

A journey to experience China Tibetan culture

中国西藏文化之旅

ཀུང་གོའི་བོད་ལྗངས།

刘务林 著

By Liu Wulin

# 世界屋脊上的生命

## Life on the World Roof



中国大百科全书出版社

Encyclopedia of China Publishing House



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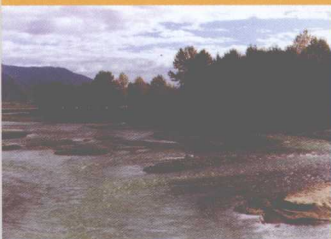


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## Profile of the physical geography and forestry ecology and bio-diversity in Tibet

### 自然地理概况

#### Profile of the physical geography



藏南河谷  
River valley of the  
Southern Tibet

西藏自治区位于中国西南边陲，介于东经 $78^{\circ}24' \sim 99^{\circ}06'$ ，北纬 $26^{\circ}52' \sim 36^{\circ}32'$ 之间。东部与四川省、云南省为邻，北部与青海省和新疆维吾尔自治区相连，南部与缅甸、印度、不丹、尼泊尔等国家接壤，西部与克什米尔地区毗邻。总面积约120多万平方千米，约占全国土地面积的1/8。西藏素有“世界屋脊”之称，平均海拔约4 000米，雄居地球之巅。它是一系列大山系、高原面及宽谷和湖盆的组合物。数条闻名于世的大山脉构成了西藏高原的地貌轮廓。在中、西部有东西走向的山脉：自南而北为喜马拉雅山脉、冈底斯—念青唐古拉山脉、喀喇昆仑—唐古拉山脉和昆仑山—可可西里山脉；在东部有南北走向的横断山脉：自东向西是达马拉山—芒康山—宁静山脉、他念他翁山脉和伯舒拉岭山脉。

境内流域面积大于1万平方千米的河流有20条。亚洲著名的长江、怒江、澜沧江、雅鲁藏布江以及印度河的重要支流都发源或流经西藏。其中，西藏境内流域面积达24万多平方千米，长达2 057千米的雅鲁藏布江，由西向东流经西藏南部，是西藏最大的河流，也是我国一条著名的大河，入印度后称为布拉马普特拉河，注入印度洋。此外，受四周各大山脉的包围，西藏北部有近60多万平方千米的内流水系，数以千计的内流河，多以内陆湖泊为归宿。最大的内流河扎加藏布（江）长409千米，流域面积达14 850平方千米，汇入色林错（湖）。

星罗棋布的湖泊是西藏自然景观中的一个显著特征。西藏的湖泊群是世界上海拔最高、范围最大、数量最多的高原湖泊群。全区湖泊总面积约2.4万平方千米，约占中国湖泊总面积的1/3，与长江中下游的外流湖泊遥遥相望，构成中国高差悬殊的两大湖群。西藏全区1 500多个湖泊中，超过1平方千米的有800多个，超过100平方千米的有35个，超过250平方千米的有14个。纳木错（湖）、色林错（湖）、当惹雍错（湖）和扎日南木错（湖）面积都在1 000平方千米以上。纳木错（湖）面积为1 920平方千米，是中国仅次于青海湖的第二大内陆湖，也是世界上海拔最高的大湖。

西藏高原受奇特多样的地形、地貌、高空大气环流以及天气系统的影响，形成了复杂多样的独特气候，在水平分布上具有西北严寒干燥、东南温暖湿润的特点，并呈现出由东南而西北的带状更替。即：亚热带——暖温带——温带——亚寒带——寒带；湿润——半湿润——半干旱——干旱；反映在植被上，依次为森林——灌丛——草甸——草原——荒漠。在垂直分布上具有明显的垂直气候带，“一山显四季，十里不同天”就是对许多地区真实的写照。西藏是中国太阳辐射能最多的地方，比中国同纬度的平原地区大约多1倍或1/3。在拉萨1月份全月每平方厘米辐射能为12.1千卡，6月份全月每平方厘米达20千卡，所以拉萨是著名的“日光城”。全区总的气温分布趋势是由东南向西北逐渐递减，形成三个明显的温暖区域和两个寒冷区域。即：藏东南地区年平均温度为



藏东横断山脉

The Hengduan Mountains of east Tibet





# TIBET



## 山花彩虹下的村庄

彩虹辉映村庄是藏东地区常见到的现象。干热河谷地带气候炎热，植被稀疏，便于农业生产。山腰气候转凉，降水增多，树木生长茂盛。这里的村民山上有牧场，山下有农田。

## Villages under rainbow and flowers

A rainbow shining on the villages is often seen. The climate of the valley is hot, and the vegetation is sparse, so it is suitable for agriculture. The climate of the mountainside becomes cooler, and the precipitation becomes higher. Trees flourish in this place, conserving the water here which is the life source of the villagers.

