



# Using Real-Time Communication Technology to Bridge Students and Real Science Research During the International Polar Year

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## Introduction

Live from the International Polar Year (IPY)!, transported students and the public to remote polar locations through live from the field calls and internet presentations during the International Polar Year (2007-2009). As a component of the PolarTREC (Teachers and Researchers Exploring and Collaborating) program, Live from IPY! uses a simple online interface to support real-time presentations, audio, text chat, and when possible, video, as an interactive, web-based education resource. From isolated locations such as the Greenland Ice Sheet or a Coast Guard vessel navigating the Arctic Ocean, teachers and researchers in the polar regions interacted with students in real time. Whether communication was limited to a satellite phone or presenters had high speed internet, Live from IPY! events were successful because they were free and they relied on simple technology that could be adapted to different field and classroom environments.

## Results

From December 2006 to January 2010, the Arctic Research Consortium of the U.S. hosted 69 Live from IPY! events, including six events celebrating the International Polar Days held in conjunction with the International IPY Programme office. In total, over 14,000 people participated in Live from IPY! events from numerous states across the U.S. and other countries. The majority of participants, 83%, were K-12 students, and over 1,000 questions and answers from students and the public have been shared over the connection.

**69** Total Live from IPY! Events with  
Over **14,000** Participants which were  
**83** Percent K-12 Students with  
Over **1000** Questions & Answers  
shared over the connection!

Overall participation grew over the three year project period. Events held during the school year often had more student participants, but events during the summer reached diverse audiences at libraries, community centers, youth camps, and through professional conferences.

