Western Region Technical Attachment
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FLASH FLOOD AND WINTER STORM PROGRAMS

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[Editor's Note: The following Technical Attachment summarizes the results of the Synoptic Analysis Branch's satellite precipitation estimates for 1991 and also serves to remind forecasters of the useful guidance produced by this unit.]

The NESDIS Synoptic Analysis Branch provides satellite precipitation estimates (SPEs) whenever heavy convective rains threaten or are producing flash flooding over the U.S., excluding Alaska and Hawaii. Estimates are also provided for significant rain and heavy snow with winter storms. The estimating techniques developed by Dr. Rod Scofield are used on the Interactive Flash Flood Analyzer (IFFA), and the estimates are sent to the affected NWS offices via AFOS; in 1991, the IFFA was successfully transferred from obsolete "Harris workstations" to more advanced "VDUC Tower workstations". The precipitation program has been in operation in its present form since 1983.

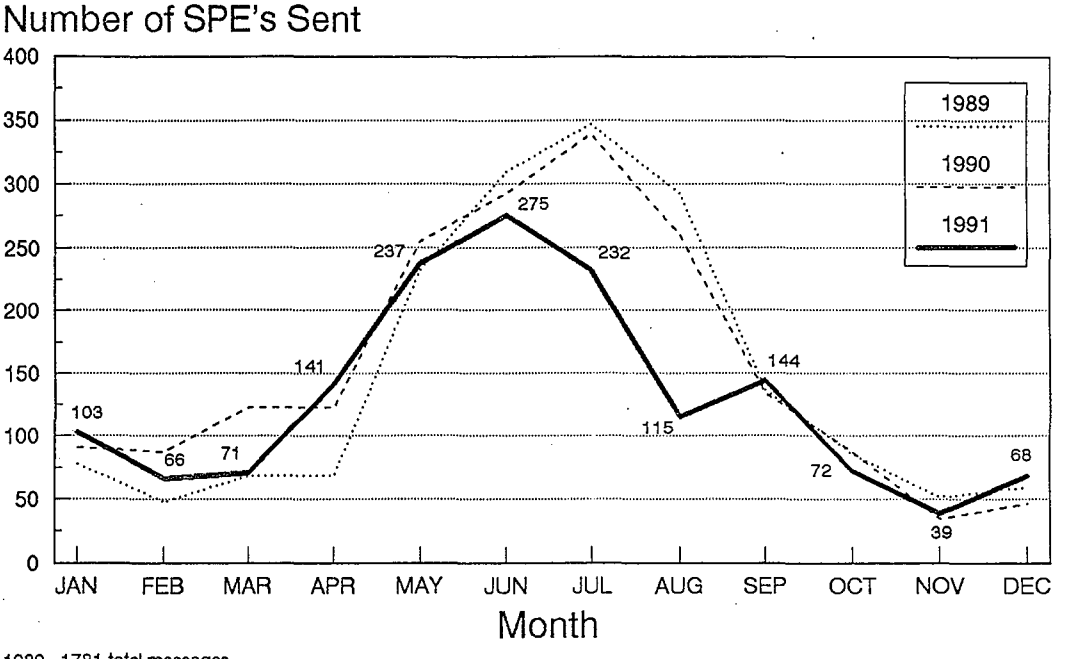
The usual large increase in work occurred during the spring and summer convective season, dropping off in the fall and winter seasons with small peaks during periods of increased winter storms and some convection over the southern states. The most unusual thing to notice for 1991 was a large decrease in SPE messages during the summer in July and August (see Fig. 1). A decrease also resulted, to a lesser extent, in the man-hours spent monitoring precipitation events during that period. This was probably caused by spotty drought conditions over the central U.S. that extended eastward and were more widespread in the Middle Atlantic states. The total number of SPE messages for 1991 fell off from the highest ever total in 1990 (1876 messages). The smallest yearly total was 1184 in the drought year of 1988. This last year's (1991) total number of QPE man-hours falls in between the low of 3953 hours in 1988 and the largest yearly number of 5500 hours in 1986.

The distribution of SPE messages by states shows that the southern states receive the largest number. Normally they receive just under 50 percent, but this year that number shot over 50 percent because of persistent above normal rainfalls over the South. Also, the top 8 states receiving messages for 1991 were in the NWS Southern Region. Despite some drought conditions, the Central Region received around 25 percent of the SPEs as they normally do. The more widespread dry conditions in the Middle Atlantic states decreased the percentage for the Eastern Region from around 20 percent which is where it stood for the past two years.

For the winter of 1992, new procedures are being tested for "lake effect" snowfall from the Great Lakes. Preliminary results in December 1991 were encouraging.

[Editor's Note: The number of SPEs issued for Western Region states is shown in Table 1. Remember, the CCCSPExx product is proximity alarmed/alerted.]

TOTAL NUMBER OF SPE MESSAGES SENT



1989 - 1781 total messages
1990 - 1876 total messages
1991 - 1563 total messages

1991 Monthly totals on graph

Fig. 1

1991 - TOTAL SPEs SENT TO WESTERN REGION STATES

STATE	NO. OF SPEs
Arizona	60
California	57
Montana	24
Utah	23
Oregon	12
Washington	10
Idaho	8
Nevada	0

Table 1