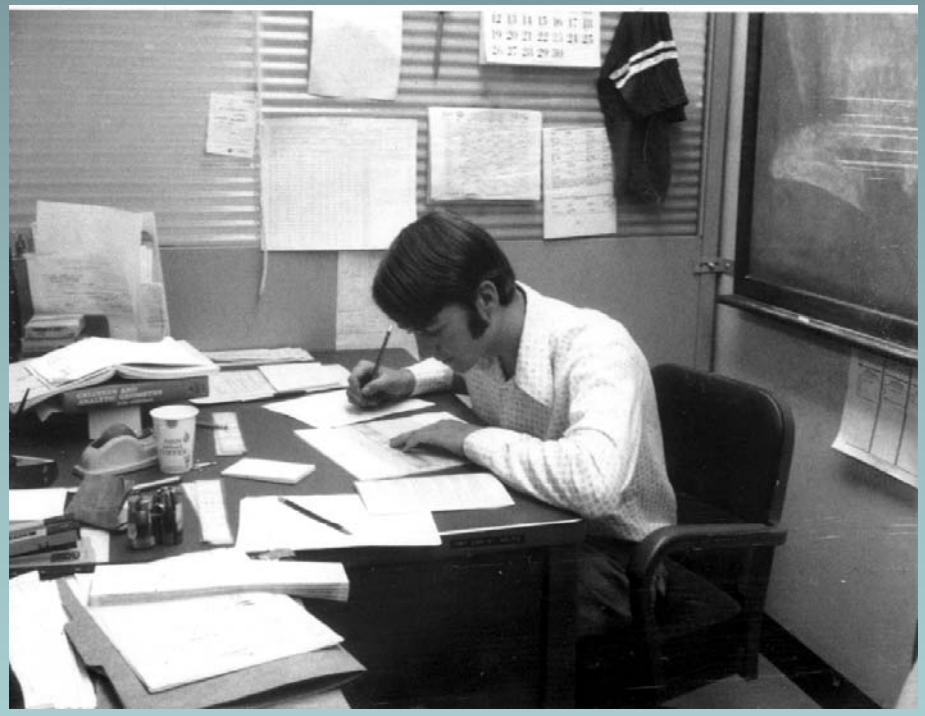
40 Years in Science



US Coast Guard	1969-1973	Marine Science Technician
MSC	1974-1976	BS Meteorology (1st Graduate)
NCAR	1974	Field Technician NHRE
NOAA	1975-1976	COOP
NOAA	1977-Present	Meteorologist
CSU	1981	MS Atmospheric Science

