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Weather maps in the classroom: Stark County, Ohio, USA

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The North East Ohio (USA) Geoscience Education Outreach (NEOGEO) project is an educational partnership between the departments of Geography and Geology at Kent State University and a local primary and secondary school system, the Stark County Educational Services Center. The goal of this project is to enhance middle- and high-school Earth Science education by introducing local educators and students to inquiry-based earth science and geospatial technology. Four faculty and ten graduate fellows collaborate with middle and high school teachers to accomplish this goal. Fellows help implement inquiry-based science and the associated understanding of Earth system processes by developing inquiry-based curriculum modules based on analysis of the local environment using field methods and on-line geospatial databases.

As part of this outreach, students have worked with educators in determining the most effective methods of introducing these inquiry-based methods. One such debate, assessed in this research, involves the utility of different types of real-time surface weather maps in the classroom in helping middle school students learn and retain meteorological fundamentals.

In this research there have been two objectives. The first is to evaluate whether current surface weather maps affect a middle school studentâEURŹs understanding of weather. The second objective is to evaluate map design and content and see if these factors affect the level of understanding. Both objectives are evaluated with background surveys and pre-/post-assessments. Objective one involves comparing classrooms that are only taught the regular curriculum and classrooms that are taught the regular curriculum plus daily current weather discussions. Objective two involves

comparing classrooms that learn weather concepts using a simple designed weather map and classrooms that us a complex designed weather map.

Though meteorological outreach has increased over the recent decade, the effectiveness of this outreach has yet to be fully evaluated, as most measures presently only evaluate the numbers of outreach programs created and presented, or evaluate the effectiveness of specific individual outreach programs. As outreach activities continue to expand, it is important to assess how students understand weather, so that meteorologists can create the most effective outreach programs.