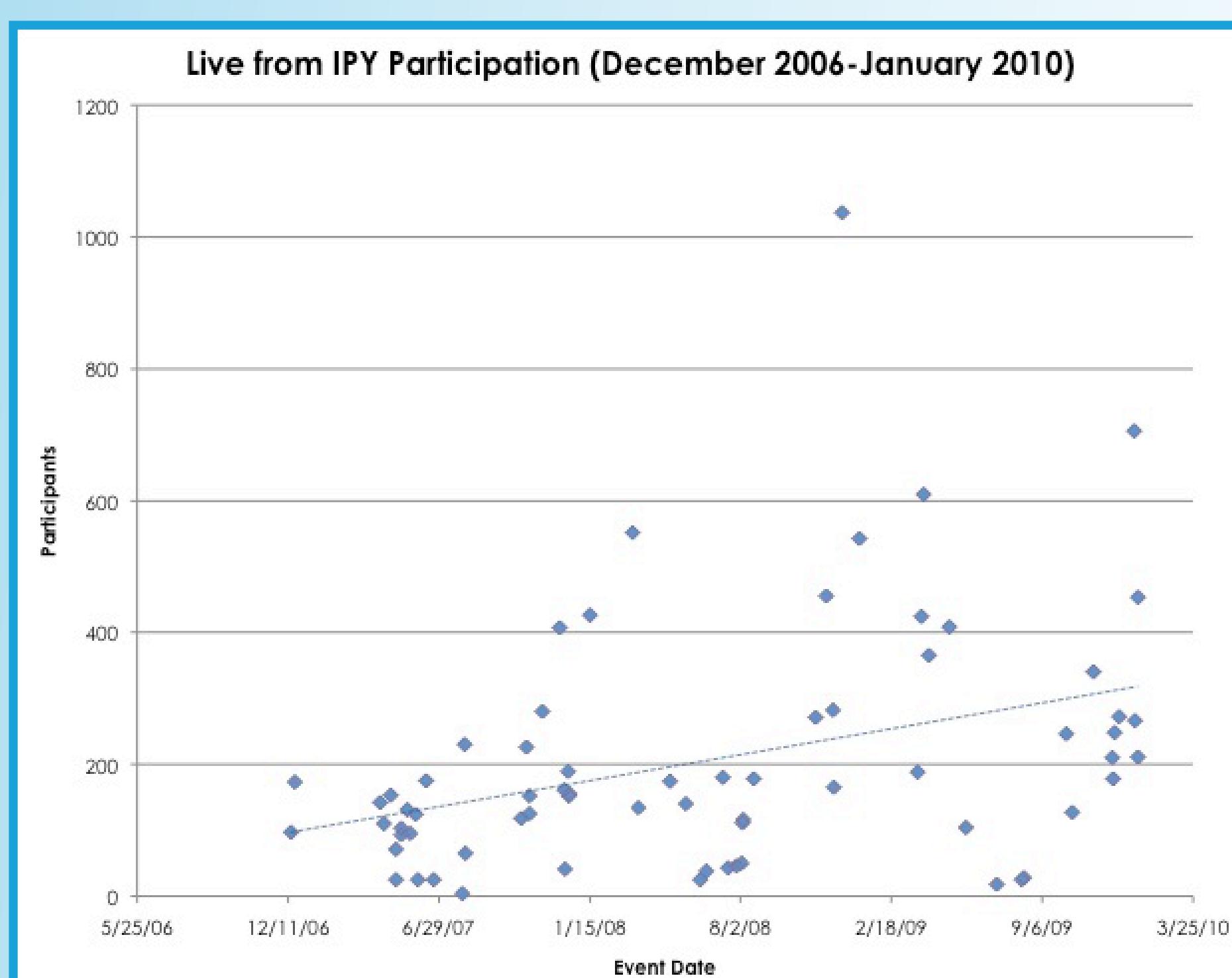


Figure 2. Participation in Live from IPY! events has steadily grown from the first events late in 2006. Events often had over 200 participants, and one event topped 1000 participants.

## The Future - PolarConnect

Although the International Polar Year observational period has ended, the polar regions will continue to be investigated by researchers accompanied by teachers. PolarTREC will be funded by the National Science Foundation during 2010-2013, and PolarConnect events will continue to connect people and students to exciting polar science after the International Polar Year.

The program evaluation further evaluate classroom and public participation and use of the live event platform as an educational tool in the classroom. The format has been viewed favorably by research teams, and there has been increased interest in using the model for science outreach by post-secondary students and for use by researchers while at their home institutions.

