

Geographical Characteristics of the Distribution of Glaciers in China

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Abstract: The geographical characteristics of the distribution of glaciers in China are analyzed with a new viewpoint. Based on the viewpoint, Tarim Basin is surrounded by enormous sums of glaciers, which form a special glaciofluvial landscape in the world. Glacier Inventory of China shows that the distribution of glaciers exhibits the behaviour of disequilibrium. There are five maximum glacierized centers in the two large river basins in the west of China. The glacier extent can be assessed by glacier coverage, an intensity parameter. Glacier coverage in the arid mountains

of Northwest China is larger than that in the wet mountains of Southeast China. The altitudinal characteristics of the distribution of glaciers can be assessed by the median contour of glacier, which rises towards the inside of the Tibetan Plateau. The range of glacier variation can be assessed by glacial energy, which decreases from the glaciated areas with high energy to the glaciated areas with low energy. According to their behaviour, the glaciers in China can be classified into mountain type and plateau type.

Key words: glaciofluvial landscape; glacier distribution; glacier coverage; median contour of glacier; effective positive difference of glaciation

冰川资源与环境在西部大开发中的作用

冰川是重要的水资源，是大江河的发源地。在高山流域，冰川积雪及其融水径流对于维持江河源区的水量稳定，高山脆弱的生态环境都有具有重要的作用。

1. 冰川资源与环境在西部经济和生态系统中的作用

- 1.1 冰川是西部干旱区重要的水资源，对维系本区脆弱的生态平衡具有重要的意义；
- 1.2 冰川是本区气候和环境变化的预警和记录器；
- 1.3 冰川作为固体水库对下游的水资源的平衡和分配起调节作用；
- 1.4 冰川作为特殊的自然景观是重要的旅游资源。

2. 与冰川有关的自然灾害和环境问题对西部的社会经济发展具有重要的影响

- 2.1 春季融雪和河冰融化引起的洪水；
- 2.2 夏季高温引起的冰川洪水；
- 2.3 冰川和冰积阻塞湖的溃决突发洪水；

- 2.4 冰川泥石流灾害；
- 2.5 风吹雪灾害。

我国是世界上冰川洪水和冰湖突发洪水灾害发生频繁的国家之一，尤其在我国的西北和西藏地区。随着国民经济的发展和气候变化以及人类活动加剧冰川突发洪水的危害越来越严重，严重的威胁着公路、桥梁、水电、水库及工农业发展，也越受到国家和当地政府的重视。

3. 冰川资源与环境在西部大开发中的作用

- 3.1 提供冰川资源现状和变化报告；
- 3.2 监测冰川资源变化及预报未来变化趋势；
- 3.3 研究与冰川有关的灾害成因及机理；
- 3.4 建立冰川自然灾害的预警决策系统；
- 3.5 提供冰川水资源的现状及未来变化报告；
- 3.6 研究和解决与冰川有关的灾害及环境问题。

(沈永平 供稿)