



nrlpao@nrl.navy.mil
202-767-2541

NRL Press Release
35-03r-media
6/3/2003

Stills, Interviews, and Animation for NRL Press Release 35-03r



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Noctilucent, or "night-shining", clouds are the highest clouds found in the Earth's atmosphere. They occur in the upper atmosphere (altitude ~51 miles) and normally form in the polar region during the summer months. Similar phenomena observed from satellites were given another name, polar mesospheric clouds (PMCs), because it was not obvious originally that the two phenomena were the same, although this is generally agreed today. Noctilucent clouds are very tenuous and difficult to see from the ground except under special lighting conditions. In broad daylight, they are not visible to the naked eye because there is too much light between the observer and the cloud, thereby substantially reducing their contrast. However, the clouds can be seen after sunset when they reflect sunlight from beyond the horizon and when the observer is in darkness. For this reason they are dubbed "night-shining" clouds.



This image shows the launch of space shuttle STS-85 on August 7, 1997. The orange external tank contains over 700 metric tons of liquid hydrogen and liquid oxygen. The main effluent is water. The Stevens et al. results show evidence that this water was transported to the Arctic where it formed a vast region of polar mesospheric clouds covering an area about 10% of North America. Credit: NASA.



Photo taken July 27/28, 2001 at approximately 12:30 AM local time or 4 hours after sunset. This image shows a noctilucent cloud illuminating the water below and a gold hue on the horizon. Credit: Pekka Parviainen.



Photo taken August 8/9, 1994 at approximately 1 AM local time. The street



Because of their high altitude, near the edge of space, noctilucent clouds shine at night

lights of Turku can be seen beneath noctilucent clouds. Credit: Pekka Parviainen.

For print resolution images, please contact Mr. Parviainen at pekka.parviainen@auriamail.net. More images of noctilucent clouds can be seen on his web site located at: <http://www.polarimage.fi>.

when the Sun's rays hit them from below while the lower atmosphere is bathed in darkness. They typically form in the cold, summer polar mesosphere and are made of water ice crystals. Credit: Naval Research Laboratory, Washington, D.C. [High Resolution Tiff \(19.3MB\)](#)

Interview clips with NRL Principal Investigator, Dr. Michael H. Stevens, describing the results of the study.

[Interview 1](#) (18.0MB mpeg)

[Interview 2](#) (6.4MB mpeg)

[Interview 3](#) (8.8MB mpeg)

Animation demonstrating how noctilucent clouds shine at night with descriptions from Dr. Stevens.

[Animation](#) (6.0MB mpeg)

[Interview 4](#) (5.3MB mpeg)

[Interview 5](#) (3.8MB mpeg)

[Interview 6](#) (6.5MB mpeg)

Interview clips and animation credit: NASA.

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