

# Extensional and compressional zones in slumps and slides in the Namurian of County Clare, Ireland

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## Abstract

Extensional and compressional zones in slumps and slides have been studied in a well-exposed Namurian (Carboniferous) base-of-slope and delta slope sedimentary succession in County Clare, Ireland. Extensional zones are in slumps dominantly characterized by single, downslope-dipping normal faults, while in slides they are characterized by normal, listric fault families. These faults sometimes show minor growth. Compressional zones in slumps are dominated by a single reverse fault with upslope-dip. They are only rarely characterized by imbricate fault fans. Compressional zones in slides fall into a tri-partite division of thick packages, thin packages and basal zones. Thick packages compare with tectonic imbricate zones, while thin packages are simpler and characterized by very shallow synthetic thrusts. Basal zones compare with blind imbricate fans. Lateral margins of both extensional and compressional zones in slumps and slides show transfer faults with transtensional, transpressional or purely strike-slip motion, depending on the width variability of the slide and slump scars. The similarity in structural style between soft-sediment deformational structures and deformation structures in lithified rocks shows that, on the basis of structural style alone, it is problematical to differentiate between these two groups of structures.