Turbulent Times for NOAA

A struggle over who will head the agency in the Reagan Administration's second term reflects the buffeting NOAA has taken in the past 4 years

Anthony J. Calio has an unusual ornament sitting on a coffee table in his office at the National Oceanic and Atmospheric Administration (NOAA): a battered old Army helmet. It is a wry reminder of the bureaucratic trench warfare that has broken out over Calio's bid to become NOAA's next administrator.

The shooting started last spring when John V. Byrne, who was appointed in mid-1981 as NOAA's third administrator, announced he would leave at the end of the year to return to Oregon State University. (He actually left on 1 November.) Calio, an 18-year veteran of the National Aeronautics and Space Administration (NASA) who has spent the last 3 years in NOAA's number two post, immediately became the heir apparent. He has been publicly supported for the position by Commerce Secretary Malcolm Baldrige, in whose department NOAA resides, and has recently gained the backing of six conservative senators who have sent a letter to the White House on his behalf. But intense opposition from Capitol Hill, parts of the White House, and even within NOAA itself has so far stalled the appointment.

What makes this battle so fierce is that the choice of a new administrator is viewed by many as crucial to the future of an agency that has been buffeted and demoralized over the past few years. "We now have an opportunity to do something about NOAA, and that opportunity will not come around again soon," says one participant.

Indeed, much of the opposition to Calio is based on the fact that he has been widely blamed for many of NOAA's problems. An aggressive—some say ruthless—manager, he has gained a reputation within the agency for being unsupportive of NOAA's research programs and as an ally of those in the Administration, particularly in the Department of Commerce, who have sought deep cuts in the agency's budget. Calio says this reputation is undeserved. "I have been tarred with all the faults, and I'm not going to let it sit there," he said in an interview.

As evidence of his qualifications for running a science agency, he points with pride to his time at NASA, where he moved steadily up the hierarchy. Along the way, he headed the lunar sampling program at Houston and eventually ran the civilian space program as associate administrator for space and terrestrial applications. Former colleagues confirm that although his management style caused some friction, he brought in first-rate scientific deputies and was an effective R&D manager. As for his close ties to the department, Calio says they will stand him in good stead in steering NOAA's programs through the bureaucracy.

Be that as it may, Calio's opponents argue that a clean break with the past few years is needed. They want to install an administrator who can put a fresh stamp on the agency, give it a renewed sense of mission, and work with both the Administration and Congress to put NOAA back on its feet. Calio, they believe, comes with too many political liabilities.

Whoever gets the job is going to have his work cut out. Created in 1970 by an executive order that brought together oceanic and atmospheric programs from several different departments, NOAA has always been something of a stepdaughter among the federal science agencies. It has never lived up to the hopes of some of its early proponents that it would become a "wet NASA"—an agency that would provide the focus for the oceans and atmosphere that NASA has provided for space.

One perennial problem is that NOAA's mission is not closely tied to that of its parent department and consequently it has rarely had a cabinet secretary willing to fight for its interests. Another is that the agency spans a broad range of activities, from the provision of services such as weather data to the conduct of basic research. Unlike NASA or the National Institutes of Health, it therefore lacks a cohesive mission.

NOAA's plight has worsened dramatically under the Reagan Administration. Its budget has become a political football, with the Administration seeking deep cuts each year and Congress putting most of the money back in. Management has been paralyzed by deep divisions between Byrne, Calio, and James Winchester, the number three man in the agency. A reorganization of NOAA's R&D programs was mishandled and eventually aborted after several lab chiefs complained. Many of the agency's activities are being reviewed to see whether they should be transferred to private contractors, which has caused morale in those programs to plummet. And the weather and remote sensing satellite programs have been jerked around by proposals to turn them over to private industry and by abrupt changes in policy.

The most obvious sign of the agency's problems has been the annual tussle over the budget. In each of the past 4 years, the Administration has taken an ax to NOAA, attempting to chop out some programs entirely and make deep cuts in many others. At the same time, the agency has picked up several activities dropped by NASA, including support for some tracking stations and the development of prototype spacecraft and sensors for satellite meteorology, with no increase in its overall budget to accommodate them. Each year, Congress has come to the rescue and put most of the money back in, but this repeated pulling and hauling over the budget has had a severe impact on some programs.

One difficulty is that Congress has generally not finished its work on the budget until well after the fiscal year has begun. This means that the managers and beneficiaries of programs slated for extinction do not know from one month to the next how much money, if any, they will have, and when it does come through it has to be spent in a rush before the fiscal year ends. All this naturally makes planning somewhat chaotic. Moreover, Congress has generally added money back in to R&D programs at about the same level as the previous year; as a result, they have lost ground to inflation.

The Sea Grant Program has been particularly hard hit by these budgetary gyrations. Started by Congress in 1966, it supports marine research at 19 universities and colleges that have been designated as Sea Grant Colleges. In each of the past 4 years, the Administration has sought to eliminate the program, arguing that it supports work mostly of local interest and that state and local governments and private industry should therefore pick up the tab. Each year, however, Congress has come to the rescue and simply stuck some funds back in without changing the structure of the program or the type of research it supports. Funding has fluctuated around $40 million for the past 5 years.

