Here are the results for the letter **s**

S
1) South
or
2) Snow

S-Band Radar
These were in use as network radars in the National Weather Service prior to the installation of the WSR 88-D radars. They were 10-centimeter wavelength radars.

S/W
Shortwave - a disturbance in the mid or upper part of the atmosphere which induces upward motion ahead of it. If other conditions are favorable, the upward motion can contribute to thunderstorm development ahead of a shortwave.

S/WV
Shortwave - a disturbance in the mid or upper part of the atmosphere which induces upward motion ahead of it. If other conditions are favorable, the upward motion can contribute to thunderstorm development ahead of a shortwave.

SafetyNET
Inmarsat-C SafetyNET is an internationally adopted, automated satellite system for promulgating weather forecasts and warnings, marine navigational warnings and other safety related information to all types vessels and is part of the Global Maritime Distress and Safety System (GMDSS).

Saffir-Simpson Scale
This scale was developed in an effort to estimate the possible damage a hurricane's sustained winds and storm surge could do to a coastal area. The scale of numbers are based on actual conditions at some time during the life of the storm. As the hurricane intensifies or weakens, the scale number is reassessed accordingly. The following table shows the scale broken down by central pressure, winds, and storm surge:

Category	Central Pressure (mb)	Wind Speed (mph)	Storm Surge (ft.)	Damage
1	980 or >	74 - 95	4 - 5	Minimal
2	965 - 979	96 - 110	6 - 8	Moderate
3	945 - 964	111 - 130	9 - 12	Extensive
4	920 - 944	131 - 155	13 - 18	Extreme
5	< 920	> 155	> 18	Catastrophic

Salinity (SAL)
In oceanography, conductivity is measured and converted to salinity by a known functional relationship between the measured electrical conductivity of seawater temperature and pressure.

SAME
(Specific Area Message Encoding) - A tone alert system which allows NOAA Weather Radio receivers equipped with the SAME feature to sound an alert for only certain weather conditions or within a limited geographic area such as a county.

SAMEX
Storm and Mesoscale Ensemble Experiment

Sampling Frequency
The rate at which sensor data is read or sampled.

Sandstorm
Particles of sand carried aloft by strong wind. The sand particles are mostly confined to the lowest ten feet, and rarely rise more than fifty feet above the ground.

Santa Ana Wind
In southern California, a weather condition in which strong, hot, dust-bearing winds descend to the Pacific Coast around Los Angeles from inland desert regions.

Sastrugi
Ridges of snow formed on a snow field by the action of the wind.

SAT
1. Satellite (imagery)

2. Saturday

Satellite Hydrology Program
A NOHRSC program that uses satellite data to generate areal extent of snow cover data over large areas of the western United States.

SATL
Satellite

Saturation Vapor Pressure
The vapor pressure of a system, at a given temperature, wherein the vapor of a substance is in equilibrium with a plane surface of that substance's pure liquid or solid phase.

SAWRS
Supplementary Aviation Reporting Station - the SAWRS program addresses the concerns of users who depend on weather observations for air operations. If the cooperator is collocated with a commissioned automated system, they ensure continuity during outage periods of the automated system. The requirement for a SAWRS arises from the FAA validated need for observations to satisfy FAR 121 or 135 operations or for the safe conduct of other aircraft.

SBCAPE
Surface Based CAPE; CAPE calculated using a Surface based parcel.

SBND
Southbound

SBSD
Subside

SC
Stratocumulus

SCA
Small Craft Advisory

Scattered
When used to describe precipitation (for example: "scattered showers") - Area coverage of convective weather affecting 30 percent to 50 percent of a forecast zone (s). When used to describe sky cover: 3/8th to 4/8th (sky cover is measured in eighths or oktas) of the sky covered by clouds. In U.S. weather observing procedures, this is reported with the contraction “SCT.”

Scattering
The process in which a beam of light is diffused or deflected by collisions with particles suspended in the atmosphere.

SCT
Scattered

Scud
Small, ragged, low cloud fragments that are unattached to a larger cloud base and often seen with and behind cold fronts and thunderstorm gust fronts. Such clouds generally are associated with cool moist air, such as thunderstorm outflow.

SE
Southeast

Sea Breeze
A thermally produced wind blowing during the day from a cool ocean surface onto the adjoining warm land, caused by the difference in the rates of heating of the surfaces of the ocean and of the land.

