Postprint: Alpine Desert Zone and Cold-Arid Core Region of the Qinghai-Tibet Plateau

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Abstract

The alpine desert zone of the Tibetan Plateau is located in the highest-elevation portion of the plateau's northwestern main body. Characterized by an extremely cold and dry climate, this region belongs to the plateau sub-frigid zone; the alpine plateau landforms are extensively dissected by transverse fault-depression basins; permafrost is well-developed, with widespread periglacial processes; natural processes are in a youthful stage, and alpine cold desert soils are shallow; biotic components are intermingled, with prominent alpine desert landscapes; the ecological environment is fragile, necessitating intensified nature conservation construction and management. The hinterland of the alpine desert zone constitutes a core region of cold-arid conditions, representing a geo-ecological pattern of unique status within global plateau and alpine regions.

Full Text

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The High Cold Desert Zone and a Cold-Arid Core Area of the Tibetan Plateau

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Abstract:
The high cold desert zone, located on the northwestern region, is the highest part of the Tibetan Plateau. This region with extremely cold and arid climate belongs to plateau subcold zone, which is characterized with high mountains and plateau landforms transversed by lake basins, widespread permafrost and periglacial process, young natural process with shallow cold desert soil, and landscape of high-cold desert with interfused composition of biota. Due to the vulnerable eco-environment, construction and administration of natural conservation should be strengthened in this region. The cold-arid core, existed in the hinterland of high cold desert zone, is a unique geo-ecological feature in the plateau and alpine region on the Earth.

Keywords: Tibetan Plateau; high cold desert zone; high-cold arid core area; structure-type of altitudinal belt; construction and administration of natural conservation

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Note: Figure translations are in progress. See original paper for figures.