

AMS DataStreme Project and the NGSS

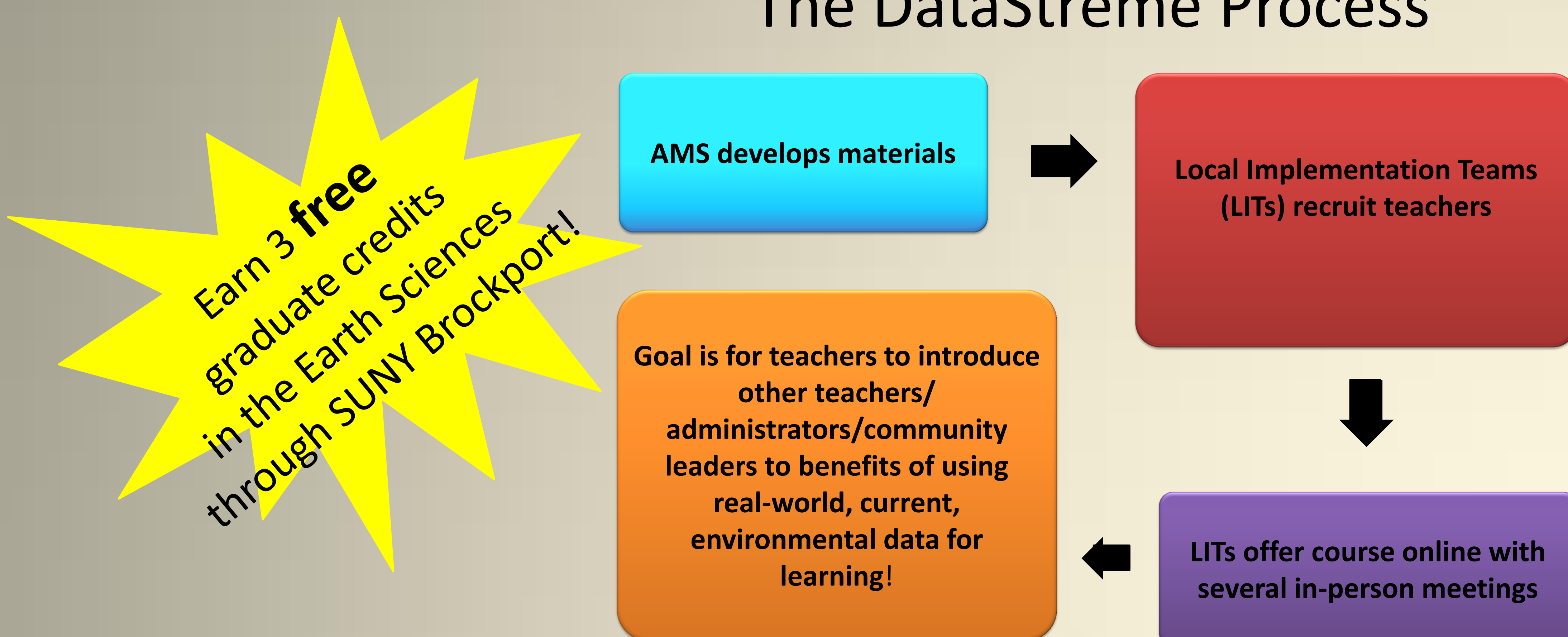
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What is DataStreme?

DataStreme is:

- A free professional development program for in-service K-12 teachers
- Offered each fall and spring semester by Local Implementation Teams (LITs) across the country

The DataStreme Process



3 courses offered

DataStreme Atmosphere

Explore the atmospheric environment through the use of continuously updated electronically transmitted weather data and learning materials.



DataStreme Ocean

Explore the flow and transformations of water and energy into and out of the ocean, the internal properties and workings of the ocean, interactions between the ocean and other components of the Earth system, as well as the societal impacts and responses to those interactions.



DataStreme Earth's Climate System

Explore the climate system through inquiry-based instructional strategies and a holistic concepts of Earth from oceanic, atmospheric and terrestrial climate and problem-focused perspectives.



How does DataStreme help implement NGSS?

DataStreme assists teachers in states implementing NGSS to design classroom activities that align with NGSS' crosscutting theme.

Example- in DataStreme Ocean, the following disciplinary core ideas are discussed:

