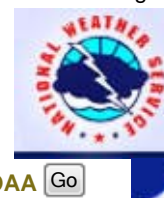




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E

[East](#)

E REGION

In solar-terrestrial terms, a daytime layer of the earth's ionosphere roughly between the altitudes of 85 and 140 km.

E-19, Report on River Gage Station

In hydrologic terms, a report to be completed every 5 years providing a complete history of a river station and all gages that have been used for public forecasts since the establishment of the station.

E-19a, Abridged Report on River Gage Sta

In hydrologic terms, an abridged version of an E-19, an E-19a updates the E-19 as additional information, or changes occur at the station during the intervening five year period. An E-19a is to be completed anytime a significant change occurs at a forecast point. An E-19a is also used to take the place of an E-19 in documenting any gage history, or information of any non-forecast point (i.e; data point).

E-3, Flood Stage Report

In hydrologic terms, a form that a Service Hydrologist/ Hydrology Focal Point completes to document the dates in which forecast points are above flood stage, as well as the crest dates and stages. Discussion of the flood event must also be included in the E-5, Monthly Report of River and Flood conditions. An E-3 report is sent to Regional Headquarters, the appropriate RFC, as well as the Office of Hydrology (OH).

E-5, Monthly Report of River and Flood c

In hydrologic terms, a monthly narrative report covering flooding which occurred over the past month. Flood stage, flood crest and dates in which flooding occurred is covered within this report for each data point which was in flood. If the flooding involved a forecast point, an E-3 must be filled out as well. If no flooding has occurred within the past month, a climatic summary of the past month can be included as well as other interesting non-flood events, such as water supply, ice jams and the occurrence of drought. An E-5 report is sent to Regional Headquarters, the appropriate RFC, as well as the Office of Hydrology (OH).

E-7, Flood Damage Report

In hydrologic terms, a report to be completed anytime there is reported flood damage or loss of life as a direct result of flooding. An E-7 report is sent to Regional Headquarters, as well as the Office of Hydrology (OH).

Easterlies

Any winds with components from the east.

Easterly Wave

A low level disturbance of tropical origins. Easterly waves can develop into tropical cyclones. However, tropical cyclone development is not required in order for these systems to produce significant amounts of rainfall. The easterly waves are primarily a summer phenomenon.

Ebb Current

The movement of a tidal current away from the coast or down an estuary.

EBND

[Eastbound](#)

EBS

[Emergency Broadcast System](#)

Eccentricity

A dimensionless quantity describing the elliptical shape of a planet's orbit.

Echo

Energy back scattered from a target (precipitation, clouds, etc.) and received by and displayed on a radar screen.

Echo Tops

The height above ground of the center of the radar beam using the tilt, or scan, that contains the highest elevation where reflectivities greater than 18 dBZ can be detected.

