STATUS AND UPDATE ON THE WMO GAW AEROSOL LIDAR OBSERVATION NETWORK (GALION)

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Abstract

The WMO Global Atmospheric Watch (GAW) Aerosol Lidar Observation Network (GALION) was formed in 2008 as a collaboration of lidar networks, and includes the Asian Dust and Aerosol Lidar Observation Network (AD-Net), the European Aerosol Research Lidar Network (EARLINET), the Latin American Lidar Network (LALINET), the Micro Pulse Lidar Network (MPLNET), and lidar sites in the Network for the Detection of Atmospheric Composition Change (NDACC). The goal of GALION was to utilize a network of networks approach to share information, best practices, develop frameworks and techniques for quality data, and eventually provide an easier method of searching for and obtaining ground-based lidar data globally. A brief overview of GALION and its network members will be provided, along with a status update. We will provide an overview of the creation of the GALION data center, and our efforts to develop interoperability between the individual lidar network data centers and the WMO Observing Systems Capability Analysis and Review tool (OSCAR) to develop a database of lidar network capabilities. The GALION data center provides a first ever ability to examine global and regional coverage gaps and address coordinated site planning for the support of field campaigns, modeling and forecasting, satellite validation, and various other scientific studies. We will also present cross-network activities relevant to harmonizing the data products and quality across GALION, including intercomparison campaigns and formal work projects. Finally, we will discuss future plans to provide standard GALION data products and application support for air quality and volcanic plume monitoring, and consideration of including ceilometer networks in GALION.

Keywords: Galion; data sharing; Lidar Network.

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