Cal Tech has been a UCAR member since 1971. The main unit involved in atmospheric and oceanic science is Environmental Science and Engineering (ESE). The brief two-page renewal application summarizes the impressive achievements of ESE, which are reinforced by the impressive set of CVs.

Briefly, ESE has 14 tenure/tenure track faculty, 7 research staff, 7 postdocs, and 27 graduate students, some being hired as part of the new (as of 2009) Linde Center for Global Environmental Science. The focus of research is broad, encompassing atmospheric and oceanic science, expanded to ‘comprehensive analyses of the global environment and to develop solutions to the world’s complex environmental problems’. Their publication record stretches to more than 150 journal articles and 2 textbooks over the past 5 years.

The Linde Center is also active in organizing workshops including “Southern Ocean Dynamics and Biogeochemistry” and “Monsoons: Past, Present and Future”. ESE supports a supercomputing cluster in use for dynamical models of the atmosphere and oceans. Faculty conduct frequent field campaigns including support of the Total Carbon Column Observing Network and hydrographic surveys using a small fleet of autonomous ocean gliders. Many research projects are carried out in conjunction with nearby JPL. ESE has played a major role in the Orbiting Carbon Observatory 2 science team, several field campaigns to study aerosol-cloud interactions (e.g., CalNEX in 2010, MACPEX in 2013), and oceanographic cruises. In the past 5 years, ESE has granted 3 M.S. Degrees and 29 PhD degrees.

CALTECH’s involvement in UCAR includes participation in PACUR (Simona Bordoni) participation in the annual meetings, use of NCAR computer facilities (Thompson, Yung), collaborations with NCAR scientists (Thompson), and involvement in the postdoc program.

Although the renewal application is unusually brief, the document does provide sufficient detail to address the three membership criteria. 1. Program of Studies and Research. Cal Tech.’s contributions, primarily at the graduate level, are very strong. 2. Progress in the Atmospheric Sciences. Cal Tech.’s scholarly contributions are outstanding. 3. Participation in the activities of UCAR. Cal Tech.’s involvement is more than sufficient to merit reappointment.