Sea Breeze Convergence Zone
The zone at the leading edge of a sea breeze where winds converge. The incoming air rises in this zone, often producing convective clouds.

Sea Breeze Front
The leading edge of a sea breeze, whose passage is often accompanied by showers, a wind shift, or a sudden drop in temperature.

Sea Fog
Common advection fog caused by transport of moist air over a cold body of water.

Sea Ice
Any form of ice found at sea which has originated from the freezing of sea water (sea ice does NOT include superstructure icing). Ice formed from the freezing of the waters of the Great Lakes will be considered the same as sea ice.

Sea Level Pressure
The sea level pressure is the atmospheric pressure at sea level at a given location. When observed at a reporting station that is not at sea level (nearly all stations), it is a correction of the **station pressure** to sea level. This correction takes into account the standard variation of pressure with height and the influence of temperature variations with height on the pressure. The temperature used in the sea level correction is a twelve hour mean, eliminating diurnal effects. Once calculated, horizontal variations of sea level

pressure may be compared for location of high and low pressure areas and fronts.

Sea Surface Temperatures
The term refers to the mean temperature of the ocean in the upper few meters.

Seas
The combination of both wind waves and swell. Used to describe the combination or interaction of wind waves and swell in which the separate components are not distinguished. This includes the case when swell is negligible or is not considered in describing sea state. Specifically, $Seas^2 = S^2+W^2$ where S is the height of the swell and W is the height of the wind wave. When used, Seas should be considered as being the same as the Significant Wave Height

Second-Day Feet
In hydrologic terms, the volume of water represented by a flow of one cubic foot per second for 24 hours; equal to 86,400 cubic feet. This is used extensively as a unit of runoff volume. Often abbreviated as SDF.

Secondary Ambient Air Quality Standards
Air quality standards designed to protect human welfare, including the effects on vegetation and fauna, visibility and structures.

Secondary Pollutant
Pollutants generated by chemical reactions occurring within the atmosphere. Compare primary pollutant.

Sector Boundary
In solar-terrestrial terms, in the solar wind, the area of demarcation between sectors, which are large-scale features distinguished by the predominant direction of the interplanetary magnetic field, toward or away from the sun.

Sector Visibility
The visibility in a specific direction that represents at least a 45º arc of a horizontal circle.

Sectorized Hybrid Scan
A single reflectivity scan composed of data from the lowest four elevation scans. Close to the radar, higher tilts are used to reduce clutter. At further ranges, either the maximum values from the lowest two scans are used or the second scan values are used alone.

Securite
A headline within National Weather Service high seas forecasts transmitted via the GMDSS to indicate that no hurricane or hurricane force winds are forecast.

Sediment Storage Capacity
In hydrologic terms, the volume of a reservoir planned for the deposition of sediment.

Seepage
In hydrologic terms, the interstitial movement of water that may take place through a dam, its foundation, or abutments.

Seiche
A standing wave oscillation of water in large lakes usually created by strong winds and/or a large barometric pressure gradient.

SEL
A watch cancellation statement issued to terminate a watch before its original expiration time.

SELS
Severe Local Storm

SELY
Southeasterly

Sensible Heat Flux
The flux of heat from the earth's surface to the atmosphere that is not associated with phase changes of water; a component of the surface energy budget.

Separation Eddy
An eddy that forms near the ground on the windward or leeward side of a bluff object or steeply rising hillside; streamlines above this eddy go over the object.

Serial Derecho
Type of derecho that consists of an extensive squall line which is oriented such that the angle between the mean wind direction and the squall line axis is small. A series of LEWPs and bow echoes move along the line. The downburst activity is associated with the LEWPs and bows. A Serial Derecho tends to be more frequent toward the north end of the line during the late winter and spring months. It occurs less frequently than its cousin the "progressive derecho."

It is associated with a linear type mesoscale convective system that moves along and in advance of a cold front or dry line. These boundaries are often associated with a strong, migratory surface low pressure system and strong short wave trough at 500 mb (strong dynamic forcing). Lifted Indices are typically -6 or lower and the advection of dry air in the mid-troposphere (3-7 km above ground) by relatively strong winds leads to high convective instability and increased downdraft potential. The bow echoes move along the line in the direction of the mean flow, often southwest to northeast. These storms move at speeds exceeding 35 knots. Squall line movement is often less than 30 knots.

SERN
Southeastern

Service Hydrologist
The designated expert of the hydrology program at a WFO.

