The SST was one of the topics discussed at the Study of Critical Environmental Problems, a month long conference sponsored by the Massachusetts Institute of Technology and attended by an influential group of scientists from government, industry and the universities. Reporting their conclusions earlier this month, the group expressed concern lest large scale operation of SSTs should begin before the effect of the aircraft on the stratosphere and global climate was better understood. The recommendations of the group were, in brief, that the combustion products of the SST's engines should be better characterized so as to estimate how much water vapour and particulate matter will be injected into the stratosphere by the aircraft, and how these changes are likely to affect weather and climate.

Another attack on the SST has been pressed by the Environmental Defense Fund, which has already feathered its cap by getting the haul road for the Alaska pipeline delayed and requiring the Department of Agriculture to justify its continued use of DDT. The Fund has now taken court action to order the Federal Aviation Administration to set noise and other standards for the SST before granting a certificate of airworthiness.

The resourceful proponents of the SST in the government have met these criticisms by acknowledging the legitimacy of the concern expressed and setting up two councils. Mr William M. Magruder, an aeronautical engineer who since April has headed the SST programme in the Department of Transportation, announced last month that an Environmental Advisory Council would be set up under Dr Myron Tribus, an atmospheric physicist who is Assistant Secretary of Commerce for Science and Technology. This council will study the atmospheric problems raised by the SST, while an equally prestigious Noise Advisory Council, headed by the acoustical engineer Dr Leo Beranek of Bolt, Beranek and Newman Inc. will look into the decibels involved. Mr Magruder also announced that a research programme costing $27·6 million over three to four years would be carried out by the Naval Research Laboratory and other outside agencies.

Mr Magruder's office is confident that the necessary technological solutions can be found to cope with the SST's contamination of the stratosphere. The high operating temperatures of the General Electric engines being built for the Boeing SST ensure that little hydrocarbon soot is produced. Particles derived from sulphur dioxide are a possible serious source of contamination but it seems more than likely that the sulphur content of the aircraft's fuel can be reduced without significant increases in cost.

The MIT group thought it unlikely that the carbon dioxide introduced into the stratosphere could affect the heat balance, or that the water vapour would reduce the amount of ozone—two possibilities that have been much in the air. But an increase in water vapour of only a few parts per million would amount to a global 10 per cent change which would be expected to increase cloudiness and perhaps to affect climate. The finding that water vapour in the stratosphere above Washington has increased by 50 per cent since 1964 is evidence of how much remains to be understood about this rarefied region.

At $290 million, the SST's budget for the present financial year is more than twice the size of last year's appropriation and the plane's neck will offer a tempting target for the Congressional axe. The budget has already been approved by the House of Representatives, although by a much narrower margin than in previous years, and it is unlikely to enjoy plain sailing through the Senate. Even if the American SST should falter at this or a later hurdle, the research programmes now under way are unlikely to be called off as long as the Concorde and the TU 144 threaten to live.

OCEAN DUMPING

Seabed Legislation

from a Correspondent

PLANS for internationalizing the deep seabed and exploiting it for the benefit of mankind as a whole go on apace, but not quite fast enough to prevent the unilateral dumping of dangerous nerve gases in international waters off the Bahamas. This happening would be illegal, it seems, under any of the draft conventions under discussion at Geneva in the current month-long session of the UN Committee on the Peaceful Uses of the Seabed. The discussions intended to lead eventually to an international treaty with the objectives of (1) banning all aggressive military uses such as missile silos; (2) the precise definition of an International Seabed Zone under some kind of international jurisdiction; (3) exploitation of this area for the equal benefit of all nations irrespective of their technological competence and geography (such as coastless countries and those without the resources to bore for minerals a mile or miles below the surface); and (4) protecting the area from harmful environmental interference and for free scientific investigation.

Three countries have tabled draft conventions at this session. By far the most comprehensive is that of the United States Government following President Nixon's directive of May 23 this year. Both France and Britain have produced partial drafts for discussion. The principal differences relate to the definition of the proposed International Zone of the seabed area and to the mode whereby the have-not nations are to obtain revenue from the exploitation undertaken by the haves. The US proposal comes out firmly for making the boundary between "international seabed" and that under some kind of control its 200 metre contour. This, of course, generally corresponds with the edge of the continental shelf. The same draft also proposes an extension of territorial waters out to 12 miles, and a trusteeship role for the seaboard countries over the exploitation of the international region beyond their areas of "national jurisdiction". (Such countries would be entitled to between 30 and 50 per cent of the profit from the exploitation activities, with the rest going to a kind of international kitty for the non-exploiting countries.)

The question of how to apportion the contracts and their proceeds is likely to provoke the most debate. The Soviet Union has already made its objections to any idea that corporations as distinct from sovereign states should be entitled to do the exploiting. Britain has a simpler plan specifying only two classes of seabed zone—territorial and international—and with exploitation licences for international distribution and royalties, collected by the exploiters. Under any agreement, there will have to be provision for the dumping of waste.