10℃，雅鲁藏布江河谷地带年平均温度在6℃~9℃之间；横断山脉的狭窄河谷地带，全年月平均温度大于10℃以上的有5个月左右；藏北高原年平均温度在0℃或以下；喜马拉雅山脉及北麓山地年平均温度在0℃~2℃之间。西藏全区年平均温度在-5.6℃~20℃之间。全区年降水量自东南低地的5 000毫米以上，逐渐向西北递减到50毫米以下，相差近100倍。总的分布趋势是东多西少，南多北少，东南湿润，西北干燥。降水量多集中在6月~9月，可占全年降水量的80%~90%。总之，西藏地区气候的基本特点是：（1）类型多样，水平、垂直差异显著；（2）干湿季节分明，多夜雨，雨热同季；（3）光照充足，温度低，日差较大，年差较小；（4）冬春干燥，大风多。

根据这里的自然地理及大地形、地貌和生物的分布规律，西藏被生物学家和自然地理学家大致分为四个不同的自然地理区域，即：位于西藏东部的藏东高山峡谷森林、灌丛区；位于西藏南缘的喜马拉雅东南麓高山峡谷湿润森林区；位于西藏中南部河谷地区的藏南山原湖盆、河谷地区；位于西藏北部的藏北羌塘高原荒漠区。

The Tibet Autonomous Region is located in the southwest frontier of China, at east longitude 78°24'~99°06' and north latitude 26°52'~36°32'. It is adjacent to Sichuan and Yunnan provinces in the east, Qinghai province and Xinjiang Uigur Autonomous Region in the north, and shares borders with Burma, India, Bhutan and Nepal to the south, and Kashmir to the west. The total area of Tibet is 1 200 000 km<sup>2</sup>, accounting for about one eighth of the total ground area of China. Tibet, with an



纳木错（湖）  
Nam Co(Lake)



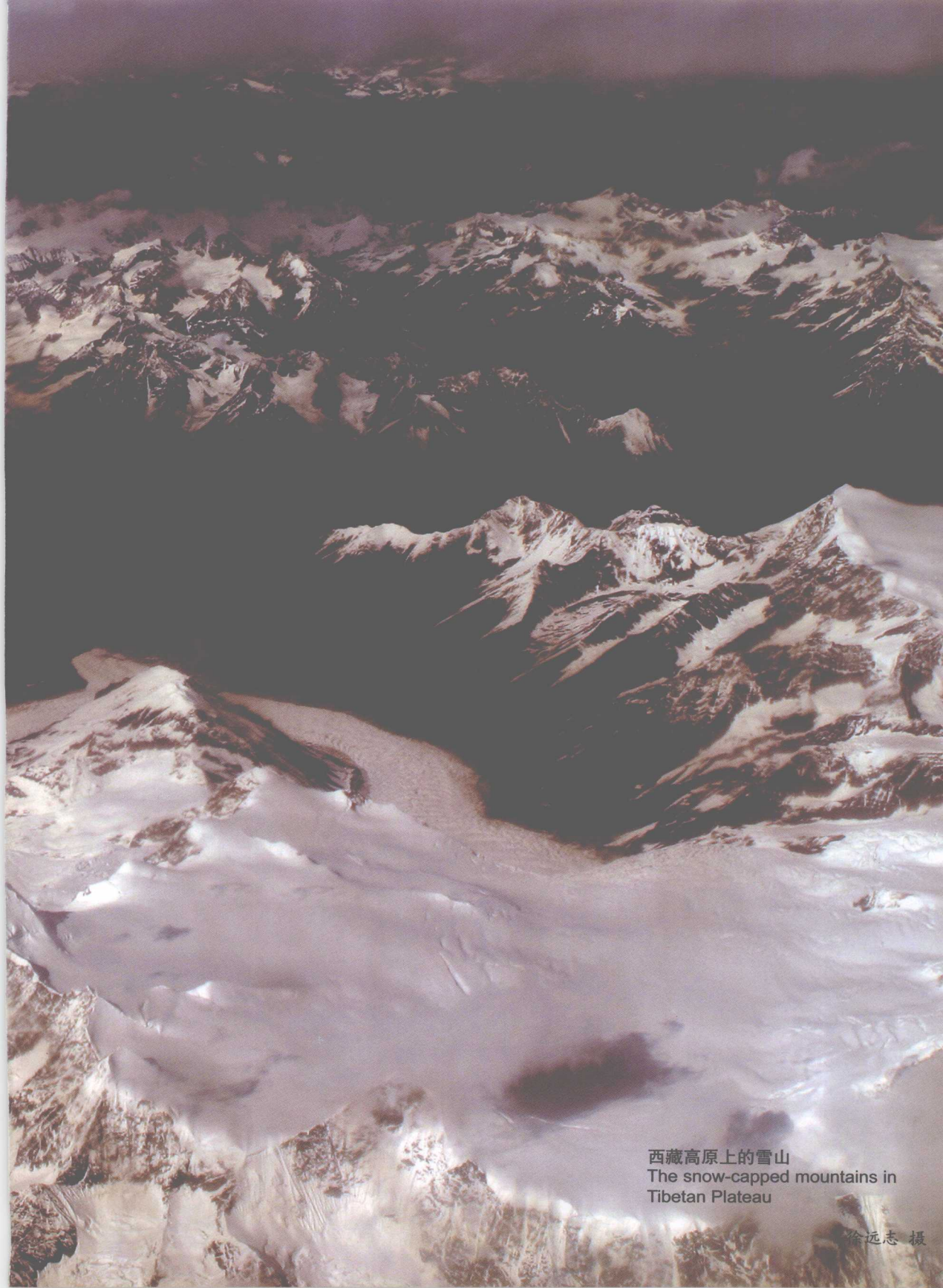
昌都石灰岩地区的原始森林  
Virgin forest in the limestone area of Qamdo











