

About Our Expeditions

Welcome to

# Arctic

alive!

About the Program

Member Login

Participation & Requirements



# WHAT IS ARCTIC ALIVE?



- ✓ **An arctic science education program developed by ARCUS and modeled after a program in New Zealand, called LEARNZ**
- ✓ **A pilot program funded through a National Science Foundation - Directorate for Geosciences grant**
- ✓ **A distance-delivery program that allows students to interact with researchers in remote arctic locations without leaving the classroom yet experience “real science” in “real time”**

# WHY ARCTIC ALIVE?

- ✓ **Promote global understanding about the value and significance of Arctic**
- ✓ **Educate K-12 about importance of the Arctic**
- ✓ **Engage students in science using appeal of the Arctic**
- ✓ **Bring cutting-edge research to the classroom and generate interest in research**



# PROGRAM DETAILS



- ✓ **A pilot program focusing on geosciences and in particular how sea ice relates to climate change**
- ✓ **A one week virtual field trip that occurred in April, 2002, in Barrow, Alaska**
- ✓ **Participating researchers and Barrow community members were: Don Perovich, Tom Grenfell, Hajo Eicken, Andrew Mahoney, Richard Glenn, Harry Brower, and Craig George**

# PILOTED SITES

- ✓ Program was piloted in Alaska for first year
- ✓ Schools were pre-selected and asked to participate
- ✓ Pre-selection to ensure a wide-range of technology capabilities
- ✓ 5 schools (grades 6-9) and 3 home school families participated



# PROGRAM DESIGN GOALS



- ✓ Use technology as a tool and science as the catalyst for the program
- ✓ Keep technology simple by focusing on lowest common denominator
- ✓ Provide a variety of venues for teachers and students to participate and still receive comprehensive materials
- ✓ Integrate program into what teachers are already teaching

# PROGRAM COMPONENTS

There are 3 key components:

- ✓ **Web Site** - a comprehensive web site is central point for information for students and teachers
- ✓ **Arctic Alive Teacher** - serves as a guide and connection between researchers, students, and teachers
- ✓ **Live interactions** - a discussion forum and audio-conference calls used for live interactions between students and researchers