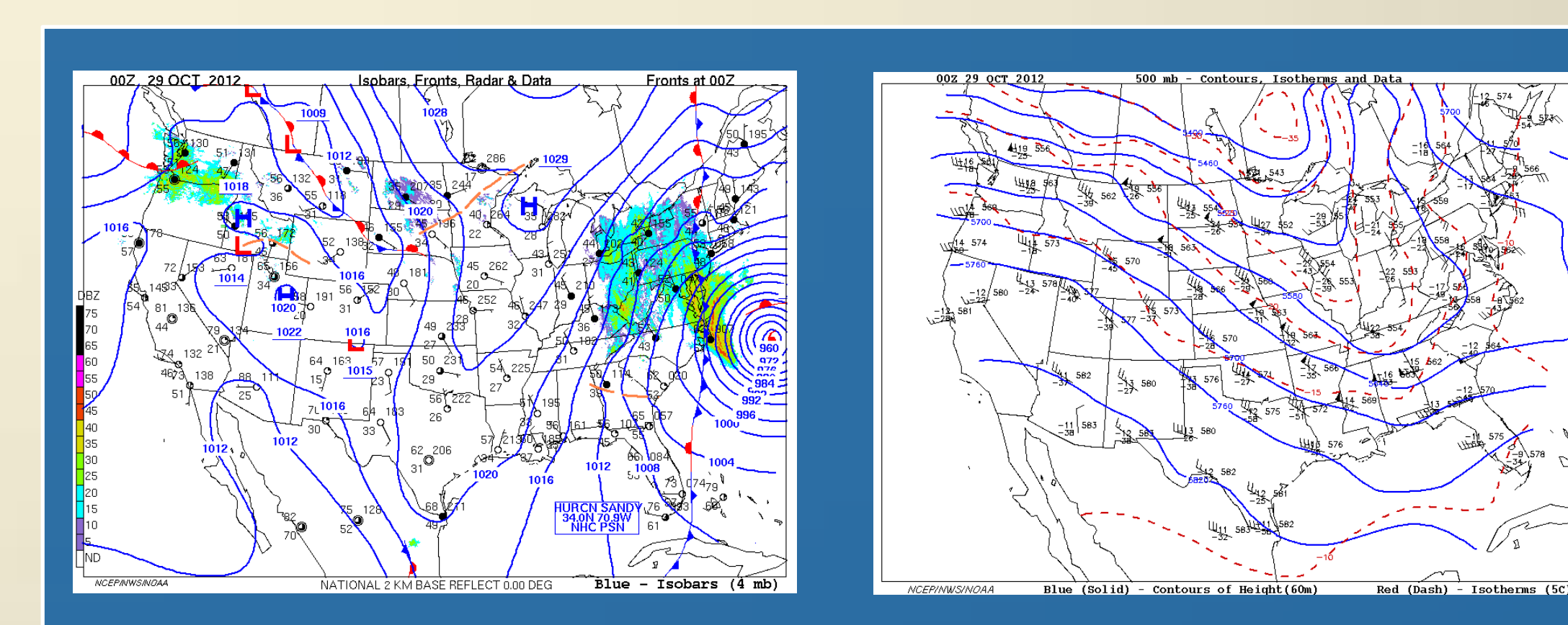
ESS1.B – Earth and the solar system
ESS1.C – The history of planet Earth
ESS2.A – Earth materials and systems
ESS2.B – Plate tectonics and large-scale system interactions
ESS2.C – The roles of water in Earth's surface properties
ESS3.B – Natural hazards
ESS3.C – Human impacts on Earth systems
ESS3.D – Global climate change

PS2.A – Forces and motion
PS2.B – Types of interactions
PS2.C – Stability and instability in physical systems
PS3.A – Definitions of energy
PS3.B – Conservation of energy and energy transfer
PS3.D – Energy in chemical processes and everyday life
PS4.A – Wave properties
PS4.B – Electromagnetic radiation
PS4.C – Information technologies and instrumentation

LS1.B – Growth and development of organisms
LS1.C – Organization for matter and energy flow in organisms
LS2.A – Interdependent relationships in ecosystems
LS2.B – Cycles of matter and energy transfer in ecosystems
LS2.C – Ecosystem dynamics, functioning, and resilience

