GLOSSARY OF TERMS

1. Albedo: The portion of the total incoming radiatin that is reflected back to space expressed as a ratio of the reflected to incoming radiation.

2. Alkalinity: A term used to represent the content of carbonates, biocarbonates, hydroxides and occasionally borates, silicates and phosphates in water expressed in ppm (part per million) or mg/lit of equivalent calcium carbonate.

3. Arid Zone: Region or climate lacking sufficient moisture for crop production without irrigation; upper annual limit of precipitation for cool region is 25 cm and for tropical region is 40-50 cm.

4. Artesian Well: A well penetrating an artesian aquifer. An artesian aquifer is overlain and underlain by a confining layer so that water in these aquifers occurs under pressure. Boring in this aquifer causes the water to rise due to its own pressure.

5. Atmosphere: The word atmosphere is taken to refer to the gaseous envelop of any heavenly body, and especially that of the earth.

6. Boulder: Largest unit in sedimentary rocks. soils etc. usually bigger than 10 cm in size.

7. Canal: Artificial water course used for irrigation or inland navigation.

8. Capillarity: The rise of soil water by adhesion and surface Tension forces as a continous film around soil particles and in the capillary spaces.

9. Caverns: Synonymous with cave, though sometimes it implise a cave of large dimensions. A cave is the under ground hollow space in the earth's crust which may be entered from the surface.

10. Climatology: It is a subdivision of meteorology which deals with the average or normal or collective state of the atmosphere over a given area within a specified period of time i.e. it studies the some total of all atmospheric influences, principally temperature, moisture, wind, pressure and evaporation.

11. Cloud: A mass of small water drops or ice crystals formed in the atmosphere due to condensation of water vapour at great height above the land.

12. Condensation: The physical process of transformation from the vapour to the liquid state.

13. Convection: A process of heat transfer within the atmosphere (or within a gas or fluid), which involves the movement of the medium itself.

14. Dales: Open river valleys.

15. Delta: Roughly triangular area of river - transported sediment at the river mouth deposited by decreasing velocity of water. The sediment is constituted mainly of sand, clay, remains of brackish water organisms, debris of plants and animals washed from land. Delta is formed on low lying coastlines.

16. Desert: Almost barren land having arid hot or cool climate, resulting in sparse vegetation. A desert may have a poor grass-land or scrub.

17. Drought: Lack of rainfall so great and long continued as to affect injuriously the plant and animal life of a place and to deplete water supplies both for domestic purposes and for the operation of power plants, especially in those regions where rainfall is generally sufficient for such purposes. The term has different cannotations in various parts of world e.g. In Bali a period of 6 days without rain is drought. In USA a drought is defined as a period of 21 days or more when the rainfall is 30% or less of the average for the time and place. In parts of Libya, droughts are recognised only after two years without rain.

18. Ecology: Science which deals with interrelations of organisms and their environment.

19. Environment: Sum total of all external conditions influencing the existence or development of an organism or a community.

20. Erosion: Wearing away of land surfaces or detachment and movement of soil, rock etc. by flowing water, wind, ice, gravity etc.

21. Evaporation: The process by which the water is changed from the liquid state to a gaseous state below the boiling point through the transfer of heat energy.

22. Evapotranspiration: Combined loss of moisture from soil by evaporation and from vegetation by transpiration from a given area in a specified time period.

23. Flood: The flow of water which causes submergence of land not usually covered with water, or an increase in the depth of water on land already partially submerged, through a temporary rise in river lake or sea levels.

24. Flood Plain: The low-lying land that borders a river and is subjected to periodic flooding. It is camposed of deposits of sediment (alluvium) of variable thickness laid down by the flood waters above the rock floor and is bounded by low bluffs.

25. Fog: Droplets of water suspended in the lower layers of the atmosphere resulting from the condensation of water vapour around nuclei of floating dust or smoke particles. A visibility of less than 1 Km is the internationally recognised definition of fog.

26. Frigid Zone: A general term for Arctic - Antarctic type climates or for areas where the surface is snow covered for a large part of the year and where the sub soil is permanently frozen.

27. Frost: A weather condition that occurs when the air temperature is at or below 0°C. Moisture on the surface of the ground and objects freezes to form an icy deposit.

28. Geomorphology: The study and interpretation of the origins and development of land forms on the earth's surface.

29. Glacier: A mass of ice that moves under the influence of gravity along a confined course away from its source area. It is formed by the accumulation and compaction of snow, which is transformed to firn and ultimately to glacier ice.

30. Gravel: A deposit of unconsolidated material ranging in size from 2 to 60 mm. The particles are usually water worn and hence rounded, and are derived from more than one type of rock.

31. Ground Water: Water that is contained in the soil and underlying rock. Ground Water may be derived from rain water that has percolated down or from water that was trapped within the rock during its formation.

32. Humidity: The amount of water vapour present in the atmosphere.

33. Hurricane: A wind that has a velocity in excess of 32.7 m per second. It is tropical cyclone occuring around the Caribbean Sea and Gulf of Mexico.

