

# International Polar Year Image Acquisition for Science

*Susan K. Runco, Johnson Space Center  
Cindy A. Evan, Johnson Space Center*

*Gregory J. Byrne, Johnson Space Center*

Beginning in March 2007, the international polar research community joined together in a global campaign of coordinated polar observations and analyses, comprising the International Polar Year (IPY) 2007-08. Previous IPYs have led to major breakthroughs in understanding the unique environment of the polar regions, their interactions with the Earth system, and their influence on global processes such as climate change. IPY 2007-08 offered even greater opportunity to increase our understanding of

polar processes by drawing upon technological advancements and satellite observations that were not available in previous campaigns – the most recent being 50 years ago (IPY 1957-58).

The Astromaterials Research and Exploration Science Image Science and Analysis Group is participating in IPY 2007-08 by offering its Crew Earth Observations services for acquiring images from the International Space Station (ISS) relevant to other IPY field observations. With its orbit of 51.6 deg inclination and 400 km altitude, the ISS provides a platform for human-guided observations of large-scale polar phenomena such as aurora and noctilucent clouds, in both hemispheres.

The ISS observations provide a valuable resource for the IPY community to complement other ground site observations and satellite data, synchronized in location and time. The resulting CEO imagery from ISS will be distributed using the “Astronaut Photography of the Earth” Web site (<http://eol.jsc.nasa.gov>).



*Rays of green and red aurora australis illuminate the Earth's horizon as viewed from the ISS.*

*Noctilucent clouds in Earth's mesosphere and crescent Moon grace northern hemisphere view from ISS.*

