In this talk I will describe a new air-sea flux satellite-derived latent and sensible heat flux data set covering the global oceans from 1987 through 2005. This dataset uses a new technique for determination of the near-surface specific humidity and air temperature, which shows demonstrably improved statistics compared to previous methodologies. The technique along with in situ validations will be shown during this talk. Results of the new flux dataset in terms of trends and variabilities will be shown, as well as comparisons with previous satellite-derived and blended data sets using the SeaFlux intercomparison data set. Issues associated with filling and calibration will be addressed. An analysis of the differences between the various datasets at high latitude will be a focus, as well as the capability of the satellite data sets to resolve extreme events, such as cold air outbreaks, will be shown. The importance of using a diurnal sea surface temperature will also be highlighted. I will also address issues still outstanding with current climatologies and areas for possible future research.