西藏高原上的雪山  
The snow-capped mountains in  
Tibetan Plateau

徐远志 摄



# TIBET

拉萨河谷两岸的村庄  
The villages alongside  
the Lhasa valley



average altitude of about 4 000 metres above sea level, the highest altitude in the world, claims to be 'the Roof of the World', and is famous for its magnificent views. It is a combination of a range of cordillera, altiplano, dale and river valleys, with some of the most famous mountain ranges in the world forming the outline of the plateau physiognomy. The Himalayan Ranges, Gangdise-Nyainqentanglha Ranges, Kara Korum-Tanggula Ranges and Kunlun-Hoh Xil Rangess cut across its middle and western part, with Hengduan Mountains running from south to north to its east: from east to west are Damala-Markam-Ningjing Ranges, Taniantaweng Ranges and Boshulaling Ranges.

The mountains here form the skeleton of Tibet, while the rivers are its blood. They flow with vigour, bringing vital forces to the Tibet Plateau, twenty of them having a valley of over 10 000 km<sup>2</sup>. Asia's famous rivers, the Yangtze River, the Nujiang River, the Lancang River, the Yarlung Zangbo River and the important anabranch of the Ganges, all rise in, or pass through Tibet. The Yarlung Zangbo River, flowing from west to east with a valley over 240 000 km<sup>2</sup>, is the largest river in Tibet, and is also one of the famous big rivers in China. It is called the Bramaputra River after it passes into India, and finally empties into the Indian Ocean. Surrounded by mountain ranges, the northern part of Tibet has an inland water system comprised of thousands of inland rivers, making a valley about 600 000 km<sup>2</sup>. Most of the inland rivers empty into lakes. Za'gya Zangbo River is the largest inland river, stretching for 409 kilometres with a valley of 14 850 km<sup>2</sup>, before finally emptying into the Siling Co (Lake).

As expansive as the stars in the sky, and scattered like pieces on a chessboard, its lake system is one of the distinctive features of the Tibetan landscape. Being on a plateau, this is a lake system with the highest altitude, largest scope and capacity in the world. Large or small lakes reflect the sunlight like mirrors, flickering like stars in the night sky, or shining like the sapphire encased on a green carpet. Each lake is like a shining pearl, some lying silently in the steppe, some lying in the forest containing inverted images of forest and jokul, others encased in the jokul, receiving the thawing snow. The lakes cover a total area of about 24 000km<sup>2</sup>, accounting for a size nearly one third of that of China. Combined with the outland lakes that are located in the middle and low reaches of the Yangtze River, it forms two largest lake systems with a significant altitude difference in China. Among the 1 500 lakes all over Tibet, there are about 800 lakes with a valley over 1 km<sup>2</sup>, 35 lakes with a valley over 100 km<sup>2</sup>, and 14 lakes with a valley over 250 km<sup>2</sup>. Nam Co(Lake), Siling Co(Lake), Tangra Yum Co(Lake), and Zhari Nam Co(Lake) have valleys over 1 000 km<sup>2</sup>. Nam Co(Lake) with an area of 1 920 km<sup>2</sup>, is the second largest inland lake in China, and is also the highest great one in the world.

## 墨脱峡谷云海

雅鲁藏布江中下游大峡谷地带墨脱峡谷内，每年降水量达2 500毫米以上，热量充足，峡谷内经常产生大量的雾气，被上部的冷气压在谷底经久不散，森林树木郁郁葱葱，仿佛漂浮在云雾中。

Cloud sea of Medog Canyon  
Medog canyon is located in the middle and downstream of Yarlung Zangbo River in the eastern Himalayan Ranges. The annual precipitation here is above 2 500mm. The quantity of heat is sufficient to produce abundant mirage which is pressed down to the valley bottom by upper cold air, so the luxuriant forest seems like floating in the mirage.