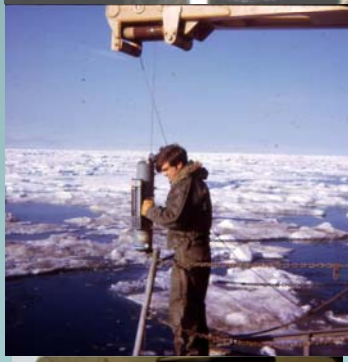
Balloons

Cold

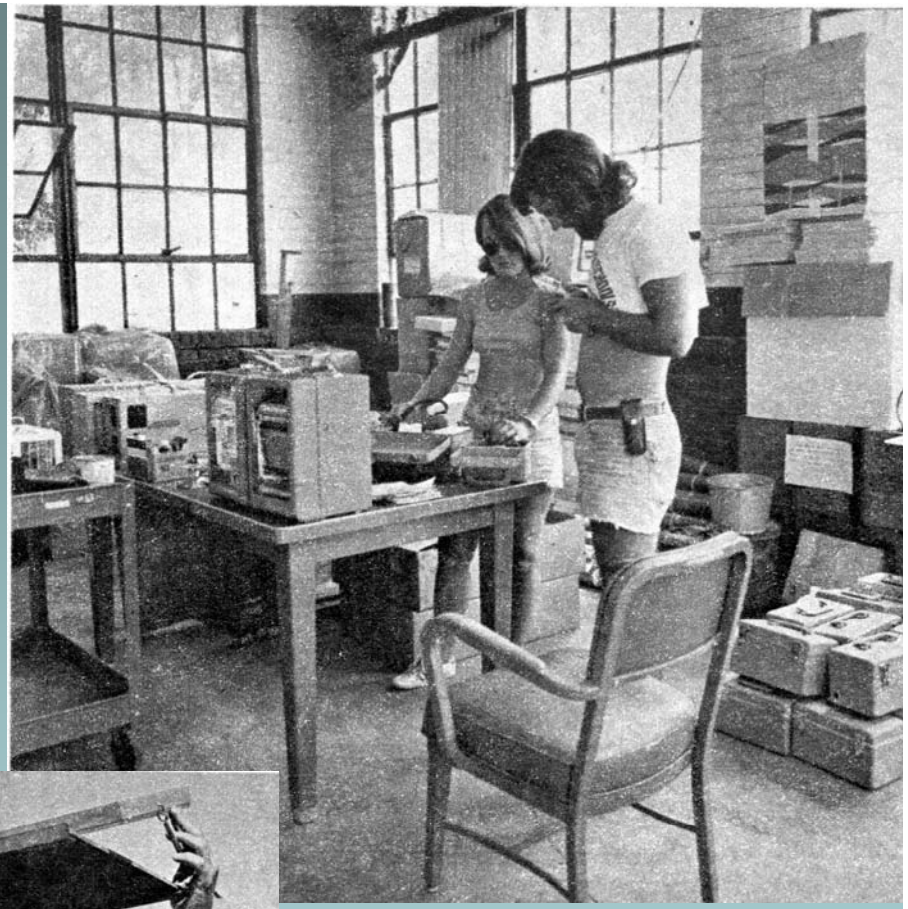
SHIPS

USCG 1969-73
USCGC Glacier WAGB-4
USCG Oceanographic Unit Wash, DC

WEBSEC




HAIL and
the single
girl
By DIANE JOHNSON



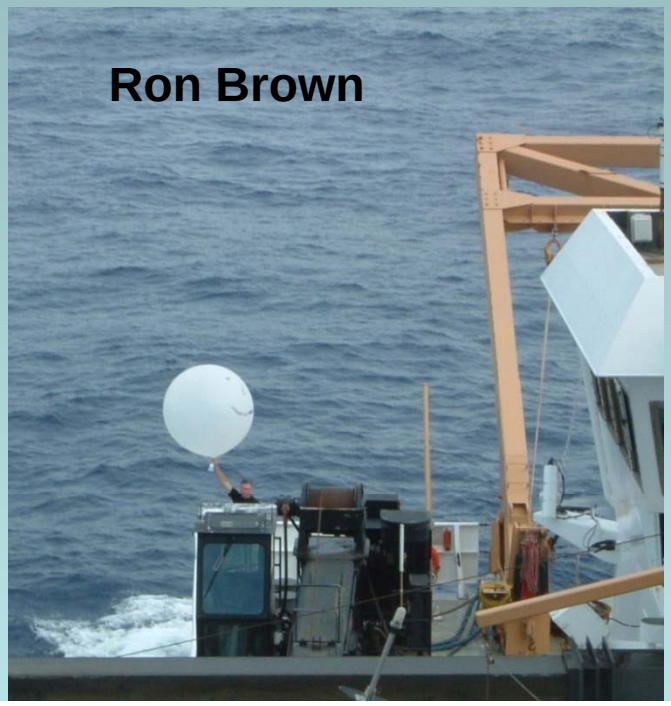
RADIOSONDES RAWINSONDES

VOCALS

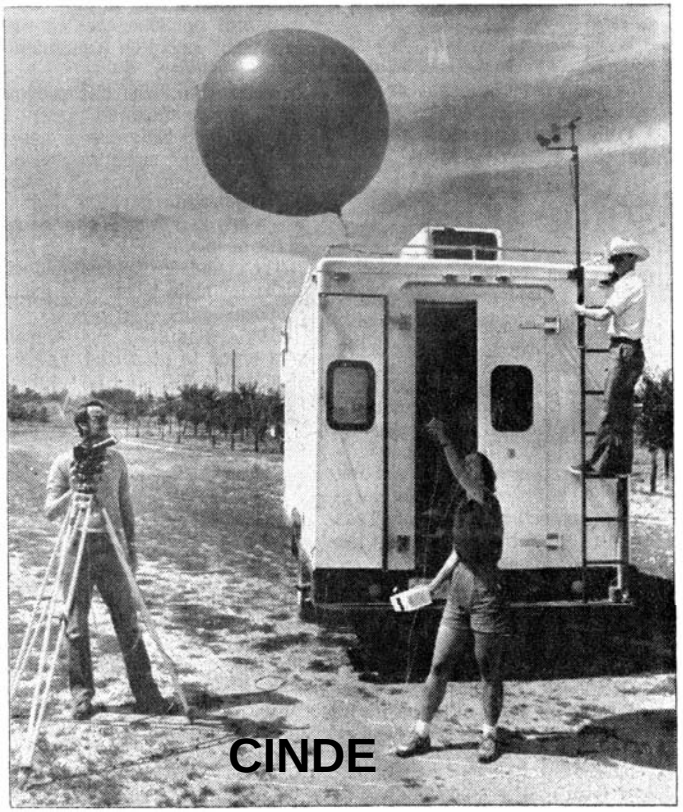
Halloween at Sea

PACJET

Ron Brown

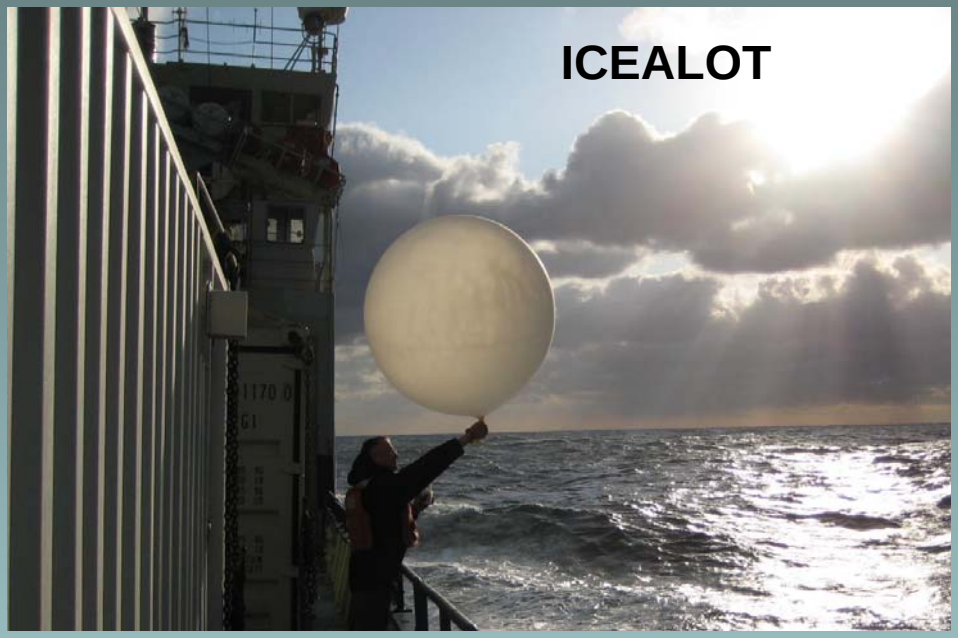


