

Inter-university Upper atmosphere Global Observation NETWORK (IUGONET)

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To investigate the mechanism of long-term variations in the upper atmosphere, we need to create integrated and organic links between a variety of ground-based observations made at various locations from the equator to the poles. The databases of such observations, however, have been maintained and made available to the community by each institution that conducted the observations. That is one reason that those data have been used only for studies of specific phenomena. For the same reason some of the observational data have been used by only a very few researchers who were involved in the observation campaign and have never been made available to other researchers.

A six-year research project, Inter-university Upper atmosphere Global Observation NETWORK (IUGONET), was initiated in 2009 by the five Japanese universities and institutes (NIPR, Tohoku University, Nagoya University, Kyoto University, and Kyushu University) that have been leading ground-based observations of the upper atmosphere for decades. We are collaborating to build a database system for the metadata of our observational data. The metadata database (MDB) archiving information such as the observation location and period, type of instrument, data format, will be of great help to researchers in efficiently finding and obtaining various observational data spread across the member institutions. The MDB system will significantly facilitate the analyses of a variety of observational data, which we believe will lead to more comprehensive studies of the mechanisms of long-term variations in the upper atmosphere. Moreover, since this project adopts an internationally widely used metadata format and uses a freely available repository software, our MDB system will contribute to the promotion of international interdisciplinary studies in the CAWSES-II/Esience and informatics group.

We will introduce the outline of the research project. The current development status and future plane will be also presented.

Keywords: upper atmosphere, ground-based observation, metadata, database, data analysis, analysis software