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3-4 The Development of AMSU-B/MHS FCDR's and TCDR's for Hydrological Applications

The passive microwave sounder instruments AMSU-B (aboard NOAA-15, NOAA-16, and NOAA-17) and MHS (aboard NOAA-18, NOAA-19, and Metop-A) have been providing detailed moisture data since 1998. However, these data were always intended to be used primarily for operational weather prediction. In order to use these data for hydrological and climate applications it is necessary to make certain corrections to assure better stability and homogeneity. For the AMSU-B sensors, NOAA-17 was used as a reference to determine inter-satellite corrections for NOAA-15 and NOAA-16. For MHS, the same was done for both NOAA-19 and Metop-A using NOAA-18 as a reference. By applying these inter-satellite corrections as well as geolocation correction, FCDR's have been created for the period 2000 – 2010. TCDR's for hydrological products such as rain rate, precipitable water, and snow cover will be developed from these FCDR's. The TCDR's are necessary to assess the accuracy of FCDR's and can be used in combination with TCDR's from other sensors such as AMSU-A, SSM/I, AMSR-E, and TMI.