there is very little in the way of concrete support." Raines also warned the R&D community to avoid seeking special earmarks for particular projects, lest researchers create "a high-tech version of old-fashioned pork barrel politics."

Michael Lubell, public affairs director at the American Physical Society, says researchers have been low-key in their praise of the Democratic Administration to avoid alienating the Republican Congress. But he adds that more than 30 scientific societies have endorsed an upcoming letter to President Bill Clinton commending him for his spending proposals. Raines, Lubell notes, "had to be dragged kicking and screaming" into supporting those increases.

Lubell and other science supporters say that overall R&D has a sturdy foothold in Congress. At an unusual 28 April hearing on the future of R&D before a Senate Commerce subcommittee, four senators testified on behalf of a proposal, S. 1305, to double spending over the next decade. Senator William Frist (R–TN), who chairs the Commerce panel with science oversight, promised his own version of the bill but declined to offer details. Some lawmakers, however, say that neither measure is likely to influence next year's spending levels. "To the degree that it creates a more favorable atmosphere for R&D, it's a worthy goal," says Representative George Brown (D–CA), ranking minority member of the House Science Committee. "But with or without it, we may see a reduction in all civilian R&D except NIH."

–Andrew Lawler

NATIONAL SCIENCE FOUNDATION

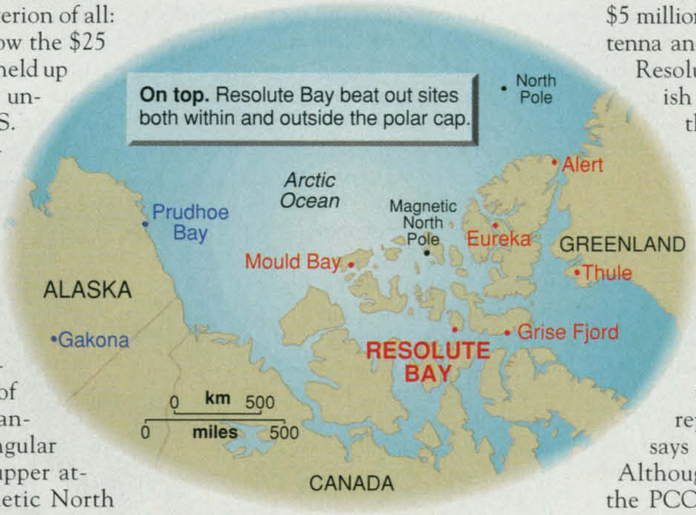
Location Dispute Freezes Arctic Facility

When the National Science Foundation (NSF) chose a site in Canada near the magnetic North Pole to build a radar facility that would study the impact of the sun on Earth's upper atmosphere, it took into account logistics, topography, and weather. But when NSF asked for money to build the Polar Cap Observatory (PCO), it discovered that it had left out of its calculations perhaps the most important criterion of all: the political lay of the land. Now the $25 million PCO remains in limbo, held up by a powerful Alaskan senator unhappy about having a major U.S. research facility built on Canadian soil. This week, after twice failing to win money for PCO in its current budget, NSF officials urged a Senate spending panel to fund PCO in the 1999 budget, which begins on 1 October.

PCO would deploy incoherent scatter radar—consisting of a transmitter and a steerable antenna made up of 4000 rectangular elements—to study how the upper atmosphere above the geomagnetic North Pole responds as particles and energy from the sun are funneled inward along Earth's magnetic field lines. It would be the fifth in a line of similar, existing facilities stretching south to the equator that collect data over a poorly understood region of intense electromagnetic activity that affects global communications, weather patterns, and climate.

A 1990 report, which presents the scientific justification for the project, identified Resolute Bay, in Cornwallis Island in Canada's Northwest Territories, as the preferred site (see map). Its proximity to the geomagnetic pole, existing infrastructure and air-sea links, and relatively favorable weather—although bone-chillingly cold, the area is less prone to violent winds and storms than other arctic sites—make it clearly superior to a half-dozen other potential sites, according to the report. After slowly wending its way to the top of the queue of new facilities, PCO was included in NSF's 1998 budget request that went to Congress in February 1997.

That's when geography overtook science in the decision-making process. Senator Ted Stevens (R–AK), chair of the Senate Appropriations Committee and its defense subcommittee, objected to the choice of a Canadian site, especially with 100% U.S. funding, and wondered if the PCO instead could become part of an ionospheric radar facility being built by the Defense Department (DOD) in southern Alaska (*Science*, 21 February 1997, p. 1060). Although Stevens later backed off from that idea, Congress omitted PCO from NSF's budget and asked the agency for a fuller explanation of the site-selection process and its scientific value.



On top. Resolute Bay beat out sites both within and outside the polar cap.

NSF officials responded quickly to Congress's request. By December they had produced two reports that detailed the scientific merits of Resolute Bay versus the other sites and concluded, again, that Resolute Bay was the right place for PCO. The report served to highlight the weaknesses of an Alaskan site. "[I]t was clear that you couldn't serve both NSF's and DOD's objectives [from a joint site in Alaska]," says an aide who has followed the issue. But other sites, including Thule Air Force Base in Greenland, remain possibilities.

Assuming that its case had been made, NSF then submitted its operating plan for the 1998 budget that included spending $5 million to work on a prototype of the antenna and on engineering designs for the Resolute Bay site. NSF is anxious to finish the project before 2001–2, when the sun will reach its next activity peak, generating major disturbances in the upper atmosphere. But the move irked congressional aides, who saw it as a bureaucratic end run around last year's decision not to fund PCO, as well as a last-minute change in the agency's research priorities. "The decision was made to wait a year on PCO, and the reprogramming goes against that," says a Senate appropriations staffer. Although the spending panel excluded the PCO funding when it informally approved NSF's operating plan in February, NSF officials have continued to push for a reversal of that decision.

With only 4 months remaining in the current fiscal year, however, next year seems a better bet. NSF officials testified before the Senate this week on the agency's 1999 budget request, which includes $21 million to complete work on the observatory. A panel staffer says the issue "is open for FY '99" but notes that the competition for funding among agencies, as always, will be stiff. "It's up to NSF to make its case and to explain why it's a priority" for next year. Then it will be up to Stevens and his colleagues to decide where, when, and whether the observatory should be built.

–Jeffrey Mervis