ECMF

- European Center for Meteorology Forecast model.
- ECMWF**
European Center for Medium-Range Weather Forecasts. Operational references in forecast discussions typically refer to the ECMWF's medium-range numerical forecast model, which runs out to 10 days.
- Eddy**
Swirling currents of air at variance with the main current.
- EDT**
Eastern Daylight Time
- EFCT**
Effect
- Effective Porosity**
In hydrologic terms, the ratio, usually expressed as a percentage, of the volume of water or other liquid which a given saturated volume of rock or soil will yield under any specified hydraulic condition, to the given volume of soil or rock.
- Effective Precipitation**
- 1) That part of the precipitation that produces runoff.
 - 2) A weighted average of current and antecedent precipitation that is "effective" in correlating with runoff.
 - 3) That part of the precipitation falling on an irrigated area that is effective in meeting the consumptive use requirements.
- Effective Terrestrial Radiation**
The difference between upwelling infrared or terrestrial radiation emitted from the earth and the downwelling infrared radiation from the atmosphere
- Effective Topography**
The topography as seen by an approaching flow, which may include not only the actual terrain but also cold air masses trapped within or adjacent to the actual topography.
- Effluent Seepage**
In hydrologic terms, diffuse discharge of ground water to the ground surface
- Effluent Stream**
In hydrologic terms, any watercourse in which all, or a portion of the water volume came from the Phreatic zone, or zone of saturation by way of groundwater flow, or baseflow
- El Niño**
A warming of the ocean current along the coasts of Peru and Ecuador that is generally associated with dramatic changes in the weather patterns of the region; a major El Niño event generally occurs every 3 to 7 years and is associated with changes in the weather patterns worldwide.
- Element**
One of the basic conditions of the atmosphere discussed in this FMH (wind, visibility, runway visual range, weather, obscurations, sky condition, temperature and dewpoint, and pressure). See parameter
- ELEV**
Elevation
- Elevated Convection**
Convection occurring within an elevated layer, i.e., a layer in which the lowest portion is based above the earth's surface. Elevated convection often occurs when air near the ground is relatively cool and stable, e.g., during periods of isentropic lift, when an unstable layer of air is present aloft.
- In cases of elevated convection, stability indices based on near-surface measurements (such as the lifted index) typically will underestimate the amount of instability present. Severe weather is possible from elevated convection, but is less likely than it is with surface-based convection.
- ELSW**
Elsewhere
- ELY**
Easterly
- Embankment**
In hydrologic terms, fill material, usually earth or rock, placed with sloping sides and usually with length greater than height. All dams are types of embankments
- EMBDD**
Embedded
- EMC**
Environmental Modeling Center
- Emergency Action Plan**
In hydrologic terms, a predetermined plan of action to be taken to reduce the potential for property damage and loss of life in an area affected by a dam break or excessive spillway.

Emergency Services

In hydrologic terms, services provided in order to minimize the impact of a flood that is already happening. These measures are the responsibility of city, or county emergency management staff and the owners or operators of major, or critical facilities. Some examples of emergency services are flood warning and evacuation, flood response, and post flood activities.

Emerging Flux Region (EFR)

In solar-terrestrial terms, an area on the sun where new magnetic flux is erupting.

Emissivity

The ability of a surface to emit radiant energy compared to that of a black body at the same temperature and with the same area.

EML

Elevated Mixed Layer

ENDG

Ending

Energy Dissipator

In hydrologic terms, a structure which slows fast-moving spillway flows in order to prevent erosion of the stream channel.

Energy Helicity Index

An index that incorporates vertical shear and instability, designed for the purpose of forecasting supercell thunderstorms

Engineer's Level

A telescope which is attached to a spirit-tube level, all revolving around a vertical axis and is mounted on a tripod. An Engineer's Level is used for determining the difference in elevation between two points. The telescope on the level has a vertical cross hair and a horizontal cross hair. Once the instrument is leveled, the sighting through the horizontal cross hair represents a horizontal plane of equal elevation.

Enhanced V

A pattern seen on satellite infrared photographs of thunderstorms, in which a thunderstorm anvil exhibits a V-shaped region of colder cloud tops extending downwind from the thunderstorm core. The enhanced V indicates a very strong updraft, and therefore a higher potential for severe weather. Enhanced V should not be confused with V notch, which is a radar signature.

Enhanced Wording

1. An option used by the SPC in tornado and severe thunderstorm watches when the potential for strong/violent tornadoes, or unusually widespread damaging straight-line winds, is high. The text that accompanies a watch of this type will include the line "THIS IS A PARTICULARLY DANGEROUS SITUATION."

2. Strong wording or emphasis used in a zone forecast issued by a National Weather Service Forecast Office highlighting a potential condition (e.g., "some thunderstorms may be severe").

ENHNCD

Enhanced

ENSEMBLE

A collection of numerical model results that show slightly different possible outcomes.

Ensemble Forecast

Multiple predictions from an ensemble of slightly different initial conditions and/or various versions of models. The objectives are to improve the accuracy of the forecast through averaging the various forecasts, which eliminates non-predictable components, and to provide reliable information on forecast uncertainties from the diversity amongst ensemble members. Forecasters use this tool to measure the likelihood of a forecast.