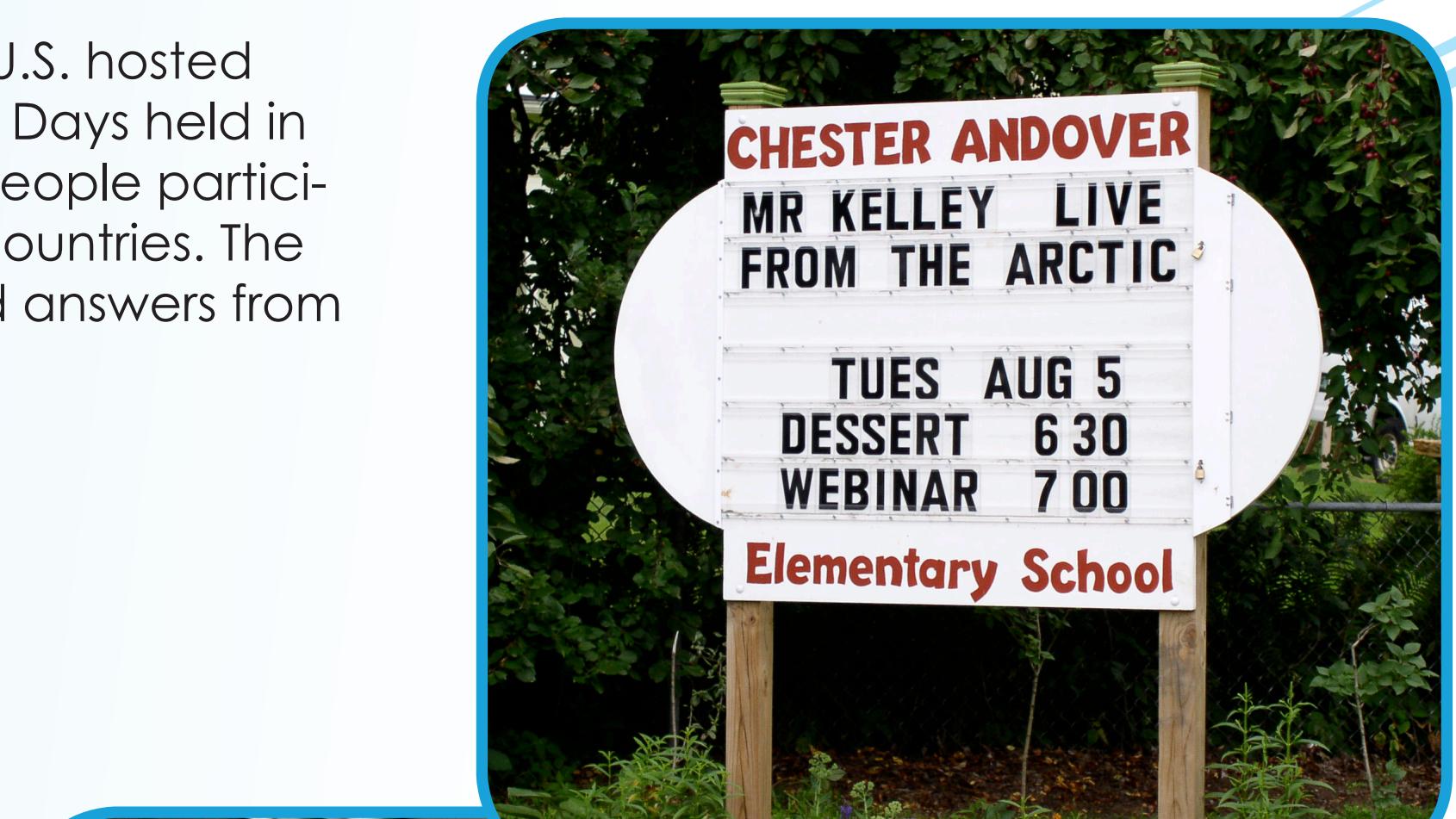


Figure 3. Live events were held for community groups (with dessert!) (top), in school computer labs (middle), and for large groups of students. Learners of all ages have participated.

Figure 1. Each Live from IPY! event is archived and available online ([www.polar-trec.com](http://www.polar-trec.com)) for non-interactive viewing shortly after the event. The Wimba platform (right) features visuals, text chat, and voice over IP capabilities.

Live From	Date	Presentation	Audio	PDF
Wais Divide, Antarctica with Heidi Roop and the Ice Coring Team	January 11, 2010	Wimba Archive	18.5 MB	14MB
Byrd Camp, Antarctica with Gary Weeche and CReSIS Team	January 11, 2010	Wimba Archive	14.8 MB	8MB
January 7, 2010	Wimba Archive	14.5 MB	8MB	
McMurdo Station with Sarah Diers and DOM Team	January 6, 2010	Wimba Archive	14 MB	6.4MB
Byrd Camp, Antarctica with Gary Weeche and CReSIS Team	December 17, 2009	Wimba Archive	17.8 MB	3.4 MB
South Pole Station with Casey O'Hara and the IceCube Team	December 11, 2009	Wimba Archive	16.8 MB	10 MB
McMurdo Station with Sarah Diers and DOM Team	December 9, 2009	Wimba Archive	14.1 MB	4.9 MB
McMurdo Station with Michelle Cross and the SCINI ROV Team	December 8, 2009	Wimba Archive	17.6 MB	28.4 MB

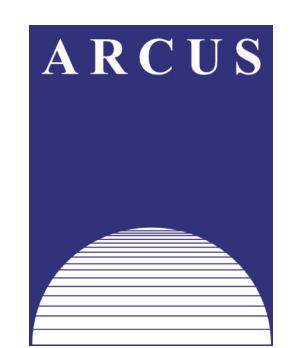
The Arctic Research Consortium of the US (ARCUS) played an essential role in facilitating the events. Through its NSF-funded PolarTREC program, ARCUS had connections to teacher/researcher teams in the field who together created compelling, audience-appropriate science presentations. ARCUS also had the tools to advertise, format, and administer live connections so that students and communities from around the world knew about the events and could participate.

**Students and Communities** were engaged in an unparalleled science and technology education experience while gaining the unique opportunity to talk to teachers and scientists working in and observing the polar regions. Anyone was welcome to participate in the events and could do so with as little as a telephone.

**Teachers and Scientists**, often working in remote field locations, used available technology to connect to students and the public during Live from IPY! events. Using images, illustrations, and oral explanations, they shared first-hand information about science concepts, the polar regions, careers, life in the field, and more.



Figure 4. PolarTREC Teacher, Elizabeth Eubanks and Barrow, Alaska researchers sit around the conference telephone during a live event. PolarTREC Teacher, Lolie Garay (right) using the icebreaker Oden's satellite phone to talk to students during a live event.



### For More Information:

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