

***MAGIC – A YEAR-LONG INVESTIGATION OF MARINE CLOUDS
IN THE PACIFIC***

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ABSTRACT

The MAGIC project will deploy the Second ARM (Atmospheric Radiation Measurement Program of the U.S. Department of Energy) Mobile Facility, AMF2, aboard a Horizon Lines cargo ship traversing a route between Los Angeles and Hawaii over a full year starting in October, 2012 to measure properties of clouds and precipitation, aerosols, and atmospheric radiation. Along this transect, which is very near the line used by several modeling intercomparisons (specifically GPCI, EUCLIPSE, and CGILS), cloud properties change from a low stratocumulus deck with high aerial coverage near the west coast of the U.S. to trade-wind cumulus with low aerial coverage near Hawaii, with important consequences for Earth's climate and energy budget. Climate models have a difficult time in accurately representing this transition. The data collected by MAGIC over a full annual cycle will be valuable in understanding this transition and in representing it in climate models.