Microburst researchers



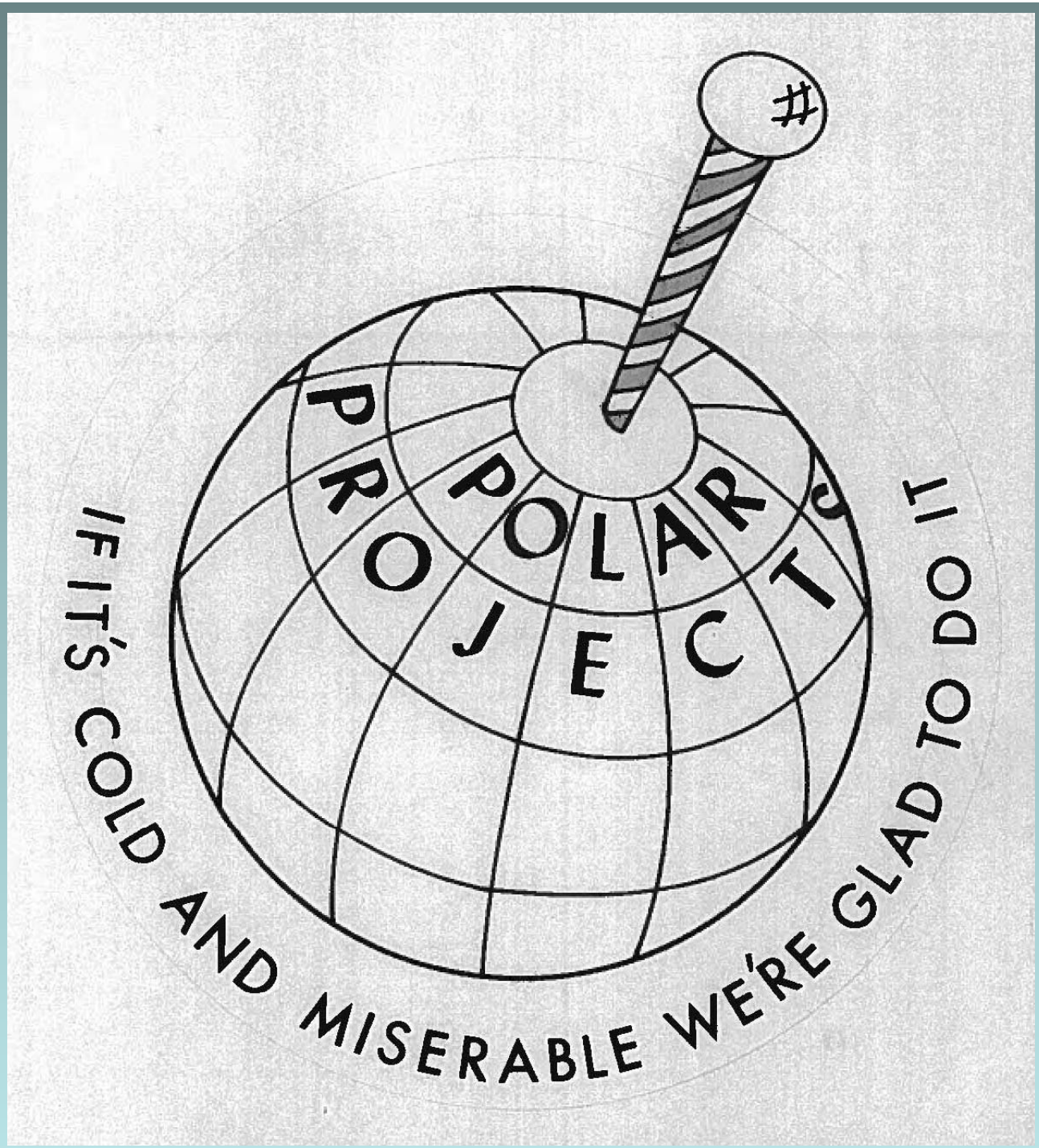
CINDE

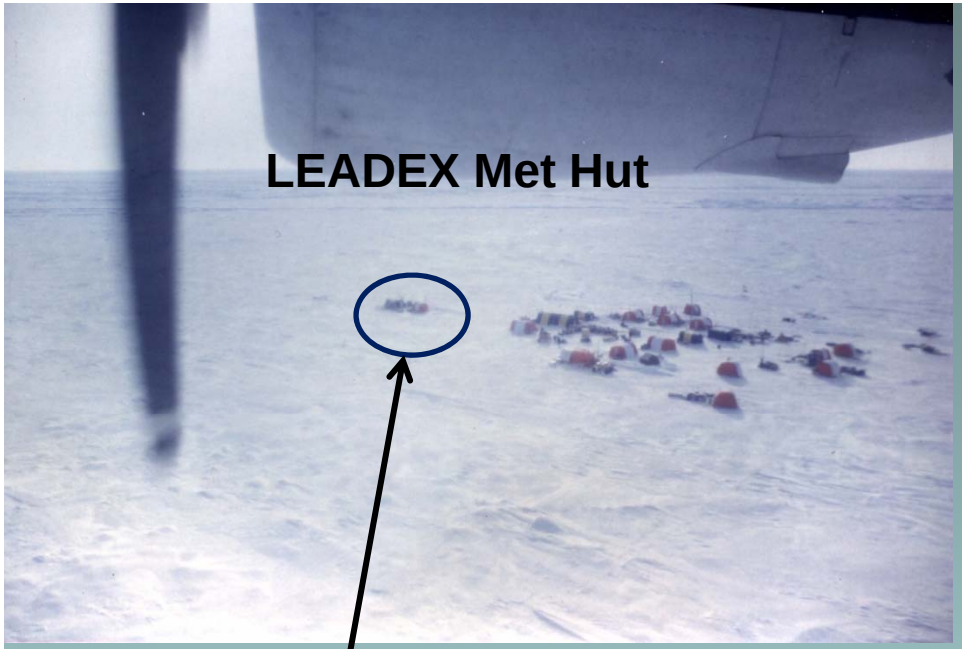

NEAQS


ICEALOT


AMMA
Ozonesonde

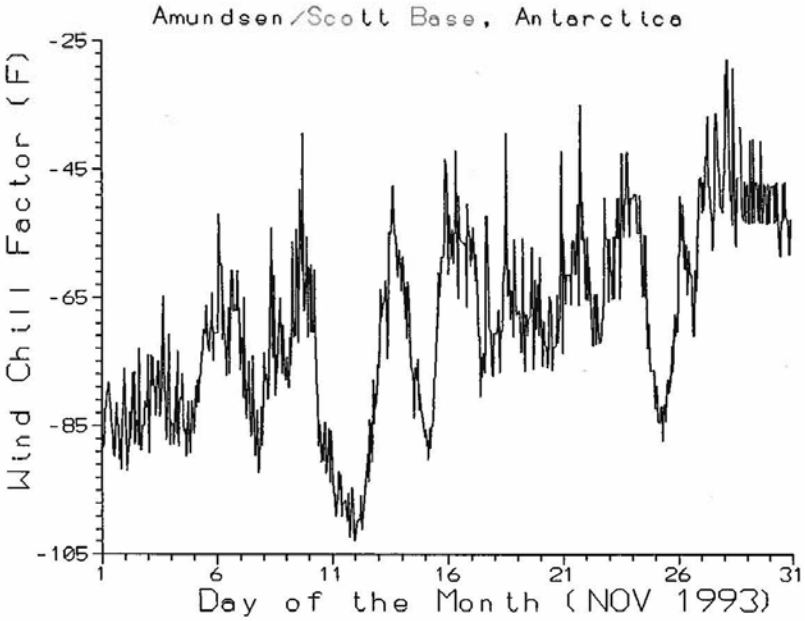

BAO


#
POLAR
PROJECTS
IF IT'S COLD AND MISERABLE WE'RE GLAD TO DO IT


LEADEX Met Hut

South Pole

Ceremonial Pole



-68.81 mean

-20.67 max

-102.88 min

No Kidding

Promises made in an ad for South Pole expedition volunteers, 1900:

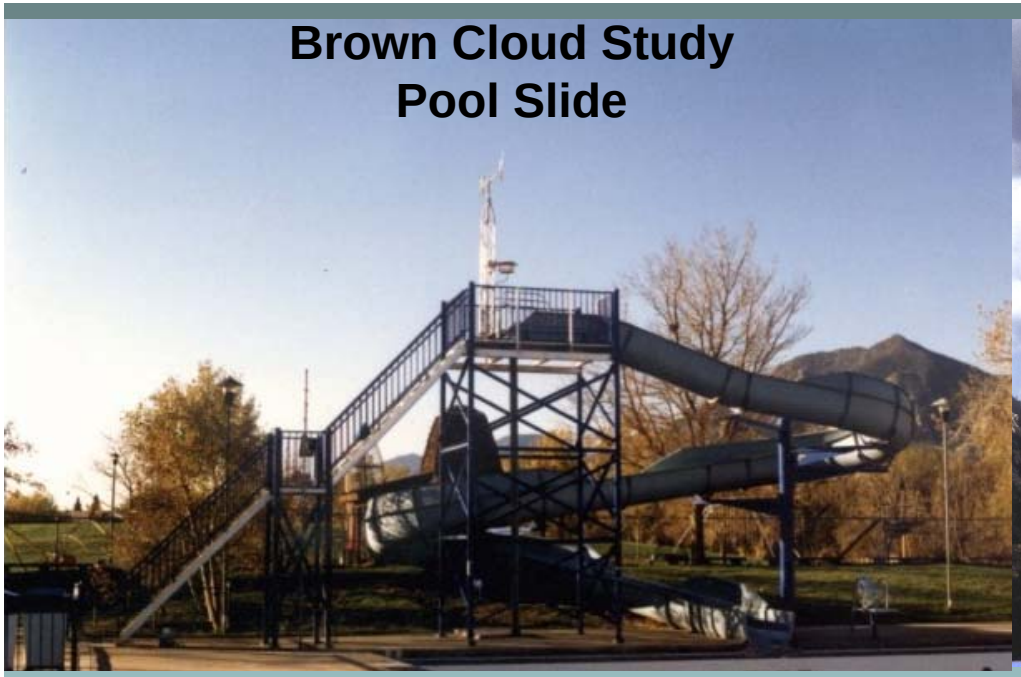
Small wages,
Bitter cold,
Hazardous journey,
Months of darkness,
Constant danger,
Honor if successful,
Safe return unlikely

Source: *The 100 Greatest Advertisements*, by Julian Lewis Watkins, Dover Publications Inc., 1959