There has been a lot of nail biting in the Sea Grant Colleges over these budgetary uncertainties. And the problems have been compounded by a new review process in the Department of Commerce. All grants issued by the department must be approved by a board whose chief mandate is to root out waste and fraud. Although no Sea Grants have been disapproved, the additional review has sometimes added many weeks to the approval process and some universities have been on the verge of laying off staff because grants have not come through when anticipated. "Several of us are getting very nervous about funding from NOAA," says John Knauss, who heads the marine research program at the University of Rhode Island.

Many of NOAA's intramural programs have suffered similar ups and downs. For example, the agency's Great Lakes Environmental Research Laboratory in Ann Arbor, Michigan, has been proposed for elimination and reprieved by Congress each year, as have programs on ocean pollution, research on the terrestrial effects of solar disturbances, and a variety of other activities. As a result, while research programs in most federal agencies have fared relatively well during the Reagan Administration's first term, NOAA's programs have been financially squeezed.

This is true even in areas that are central to NOAA's mission. For example, according to figures pulled together by the subcommittee on atmospheric research of the Federal Coordinating Council for Science, Engineering, and Technology, while NASA, the Department of Defense, and the National Science Foundation all increased their support for atmospheric research between 1980 and 1984, NOAA's budget for these activities dropped from just over $60 million to less than $40 million. Most of the decline at NOAA came in 1981, the Reagan Administration's first year in office.

The blame for NOAA's plight is generally laid at the door of the Department of Commerce, which, according to NOAA officials, has taken little interest in the agency's programs and has not fought the Office of Management and Budget (OMB) to protect the budget. This summer, for example, in preparation for the fiscal year 1986 budget, NOAA drew up a request for $1.31 billion, but the department cut it to about $970 million before passing it on to OMB. In a memorandum explaining the department's actions, deputy commerce secretary Clarence Brown stated that because "the need is greater than ever to restrain government spending . . . few if any new initiatives can be approved." Most of the programs that the Administration has tried to ax in past years would get the same treatment next year if the department gets its way.

Anthony J. Calio

"I have been tarred with all the faults."

Tensions between NOAA and its parent department are nothing new. Although NOAA accounts for more than half the department's total budget, Commerce officials are not usually appointed because of their interest in marine or atmospheric programs. Thus, NOAA has often suffered in the past from benign neglect. However, the neglect is no longer so benign in view of the intensifying budget pressures. In addition, some in NOAA have resented a recent management shift in which some of NOAA's support services have been transferred to the department. The move is designed to consolidate activities, but it is seen in NOAA as tying the agency closer to a department with which it has little in common.

These intradepartmental problems are the basis for some of the animosity toward Calio. Because Calio has close links with department officials, he is viewed as being unsympathetic toward the agency he wants to head. Asked to comment on his relations with the department, Calio said, "It's a mindset I have, I work for my superiors." Calio argues that the rift between NOAA and the department was "massive" when he came to the agency, and "I went out of my way to close the rift." The tensions are detrimental to good management and have hurt NOAA's own interests, he said, suggesting that if the agency has Baldrige's support it can use his access to the President to push its case.

Tensions between NOAA and the department may have hurt the agency, but tensions between NOAA's three top officials have been equally damaging. Several agency officials say they rarely talked to each other and seldom attended meetings together. Consequently, each had to be briefed separately on proposals, and it was often difficult to get a top-level decision made.

The management problems this created were compounded by the fact that each had his own constituency and power base, which meant that disagreements between them sometimes spilled outside NOAA. Consequently, the agency has not presented a united front on key policy matters such as budgets. Byrne, a marine scientist, has generally had the support of the scientific community, Calio's base has been in the department, and Winchester, the associate director, is said to have support from OMB and House Minority Leader Trent Lott (R–Miss.). (Winchester has earned the animosity of many in NOAA for his vigorous pursuit of the Administration's goal of reducing the government payroll by contracting federal activities out to private industry. Under his supervision, several of NOAA's programs are being reviewed to see if they should be transferred.)

According to Calio, tensions between himself and Byrne (Calio prefers to refer to the situation as a "lack of communication") stemmed from an attempt to reorganize NOAA's research labs. This episode also lies at the root of the apparently widespread perception that Calio is unsupportive of NOAA's science programs.

Under the current structure, NOAA's oceanic and atmospheric research programs are the responsbility of an assistant administrator based in Rockville, Maryland. However, the directors of the nine in-house labs funded through this

program—which are collectively known as the Environmental Research Laboratories—report to a scientific director based in Boulder, Colorado. The reorganization plan would essentially have grouped the labs into three areas: one concerned with marine research, one with atmospheric research, and the third consisting of the existing Geophysical Fluid Dynamics Laboratory at Princeton. The management layer at Boulder would have been eliminated.

