International collaboration in the Antarctic for global science

Dr. Karl Erb
Director
Office of Polar Programs
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Russian/U.S. Weddell Sea expeditions

1981: Soviet icebreaker; 13 USA and 13 USSR scientists

1992: Russian and U.S. icebreakers; camp on sea ice; 17 USA and 15 Russian scientists
Multinational Antarctic research papers, 1980-2004

--after Dastidar and Ramachandran, 2008
Antarctic Ice Sheet Drainage

- Siple Coast Ice Streams
- Pine Island/Thwaites Glacier Drainage
- Aka Amundsen Sea Embayment Province of WAIS
- Byrd Glacier Drainage
- Lambert Glacier/Amery Ice Shelf Drainage
- Mertz Glacier Drainage

Legend:
- East Antarctic Ice Stream Province
- China PANDA
- US-AGAP
- US-ASEP
Location of first ice sheet (~34 million years ago)

Tectonic enigma

Potentially very old ice

USA, UK, Russia, Germany, China, Australia
Larsen Ice Shelf System, Antarctica (LARISSA) project

- Argentina
- Belgium
- Korea
- Ukraine
- United States

Larsen Ice Shelf breakup, 2002
ITASE: International Trans-Antarctic Scientific Expedition
Antarctic Continental Margin
Stratigraphic Drilling

Germany
Italy
NZ
UK
USA
Concordiasi science payload, McMurdo

France-USA study of climate
Concordia: Italian and French station at Dome C, East Antarctica
Australian Airbus A319 on sea ice runway, McMurdo, Antarctica
N.Z. Air Force C-130 on ice runway, McMurdo
(wheels only)

LC-130 (ski-equipped)
Swedish icebreaker *Oden* in the Ross Sea, Antarctica
National flags of the original Antarctic Treaty signatories
Amundsen-Scott South Pole Station, U.S. Antarctic Program