In this talk, we discuss an analogue of the Hermitian-Einstein equations for generalized Kähler manifolds. We explain in particular how these equations are equivalent to a notion of stability for generalized holomorphic bundles, and that there is a Kobayashi-Hitchin-type correspondence between solutions of these equations and stable bundles. We also describe moduli spaces of these stable generalized holomorphic bundles on some specific examples of generalized Kähler manifolds.