

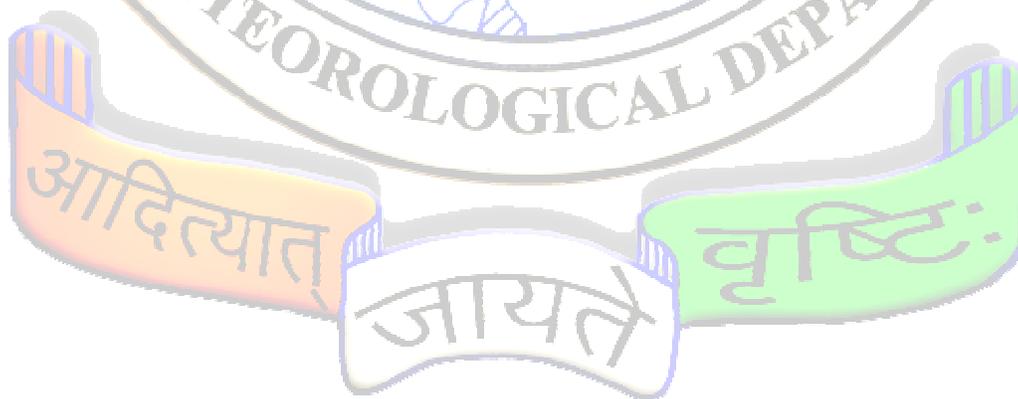
## AGRO-CLIMATIC DETAILS

The agro-climatic classification is nothing but an extension of the climate classification keeping in view the suitability to agriculture. Earlier many methods have been devised for climatic classification and the most widely used classifications being Koeppen's and Throngwaite's. Generally, the climate types may be distinguished on the rainfall, temperature and as these two characteristics are influenced by altitude, the climate can also be classified on the basis of above three parameters. National commission on agriculture (1971) classified the country into 127 agro-climatic zones. The planning commission has adopted agricultural Zones on the various parameters for agricultural planning. The soil climatic zones can be classified on the basis of rainfall, temperature and prevalent soil types in the region.

### Agro-climatic Zones based on temperature

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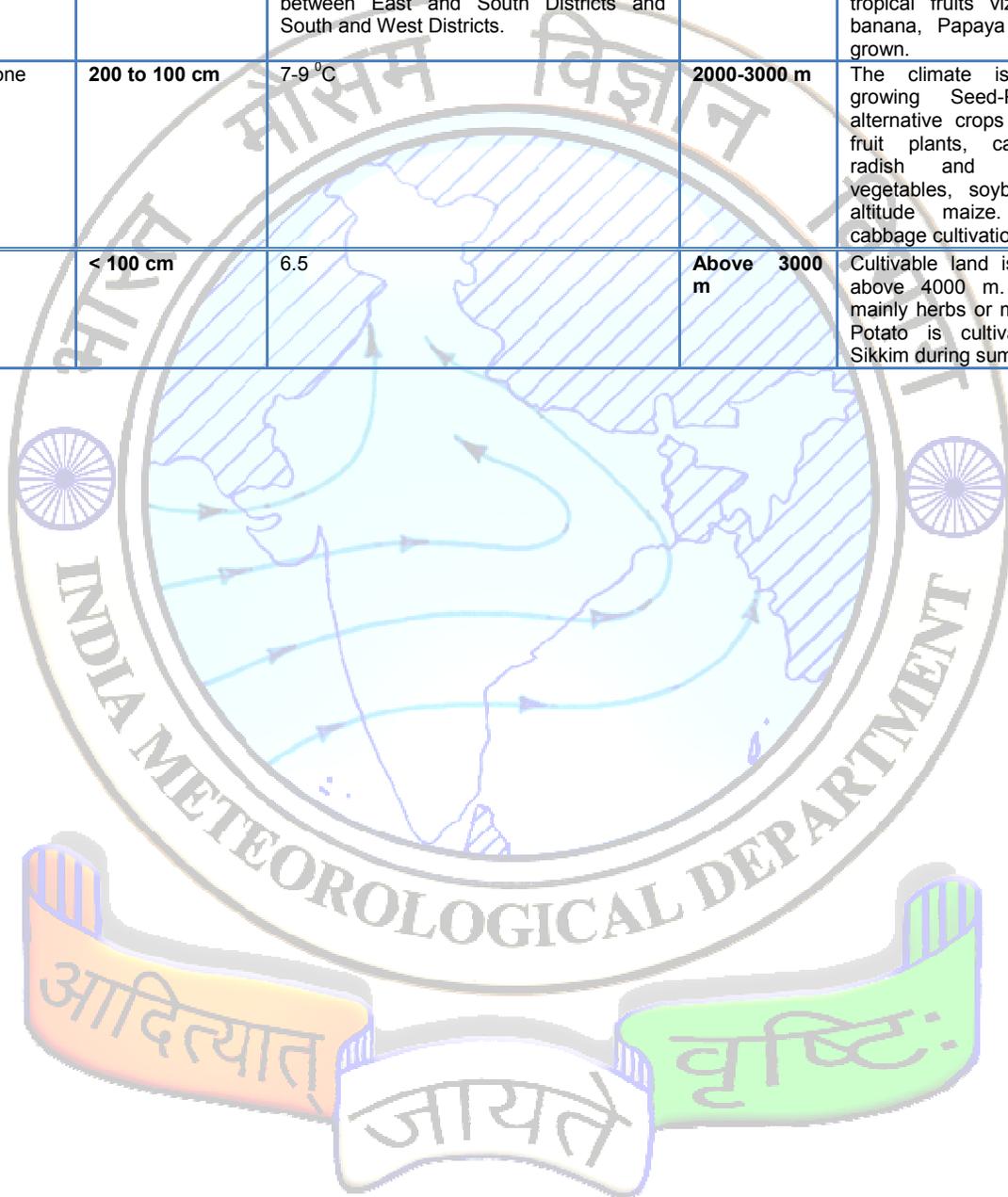
Annual-mean Air temperature		Annual Rainfall	Altitude	Crops
Cool type	< 10°C	Less than 100 cm in extreme northern parts of North District, 100-200 cm in the southern parts of North District and 280 cm in extreme north-eastern parts of East District.	2000 m and above	Cultivable land is not available above 4000 m. Vegetation is mainly herbs. Potato is cultivated in northern parts of North Sikkim during summer months. The climate is suitable for growing Seed-Potato. Other alternative crops are temperate fruit plants, cabbage, peas, radish and other winter vegetables, soybean and high altitude maize. Off season cabbage cultivation is common.
Moderate cool type	10°C–20°C	300 cm in the southern parts of North District; 330 cm in the northern and eastern parts of East District; 245 cm in the central parts of South and West Districts; and 200 cm in the Southern most parts of South and West Districts.	1000-2000 m	Important crops are maize, peas, millet, Wheat, Buckwheat, Barley, Ginger, high altitude Paddy, Oilseeds, Vegetables and Potatoes. Large Cardamom and Oranges are the main Cash crops.
Warm type	> 20°C	200 cm in the southern most parts of South and West Districts which gradually increases northwards to 320 cm over the low lying valleys between East and South Districts and between South and West Districts.	<1000 m	Major crop is paddy. Other important crops are maize, ginger, wheat, pulses, Oilseeds and vegetables. Sub-tropical fruits viz. citrus fruits, Banana, Papaya etc. are also grown.





