Sheaves of vertex algebras Let $\hat{X}$ be the cartesian product of an algebraic manifold X with a circle S^1. We construct a sheaf of vertex algebras on X and the sheaves of chiral tensor modules, generalizing the construction of the chiral de Rham complex, introduced be Malikov-Schechtman-Vaintrob. We show that the sheaf of Lie algebras of vector fields on $\hat{X}$ acts on the sheaf of chiral tensor modules.