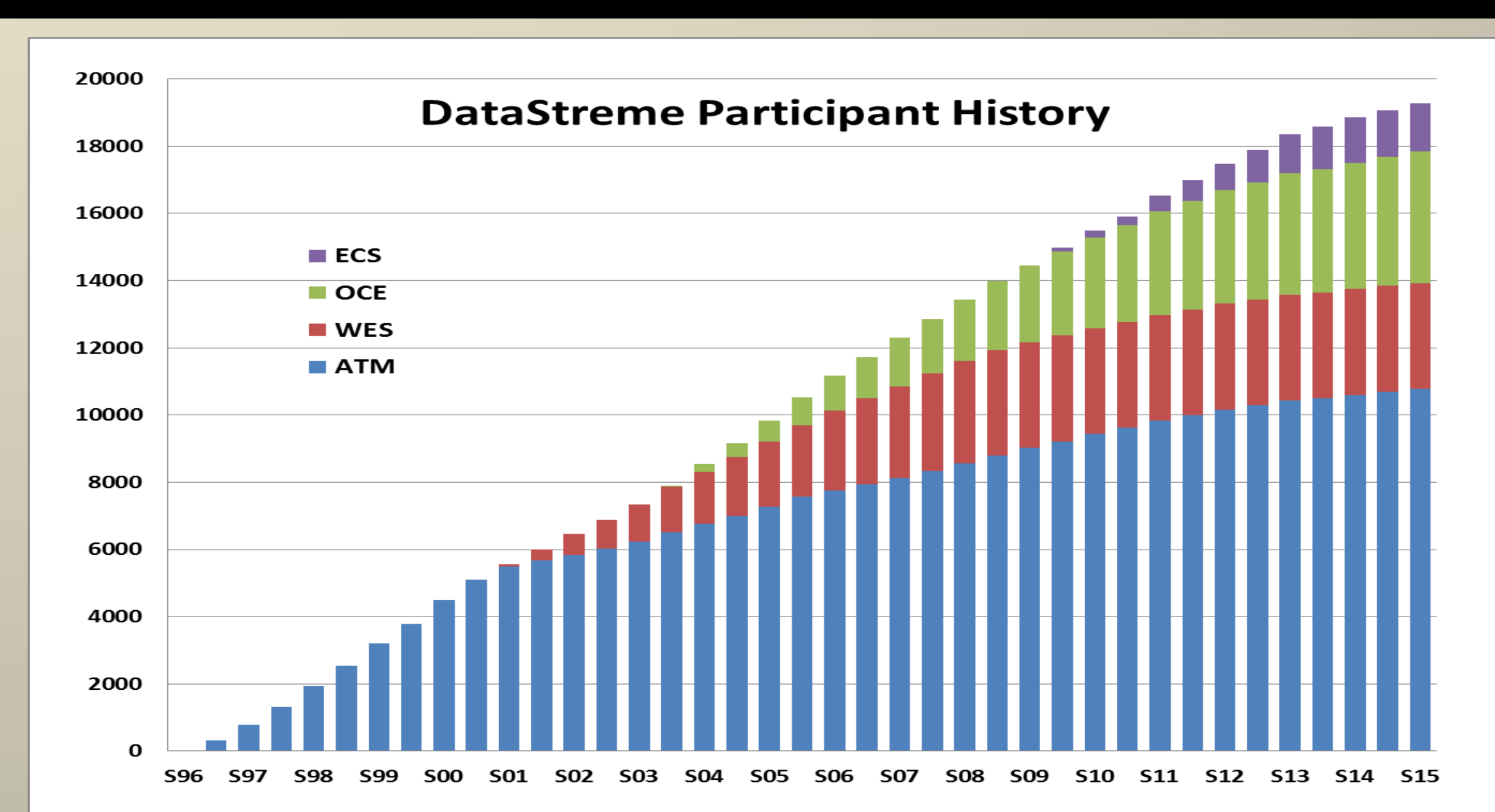
DataStreme participants learn how to investigate concepts as scientists do; using real-world, real-time data

Example: Superstorm Sandy Investigation



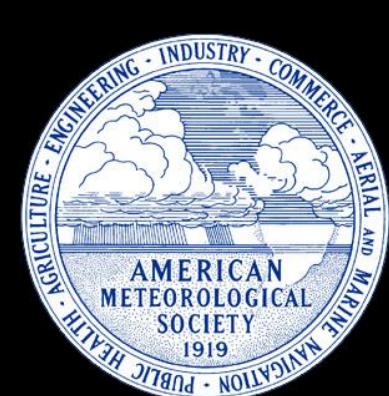
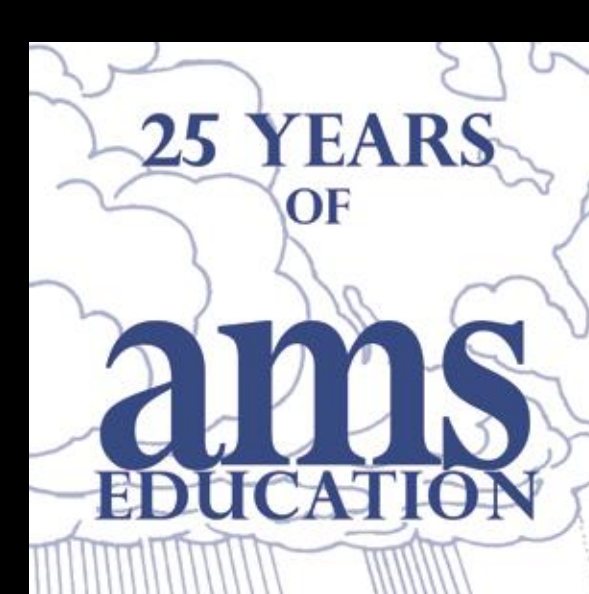
Surface and 500-mb maps for 00Z 29 OCT 2012, with Hurricane Sandy seen off the North Carolina coast along with a trough in the eastern U.S.

- Students investigated Sandy's vertical atmospheric structure as well as wind patterns about the eye.
- Students related areas of highest wind speed with locations that suffered the greatest storm surge inundation.
- Effects on wind speed of land versus ocean were also investigated using NOAA's Atlantic Oceanographic and Meteorological Laboratory data.



Since 1996, more than 19,400 teachers have completed a DataStreme course and joined a network of teacher-leaders...

Are you next?



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