Ensemble Hydrologic Forecasting

In hydrologic terms, a process whereby a continuous hydrologic model is successively executed several times for the same forecast period by use of varied data input scenarios, or a perturbation of a key variable state for each model run. A common method employed to obtain a varied data input scenario is to use the historical meteorological record, with the assumption that several years of observed data covering the time period beginning on the current date and extending through the forecast period comprises a reasonable estimate of the possible range of future conditions.

Ensembles

Reference to a set of computer models run under the concept of **Ensemble Forecasting**: multiple predictions from an ensemble of models with slightly different initial conditions used as input and/or slightly different versions of models. The objectives are to improve the accuracy of the forecast through averaging the various forecasts, which eliminates non-predictable components, and to provide reliable information on forecast uncertainties from the diversity amongst ensemble members. Forecasters use this tool to measure the likelihood of a forecast.

ENSO

Abbreviation for **El Niño-Southern Oscillation**, a reference to the state of the Southern

- Oscillation.
- ENSO Diagnostic Discussion**
The CPC issues the ENSO Diagnostic Discussion around the middle of the month. The discussion addresses the current oceanic and atmospheric conditions in the Pacific and the seasonal climate outlook for the following one to three seasons.
- ENTR**
Entire
- Entrainment Zone**
A shallow region at the top of a convective boundary layer where fluid is entrained into the growing boundary layer from the overlying fluid by the collapse of rising convective plumes or bubbles.
- Entrance Region**
The region upstream from a wind speed maximum in a jet stream (jet max), in which air is approaching (entering) the region of maximum winds, and therefore is accelerating. This acceleration results in a vertical circulation that creates divergence in the upper-level winds in the right half of the entrance region (as would be viewed looking along the direction of flow).
- This divergence results in upward motion of air in the right rear quadrant (or right entrance region) of the jet max. Severe weather potential sometimes increases in this area as a result. See also exit region, left exit region.
- Entropy**
The amount of energy that is not available for work during a certain process.
- Environment Canada**
The Canadian federal government department responsible for issuing weather forecasts and weather warnings in Canada.
- Environmental Lapse Rate**
The rate of decrease of air temperature with height, usually measured with a radiosonde.
- Environmental Temperature Sounding**
An instantaneous or near-instantaneous sounding of temperature as a function of height. This sounding or vertical profile is usually obtained by a balloon-borne instrument, but can also be measured using remote sensing equipment.
- EPA**
Environmental Protection Agency
- EPCTG**
Expecting
- EPV**
Equivalent Potential Vorticity
- Equi-Potential Line**
In hydrologic terms, a line, in a field of flow, such that the total head is the same for all points on the line, and therefore the direction of flow is perpendicular to the line at all points.
- Equilibrium Drawdown**
In hydrologic terms, the ultimate, constant drawdown for a steady rate of pumped discharge.
- Equilibrium Level**
(EL) - On a sounding, the level above the level of free convection (LFC) at which the temperature of a rising air parcel again equals the temperature of the environment. The height of the EL is the height at which thunderstorm updrafts no longer accelerate upward. Thus, to a close approximation, it represents the height of expected (or ongoing) thunderstorm tops.
- Equilibrium Surface Discharge**
In hydrologic terms, the steady rate of surface discharge which results from a long-continued, steady rate of net rainfall, with discharge rate equal to net rainfall rate
- Equilibrium Time**
In hydrologic terms, the time when flow conditions become substantially equal to those corresponding to equilibrium discharge or equilibrium drawdown.
- Equinox**
The time when the sun crosses the earth's equator, making night and day of approximately equal length all over the earth and occurring about March 21 (the spring or vernal equinox) and September 22 (autumnal equinox).
- Equivalent Potential Temperature**
The equivalent potential temperature is the temperature a parcel at a specific pressure level and temperature would have if it were raised to 0 mb, condensing all moisture from the parcel, and then lowered to 1000 mb.
- ERLY**
Early
- ERN**
Eastern
- Erosion**

In hydrologic terms, wearing away of the lands by running water, glaciers, winds, and waves, can be subdivided into three process: Corrasion, Corrosion, and Transportation. Weathering, although sometimes included here, is a distant process which does not imply removal of any material

Eruptive

In solar-terrestrial terms, solar activity levels with at least one radio event (10 cm) and several chromospheric events per day (Class C Flares).

