Geophysical Research Abstracts,
Vol. 11, EGU2009-10344, 2009
EGU General Assembly 2009

World Data Center for Remote Sensing of the Atmosphere (WDC-RSAT)

M. Bittner, K. Höppner, and B. Hildenbrand

German Aerospace Center (DLR), German Remote Sensing Data Center (DFD), Wessling, Germany (michael.bittner@dlr.de / Fax: +49.8153.281363)

Primary focus of the World Data Center for Remote Sensing of the Atmosphere (WDC-RSAT) is to offer scientists and the general public free and simplified access (in the sense of a "one-stop shop") to a continuously growing collection of atmosphere-related satellite-based data sets and services. These data holdings are available on-line and range from raw data collected by remote sensors to higher level data and information products.

WDC-RSAT is supporting the development of user oriented value added products. The current WDC-RSAT data holding contains data and information on trace gases, aerosols, clouds, land and sea surface parameters, and solar radiation. This is achieved either by giving access to data stored at the data center or by acting as a portal that contains links to other data providers.

Since 2003 the Applied Remote Sensing Cluster (German Remote Sensing Data Center, DFD, and Remote Sensing Technology Institute, IMF) of the German Aerospace Center (DLR) hosts and operates the WDC-RSAT under the nongovernmental auspices of the International Council for Science (ICSU). As part of the ICSU-WDC family, WDC-RSAT is by definition integrated and linked to other WDCs worldwide. In addition, the WDC-RSAT is the most recent data center in the WMO-WDC family; in cooperation with the World Meteorological Organization (WMO), WDC-RSAT is currently being implemented as part of the WMO-GAW Strategic Plan 2008-2015 especially in the context of IGACO within the WMO program Global Atmosphere Watch (GAW). This center would concern itself with linking different GAW-relevant data sets both with each other and with models. In this context WDC-RSAT will also handle non-satellite based data which are relevant within the context of validation. Strategies and techniques to properly validate data sets, including for example data assimilation methods, are developed and tested. Aspects of the atmosphere's variability at different temporal and spatial scales are addressed.

WDC-RSAT cooperates with partners in establishing and making use of modern information technologies (e.g. Grid) in order to promote networking. It is already being implemented as a data publication agent for data related to remote sensing of the atmosphere and is thus authorized to assign so-called 'Digital Object Identifiers' (DOI) to data sets. This allows that data sets can be cited similarly such as peer reviewed publications. The German ICSU WDC's (WDC-Climate, WDC-Mare, WDC-Terra, and WDC-RSAT) have formed in 2004 the "WDC-Cluster on Earth System Research" in order to promote interdisciplinary research related to Earth sciences.

WDC-RSAT serves as a communication and data management platform for the recently established international and global Network for the Detection of Mesopause Change (NDMC). It also serves the Bavarian Environmental Research Station "Schneefernerhaus" (UFS) on the mountain Zugspitze, which is a WMO-GAW Global Station, with all aspects related to data management.

An external advisory committee with representatives from space agencies (ESA), the World Meteorological Organization (WMO), weather services (DWD) and scientific research has been established in 2006 to help WDC-RSAT better reaching its goals and fulfilling its tasks.