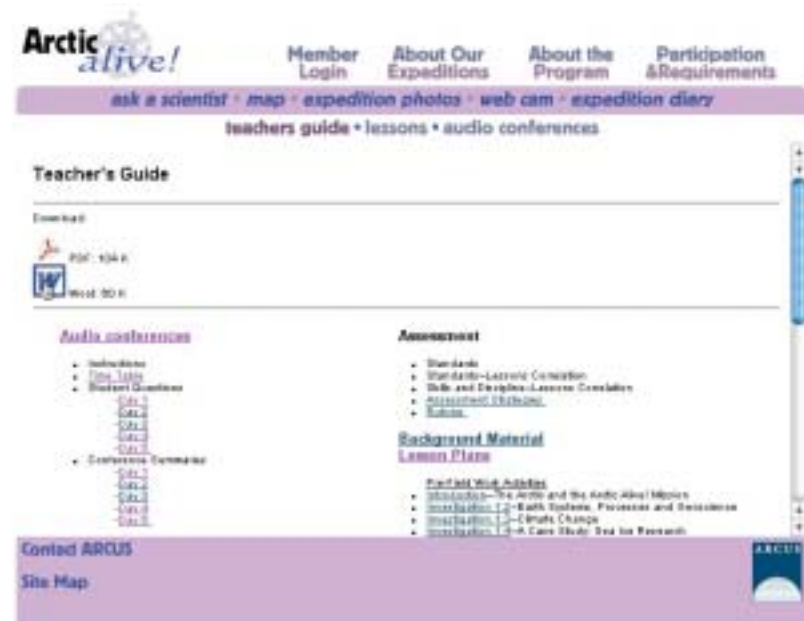
# THE WEB SITE



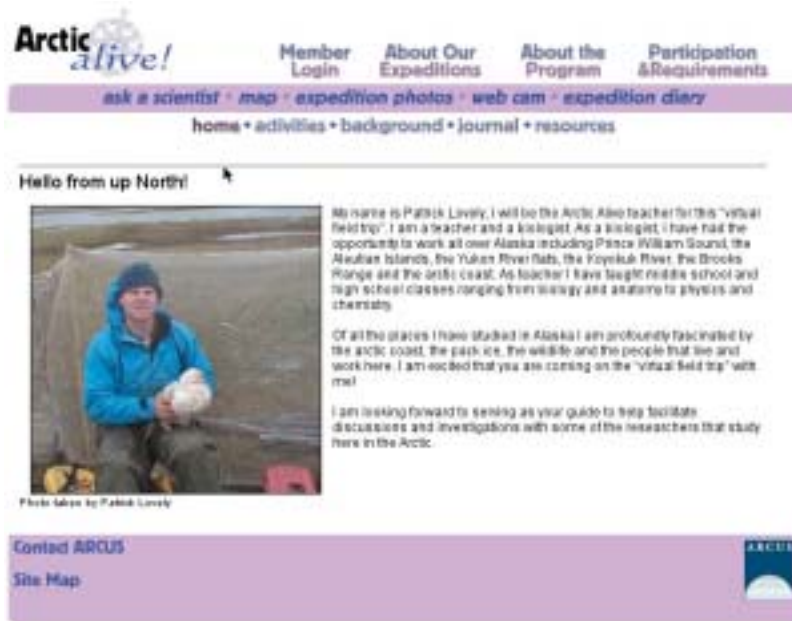
- ✓ Provides secure areas for teachers and students
- ✓ Tailored to meet both student and teacher needs
- ✓ Downloadable materials for classroom use
- ✓ Simple pages for faster Internet uploading times and slower connections

# WEB SITE - TEACHER AREA

- ✓ Includes all materials needed for “virtual field trip”
- ✓ Lessons can be used individually or as unit
- ✓ Lessons correlate to both national and Alaska State Content standards in science, math, and technology



# WEB SITE - STUDENT AREA



The screenshot shows the Arctic Alive! website interface. At the top left is the logo "Arctic alive!". To the right are navigation links: "Member Login", "About Our Expeditions", "About the Program", and "Participation & Requirements". Below these is a purple navigation bar with links: "ask a scientist", "map", "expedition photos", "web cam", "expedition diary", "home", "activities", "background", "journal", and "resources". The main content area is titled "Hello from up North!" and features a photo of a man in a blue jacket holding a white object. To the right of the photo is a text block with three paragraphs. At the bottom left of the page are links for "Contact ARCUS" and "Site Map". At the bottom right is the ARCUS logo.

**Arctic alive!**

Member Login   About Our Expeditions   About the Program   Participation & Requirements

ask a scientist • map • expedition photos • web cam • expedition diary

home • activities • background • journal • resources

**Hello from up North!**


My name is Patrick Lively, I will be the Arctic Alive teacher for this "virtual field trip". I am a teacher and a biologist. As a biologist, I have had the opportunity to work all over Alaska including Prince William Sound, the Aleutian Islands, the Yukon River flats, the Koyukuk River, the Brooks Range and the Arctic coast. As teacher I have taught middle school and high school classes ranging from biology and anatomy to physics and chemistry.

Of all the places I have studied in Alaska I am profoundly fascinated by the Arctic coast, the pack ice, the wildlife and the people that live and work here. I am excited that you are coming on the "virtual field trip" with me!

I am looking forward to seeing an year guide to help facilitate discussions and investigations with some of the researchers that study here in the Arctic.

