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Jeffrey Jauregui* (jauregui@math.upenn.edu) and **William Wylie.** *Conformal diffeomorphisms of gradient Ricci solitons and generalized quasi-Einstein manifolds.*

We extend some well-known rigidity results for conformal changes of Einstein metrics to the class of generalized quasi-Einstein (GQE) metrics, which includes gradient Ricci solitons. In order to do so, we introduce the notions of conformal diffeomorphisms and vector fields that preserve a GQE structure. We show that a complete GQE metric admits a structure-preserving, non-homothetic complete conformal vector field if and only if it is a round sphere. We also classify the structure-preserving conformal diffeomorphisms. In the compact case, if a GQE metric admits a structure-preserving, non-homothetic conformal diffeomorphism, then the metric is conformal to the sphere, and isometric to the sphere in the case of a gradient Ricci soliton. (Received September 24, 2012)