## Agro-climatic zones based on rainfall

Type	Rainfall	Air temperature	Altitude	Crops
Very heavy rainfall zone	> 300 cm	12-16 °C in the southern parts of North District and 15-18 °C whole of East District from north-western parts to south-eastern parts.	1000-2000	Important crops are Maize, Peas, Millet, Wheat, Buckwheat, Barley, <b>and Ginger</b> , high altitude Paddy, Oilseeds, Vegetables and Potatoes. Large Cardamom is the main Cash crop.
Heavy rainfall zone	300 to 200 cm	13-17 °C in the northern parts of South and West Districts; 16-19 °C in the central parts of South & West Districts and over the valleys between East and South Districts and South and West Districts; and >20 °C in the southern most parts of East, South and West Districts and over the valleys between East and South Districts and South and West Districts.	Less than 1000 m to 2000 m	Important crops are Maize, Peas, Millet, Wheat, Buckwheat, Barley, <b>and Ginger</b> , high altitude Paddy, Oilseeds, Vegetables and Potatoes. Large Cardamom and Oranges are the main Cash crops. Low hill Paddy and Sub-tropical fruits viz. citrus fruits, banana, Papaya etc. are also grown.
Moderate rainfall zone	200 to 100 cm	7-9 °C	2000-3000 m	The climate is suitable for growing Seed-Potato. Other alternative crops are temperate fruit plants, cabbage, peas, radish and other winter vegetables, soybean and high altitude maize. Off season cabbage cultivation is common.
Low rainfall zone	< 100 cm	6.5	Above 3000 m	Cultivable land is not available above 4000 m. Vegetation is mainly herbs or medicinal herbs. Potato is cultivated in North Sikkim during summer months.



## Agro-climatic zones based on altitude

Altitude(m)	Temperature ( $^{\circ}\text{C}$ )	Rainfall (cm)	Physiography	Soil Type	Crops
>3000	<10	Less than 100 to 200	Perpetual Snow and Peri-glaciated land & Very very steep side slope (>50%) highly dissected with 25-50% snow cover and 20-40% forest cover & Alpine meadows	Loamy-skeletal Lithic Cryorthents and Coarse-loamy Cryombrepts and Lithic Haptumbrepts & Loamy-skeletal Typic Haptumbrepts and Typic Udorthents and Lithic Udorthents	Cultivable land is not available above 4000 m. Vegetation is mainly herbs or medicinal herbs. Potato is cultivated at Thangu in North Sikkim during summer months.
2000 - 3000	<10 to 10	200 to 300	Very very steep side slope (>50%) mostly dissected with 40-60% and highly dissected with 20-40% forest cover & Very steep side slope (33-50%) moderately and highly dissected with 20-40% forest cover	Coarse-loamy Udorthents and Typic Haptumbrepts and Haptudolls & Loamy-skeletal Typic Haptudolls and Udorthents and Haptumbrepts & Fine-loamy Typic Haptumbrepts and Umbric Dystrochrepts	The climate is suitable for growing Seed-Potato. Other alternative crops are temperate fruit plants, cabbage, peas, radish and other winter vegetables, soybean and high altitude maize. Off season cabbage cultivation is common.
1000-2000	10-20	200 to 300 or more	Very steep side slope (33-50%) moderately dissected with cultivated land and with 20-40% forest cover	Fine-loamy Typic Arguidolls and Umbric Dystrochrepts & Coarse-loamy Fragmental Haptudolls and Haptumbrepts	Important crops are Maize, Peas, Millet, Wheat, Buckwheat, Barley, Ginger, high altitude Paddy, Oilseeds, Vegetables and Potatoes. Large Cardamom and Oranges are the main Cash crops.
<1000	>20	Less than 200 to 300	Steep side slope (15-33%) moderately dissected with cultivated land	Loamy-skeletal Cumulic Haptudolls & Coarse-loamy Typic Udorthents	Major crop is Paddy. Other important crops are Maize, Ginger, Wheat, Pulses, Oilseeds and Vegetables. Sub-tropical fruits viz. citrus fruits, Banana, Papaya etc. are also grown.

