



**Western Region Technical Attachment
No. 91-22
June 4, 1991**

GOES UPDATE

[Editor's Note: Following is information on the GOES program, provided by Tony Mostek, Satellite Program Leader, OM.]

- GOES-7 continues to be healthy and is on its way to 98 W where it will arrive on August 1, in support of the Atlantic hurricane season.
- GOES-7 has enough fuel to keep its inclination under 0.1 degree until next summer (1992). After that, the inclination (N/S wobble) increases 1 degree/year and will reach a 2 degree inclination by the fall of 1994.

NESDIS has experience operating GOES-type satellites with high inclinations of over 3 degrees in SMS and the early GOES days. Imagery and derived products will gradually degrade as inclination exceeds 2 degrees.

- GOES-7 will exceed its planned lifetime in the spring of 1992. GOES-6 imagery lasted 5 years 9 months until it failed in January 1989. There are no signs at this time of what might cause GOES-7 to fail. GOES-7 could last 2 or 3 years beyond design life.
- Major concern remains that something unexpected could cause GOES-7 to fail or that the ground system could experience some major problem. The ground system should be repairable; some key components could take time to replace. It is not known how well ground system will respond to increasing inclination angles.
- GOES-6 is almost out of fuel. When it runs out, it will start to drift slowly to the east. Portions of the Pacific Region will lose WEFAX support if GOES-6 drifts east before GOES-I is launched and GOES-7 can be moved to 135 W.
- GOES-I is still scheduled for launch in October 1992. There is a better than 50% probability of meeting this launch, but schedules are very tight and further slips are possible.
- The GOES-I imager is in good shape except for Channel 5 (12 micron) infrared channel which does not meet specifications. The imager testing is a little behind schedule, but overall will not be the schedule driver for the launch (at least right now).

- The sounder is behind schedule and several of the long- and mid-wave channels will not meet specifications. NOAA is recommending that the program continue and that the sounder be included even if it does not meet specifications. Several simulations have been done at the University of Wisconsin - Madison to assess the reduced performance of the sounder and the news is good. That spatial averaging can bring the signal-to-noise back down to acceptable levels.
- The key positive point with the GOES-I sounder is that NOAA will have a dedicated sounder for the first time. The most limiting factor with the current sounder on board GOES-7 is the tremendous handicap imposed by the imager schedule which allows sounding operations only 10 out of every 30 minutes and no soundings during rapid imaging operations.
- It is hoped that several improvements will be possible in GOES-J. These include: better detectors, some mirror improvements, better throughput on the entire optical system to provide improved signal-to-noise in both the imager and sounder.