TOPOGRAPHY AND GEOLOGY OF THE MOUNTAIN SECTION OF WIND RIVER.

The topography of the mountain section of the Wind river is very similar to that already given for the section at the summit. The vertical relief at the mouth of Nash creek averages about 3,000 feet, but this gradually decreases to 2,000 at the northern border of the mountains.

The general outline of the mountains varies, depending on the character and structure of the rock formations. In the upper part of the Wind river, where the rock formations are principally limestone, the summits are broader and more rounded, and the slopes more gentle and subdued. Near the mouth of the Bear river, where sandstone and quartzites replace the limestone, many high jagged peaks occur, and steep cliffs and precipices border the stream on either side. Extensive slopes of heavy talus and many alluvial fans characterize the region in the vicinity of Bear river. North of this again is a limestone area, which continues to the edge of the mountains, and the character of the topography reverts to the same conditions that hold in the other limestone area.

Though marked cliffs and precipices do occur, the side slopes of the valley can generally be ascended without difficulty. They are wooded only for about two hundred feet above the stream, where steeper slopes of barren rocks and talus begin.

Though the summits of the range show a gradual decrease in elevation from Nash creek, northward, of about a thousand feet, yet at a certain point they break off very abruptly without any foothills, and dip suddenly down to the broad Peel plateau. This scarp-like appearance is only shown from the mouth of the Wind river eastward or on the northern face of the range; but west of the Wind river, where the range swings around in a curve to the north, it loses this feature entirely and, instead of breaking off abruptly, is flanked by rounded foothills, which slope gently down to the plateau below.

All data collected with regard to the glaciation of the mountain section of the Wind river point to the conclusion, that the region was not completely covered by a great ice sheet during the glacial period; but that the valleys alone were occupied by glaciers.

The valley of the Wind river was occupied by a large glacier, which filled it to a depth of a thousand feet or more. This had the effect of giving to the valley its present U-shape and of filling the bottom of the valley with a heavy deposit of glacial gravel and clay. Into this deposit the present stream has cut its bed to a depth of fifty feet, leaving only a narrow bench at the base of either slope to mark the level of the old valley.