CGMS

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Prepared by JMA
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DATA DISSEMINATION OF THE FOLLOW-ON SATELLITES TO MTSAT

This paper presents a summary of the preparatory studies on data dissemination of the follow-on satellites to MTSAT.

JMA will continue the direct broadcasting services of HRIT and LRIT, at least until around 2015 when MTSAT-2 stops operating, and also continue to provide satellite imagery through the Internet to the NMHSs registered to JMA in addition to the direct broadcasting service.

JMA has investigated future data dissemination methods in the course of the feasibility studies for the follow-on satellite. JMA has started to look into the feasibility of using the Internet and commercial communication satellites, since the S-band currently used is insufficient for the direct broadcasting of large amount of data. The Internet is a part of the advanced data dissemination method, and provides us with an advanced network environment without large expenses. Future data dissemination methods should be discussed from the viewpoint of availability and cost-effectiveness.

DATA DISSEMINATION OF THE FOLLOW-ON SATELLITES TO MTSAT

1 CURRENT STATUS AND FUTURE PLAN OF DATA DISSEMINATION OF MTSAT

JMA has provided the direct broadcasting services of HRIT for Medium-scale Data Utilization Stations (MDUSs) and LRIT for Small-scale Data Utilization Stations (SDUSs) since the commencement of MTSAT-1R's operation. The High Resolution Imager Data (HiRID) and WEFAX have also been provided as transition measures for the users of S-VISSR and/or WEFAX in addition to HRIT and LRIT. The HiRID and WEFAX dissemination services will be discontinued at the end of 2007. The HRIT and LRIT services will be continued at least until around 2015 when MTSAT-2 stops operating.

JMA has provided hourly full-disk imagery of the MTSAT-1R infrared channel 1 (IR1: 10.3-11.3 μm) to the National Meteorological and Hydrological Services (NMHSs) registered to JMA through the Internet. JMA plans to start providing satellite imagery of all the channels at every observation for NMHSs in 2007.

2 DATA DISSEMINATION OF THE FOLLOW-ON SATELLITES TO MTSAT-2

JMA has investigated future data dissemination methods in the course of the concept studies for the follow-on satellites to MTSAT-2. The concept studies include the investigation of communication performance between satellites and ground stations necessary for the transmission of observation data acquired by future sensors such as a multi-channel imager like SEVIRI.

The studies show that the S-band currently allocated to Meteorological Satellite Service will be insufficient for the direct broadcasting of large amount of observation data acquired by future sensors onboard the follow-on satellite. The studies indicate that frequency reassignment and allocation in S-band and/or other frequency bands will be necessary to provide users with the observation data through the satellite, and that the current users will be obliged to prepare other receiving equipment suitable for new frequency and new transmission manners to obtain the observation data from the satellite.

JMA therefore is exploring the feasibility of using the Internet and/or communication satellites as data dissemination methods in the future, taking into account the following circumstances: the data dissemination through the Internet has already been implemented for NMHSs in the Asia-Pacific region; NMHSs in the region have just replaced their equipments to receive HRIT instead of S-VISSR; the satellite imagery of all channels will be available through the Internet in 2007 as mentioned above.

The Internet is a part of the advanced data dissemination method, providing an advanced network environment without large expenses. The Internet could be fully used in islands not covered by commercial communication satellites. JMA's key interests are that users could obtain comprehensive data observed by the next generation satellites with dissemination methods which will be cost-effective for both operators and users. Future data dissemination methods should be discussed from the viewpoint of availability and cost-effectiveness.