

10th anniversary of AIM with 10 Science Highlights

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Launched on April 25, 2007, NASA's Aeronomy of Ice in the Mesosphere, or AIM, mission, has provided a wealth of new science on the dynamics and composition of Earth's upper atmosphere. Designed to study noctilucent, or night-shining, clouds, AIM's data have helped scientists understand a host of upper-atmosphere phenomena, from radio echoes to giant, planet-scale atmospheric waves. In 2017, we celebrate the 10th anniversary of the AIM mission. Noctilucent clouds form in Earth's mesosphere. They're made of ice crystals, which reflect sunlight to give off the clouds' signature blueish glow. Though scientists had ideas about how and why these clouds form before AIM launched, the mission's 10 years' worth of data have confirmed their origins. AIM's data has led to over 200 papers on Earth's upper atmosphere and polar region. In this presentation, we will introduce the 10 selected science highlights from AIM.

- 1) Overturning assumptions about the sun and noctilucent clouds
- 2) Noctilucent cloud and greenhouse gases
- 3) Meteors help create noctilucent clouds
- 4) Tracking meteoric smoke
- 5) Understanding the upper atmosphere
- 6) Studying atmospheric waves caused by Earth's rotation
- 7) Teleconnection between the poles
- 8) How Earth's weather affects the upper atmosphere
- 9) Understanding the atmosphere from bottom to top
- 10) The source of radar echoes

