II.6-OFS-MAPX   OPERATIONAL FORECAST SYSTEM NEXRAD MEAN AREAL
                PRECIPITATION FUNCTION (MAPX)

The Operational Forecast System (OFS) NEXRAD Mean Areal precipitation
Preprocessor Function (MAPX) computes 1 hour mean areal precipitation.

The data used by MAPX are the gridded estimates of precipitation based
on data from the NEXRAD network and processed using the Stage III
precipitation processing system.

The processing steps are:

I.   Compute MAPX for all hours within the observed data period. The
      steps that take place within this hourly loop are as follows:

      A. Read Stage III gridded precipitation values for the HRAP
         subset into the array GPX.

      B. Process the MXCO array for each area. The steps for each area
         are as follows:

         1. Get the number of line segments (NSEGS) from the XGRD
            array using the pointer for the area from the MXCO array.

         2. Loop through all the line segments in XGRD and compute:

            a. Number of grid points in the area.

            b. Sum of precipitation for all grid points from GPX.

               If missing data are encountered then print a message and
               write a missing MAPX value to the Processed Data Base.

         3. Divide the precipitation sum by the number of grid points
            and write the result to the Processed Data Base.

      C. If the current hour equals the ENDRUN hour then end of
         processing. Otherwise continue processing until reaching the
         LSTCMPDY hour.

II.   Determine if there are any hours with gridded QPF estimates
      available. If so then compute MAPX for these hours using the
      same logic as in step I. If gridded QPF estimates extend beyond
      the ENDRUN hour then the loop is terminated at the ENDRUN hour
      and processing stops.

III. If ENDRUN still has not been reached then process all the MAPX
      areas one more time.

      If Technique FUTPRECP is equal to zero then write missing values
      to the Processed Data Base for all the remaining hours for each
      area.

      If Technique FUTPRECP is equal to one then the following action

is taken while processing the MAPX areas:

A. Read the MAPX parametric record.

B. Get the time interval of the FMAP time series and check if the current internal Julian hour needs to be adjusted. The current internal Julian hour must be the first hour in an FMAP time interval. If this is not true then the Julian hour is set back to the first hour of the FMAP time interval. This will cause some of the MAPX values based on gridded precipitation estimates to be overwritten.

C. Read the FMAP time series.

D. Convert the FMAP values read in the above step to the MAPX time interval. This is done by dividing each FMAP value by the FMAP time interval and inserting this value into an MAPX array for each hour that falls within the FMAP time interval. If the FMAP value is missing then missing values are assigned to all the MAPX values that fall within the FMAP time interval. This results in ENDRUN minus current Julian hour plus one MAPX values.

E. Write the MAPX values to the Processed Data Base.