Servo Loop
In radar meteorology, a generic description of hardware needed to remotely control the motion of the antenna dish.

Set
The direction towards which a current is headed. For example, a current moving from west to east is said to be set to east.

Set-up
The process whereby strong winds blowing down the length of a lake cause water to "pile up" at the downwind end, raising water levels there and lowering them at the upwind end of the lake.

Severe Icing
The rate of ice accumulation on an aircraft is such that de-icing/anti-icing equipment fails to reduce or control the hazard. Immediate diversion is necessary.

Severe Local Storm
A convective storm that usually covers a relatively small geographic area, or moves in a narrow path, and is sufficiently intense to threaten life and/or property. Examples include severe thunderstorms with large hail, damaging wind, or tornadoes. Although cloud-to-ground lightning is not a criteria for severe local storms, it is acknowledged to be highly dangerous and a leading cause of deaths, injuries, and damage from thunderstorms. A thunderstorm need not be severe to generate frequent cloud-to-ground lightning. Additionally, excessive localized convective rains are not classified as severe storms but often are the product of severe local storms. Such rainfall may result in related phenomena (flash floods) that threaten life and property.

Severe Local Storm Watch
An alert issued by the National Weather Service for the contiguous U.S. and its adjacent waters of the potential for severe thunderstorms or tornadoes.

Severe Thunderstorm
A thunderstorm that produces a tornado, winds of at least 58 mph (50 knots), and/or hail at least ¾" in diameter. Structural wind damage may imply the occurrence of a severe thunderstorm. A thunderstorm wind equal to or greater than 40 mph (35 knots) and/or hail of at least ½" is defined as approaching severe.

Severe Thunderstorm Warning
This is issued when either a severe thunderstorm is indicated by the WSR-88D radar or a spotter reports a thunderstorm producing hail 3/4 inch or larger in diameter and/or winds equal or exceed 58 miles an hour; therefore, people in the affected area should seek safe shelter immediately. Severe thunderstorms can produce tornadoes with little or no advance warning. Lightning frequency is not a criteria for issuing a severe thunderstorm warning. They are usually issued for a duration of one hour. They can be issued without a Severe Thunderstorm Watch being already in effect.

Like a Tornado Warning, the Severe Thunderstorm Warning is issued by your National Weather Service Forecast Office (NWFO). Severe Thunderstorm Warnings will include where the storm was located, what towns will be affected by the severe thunderstorm, and the primary threat associated with the severe thunderstorm warning. If the severe thunderstorm will affect the nearshore or coastal waters, it will be issued as the combined product--Severe Thunderstorm Warning and Special Marine Warning. If the severe thunderstorm is also causing torrential rains, this warning may also be combined with a Flash Flood Warning. If there is an ampersand (&) symbol at the bottom of the warning, it indicates that the warning was issued as a result of a severe weather report.

After it has been issued, the affected NWFO will follow it up periodically with Severe Weather Statements. These statements will contain updated information on the severe thunderstorm and they will also let the public know when the warning is no longer in effect.

Severe Thunderstorm Watch
This is issued by the National Weather Service when conditions are favorable for the development of severe thunderstorms in and close to the watch area. A severe thunderstorm by definition is a thunderstorm that produces 3/4 inch hail or larger in diameter and/or winds equal or exceed 58 miles an hour. The size of the watch can vary depending on the weather situation. They are usually issued for a duration of 4 to 8 hours. They are normally issued well in advance of the actual occurrence of severe weather. During the watch, people should review severe thunderstorm safety rules and be prepared to move a place of safety if threatening weather approaches.

A Severe Thunderstorm Watch is issued by the Storm Prediction Center in Norman, Oklahoma. Prior to the issuance of a Severe Thunderstorm Watch, SPC will usually

contact the affected local National Weather Service Forecast Office (NWFO) and they will discuss what their current thinking is on the weather situation. Afterwards, SPC will issue a preliminary Severe Thunderstorm Watch and then the affected NWFO will then adjust the watch (adding or eliminating counties/parishes) and then issue it to the public by way of a Watch Redefining Statement. During the watch, the NWFO will keep the public informed on what is happening in the watch area and also let the public know when the watch has expired or been cancelled.

