

atmospheric studies and for cosmic ray research. Although even at that height, atmospheric effects would interfere with X-ray and gamma-ray astronomy, Dr Carl Fichtel of NASA's Goddard Space-flight Center, said last week that long and reliable balloon flights could be "extremely valuable" for low flux events, such as high energy electron-positron studies.

As for the two test flights, the balloons were carried to a height of about 78,000 feet by a small conventional balloon, and then released. They were carried by the air stream in an orbit passing over Australia, Africa and South America. The original intention was to bring the first balloon down after one orbit, but weather conditions at the landing site were not good, and it was decided to leave it to make another orbit. And, now that the second balloon has become becalmed, NASA will be able to look at the effects on the skin of at least 60 days exposure to intense ultraviolet radiation and micrometeorites.

## PESTICIDES

### Firing the Ant

by our Washington Correspondent

THE Department of Agriculture's long war against the imported fire ant — an insect with a painful sting which has established itself in the Southern United States—will move to a new battleground this summer. The Environmental Protection Agency has called a number of public hearings to help it decide whether a controversial pesticide known as Mirex should continue to be used against the ant. The hearings may finally put an end to the considerable controversy which has surrounded the Department of Agriculture's campaign against the ant in general, and the use of Mirex in particular, and a decision will be made before August 15, when the autumn treatment programme is due to begin.

First introduced into the United States from South America in the 1920s, the fire ant has since spread through the south-eastern states, from Texas to North Carolina. Although it does little or no direct damage to crops, the ant has been treated to an onslaught of pesticides in campaigns financed partly by the US Department of Agriculture (USDA) because of its painful sting and because its mounds damage agricultural machinery. The USDA programme at first attempted to eradicate the ant, but recently has concentrated on trying to prevent it from spreading any further.

The campaign against the ant has, however, been attacked by environmentalist groups and by several scientists, partly on the grounds that it is not worth the expense, but also because the chief weapon, Mirex, persists in the environment, tends to collect in some

animals and insects and has been found to cause cancer in mice. In March, 1971, William D. Ruckelshaus, Administrator of the Environmental Protection Agency, decided to cancel registration of Mirex because of the doubts about its safety, but the chief manufacturer, Allied Chemical Corporation appealed the decision and asked for review of the pesticide by an independent scientific advisory committee. The committee eventually gave qualified approval to Mirex, and in July last year, Ruckelshaus lifted the cancellation order but forbade use of the pesticide near water or heavily forested areas, and also stopped application from aircraft in coastal regions. The hearings this summer will re-examine those decisions.

The scientific advisory committee which examined the use of Mirex last year (see *Nature*, **235**, 353; 1972), concluded that the ant should be controlled because its presence restricts use of recreational areas, and because it is continuing to spread. The committee also concluded that Mirex is effective in controlling the ant, that it is not acutely toxic to man, and that it does not seem to present much of a long term hazard although more chronic toxicity studies are urgently needed. Mirex residues have, however, been found in relatively high concentrations in aquatic animals, and the committee consequently recommended that it should be kept away from water.

The pesticide is applied in small doses in a bait which the fire ant takes back to the mound, and it then wipes out the whole ant colony. When the Mirex treatment campaign first started about 15 years ago, the Department of Agriculture pumped more and more money into it, and was egged on by Congressional agriculture committees. But as the ant continued to spread, it became clear that complete eradication was impossible, and the USDA has recently been concentrating on preventing the ant from spreading. This year the USDA intends to treat about 20 million acres out of a total infested area of about 126 million.

## Short Notes

### Lunar Studies

THE National Aeronautics and Space Administration has announced that it has established a new programme for analysing lunar data derived from the Apollo programme. Called the Lunar Data Analysis and Synthesis Program, it will encourage multidisciplinary studies which draw on data from a number of sources, such as Apollo experiments and photography, lunar mapping, Moon samples and theoretical studies and Earth-based observations. The lunar programme is now part of the Office of

Space Science, and the Lunar Programs Division is headed by William T. O'Bryant.

### Second Biggest

KITT Peak National Observatory, atop a sacred mountain of the American Indians of southern Arizona, will soon have the second largest telescope in the world. The 158-inch Mayall Telescope, named after a director of the observatory, is now undergoing final tests before observations start in October.



Financed at a cost of \$10 million by the National Science Foundation, the telescope is housed in this building designed by the Chicago office of the Skidmore, Owings and Merrill architectural firm which also designed the visually striking McMath Solar Telescope also on Kitt Peak.

### Weather Modification

A RESOLUTION was introduced into the House of Representatives last week by Mr Don Fraser of Minnesota calling on the United States to seek agreement with other members of the United Nations on a treaty banning "research, experimentation or use of weather modification activity as a weapon of war". A similar resolution was earlier introduced into the Senate by Senator Pell.

### Psychosurgery

A TWO-YEAR moratorium on federal projects involving psychosurgery was called for last week by three Republican Senators. Senators Beall of Maryland, Dominick of Colorado and Buckley of New York introduced a bill into the Senate calling for such a moratorium and also directing the Secretary of Health, Education and Welfare to conduct a comprehensive study of psychosurgery and to recommend within a year, what circumstances, if any, justify its use.