Eruptive Prominence on Limb (EPL)

In solar-terrestrial terms, a solar prominence that becomes activated and is seen to ascend from the sun.

ESP

Extended Streamflow Prediction

EST

Eastern Standard Time

Estuary

In hydrologic terms, the thin zone along a coastline where freshwater systems and rivers meet and mix with a salty ocean (such as a bay, mouth of a river, salt marsh, lagoon).

Esturine waters

In hydrologic terms, deepwater tidal habitats and tidal wetlands that are usually enclosed by land but have access to the ocean and are at least occasionally diluted by freshwater runoff from the land (such as bays, mouths of rivers, salt marshes, lagoons).

Esturine Zone

In hydrologic terms, the area near the coastline that consists of estuaries and coastal saltwater wetlands

ETA

1. The Eta Model, now referred to as North American Meso (NAM) an 84-hour numerical model of the atmosphere run four times daily by NCEP. This is one of the main forecast models used for short-term weather prediction in the United States.

2. Estimated Time of Arrival

Eta Model

Now referred to as North American Meso (NAM) is one of the operational numerical forecast models run at NCEP. The Eta is run four times daily, with forecast output out to 84 hours.

Evaporation

The process of a liquid changing into a vapor or gas, usually water in meteorology.

Evaporation Pan

In hydrologic terms, a pan used to hold water during observations for the determination of the quantity of evaporation at a given location. Such pans are of varying sizes and shapes, the most commonly used being circular or square.

Evaporation Rate

In hydrologic terms, the quantity of water, expressed in terms of depth of liquid water, which is evaporated from a given surface per unit of time. It is usually expressed in inches depth, per day, month, or year.

Evaporation-mixing Fog

Fog that forms when the evaporation of water raises the dew point of the adjacent air.

Evaporimeter

In hydrologic terms, an instrument which measures the evaporation rate of water into the atmosphere.

Evapotranspiration

Combination of evaporation from free water surfaces and transpiration of water from plant surfaces to the atmosphere.

EVE

Evening

EWD

Eastward

EWW

Extreme Wind Warning (EWW) inform the public of the need to take immediate shelter in an interior portion of a well-built structure due to the onset of extreme tropical cyclone winds. An EWW for extreme tropical cyclone winds should be issued when both of the following criteria are met: a. Tropical cyclone is a category 3 or greater on the Saffir Simpson hurricane scale as designated by NHC, CPHC or JTWC. b. Sustained tropical cyclone surface winds of 100 knots (115 mph) or greater are occurring or are expected to occur in a WFO's county warning area within one hour.

Excess Rain

In hydrologic terms, effective rainfall in excess of infiltration capacity.

Excessive Heat

Excessive heat occurs from a combination of high temperatures (significantly above normal) and high humidities. At certain levels, the human body cannot maintain proper internal temperatures and may experience heat stroke. The "Heat Index" is a measure of

the effect of the combined elements on the body.

Excessive Heat Outlook

This CPC product, a combination of temperature and humidity over a certain number of days, is designed to provide an indication of areas of the country where people and animals may need to take precautions against the heat during May to November.

Excessive Heat Warning

Issued within 12 hours of the onset of the following criteria: heat index of at least 105°F for more than 3 hours per day for 2 consecutive days, or heat index more than 115°F for any period of time.

