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### **Comparison Between Salt-Related Compressional Structures in Mauritania and the US and Mexican Gulf of Mexico**

The form and origin of compressional structures differ in different salt basins. In the absence of tectonic compression, structures invariably develop due to gravitational sliding associated with the creation of slopes caused by salt movement. The salt is the main detachment horizon, compressional structures develop either where the displacement backs up against the depositional edge of the salt or where there is a local reduction in displacement velocity. The compressional origin of some structures may often be difficult to determine. In Mauritania, compressional structures develop in two settings 1) at the contractional toes of gravity induced slides 2) by folding of stratigraphy above diapirs. In the US Gulf of Mexico compressional structures can occur in various settings: 1) downdip folds and thrusts that balance up dip extension, detachments may occur either associated with salt sheets or flooding surfaces. 2) local sliding associated with dipping salt bodies. 3) necking of salt ridges and diapirs. 4) Salt withdrawal that results in the creation of additional space. In the Mexican southern Gulf of Mexico folds and thrusts developed as a result of tectonic shortening with the salt acting as the principle detachment horizon.