

Alberta Clippers and Colorado Lows

Storms with origins over the Pacific Ocean lose most of their moisture as they transit over various mountain ranges in western North America. They still have the capacity to reform in the lee of the Rocky Mountains. This can happen anywhere but there are two main centres for regeneration - Alberta and Colorado.

Alberta Clippers

Alberta Clippers are low pressure systems that tend to form next to the foothills of western Alberta. Once in motion they rapidly move from west to east. The name comes from the fastest of the 19-century sailing ships. They track along the polar front and typically pass over Northwestern Ontario or Minnesota. They continue east over the Great Lakes and can reach Quebec and the Maritime Provinces and/or the New England States.

They have lost most of their moisture and are rarely responsible for heavy rain or snow in the Prairies, Northwestern Ontario or Minnesota; average amounts for rain are 0.2 to 4 mm/trace amounts to snow to 6 cm. They are usually followed by very cold northerly winds.

In late fall and winter Alberta Clippers can result in heavy Lake Effect snows on the lee sides of the Great Lakes after "picking up" moisture from open water. The strong winds can cause blizzards with new and previously fallen snow is picked up.

Colorado Lows and Panhandle Hooks

Pacific storms can reform in and near Colorado. Winter storms forming in the southern Rockies will normally track east and pick up some moisture from the Gulf of Mexico. If the jetstream loops slightly south, Colorado Lows track over the Texas Panhandle. They then proceed (or "hook") north or northeast with considerable moisture from the Gulf and have the potential to cause serious weather-related problems.

The "Panhandle hook" or "Texas hooker" are relatively infrequent winter storm systems whose cyclogenesis occurs in the southwestern United States from the late fall through winter and into the early spring months. They track to the northeast towards the Great Lakes region. Several deadly blizzards and disasters on the Great Lakes were associated with such systems.