

seen in the Guaymas Basin. When scientists aboard the *Glomar Challenger* drilled there in late 1978 (SN: 2/10/79, p. 85), they brought back cores that showed sheet-like volcanic flows intruding into the soft sediments. They also found that the sediments sandwiched between the magma intrusions appeared compacted and dehydrated and that certain minerals usually found in sediments had been removed or were hydrothermally altered. In some cores, they found evidence for deposits of minerals typical of those formed by reaction with hot water, such as magnesium silicates and iron or manganese oxides or sulfides.

From these bits of evidence, German researcher Gerhardt Einsele, Joris M. Gieskes, Joseph Curray and others pieced together a mechanism: The newly formed magma intrudes as sheets into the rapidly deposited sediments. There, the heat and weight of the cooling rock expels the water contained in the sediments. As the heated water (about 300°C) leaves the sediments, it carries minerals formed by reac-

tions between the magma, the sediments and the water. When the water reaches cracks in the sediments or the volcanic rock, it carries its mineral load toward the surface and deposits it. Eventually, researchers speculate, such deposits are carried on top of the spreading sea floor and slapped onto the continents.

The hot and warm water vents, the magma expelled water and ore deposits formed on land appear to be "different manifestations of the same process," says Gieskes of the Scripps Institution of Oceanography. Because each occurs under slightly different conditions, each produces a different suite of minerals.

Alternating layers of magma and sediments in a young ocean basin had been suggested prior to the recovery of the cores, according to co-worker David G. Moore. But the mineralization process was not anticipated, he says. If the process is indeed characteristic of young oceans, similar deposits might be found, for example, in very old sediments near the margins of the Atlantic Ocean. □

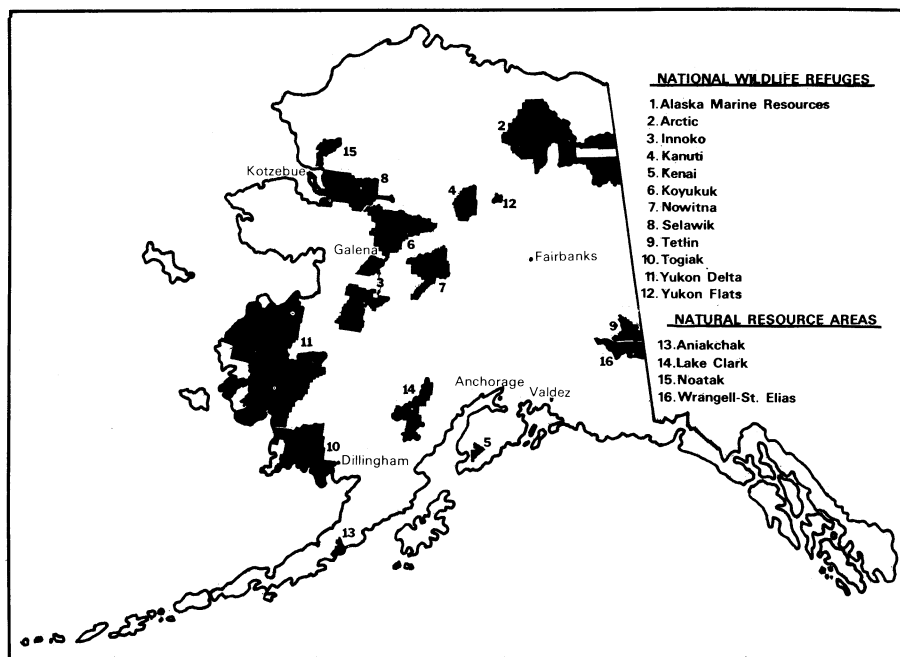
obstructionism based on the threat of a one-man filibuster."

Alaska's Senator Mike Gravel, a Democrat, has waged a prodevelopment fight against protective legislation in the past. But he and colleagues recently agreed to a time limit for debating the measure during this Congress, thereby ruling out any chance of a filibuster. Andrus expressed concern, however, that the lateness of the Senate's intended debate — now scheduled for after July 4 — "will lead to a stalemate in the closing days of the 96th Congress, just as happened to its predecessor in 1978." Hence his action.

Among the lands withdrawn for protection by Andrus are the vital habitats for 10 percent of all ducks, 20 percent of the geese and 45 percent of the swans inhabiting North America. Some 70 to 90 percent of the rookeries and hauling grounds for Alaska's sea lions, sea otters and harbor seals would also be protected. The Alaska Marine Resources refuge alone provides nesting grounds for an estimated 40 million seabirds, including several marine species that breed nowhere else in North America.

Later this year another 12 million acres of Alaska lands now under study may be added to the 40 million, and receive the extended, 20-year protection. □

## Interior extends Alaska lands protection



Blackened regions denote acreage receiving extended environmental protection.

Restrictions against commercial oil, gas and mineral development on 40 million acres of federal land in Alaska — due to expire late next year — have been extended for an additional two decades. Designation of the affected regions as wildlife refuges by the Interior Department permits work on existing mining claims to continue, but bars most new claims and other forms of commercial development.

Curbs on land use under the Interior Department claims are more restrictive than any legislation currently under consideration by Congress. That's why Interior Secretary Cecil D. Andrus referred to

his Feb. 12 move as "an insurance policy." Since Congress alone can alter this Executive Department designation, Andrus hopes this prod will assure passage this year of permanent protective legislation for 55 million acres of Alaska lands by the Senate, including the 40 million affected by his most recent action.

The House voted resoundingly in both 1978 and 1979 to "protect the resources of Alaska's crown jewels in perpetuity as national parks, wildlife refuges, forests and wild and scenic rivers," Andrus said. Meanwhile, he added, Senate action was forestalled in 1978 "because of deliberate

## Interferon trials expanded

Interferon, which has been known for a long time as a natural human body substance that might be harnessed to fight disease, may finally be coming into its own. Back in 1978, for instance, preliminary clinical findings suggested that exogenously applied interferon could counter cancer, so the American Cancer Society decided to invest \$2 million in controlled clinical trials to further document and explore interferon's cancer-fighting abilities (SN: 10/28/78, p. 295). Last month, Charles Weissmann of the University of Zurich reported that he and his colleagues had made human interferon with recombinant DNA techniques, opening the possibility of mass-producing the scarce and terribly costly substance (SN: 1/26/80, p. 52). And the ACS announced this week that, because the preliminary results of its interferon clinical trials look good, it is allocating another \$3.4 million to expand them.

Most of this extra money, ACS president S. B. Gusberg explains, will be used to buy more naturally produced interferon, which now costs about \$30,000 per patient. Although Weissmann and his team anticipate that they will be able to provide moderate amounts of cheap, recombinant DNA-produced interferon for clinical trials within a year, ACS officials think it will be more like two to three years from now.

To date, the ACS clinical trials include 150 patients with four kinds of cancer being treated at 10 medical centers. □