The Extreme ultraviolet Variability Experiment (EVE) aboard the NASA Solar Dynamics Observatory (SDO) was launched on 11 February 2010. The EVE instruments measure the solar extreme ultraviolet (EUV) irradiance from 0.1 to 105 nm with unprecedented spectral resolution (0.1 nm), temporal cadence (10 sec minimum), and accuracy (20% or better). The highly variable solar EUV irradiance is a key measurement for the NASA Living With the Star (LWS) program as it is the major energy input into the Earth’s upper atmosphere and thus impacts the geospace environment that affects satellite operations and communication and navigation systems. The EVE measurements, along with additional solar measurements from SDO and other satellite and ground-based instruments, are being used to advance our understanding of the solar EUV irradiance variability. Some of the new results from EVE concern the evolution of active regions on time scales of hours and flare events on time scales of minutes, both being important interest for space weather research and operations. For longer time scales, EVE measurements are providing results during the rise of solar cycle 24 and are being used with previous solar EUV irradiance measurements to establish a long-term composite time series of the solar EUV irradiance.