SHEBA 1997

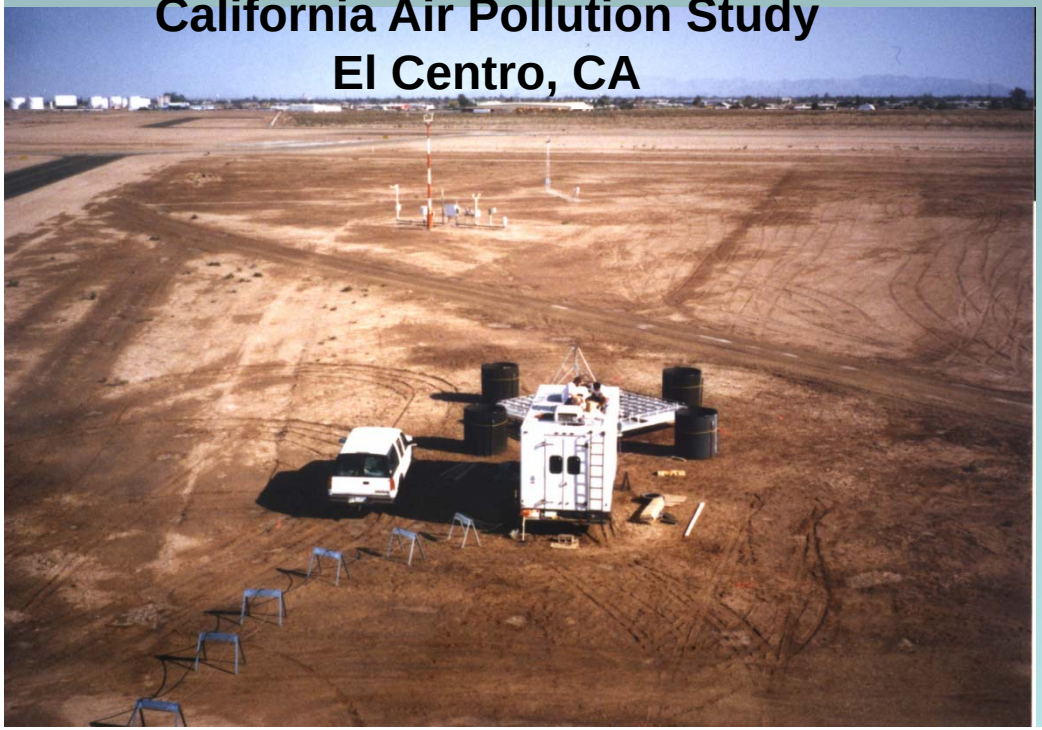
MET CITY II

Brown Cloud Study
Pool Slide

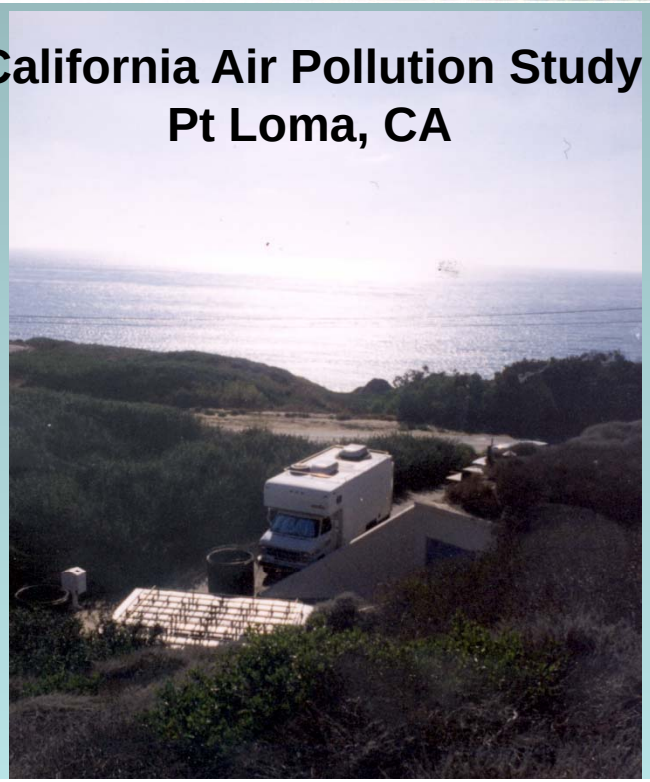


Complex Terrian Study
Brush Creek, CO

California Air Pollution Study
El Centro, CA



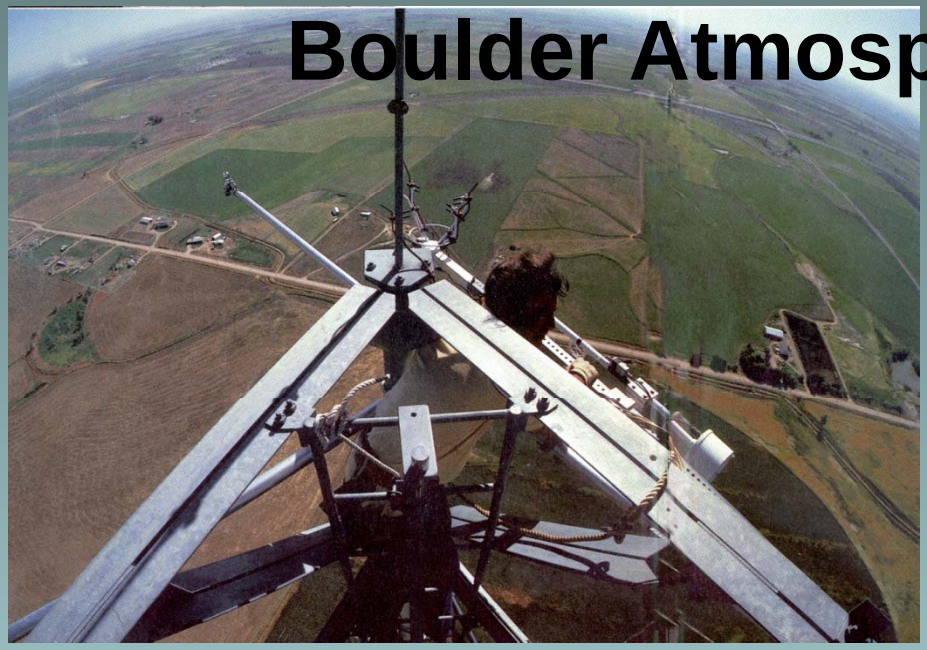
California Air Pollution Study
Pt Loma, CA



Mt Washington

70 mph

Boulder Atmospheric Observatory



NCAR King Air fly-by

LONGMONT DAILY TIMES-CALL WEEKEND, OCTOBER 15-16, 19

THE TOWER

Times-Call photo by GREG EBERSOLE

Meteorologist Dan Wolfe is used to working at altitude ...others cringe high atop the huge 98-story structure

98 stories above Weld County

By Don Olsen

It has been blasted by lightning, pummelled by hail, rocked by Chinook winds, coated with ice, avoided by aircraft and both criticized and complimented for its imposing stretch of almost 1,000 feet into the Weld County sky.

At 98 stories, the five-year-old Erie weather tower is not only the tallest man-made structure in Colorado, but also an irreplaceable tool for studying both Front Range atmospheric conditions and Denver's notorious Brown Cloud.

The tower's high intensity strobe lights are a landmark visible from the mountains on the west to Greeley on the east, and a heart-stopping elevator ride to its needle-thin tip opens up a bird's eye vista of several Colorado counties.

To a meteorologist, it's the Boulder Atmospheric Laboratory, a lofty steel perch in the earth's lower troposphere. Sensitive scientific instruments spin and click along its sides, sending thousands of bits of information into computer data banks available to researchers from around the world.

To experimenters with the Environmental Protection Agency, the Erie tower is a convenient platform from which they can emulate the pollution from a high altitude smokestack and gather valuable knowledge about the origins of acid rain.

To engineers, the tower is a remarkable feat, at 300 meters exactly equal in height to France's Eiffel Tower and constructed over an abandoned underground coal mine that had to be stabilized with truckloads of concrete to support the solid steel structure.

Once expected to have a research life of only five years, the tower remains a center for scientific activity. "It's literally busier than ever. We've got at least another five years of useful life," says National Oceanographic and Atmospheric Aministration meteorologist John Gaynor.

A trip to the top of the Erie Tower is both a chance for a fascinating view of the northern Front Range and an acrophobic experience for the faint-hearted. NOAA meteorologist Dan Wolfe, who spends much of his time at the tip of the structure, took a reporter and photographer with him one early morning two weeks ago.

After donning required safety harnesses and stepping into the electric cog elevator, the rattling journey to the top began. Little could be seen on the outside — since passengers are enclosed in a steel casing with only tiny corner windows. Wolfe said the lift is designed to be much safer than most conventional elevators, with several back-ups and emergency brakes should the main system fail. The complete ascent takes about six minutes, and when it finally jolted to a stop at the tower's highest point, the rural landscape of Boulder and Weld Counties opened up far below like the patchwork quilt of an early Colorado homesteader.

Passengers edged their way out of the lift, well aware of the fact that a wrong slip meant a 98-story plunge to the ground. The nerves of even experienced tower researchers remain constantly sharpened to the always present danger of falling. "After working up here all day, you notice that you're really tired when you get back down," said Wolfe.

