

ANNEX IV. GLOSSARY

Many terms used in this report may be unfamiliar to users of this manual. It seems appropriate to provide a summary, listing for easy reference the more important terms used in the report and also some that may be helpful to the user in developing PMP studies.

Adiabat Curve of thermodynamic change taking place without addition or subtraction of heat. On an adiabatic chart or pseudo-adiabatic diagram, it is a line showing pressure and temperature changes undergone by air rising or sinking in the atmosphere without exchange of heat with its environment or condensation of its water vapour; a line, thus, of constant potential temperature. Also called a dry adiabat.

Adiabatic Referring to the process described by "adiabat".

Adiabatic chart Diagram in which temperature is plotted against pressure and on which adiabats are constructed.

Adiabatic lapse rate A lapse rate equal to the rate of change of temperature with height of unsaturated air adiabatically raised or lowered in the atmosphere; indicated by the adiabat, and equal to 1°C per 100 m, approximately. Also called the dry-adiabatic lapse rate.

Advection The process of transfer (of an air mass property) by virtue of motion. In particular cases, attention may be confined to either the horizontal or vertical components of the motion. The term is, however, often used to signify horizontal transfer only.

Air mass Extensive body of air approximating horizontal homogeneity, identified as to source region and subsequent modifications.

Air-mass thunderstorm A thunderstorm which is formed by convection within an air mass, usually by heating of the lower layers. By implication, it is one in the formation of which neither a front nor large-scale dynamical lifting of the air mass plays an important part.

All-season The largest or smallest value of a meteorological variable without regard to the time of the

year it occurred. In this report, all-season refers to the largest PMP estimate determined without regard to the time of year at which it may occur.

Among-storm A storm characteristic determined when values of various parameters are determined from different storms. An example is the ratio of 6-hour precipitation to 24-hour precipitation (a 6-hour to 24-hour ratio), where the 6-hour value is taken from a different storm than the 24-hour value.

Atmospheric forces The forces that result only from the pressure, temperature, and moisture gradients and their relative changes with time over a particular location.

Barrier A mountain range which partially blocks the flow of warm humid air from its oceanic region to a basin under study.

Basin shape The physical outline of the basin as determined from topographic charts or field survey.

Cloudburst A popular term for a very sudden and extremely heavy shower, often accompanied by thunder and hail. It is associated with strong upward and downward currents.

Cold front Front at which relatively colder air displaces warmer air.

Combination model method Reasonable combination of two or more transposable storms in the design watershed or surrounding regions based on principles and experience of synoptic meteorology in order to form a new ideal sequence of extraordinary storms, which then undergoes necessary transposition correction and maximization to estimate probable maximum precipitation for the design watershed.

Composite maximization Developing hypothetical severe precipitation events by joining together storms or storm bursts. Comprised of sequential maximization and spatial maximization.

Convective rain Rainfall which is caused by the vertical motion of an ascending mass of air which is warmer than the environment. The horizontal