Severe Weather Analysis
This WSR-88D radar product provides 3 base products (reflectivity (SWR), radial velocity (SWV), and spectrum width (SWW)) at the highest resolution available along with radial shear (SWS). These products are mapped into a 27 nm by 27 nm region centered on a point which the operator can specify anywhere within a 124 nm radius of the radar. It is most effective when employed as an alert paired product with the product centered on alert at height that caused the alert. It is used to examine 3 base products simultaneously in a 4 quadrant display; and analyze reflectivity and velocity products at various heights to gain a comprehensive vertical analysis of the thunderstorm.

Severe Weather Potential Statement
This statement is designed to alert the public and state/local agencies to the potential for severe weather up to 24 hours in advance. It is issued by the local National Weather Service office.

Severe Weather Probability
This WSR-88D radar product algorithm displays numerical values proportional to the probability that a storm will produce severe weather within 30 minutes. Values determined using a statistical regression equation which analyzes output from the VIL algorithm. It is used to quickly identify the most significant thunderstorms.

Severe Weather Statement
A National Weather Service product which provides follow up information on severe weather conditions (severe thunderstorm or tornadoes) which have occurred or are currently occurring.

SEWD
Southeastward

SFC
Surface

Sferic
In solar-terrestrial terms, a transient electric or magnetic field generated by any feature of lightning discharge (entire flash).

SG
Snow grains

SGFNT
Significant

Shallow Fog
Fog in which the visibility at 6 feet above ground level is 5/8ths statute mile or more and the apparent visibility in the fog layer is less than 5/8ths statute mile.

SHARS
Subtle Heavy Rainfall Signature

Shear
Variation in wind speed (speed shear) and/or direction (directional shear) over a short distance within the atmosphere. Shear usually refers to vertical wind shear, i.e., the change in wind with height, but the term also is used in Doppler radar to describe changes in radial velocity over short horizontal distances.

Sheet Flow
In hydrologic terms, flow that occurs overland in places where there are no defined channels, the flood water spreads out over a large area at a uniform depth. This also referred to as overland flow.

Sheet ice
Ice formed by the freezing of liquid precipitation or the freezing of melted solid precipitation (see snow depth)

Shelf Cloud
A low, horizontal wedge-shaped arcus cloud, associated with a thunderstorm gust front (or occasionally with a cold front, even in the absence of thunderstorms). Unlike the roll cloud, the shelf cloud is attached to the base of the parent cloud above it (usually a thunderstorm). Rising cloud motion often can be seen in the leading (outer) part of the shelf cloud, while the underside often appears turbulent, boiling, and wind-torn.

SHFT
Shift

SHLW
Shallow

Shore ice
In hydrologic terms, an ice sheet in the form of a long border attached to the bank or shore.; border ice.

Short Term Forecast
A product used to convey information regarding weather or hydrologic events in the next few hours.

Short Wave Fade (SWF)
In solar-terrestrial terms, a particular ionospheric solar flare effect under the broad category of sudden ionospheric disturbances (SIDs) whereby short-wavelength radio transmissions, VLF, through HF, are absorbed for a period of minutes to hours.

Short-Fuse Warning
A warning issued by the NWS for a local weather hazard of relatively short duration. Short-fuse warnings include tornado warnings, severe thunderstorm warnings, and flash flood warnings. Tornado and severe thunderstorm warnings typically are issued for periods of an hour or less, flash flood warnings typically for three hours or less.

Shortwave
Also known as **Shortwave Trough**; a disturbance in the mid or upper part of the atmosphere which induces upward motion ahead of it. If other conditions are favorable, the upward motion can contribute to thunderstorm development ahead of a shortwave.

Shortwave Radiation
In solar-terrestrial terms, shortwave radiation is a term used to describe the radiant energy emitted by the sun in the visible and near-ultraviolet wavelengths (between about 0.1 and 2 micrometers).

Shortwave Trough
Also called **Shortwave**; A disturbance in the mid or upper part of the atmosphere which induces upward motion ahead of it. If other conditions are favorable, the upward motion can contribute to thunderstorm development ahead of a shortwave trough.

Showalter Index
(Abbrev. SWI) - a stability index used to determine thunderstorm potential. The SWI is calculated by lifting an air parcel adiabatically from 850 mb to 500 mb. The algebraic difference between the air parcel and the environmental temperature at 500 mb represents the SWI. It is especially useful when you have a shallow cool airmass below 850 mb concealing greater convective potential aloft. However, the SWI will underestimate the convective potential for cool layers extending above 850 mb. It also does not take in account diurnal heating or moisture below 850 mb. As a result, one must be very careful when using this index.