No major accidents have occured in the tower's five-year history, but there have been moments. Once, when the structure was still being constructed, some mischievous kids had tried to climb it and one of them ended up spending a terrifying night "frozen" on the tower from fear of falling. Another time a pair of researchers doing snowflake studies had gone to the top during a storm to collect samples. For some reason the main elevator jammed and the scientists had to edge their way out to an equipment carriage 1,000 feet up in the air to be brought back down.

Today the structure is protected from novice adventurers by a high steel fence, and rules prohibit its use during bad weather.

Wolfe dropped the elevator one level down, allowing its roof to become a larger platform on which to stand. To the south, Denver's shining skyscrapers loomed out of a scuddy brown cloud of morning pollution. From the tower's vantage point, observers could clearly see how the pollution, pressed to the ground by a morning inversion, was slowly drifting northwest up the the South Platte Valley and then circling north along flood plains draining east out of the Rockies.

That day the tip of the tower was above the inversion layer, and the surrounding atmosphere was remarkably warm, fresh and clear. To the south, Denver looked like a dirty punch bowl.

Meteorologist Gaynor said the siting of the tower on the populated Front Range was in fact "a compromise location." Although conveniently close to NOAA's Boulder research labs, the tower is also subject to Denver's pollution plume, high winds and uneven surface terrain.

But at the same time, he said, the tower can provide a vertical view into the planet's atmospheric boundary layer as it is affected by "real conditions."

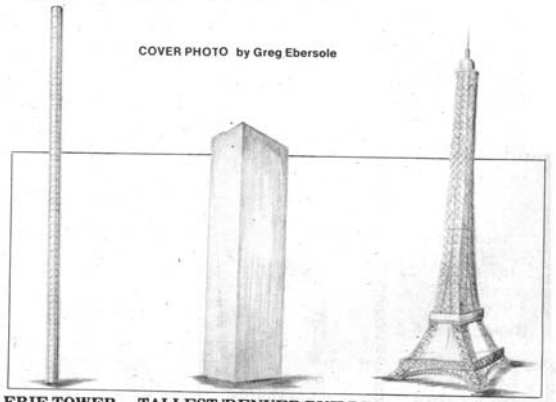
"That's where the pollution is, and that's where the people live. The area where things are happening is in the boundary layer," he said. Last month, for example, the Environmental Protection Agency used the Erie Tower to monitor smoke samples to see just where pollution from high altitude stacks goes after emmission. Gaynor said he was surprised to notice the smoke seemed to drop to the ground almost immediately, contradicted a widespread theory that such pollution remains aloft as a possible cause of acid rain.

To keep the facility busy, NOAA encourages usage by universities and other government agencies. With its impressive array of sonic anenometers, acoustic echo sounders, microbarographs and other super-sensitive meteorological instrumentation reaching far into the Colorado sky, the awesome tower will likely remain a popular point for atmospheric research well into the 1980s.

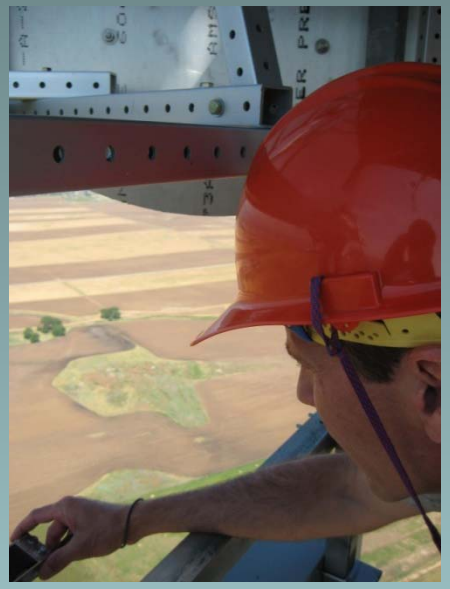
But to the NOAA staffers like Dan Wolfe who regularly commute to work on an electric cog elevator to a 1,000-foot-high steel platform, the Erie tower eventually "becomes sort of like your office."

Don Olsen is special sections editor for the Daily Times-Call.

COVER PHOTO by Greg Ebersole

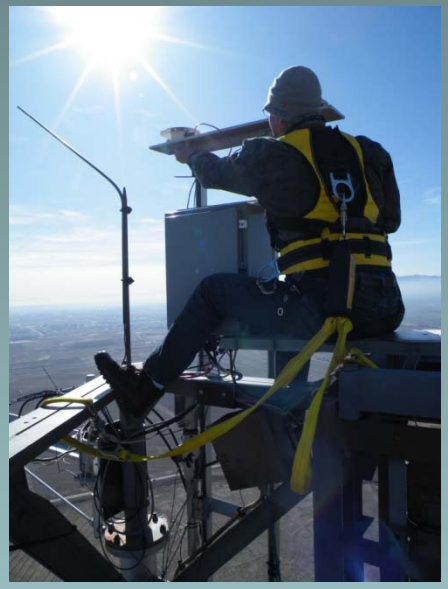


ERIE TOWER TALLEST DENVER BUILDING EIFFEL TOWER



Peter

Instrument carriage CU



Dan at the top!!

