Dear Educators,

"What's the weather going to be today?" It's one of the first questions we ask ourselves each morning. It affects what clothes we wear, where we travel, whether school is cancelled for a snow or hurricane day, and sometimes, when severe weather hits, if we'll make it safely through the hours ahead. "Why's the sky blue?" "What makes lightning?" These weather-related inquiries are some of the earliest scientific questions we asked when young. When answered appropriately they can lead onward and upward to a lifetime of learning and discovery.

Welcome to PASSPORT TO WEATHER AND CLIMATE, 9th in the ongoing series of interactive learning adventures from PASSPORT TO KNOWLEDGE (P2K). While implementing this curriculum replacement unit in class or at home, you'll be answering both kinds of questions—those that directly affect the way we live our lives and those deeper questions about how the Universe around us works. This Guide provides more than 30 hands-on Activities that can be implemented anytime and anywhere with considerable flexibility, in classrooms with modest or maximal resources. The LIVE FROM THE STORM videos and website, designed to be used in conjunction with this Guide, offer exciting real-time and near real-time interactions with some of America's leading researchers on weather and climate, adding real world connections to the evergreen Activities found in these pages. Check out WHAT'S NEW at http://passporttoknowledge.com/storm for the latest menu of interactive options that complement or extend the Guide.

The Guide itself follows the unique format which P2K has developed during more than 6 years of delivering substantive science content using multiple media in innovative ways. It reflects what teachers like you have told us about what works best and what they'd like to see. Researched and written in part by classroom educators and reviewed by meteorological scientists, this Guide is designed to be—literally—a turn-key unit, allowing *any* teacher, working with students from upper elementary to high school, to create informative and engaging learning experiences by selecting from a menu of easy-to-use options. We began with the National Science Education Standards and the AAAS/Project 2061 "Benchmarks" and analyzed which of these key scientific principles could be brought to life through real-world phenomena integral to weather and climate. Then we considered how video and online resources (media in which your students are already very proficient) could be used to make the science principles more memorable and relevant. We think that looking at hurricanes, tornadoes, winter storms, El Niño and La Niña are fascinating in their own right. But if you review the Standards Correlation Chart that's part of this Guide pack and the cross-references to national and state standards to be found at our website, we think you'll see that exploring weather and climate are great ways to meet district and state guidelines. PASSPORT TO WEATHER AND CLIMATE is much more than an electronic field trip. It's core curriculum and substantive learning.

If you're new to P2K, please review "How to Implement" to help you get started. If you're a veteran of our past explorations of Antarctica, the solar system or the rainforest, you can use those same pages to see what's new and different this time: we try to keep P2K and the LIVE FROM specials growing in step with the rapidly expanding universe of knowledge. And if you have questions about how to make this rich suite of resources work for you and your students, we have answers. The moderated DISCUSS-STORM mail list creates a kind of virtual faculty lounge in which you can ask colleagues for information or share what you've found most effective. Via DISCUSS you can get feedback on just about any pedagogical topic, from making P2K work with no computer at all in your classroom to how to use NIH Image and today's National Weather Service data to size up a storm. If you prefer, send personal e-mail to our P2K Mentors: you'll find fellow teachers in circumstances similar to your own, ready, willing and able to share their own experiences and help you with any challenges.

It's been a real pleasure for us at P2K to work with our new partners at NOAA, the National Oceanic and Space Administration, the United States' lead agency for weather and climate research and forecasts, and our long-time supporters at NASA. We thank them for their continuing support. As David Laskin, author of "Braving the Elements" writes, "…weather doesn't just happen—it happens to us. Around us *and* inside us. Weather is our internal experience of daily atmospheric change. It is a human fabrication—a compound of rainfall and ritual, economics and air pressure, science and superstition, desire and expectation." We hope you and your students will enjoy investigating weather and climate as much as we and the researchers on the frontlines of scientific discovery enjoy sharing them with you. Thanks for your interest in and commitment to innovative science education. Good luck with PASSPORT TO WEATHER AND CLIMATE, and we hope to hear of your successes!

Sincerely,

Geoffrey Haines-Stiles
Project Director

Erna Akuginow
Executive Producer

PASSPORT TO KNOWLEDGE and the LIVE FROM videos and websites
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