Photo taken by Patrick Lively

Contact ARCUS  
Site Map



- ✓ Designed for a range of student ages (middle-school to high-school)
- ✓ Online games to complement theme
- ✓ All student worksheets, background materials, and resources online
- ✓ Access to discussion forum

# THE ARCTIC ALIVE TEACHER

- ✓ **Travels and works with the researchers**
- ✓ **Provides a non-researcher perspective for the students**
- ✓ **Provides training to participating teachers**
- ✓ **Communicates daily with students**
- ✓ **Facilitates audio-conference calls**



# REAL SCIENCE IN REAL TIME



- ✓ Simple technology allow for cost-effective and real-time interaction in remote parts of the world
- ✓ Using satellite or cell phones, researchers connect live from field sites to students via an audio-conference call
- ✓ Students talked directly with researchers and ask questions focused on a daily topic

# PROGRAM EVALUATION

Pilot program evaluated by:

- ✓ Participants
- ✓ Curriculum Designer, Web Master, and Arctic Alive Teacher
- ✓ Web statistics
- ✓ Audio-conference call phone bills

## Arctic Alive 2002 Project Evaluation

*Directions: Please either print out this evaluation or download PDF file and fill out. Mail or fax the form back to:*

*ARCUS  
Arctic Alive  
3535 College Road, Suite 101  
Fairbanks, Alaska 99709  
Fax: 907-474-1604*

### Teacher/School Information

Last Name \_\_\_\_\_ First Name \_\_\_\_\_  
 School Name \_\_\_\_\_  
 School Address \_\_\_\_\_  
 Email address \_\_\_\_\_

### Project Components

Component	Used	Importance for learning	Quality
Audio-conferences	Y/N	1 2 3 4	1 2 3 4
Discussion Room	Y/N	1 2 3 4	1 2 3 4
Expedition Diary	Y/N	1 2 3 4	1 2 3 4
Expedition Photos	Y/N	1 2 3 4	1 2 3 4
Web Cam	Y/N	1 2 3 4	1 2 3 4
Expedition Map	Y/N	1 2 3 4	1 2 3 4
Teacher's Guide	Y/N	1 2 3 4	1 2 3 4
* Focus Questions	Y/N	1 2 3 4	1 2 3 4
* Rationale Statement	Y/N	1 2 3 4	1 2 3 4
* Standards & Lessons Correlation Matrix	Y/N	1 2 3 4	1 2 3 4
* Skills & Lessons Correlation Matrix	Y/N	1 2 3 4	1 2 3 4
* Rubrics	Y/N	1 2 3 4	1 2 3 4
* Background Material	Y/N	1 2 3 4	1 2 3 4
* Lesson Plans	Y/N	1 2 3 4	1 2 3 4
* Resources	Y/N	1 2 3 4	1 2 3 4
Student Journal Pages	Y/N	1 2 3 4	1 2 3 4
Background information for the student	Y/N	1 2 3 4	1 2 3 4
Student Activities	Y/N	1 2 3 4	1 2 3 4
Overall Content	Y/N	1 2 3 4	1 2 3 4

# CONTINUOUS IMPROVEMENT PROCESS



- ✓ **Difficult to sell a product that is in development stage**
- ✓ **Need more time for curriculum development and web posting**
- ✓ **Offer professional development training to teachers several times and allow for practice time**

# CONTINUOUS IMPROVEMENT...

- ✓ **Continue to have a simple web site and easy access to lessons and background materials**
- ✓ **Offer audio-conferences twice a day to allow for variety school schedules**
- ✓ **Continue to use lowest common denominator - focus on learning and not technology**
- ✓ **Continue to have Arctic Alive Teacher build rapport with communities and researchers prior to going to the field with the researchers**
- ✓ **Hold the field trip for more than one week - perhaps two weeks for more student cooperative learning and teachers to integrate materials into classes**

# THE FUTURE OF ARCTIC ALIVE



- ✓ Seeking additional funding and organization support for future expeditions next school year
- ✓ Improving web site
- ✓ Refining and printing pilot curriculum for a Teacher's Guide
- ✓ Expanding program to have greater international scope on arctic issues (beyond Alaska)
- ✓ Expanding program to include schools from across the United States next year

# THANK YOU

