south facing sunny slope (good for vine cultivation) than the north facing sheltered slope.

- Hot day followed by calm night ,air cools more rapidly over higher grounds and may induce cold heavy air to flow down the slope and accumulate in valley bottom pushing warm air upwards(temperature would be lower in valley than above this reversal of lapse rate is called as **Temperature Inversion**)

6. **Distance from the Sea:** Compared to land, the sea gets heated slowly and loses heat slowly. Land heats up and cools down quickly.

- Therefore, the variation in temperature over the sea is less compared to land.
- The places situated near the sea come under the moderating influence of the sea and land breezes which moderate the temperature.

7. **Natural Vegetation and Soil –**Thick foliage of Amazon cuts incoming insolation and sunlight does not reach ground.

- In day trees loose water by evapo-transpiration so the air above is cooled.
- Light soil reflects more heat than darker soil which is better absorbers.
- Dry soil like sand are more sensitive to temperature changes while wet soil retain moisture and warm up and cool down more slowly.

10.9 Inversion of Temperature:

- Normally, temperature decreases with increase in elevation. It is called **normal lapse rate**.
- At times, the situations is reversed and the normal lapse rate is inverted. It is called **Inversion of temperature**.
- A long winter night with clear skies and still air is ideal situation for inversion.
- The heat of the day is radiated off during the night, and by early morning hours, the earth is cooler than the air above. Over polar areas, temperature inversion is normal throughout the year.
- **Surface inversion** promotes stability in the lower layers of the atmosphere.
- Smoke and dust particles get collected beneath the inversion layer and spread horizontally to fill the lower strata of the atmosphere.
- Dense fogs in mornings are common occurrences especially during winter season.
- This inversion commonly lasts for few hours until the sun comes up and begins to warm the earth.
- The inversion takes place in hills and mountains due to air drainage.
- Cold air at the hills and mountains, produced during night, flows under the influence of gravity.
- Being heavy and dense, the cold air acts almost like water and moves down the slope to pile up deeply in pockets and valley bottoms with warm air above.
- This is called air drainage. It protects plants from frost damages.