

## CryoConn-Cryosphere Connections

*Cold Regions Research & Engineering Laboratory (CRREL), National Aeronautics and Space Administration (NASA), and University of Alaska joined forces to offer a content rich teacher training for middle and high school teachers*

Building on NASA's History of Winter program SpringBoard organized the necessary partnerships to create the CryoConn (Cryosphere Connections) event. CryoConn is a professional development workshop that focuses on the role of the cryosphere on earth systems and the science of winter. It examines the amazing properties of snow and ice and their implications for life on this planet. CryoConn invites teachers and students to step outside the school house door and explore the world of winter. The workshop's content and instructional strategies have relevance to any northern area where ice and snow abounds during the winter months.

The curriculum builds on NASA's History of Winter educational outreach program, Cold Regions Research & Engineering Laboratory's (CRREL) research in the Arctic, the International Polar Year's extensive studies, and the rich cultural and scientific knowledge base of Alaska's indigenous people who make the Arctic their home.



In February 2009, twenty-three classroom teachers, and five faculty from the University School of Education came together for the three day inaugural CryoConn workshop at Chena Hot Springs Resort near Fairbanks, Alaska. Teachers had the opportunity to learn from and work alongside scientists from NASA, CRREL, and the University of Alaska, Fairbanks.

During the workshop the attending teachers began providing feedback which reinforced how important winter science can be for educators and students alike.

Here are a few of their comments.

"This workshop was like a real life Discovery Channel for me. I can't explain what a phenomenal experience this was and the lasting impact it will have on my classroom, my students, and me personally. Thank you so much for this opportunity."

"Meeting leaders and legends of the scientific community was inspiring! This event generates enthusiasm that will follow me to the classroom and onto my students."

There is a wealth of research underway in Alaska and across the globe, assessing the impact of climate change and building an understanding of the complex interplay of forces at work within the Arctic ecosystem and cryosphere. Climate change is coming to Alaska in profound and measurable ways. The International Polar Year has spotlighted the Arctic and biologic changes that are occurring at unprecedented rates. The Alaska scientific and cultural context offers a rich base to begin a professional development program to engage and equip teachers, in Alaska and across the northern United States, to use winter as a natural laboratory, particularly in the context of our growing understanding of the earth's climate systems.

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