Types of Fog

(classified by formation)

1) **Radiation fog**
Forms when terrestrial radiation cools the ground which in turn cools the air in. contact with it to the dew point temperature; occurs with clear skies, little or no wind, small T-DP spread; is relatively shallow & forms at night & daybreak; winds > 5 kts disperse it (ex: ground fog; San Joaquin valley in winter)
2) **Advection fog**
Forms when moist air moves over cold ground or water; is more extensive & persistent; winds > 15 kts disperse it (ex: U.S. west coast; San Joaquin valley in summer)
3) **Upslope or Orographic fog**
Forms when moist, stable air is cooled adiabatically as it moves up sloping terrain; is quite dense & extends to high altitudes; dissipates when wind ceases (ex: eastern slope of Rockies during winter & spring)
4) **Evaporation or precipitation-induced or steam fog**
Forms when warm rain falls thru cool air, evaporation from the precipitation saturates the cool air & forms fog; can be quite dense, extensive & persistent; commonly associated with warm fronts; same mechanism that produces a condensation trail (contrail) behind jet aircraft or moist exhaled breath on a very cold day or clouds over geysers; when occurs at sea is called sea smoke (water molecules evaporate from water surface into cold overlying air)
5) **Ice fog**
Forms in cold weather with temperature much below -18°C (0°F) & composed of tiny ice crystals (ex: Arctic regions)