Shower
A descriptor, SH, used to qualify precipitation characterized by the suddenness with which they start and stop, by the rapid changes of intensity, and usually by rapid changes in the appearance of the sky.

SHRA
Rain showers

SHRAS
showers

SHRT
Short

SHRTWV
Shortwave - a disturbance in the mid or upper part of the atmosphere which induces upward motion ahead of it. If other conditions are favorable, the upward motion can contribute to thunderstorm development ahead of a shortwave.

SHSN
Snow showers

SHWR
Shower

Sidelobe
A secondary energy maximum located outside the main radar beam. Typically, it contains a small percentage of energy compared to the main lobe, but it may produce erroneous echoes.

SIGMET
Significant Meteorological Advisory

Signal-to-Noise Ratio
A ratio that measures the comprehensibility of data, usually expressed as the signal power divided by the noise power, usually expressed in decibels (dB).

Significant Wave Height
The mean or average height of the highest one third of all waves in a swell train or in a wave generating region. It approximates the value an experienced observer would report if visually estimating sea height. When expressed as a range (e.g. Seas 2-4 ft) , indicates a degree of uncertainty in the forecast and/or expected changing conditions (not that all waves are between 2-4 ft). Generally, it is assumed that individual wave heights can be described using a Rayleigh distribution.

Example: Significant Wave Height = 10 ft 1 in 10 waves will be larger than 11 ft 1 in 100 waves will be larger than 16 ft 1 in 1000 waves will larger than 19 ft

Therefore, assuming a wave period of 8 seconds, for a significant wave height of 10 feet, a wave 19 feet or higher will occur every 8,000 seconds (2.2 hours).

Significant Weather Outlook

A narrative statement produced by the National Weather Service, frequently issued on a routine basis, to provide information regarding the potential of significant weather expected during the next 1 to 5 days.

SIGWX

Significant Weather

Single Cell Thunderstorm

This type of thunderstorm develops in weak vertical wind shear environments. On a hodograph, this would appear as a closely grouped set of random dots around the center of the graph. They are characterized by a single updraft core and a single downdraft that descends into the same area as the updraft. The downdraft and its outflow boundary then cut off the thunderstorm inflow. This causes the updraft and the thunderstorm to dissipate. Single cell thunderstorms are short-lived. They only last about 1/2 hour to an hour. These thunderstorms will occasionally become severe (3/4 inch hail, wind gusts in the excess of 58 miles an hour, or a tornado), but only briefly. In this case, they are called Pulse Severe Thunderstorms.

SITOR

(SImplex Teletype Over Radio) - a means of transmitting text broadcasts over radio. The U.S. Coast Guard SITOR broadcast of NWS forecasts is performed in mode B, FEC. SITOR is also known as Narrow Band Direct Printing (NBDP). SITOR/NBDP is an automated direct service similar to NAVTEX, but does not offer all of the same functionality such as avoiding repeated messages.

Sky Condition

Used in a forecast to describes the predominant/average sky condition based upon octants (eighths) of the sky covered by opaque (not transparent) clouds.

Sky Condition	Cloud Coverage
Clear / Sunny	0/8
Mostly Clear / Mostly Sunny	1/8 to 2/8
Partly Cloudy / Partly Sunny	3/8 to 4/8
Mostly Cloudy / Considerable Cloudiness	5/8 to 7/8
Cloudy	8/8
Fair (mainly for night)	Less than 4/10 opaque clouds, no precipitation, no extremes of visibility/temperature/wind

SKYWARN

A nationwide network of volunteer weather spotters who report to and are trained by the National Weather Service. These spotters report many forms of significant or severe weather such as Severe Thunderstorms, Tornadoes, Hail, Heavy Snow, or Flooding. Contact your local National Weather Service Forecast Office to learn about SKYWARN activities in your area.

SL

Sea Level

SLD

Solid

Sleet

(PL) - Sleet is defined as pellets of ice composed of frozen or mostly frozen raindrops or refrozen partially melted snowflakes. These pellets of ice usually bounce after hitting the ground or other hard surfaces. Heavy sleet is a relatively rare event defined as an accumulation of ice pellets covering the ground to a depth of ½" or more.

Sleet Warning

Issued when accumulation of sleet in excess of 1/2" is expected; this is a relatively rare scenario. Usually issued as a winter storm warning for heavy sleet.

SLGT

Slight

Slight Chance

In probability of precipitation statements, usually equivalent to a 20 percent chance.