34. Hydrologic Cycle: The cyclic movement of water between the atmosphere, the land and the sea. Water is released into the atmosphere as water vapour through evapotranspiration. After condensation within the atmosphere to form clouds it returnes to the land and to its water bodies as precipitation. This water may runoff the land in rivers and streams into lakes and the oceans or move under ground as ground water. Water keeps on moving continously among above facets of hydrological cycle.

35. Hydrology: The study of water on the earth, including its chemical and physical properties, occurrence, distribution, and circulation on the surface and below the ground surface.

36. Infiltration: The seepage of water into the soil. The maximum rate at which rainfall can be absorbed by a soil in a given condition is known as infiltration capacity.

37. Insolation: The radiant energy that reaches the surface of the earth from the sun.

38. Interception: The capture of drops of rain by the leaves, branches, and stems of plants. The interception of the rainfall by the vegetation cover prevents some of its from reaching the ground.

39. Ionosphere: The part of earth's atmosphere extending upwards above the stratopause from an altitude of about 60 km.

40. Meander: A pronounced curve or loop in the course of a river channel.

41. Meteorology: The scientific study of the atmosphere and the physical processes at work within it including presure wind, temperature, clouds, pressure etc.

42. Mist: A reduction of visibility within the lower atmosphere to 1-12 km caused by condensation producing water droplets within the lower layers of the atmosphere.

43. Monsoon: A large - scale seasonal reversal of winds presure and rainfall in the tropics. The largest and best developed monsoonal area in the world is South East-Asia.

44. Perennial river: Rivers flowing throughout the year are called perennial rivers.

45. Pervious Strata: A rock system through which water can pass freely as a result of joints, bedding planes, cracks and fissures in the rock.

46. Physiography: The study of the surface forms of a region. The word has changed its meaning over the years from covering the whole of physical geography including geomorphology.

47. Plateous: An extensive elevated area of relatively flat land. Widespread movements of the earth's crust may result in vertical warping, which produces plateous and rift valleys divided by faults.

48. Pore space: The amount of space between the mineral grains of rock, soil or sediment.

49. Precipitation: The particles of water or ice that form within clouds and fall towards the earth's surface.

50. Rain gauge: An instrument designed to measure rainfall . In its simplest form it consists of a funnel fitted into a collecting vessel. Any rain collected in the vessel over a set period of time is measured in a specially graduated measuring cylinder, an exercise that occurs twice daily at most meteorological stations.

51. Rain Shadow: An area of low rainfall in the lee of hills or mountain ranges.

52. Reservoir: A storage area for water usually a river valley that has been dammed to retain water for one or more purposes, such as irrigation, industrial use, water supply , hydro-electric power or recreation.

53. Rills: Erosion of the soil surface by shallow short lived channels .These small channels are called rills.

54. Saline soil: A group of intrazonal soils that contain high concentrations of salts such as common salt. They often occur in semiarid and arid areas where there is strong evaporation.

55. Semi Arid: The climate of the areas between desert and tropical grassland. The mean annual rainfall ranges between 100 mm to 300 mm.

56. Sluice: Channel or conduit to drain off surplus water at high velocity or for passing debris. Also to allow a water flow at high velocity for ejecting debris.

57. Snow: A form of precipitation consisting of crystals of ice. It is produced when condenstation takes place at a temperature below freezing point.

58. Spillway: An open or closed passage cut in soil or rock. When a dam is full, any further incoming water flows over or through the spillway without any damage to the structure.

59. Stratosphere: The layer of the atmosphere that lies between the tropopause, at an average altitude of about 8 km, and the stratopause, at about 50 km.

60. Temperate Region: The division of the world based on temperature lying between the Torrid and frigid zones, and meaning an area where there are no extremes of temperature.

61. Termite mound: The nest made from mud or plant debris, that houses a colony of termites (Tropical type of ant).

62. Topography: The surface features (i.e. land forms) of an area of land or sea bed.

63. Tornado: A violently rotating storm in which winds whirl around a small area of extremely low pressure.

64. Torrid: One of the three divisions of the world based on temperature . It is the zone lying between the tropics.

65. Troposphere: The lowest layer of the earth's atmosphere.

66. Turbudity: The muddiness of water resulting from suspended sediment.

67. Turbulence: An irregular disturbed flow of fluid (e.g. water, air).

68. Water falls: A steep cliff like section of a river channel down which water falls vertically.

69. Water lift : Any mechanism (generally lever principle) to raise the water from a source of lower datum, to obtain water for useful purposes.

70. Water oozing: Water seeping out of the ground and wetting it without perceptible flow.

71. Water Table: The upper surface of the zone of saturated rocks i.e. rocks in which all voids are filled with water.

72. Water Treatment: Any method used to obtain potable water from a contaminated source of water.

73. Water uptake: Water ascend upward through the capillarity of soil and root system of plants. The utilisation of water by plants is termed as water uptake.

74. Water Veins: The underground structures through which the water moves through the soil. These are passages formed by the interconnections of pore spaces of soil. In ancient Indian literature these have been said to be resembling the veins in the human body.