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. The databases of such observations, however, have been maintained and made available to the community by each institution that conducted the observations. It is often the case that those 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 started in 2009 to overcome such problems in data use by the five Japanese universities and institutes that have been leading ground-based observations of the upper atmosphere for decades. They are collaborating to build a database system for the metadata of their observational data. The metadata database (MDB) will be of great help to researchers in efficiently finding and obtaining various observational data spread across the member institutions, which will lead to interdisciplinary studies of the mechanisms of long-term variations in the upper atmosphere. The initial version of the metadata format was designed based on the Space Physics Archive Search and Extract (SPASE) data model. The IUGONET development team has been developing the MDB system on the basis of DSpace - a freely distributed software which is now widely used in digital repositories of many universities over the world. The outline of the IUGONET project, along with the current development status will be presented.