The plan was agreed to by both Byrne and Calio, and Calio was given the job of seeing it through. It was therefore perceived by many in the labs as Calio's plan. It ran into opposition on two counts: elimination of the overall management responsibility in Boulder was seen as eroding the scientific autonomy of the labs, and some of the labs would have been downgraded in title, if not in status. George Ludwig, who was then director of the Environmental Research Labs, complained to Byrne, who aborted the plan. "That is where John and I came apart," says Calio, who believes the plan should have been implemented. "You have to go through some pain to get where you want to be," he says.

Calio's relations with the labs suffered another setback early last year when Ludwig resigned in protest over budget cuts and what he claimed was a continuing attempt to reduce the autonomy of the labs. He made no secret of his belief that Calio was to blame.

All this has taken its toll. "Morale throughout NOAA is the lowest I have ever seen it in my 30 years here," says Fred White, who follows the agency closely from his vantage point as director of the American Meteorological Society. The problems have reached the point where the Office of Science and Technology Policy (OSTP) has finally begun to pay some attention.

For the past few months, OSTP has been taking a close look at NOAA's research programs and has apparently found something of a mixed bag. In recent remarks to reporters, OSTP director and presidential science adviser George Keyworth II said that although there is some "first class science" being done, "there is also some poor quality work in what we call research." He also sent some shivers through the agency by referring to "pork barrel programs" in NOAA's research activities, an apparent reference to programs such as Sea Grant that Congress has always protected in part because the funds are distributed throughout many congressional districts.

In a recent interview with *Science*, Keyworth likened NOAA's research programs to those of the Department of Agriculture, suggesting they are in need of a shake-up but that the needed reforms would be difficult to steer through entrenched interests in Congress.

To many people, Byrne included, one solution to NOAA's problems would be to remove the agency from the Department of Commerce. Indeed, when NOAA was first proposed in the mid-1960's, it was envisaged as an independent agency much like NASA, and many of its supporters would like to see it finally gain that status.

Last year, the Reagan Administration itself made such a proposal when it drafted a plan to establish a Department of Trade and Industry. Because NOAA would not fit into the proposed department, the Administration decided to make it independent. The plan died on Capitol Hill, but Baldrige is reported to be keen to resurrect the idea of a Department of Trade and Industry next year.

Would independence really help NOAA? Opinions are divided. To many, the experience of the past 4 years indicates that anything would be better than continuing under Commerce's jurisdiction. But a small agency without a broad base of political support may not fare any better. One long-shot solution would be to make NOAA part of a Department of Science and Technology. OSTP has been working on a proposal for such a department, which would combine most of the federal government's nondefense R&D, but the chances of it becoming reality are slim.

Whoever gets the job as NOAA's next administrator will thus have to give NOAA a new sense of purpose, cement relations with the Department of Commerce, and work with Congress to recapture the initiative for setting policy, which has been largely surrendered to Capitol Hill in the past few years.

Calio would at least have the advantage of starting off on the right foot with the department. His relations with Congress would, however, need to be improved considerably. Senators Bob Packwood (R–Ore.) and Ernest Hollings (D–S.C.) have both opposed his nomination. They are, respectively, the chairman and ranking minority member of the Senate Commerce Committee, which would have to approve Calio's appointment. However, Calio has been making the rounds on Capitol Hill in the past few weeks and is shoring up his support. As one staff member has remarked, "He's got the department behind him, he's touching the right bases up here, and no other strong candidate has yet emerged."—**COLIN NORMAN**

NRC Urges Destruction of Chemical Weapons

A panel of experts convened by the National Research Council (NRC) has suggested that the government destroy aging and obsolete chemical weapons stored at eight sites around the country "as soon as possible," citing a need to shield nearby populations from the risk of a potentially serious accident.

The panel, which reviewed both the condition of the chemical weapons stockpile as well as the technology for its disposal, concluded that the U.S. Army has managed the weapons well in recent years. But it said that the age of the weapons had resulted in their deterioration. Some have even begun to leak, creating "a finite risk both to off-site civilian populations and to those who must work" with them.

The weapons, some of which were produced between 1942 and 1945 in response to widespread fear of chemical attacks by Germany and Japan, include rockets, mortars, artillery shells, bombs, spray tanks, and mines. According to the panel, many of them are useless because the Army lacks the equipment needed either to fire them or to remove the chemical agents for deposit in new munitions.

The panel, which was chaired by Norton Zinder, a professor of genetics at Rockefeller University, also concluded that the technology needed to ensure safe destruction is now largely in hand, and is unlikely to be much improved upon in the near future. Eschewing proposals for chemically neutralizing the munitions, or destroying them in a controlled nuclear explosion, the panel recommended that they instead be chopped into pieces by special machinery and incinerated in furnaces to be constructed at the present storage sites. The cost has been estimated at roughly $2 billion to $4 billion over the next decade.

The panel said the Army should assign the highest priority to prompt incineration of so-called M55 rockets, which contain highly lethal nerve gas, as well as live propellants and explosive devices. Many require repeated handling to control leaks, creating the risk of a sizable accidental explosion that could cause numerous deaths in