A graph manifold is a 3-manifold that decomposes along tori into $S^1$ bundles over surfaces. This class of manifolds includes all non-hyperbolic geometric manifolds. I will show how the Heegaard Floer homology of graph manifolds can be computed by finding the bordered Heegaard Floer invariants of the pieces in the $S^1$ bundle decomposition. (Received January 28, 2014)