

Abstract Submitted  
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**An Investigation of Polar Mesospheric Clouds Using Satellite and Ground-based Measurements** JAIMY TOMLINSON, MICHAEL TAYLOR, Utah State University, MATTHEW DELAND, Science Systems and Applications Inc., Maryland, MARK ZALCIK, CENTER FOR ATMOSPHERIC AND SPACE SCIENCE TEAM — Noctilucent clouds (NLCs) occur in the very cold summer mesosphere at high latitudes. They stand out brightly against a dark twilight sky because they are high enough that the sun still illuminates them when it is 5 to 16 degrees below the horizon. These clouds are also known as polar mesospheric clouds (PMCs) when observed from space. Satellite data have shown an increase in brightness and occurrence frequency over the past 30 years, possibly associated with climate change. In this presentation, I will discuss our work in mapping and correlating satellite data from OMI and SBUV orbiting instruments with ground-based Canadian-American and European NLC observing networks, and our efforts to find patterns and trends in the data. I will show animations that demonstrate the evolution of the clouds through the northern hemisphere 2007 and 2008 seasons. We have identified several days during the 2007 and 2008 seasons with OMI detections coinciding in time and space with visual ground-based observations.

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