 (2-5 May 2017)
  - Draft v0.2 reported at CGMS-45 (11-16 June 2017)
  - Draft v0.3 (to be) reported at SCOPE-Nowcasting-EP (18-20 Sep. 2017)