The most useful - and most used - AFOS feature to date has been composition of products. While teletypewriter and facsimile circuits are used for primary data collection, almost all AFOS offices regularly use message composition, editing and sequencing procedures in forecast formulation today. With the aid of a tape punch driven by the AFOS computer, a paper tape is obtained for disseminating products over existing teletypewriter circuits.

With the installation of AFOS Version 1, the capabilities of the system will be expanded to approximate those necessary to support total field operations. The criteria to meet this objective of total field support by AFOS have been identified and a series of tests arre being designed. These comprehensive tests will be conducted at selected field sites. Test sites will include Weather Service Forecast Offices, Weather Service Offices, Regional Headquarters and at least one River Forecast Center. The results of these tests will enable an evaluation to be made of how well the goal of providing capabilities for data and forecast formulation, composition, and dissemination has been met under a total AFOS working environment.

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part 2

SELS PRODUCTS & AFOS ALARM/ALERT*

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I will divide this presentation into two parts: the first and main part will describe the handling of SELS Watches/Warnings when AFOS is fully implemented; the second will deal briefly with the handling of Watches/Warnings during the interim period when AFOS is not fully implemented.

Each NWS product has an AFOS identifier -which is a group of 7 to 9 alphanumeric characters. The first three identify the issuing forecast office area; the second group of three identifies the product category; and the last one to three characters are a product designator - usually a location identifier. For example, a State Forecast issued by Topeka for Kansas would be identified as TOPSFPKS.

Four NSSFC products fall into the AFOS product category SEL (Severe Local Storm). These are:

1. AWW (Alert Weather Watch)
2. Watch (Severe Thunderstorm or Tornado)
3. Status Report
4. Cancellation

The reason for having all four products under one AFOS product category - SEL - is to make retrieval of all related severe weather products

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convenient on-site. The call-up command will retrieve the latest product issued for that particular weather situation. Other products relating to that particular situation can be retrieved by depressing the PREV VERSION key.

These SEL products are transmitted as priority 2 messages on the NDC/SDC (National Distribution Circuit/State Distribution Circuit) and are routinely received and stored by all NWS offices.

Products today are numbered consecutively for each severe weather event starting with 1 at the beginning of the year. The xxx or product designator portion of the AFOS product identifier will be the last digit of this number. Thus the full AFOS product identifier would appear as MKCSEL1, MKCSEL2, etc.

This is unlike most other AFOS product identifiers in that the xxx portion is NOT a location identifier. This means that there is no way of determining from the product header what part of the country the product applies to.

This is a problem in that a field office usually determines by location which products it wants to activate its AFOS Alarm/Alert.

(The AFOS alarm consists of the flashing of a red translucent Alarm key on the console keyboard along with a high-pitched tone - the Alert is identified as the flashing of the red translucent Alarm Key on the console keyboard without the tone.)

The chosen solution to AFOS Alarm/Alert activation requires each field site to select three parameters: 1. radius for Alarm activation; 2. larger radius for the Alert; and 3. the latitude and longitude of a point from which these two radii would describe concentric circles.

This selection of point and radii by the field office, in conjunciton with NSSFC including the points of latitude and longitude of the Severe Weather Box in their header, will enable the software to calculate if any part of the box falls into the Alarm/Alert circles. If the box does cover any portion of the two designated circles, the appropriate reaction (flashing light or light and buzzer) will be activated.

How the actual watch is issued by the foreast office does not change in concept under AFOS. The tools used in issuing it does. A brief scenario might go like this:

The AWW is received - light flashing; buzzer sounding. After the Alarm is deactivated by depressing the Audio Alarm Clear and Alarm keys, the AWW is displayed. This allows the forecaster to plot the box and to determine which counties are included.

When the Watch itself is received, accompanied once again by the flashing light and buzzer, the forecaster enters the EDIT mode of message composition. The forecaster then completes a Header Block and edits the watch deleting parts C, D, and E from the text of the message. This is issued as the Severe Local Storm Watch - product SLS. The Areal Outline (also product category SLS) is now prepared. This can be done by editing a previously stored message - inserting the correct time of issuance (which would be the same issue time as the Severe Local Storm Watch), deleting the unaffected counties, and entering the product into AFOS as a supplementary message to the Severe Local Storm Watch. This will insure that the Areal Outline will be appended to the edited Watch. Thus, when the product is retrieved, the combined parts are seen as one product.

This briefly describes the transition of watch data from the National level to the state and local level.

The forecast office would, of course, issue other appropriate messages - Warnings and statements until the watch is cancelled. A cancellation by NSSFC would also set off the Alarm/Alert and the forecaster would once again retrieve, edit, and transmit the cancellation in much the same way as the original watch was.

How do these procedures differ during the phase-over to AFOS in the field? The answer is -not much.

Stations not in AFOS will continue to receive the AWW and Watch information fropm NSSFC through the Gateway at the Systems Monitoring and Coordination Center (SMCC). NSSFC will issue their products over the NDC where they will be picked up by the SMCC and retransmitted over teletypewriter circuits after being given the appropriate communications headers (for RAWARC, etc.). These will be received by the non-AFOS sites as they are today. AFOS sites will, of course, receive their information via the NDC/SDC lines. Non-AFOS stations will continue to issue their Severe Local Storm Watches and Areal Outlines over teletypewriter circuits (including NWW) as they do today. SMCC will receive these products through the overlay circuits and transmit them over the NDC/SDC after editing their communications headers.

AFOS offices will issue their products over the NDC/SDC to other AFOS offices. The SMCC will pick off these products and, after once again adding the appropriate communications headers, transmit these products over the designated teletypewriter circuits.