

## GOES, Lows, and Jet Streams

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This workshop will be designed to promote *active learning* in atmospheric science through a hands-on weather analysis using live data from the NOAA/NWS website. The data will include GOES satellite imagery, colorized temperature maps, and upper atmospheric charts. The goal will be to develop a weather map that will display high and low pressure systems, fronts, air mass types, and jet streams. The workshop will culminate with a *weather briefing* by a group willing to volunteer to present their analysis to the class. We will also discuss how the weather briefing can be utilized as an assessment tool in the classroom. We will provide *tornadoes in a bottle* and give examples about how this popular, hands-on tool can also be employed in the classroom to enhance active learning. Members of the *AMSA Weather Team* will assist in the workshop and share their experience as veteran *junior meteorologists* working in our school Weather Center.

### **PRESENTER'S BIO**

A meteorologist and science teacher, **Jonathan Byrne** currently teaches physics and earth/space science at the Advanced Math and Science Academy Charter School in Marlborough, MA, where he also serves as Science Department Co-Chair and member of the Academic Board of Directors. A former student of Arthur Eisenkraft (founder of the *Active Physics* and *Active Chemistry* textbook series), Jonathan is currently entering his twelfth year of teaching science and math on the secondary level. Jonathan has also written and presented numerous articles and monographs on science education and dynamic meteorology, and was a contributing author to *The Life Cycles of Extratropical Cyclones*, a textbook currently utilized in undergraduate and graduate programs in meteorology and atmospheric science worldwide. Jonathan holds a B.S. in Earth and Atmospheric Science from Boston University, and a M. Ed, in Secondary Science Education from the University of Massachusetts.