SCIENCESCOPE

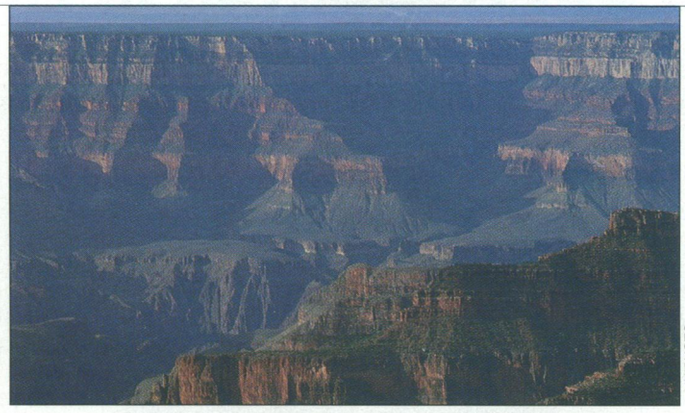
edited by DAVID P. HAMILTON

Breaking Up (AXAF) Is Hard to Do

Dogged by tight budgets and pressure to speed up development, NASA officials are planning to split the massive high-energy observatory known as the X-Ray Astrophysics Facility (AXAF) into two missions that will be launched separately on expendable rockets. The decision is a setback to scientists who now fear that the trimming will reduce x-ray collecting capability, although they hope to compensate with longer observing runs.

Scientists in the AXAF program say NASA will soon announce plans to fly the first part of the $1.6 billion observatory aboard an unmanned Titan rocket sometime in 1998, rather than on the shuttle in 1999. Months in the making, this decision represents a painful consensus among AXAF project scientists on how best to meet demands from NASA headquarters for a cheaper project that can be completed 7 months earlier.

The cost of this move, however, may be high: To cut AXAF's budget and fit it aboard a rocket, builders will have to jettison two of the observatory's six mirrors—thereby reducing its efficiency by 30%—and postpone launching one of AXAF's main instruments, a relatively low-resolution calorimeter. The new plan will also loft AXAF to a high earth orbit unreachable by the shuttle, eliminating the possibility of servicing the telescope should anything go wrong. But AXAF scientists also point out that in a higher orbit, the telescope can get by with smaller solar collectors and batteries, it will face less thermal stress in moving from sunlight to shadow, and it can get more viewing time because the earth won't be as much in the way.



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I can't see for miles and miles. An EPA task force plans $3 million worth of studies on the Grand Canyon's haze problem.

Clearing the Grand Canyon's Haze

In an attempt to understand a persistent haze problem in the Grand Canyon and to produce policy recommendations for the Environmental Protection Agency (EPA) by 1996, an EPA commission is planning a $3 million series of atmospheric pollution research projects—assuming it can find the money for them.

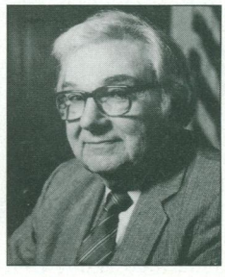
Aimed at filling the gaps in existing data on air quality in the canyon, the studies outlined in the committee's recently released work plan could answer questions that have long complicated attempts to mitigate the haze. For instance, since no one knows if reducing sulfur emissions from coal-fired power plants will improve visibility in the canyon or simply allow other pollutants to take the sulfates' place, the commission proposes an evaluation of atmospheric sulfur to help EPA decide if it needs to require costly smokestack scrubbers near the canyon.

Similarly, an analysis of so-called clean air corridors—regions from which the wind seems to clear haze from the canyon—should demonstrate whether this effect is a real meteorological phenomenon or simply a result of fewer pollution sources in these areas. Such data would play a crucial role in EPA decisions on limiting industrial emissions in states north of the canyon.

Unfortunately, the money EPA has reserved for the panel falls about $2 million short of what members say they need for their work. So far, they're pinning their hopes on getting agencies such as the National Park Service and the U.S. Forest Service to pick up some of the research burden—not to mention the possibility of prying more money from EPA itself.

Redistricting to Give Brown a Tough Election

Given a record number of retirements from Congress, this election year is already shaping up as one of the most unusual in recent memory. Now it appears that the electoral riptide could also engulf one of the most ardent defenders of science in Congress—Representative George Brown (D–CA), chairman of the House Science, Space, and Technology Committee.



STEVE TURNER

George Brown

Brown, who has represented the 36th district in parts of San Bernardino and Riverside counties since 1972, would likely have had a rough year anyway. Because he has a recent history of close elections—his margin of victory since 1986 has shrunk steadily from 14 points to 5—the Republican Party has made a point of "targeting" his district by providing strong challengers with plenty of resources.

This year, however, Republicans have received a windfall in the form of California's redistricting plan, which sliced the city of Riverside (and Brown's home) out of the 36th district and instead handed Brown the heavily Republican city of Rancho Cucamonga. "It's better than being poked in the eye with a sharp stick," grumbles one aide to Brown. Now Brown must not only buck anti-incumbent sentiment and convince his new constituents that his chairmanship works to their advantage, he must also do so against a well-financed challenger—likely to be either Bob Hammock, who ran well against Brown in 1990, or Dick Rutan, who piloted the aircraft *Voyager* in a nonstop around-the-world flight in 1986.

Inner Cities vs. Outer Space

When rioters set buildings afire in Los Angeles last month, more may have gone up in smoke than those besieged neighborhoods—so may have planned increases in research budgets at NASA, the National Science Foundation (NSF), and the Environmental Protection Agency (EPA).

Administrators at these agencies are clearly worried that their budgets will be cut next year to help pay for the increased urban assistance that President Bush proposed earlier this month. The reason: Their budgets are approved by the same congressional subcommittee—the House Appropriations Subcommittee on VA, HUD, and Independent Agencies—that also funds the Department of Housing and Urban Development. "We split the same pie," says one NASA official. And that pie isn't likely to get any larger.

The fun begins within a week or so when the House Appropriations Committee allocates funds for the 1993 fiscal year among its 13 subcommittees. No one at NSF, NASA, or EPA expects an increase in the VA-HUD subcommittee's budget to cover the cost of new urban programs, thus raising the specter of a dismal summer of budget slashing—one in which legislators may have to choose between building up inner-city neighborhoods, constructing the space station, or doubling the NSF budget by 1995.