STRATUS

STRATUS	2007
HEALY	2008
GASEX	2008
ICEALOT	2008
AMMA	2008
VOCALS	2008
CALNEX	2010

Healy

R/V Ron H. Brown

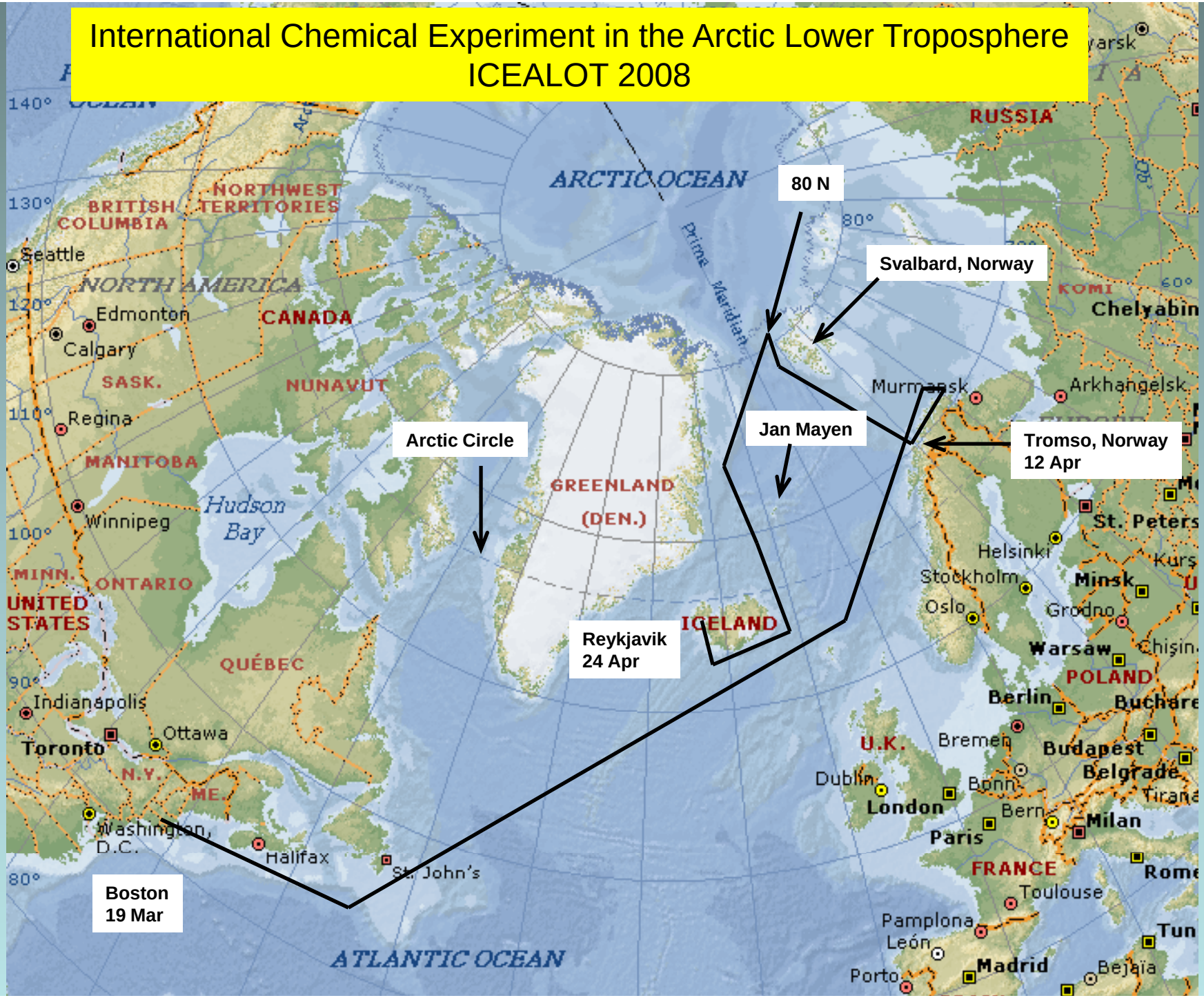
ICEALOT

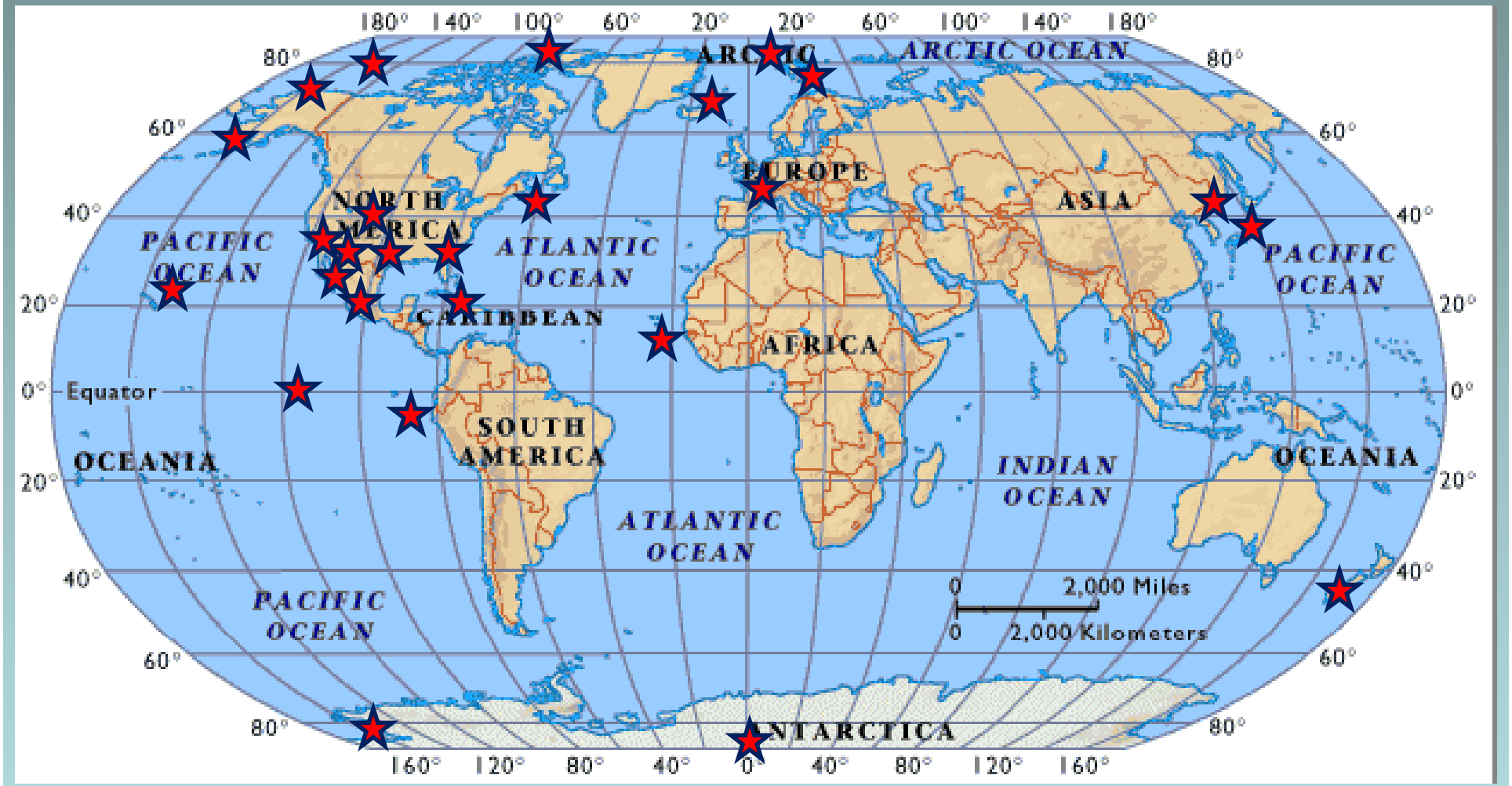
AMMA

R/V Knorr

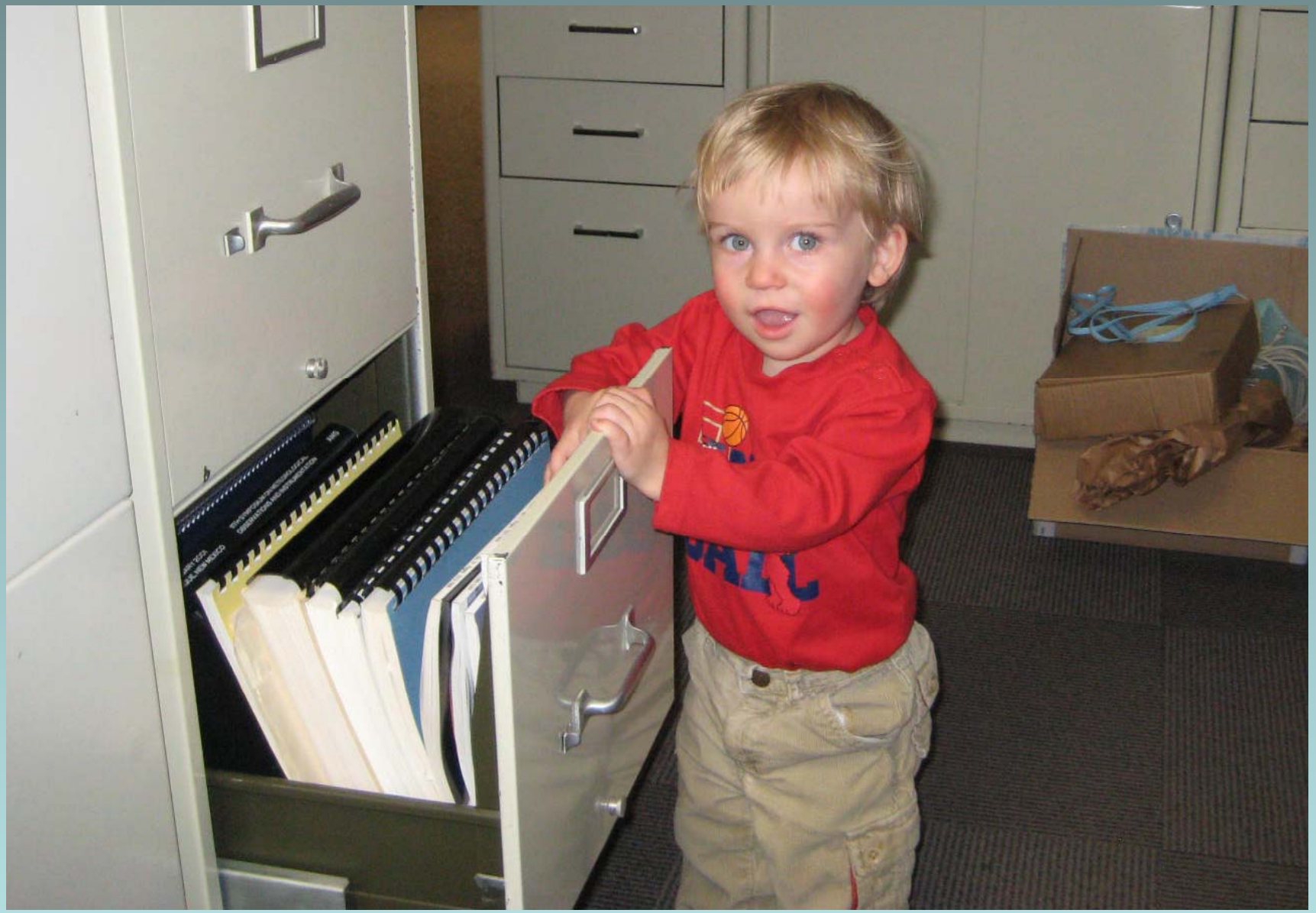
GASEX

International Chemical Experiment in the Arctic Lower Troposphere
ICEALOT 2008




ARCTIC
ARCTIC OCEAN
EUROPE
ASIA
NORTH AMERICA
PACIFIC OCEAN
ATLANTIC OCEAN
PACIFIC OCEAN
CARIBBEAN
AFRICA
Equator
SOUTH AMERICA
OCEANIA
INDIAN OCEAN
OCEANIA
ATLANTIC OCEAN
PACIFIC OCEAN
0 2,000 Miles
0 2,000 Kilometers
ANTARCTICA
180° 140° 100° 60° 20° 20° 60° 100° 140° 180°
80° 60° 40° 20° 0° 20° 40° 60° 80°
160° 120° 80° 40° 0 40° 80° 120° 160°

Ghost Ships Suisun Bay, Benecia, CA June 5, 2010



Beau Daniel Bennetts

Boulder Atmospheric Observatory 1976-1981
CSU 1981
Denver Brown Cloud Study 1987
Grand Canyon Haze Study 1990
LEADEX Arctic Leads field experiment 1991
MPS Mobile Profiling System 1992
South Pole 1993
Surface-based GPS Water Vapor 1996
SHEBA Surface Heat Energy Budget of the Arctic 1997
Ft Huachuca Wind Profiler
Vandenberg Air Force Base Wind Profiler
GroundWinds
Ron Brown Wind Profiler
MDSS Federal Highway Road Weather Project
AMS Measurements Committee Member
Ron Brown Atmospheric Instrument Mentor
STRATUS 2003 2005 2007
SEARCH Study of Environmental Arctic Change 2005-
AEROSE 2006
NEAQS 2002 2004
TEXAQS 2006
Healy 2008
ICEALOT 2008
VOCALS 2008….CALNEX 2010