Excessive Heat Watch

Issued by the National Weather Service when heat indices in excess of 105°F (41°C) during the day combined with nighttime low temperatures of 80°F (27°C) or higher are forecast to occur for two consecutive days.

EXCLD

Exclude

Exclusive Flood Control Storage Capacity

In hydrologic terms, the space in a reservoir reserved for the sole purpose of regulating flood inflows to abate flood damage

Exit Region

The region downstream from a wind speed maximum in a jet stream (jet max), in which air is moving away from the region of maximum winds, and therefore is decelerating. This deceleration results in divergence in the upper-level winds in the left half of the exit region (as would be viewed looking along the direction of flow).

This divergence results in upward motion of air in the left front quadrant (or left exit region) of the jet max. Severe weather potential sometimes increases in this area as a result. See also entrance region, right entrance region.

Exosphere

The upper most layer of the earth's atmosphere; the only layer where atmospheric gases can escape into outer space.

Experimental Product

An experimental product is in the final stages of testing and evaluation. If the product proves accurate and valuable to users then the next step is to make it an operational product.

Explosive Deepening

A decrease in the minimum sea-level pressure of a tropical cyclone of 2.5 mb/hr for at least 12 hours or 5 mb/hr for at least six hours.

EXTD

Extend/Extended

Extended Forecast Discussion

This discussion is issued once a day around 2 PM EST (3 PM EDT) and is primarily intended to provide insight into guidance forecasts for the 3- to 5-day forecast period. The geographic focus of this discussion is on the United States (including Alaska and Hawaii). Although portions of this narrative will parallel the Hemispheric Map Discussion, a much greater effort is made to routinely relate the model forecasts and necessary modifications to weather forecasts, mainly in terms of temperature and precipitation.

Extraterrestrial Radiation

The theoretically-calculated radiation flux from the sun at the top of the atmosphere, before losses by atmospheric absorption.

Extratropical

A term used in advisories and tropical summaries to indicate that a cyclone has lost its "tropical" characteristics. The term implies both poleward displacement of the cyclone and the conversion of the cyclone's primary energy source from the release of latent heat of condensation to baroclinic (the temperature contrast between warm and cold air masses) processes. It is important to note that cyclones can become extratropical and still retain winds of hurricane or tropical storm force.

Extratropical Cyclone

A cyclone in the middle and high latitudes often being 2000 kilometers in diameter and usually containing a cold front that extends toward the equator for hundreds of kilometers.

Extratropical Low

A low pressure center which refers to a migratory frontal cyclone of middle and higher latitudes. Tropical cyclones occasionally evolve into extratropical lows losing tropical characteristics and become associated with frontal discontinuity.

Extreme Ultraviolet (EUV)

A portion of the electromagnetic spectrum from approximately 100 to 1000 angstroms.

Extreme Wind Warning

Extreme Wind Warning (EWW) inform the public of the need to take immediate shelter in an interior portion of a well-built structure due to the onset of extreme tropical cyclone winds. An EWW for extreme tropical cyclone winds should be issued when both of the

following criteria are met: a. Tropical cyclone is a category 3 or greater on the Saffir Simpson hurricane scale as designated by NHC, CPHC or JTWC. b. Sustained tropical cyclone surface winds of 100 knots (115 mph) or greater are occurring or are expected to occur in a WFO's county warning area within one hour.

Extremely Low Frequency (ELF)

That portion of the radio frequency spectrum from 30 to 3000 hertz

EXTRM

Extreme

EXTSV

Extensive

Eye

The relatively calm center in a hurricane that is more than one half surrounded by wall cloud. The winds are light, the skies are partly cloudy or even clear (the skies are usually free of rain) and radar depicts it as an echo-free area within the eye wall.

Eye Wall

It is an organized band of cumuliform clouds that immediately surrounds the center (eye) of a hurricane. The fiercest winds and most intense rainfall typically occur near the eye wall. VIP levels 3 or greater are typical. Eye wall and wall cloud are used synonymously, but it should not be confused with a wall cloud of thunderstorm.

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