Slight Risk

(of severe thunderstorms)- Severe thunderstorms are expected to affect between 2 and 5 percent of the area. A slight risk generally implies that severe weather

events are expected to be isolated.

Sling Psychrometer
An instrument used to measure the water vapor content of the atmosphere in which wet and dry bulb thermometers are mounted on a frame connected to a handle at one end by means of a bearing or a length of chain. The psychrometer is whirled by hand to provide the necessary ventilation to evaporate water from the wet bulb.

SLO
Slow

SLOSH
(Sea, Lake and Overland Surges from Hurricanes) - A computer model run by the National Hurricane Center (NHC) to estimate storm surge heights resulting from historical, hypothetical, or predicted hurricanes by taking into account pressure, size, forward speed, track, and winds.

SLP
Sea Level Pressure

SLT
1. Slight (as in "slight chance")

2. Sleet

SLY
Southerly

SM
1) Statute Miles

2) Sum total for month

SMA
The Soil Moisture Accounting Model.

Small Craft
There is no precise definition for small craft. Any vessel that may be adversely affected by Small Craft Advisory criteria should be considered a small craft. Other considerations include the experience of the vessel operator, and the type, overall size, and sea worthiness of the vessel. See Small Craft Advisory.

Small Craft Advisory
(SCA) - An advisory issued by coastal and Great Lakes Weather Forecast Offices (WFO) for areas included in the Coastal Waters Forecast or Nearshore Marine Forecast (NSH) products. Thresholds governing the issuance of small craft advisories are specific to geographic areas. A Small Craft Advisory may also be issued when sea or lake ice exists that could be hazardous to small boats. There is no precise definition of a small craft. Any vessel that may be adversely affected by Small Craft Advisory criteria should be considered a small craft. Other considerations include the experience of the vessel operator, and the type, overall size, and sea worthiness of the vessel. * Eastern (ME..SC, Lake Erie, Lake Ontario) - Sustained winds or frequent gusts ranging between 25 and 33 knots (except 20 to 25 knots, lower threshold area dependent, to 33 knots for harbors, bays, etc.) and/or seas or waves 5 to 7 feet and greater, area dependent. * Central (MN..OH) - Sustained winds or frequent gusts (on the Great Lakes) between 22 and 33 knots inclusive, and/or seas or waves greater than 4 feet. * Southern (GA..TX and Caribbean) - Sustained winds of 20 to 33 knots, and/or forecast seas 7 feet or greater that are expected for more than 2 hours. * Western (WA..CA) - Sustained winds of 21 to 33 knots, and/or wave heights exceeding 10 feet (or wave steepness values exceeding local thresholds * Alaska (AK) - Sustained winds or frequent gusts of 23 to 33 knots. A small craft advisory for rough seas may be issued for sea/wave conditions deemed locally significant, based on user needs, and should be no lower than 8 feet. * Pacific - (HI, Guam, etc) - Sustained winds 25 knots or greater and seas 10 feet or greater; except in Guam and the northern Mariana Islands where it is sustained winds 22 to 33 knots and/or combined seas of 10 feet or greater. "Frequent gusts"are typically long duration conditions (greater than 2 hours). For a list of NWS Weather Offices by Region, refer to the following website: http://www.nws.noaa.gov/organization.php

Small Craft Advisory for Hazardous Seas
(SCAHS) - An advisory for wind speeds lower than small craft advisory criteria, yet waves or seas are potentially hazardous due to wave height, wave period, steepness, or swell direction. Thresholds governing the issuance of Small Craft Advisories for Hazardous Seas are specific to geographic areas. * Eastern (ME..SC, Lake Erie, Lake Ontario) - Seas or waves 5 to 7 feet and greater, area dependent. * Central (MN..OH) - Seas or waves greater than 4 feet * Southern (GA..TX and Caribbean) - Seas 7 feet or greater that are expected for more than 2 hours. * Western (WA..CA) - Criteria for wave heights and/or wave steepness are locally defined; refer to Western Region Supplement 12-2003, Marine Weather

Services. * Alaska (AK) - Seas or wave conditions deemed locally significant, based on user needs, and should be no lower than 8 feet. * Pacific - (HI, Guam, etc) - Seas of 10 feet or greater.

Small Craft Advisory for Rough Bar

(SCARB) - An advisory for specialized areas near harbor or river entrances known as bars. Waves in or near such bars may be especially hazardous to mariners due to the interaction of swell, tidal and/or river currents in relatively shallow water. Thresholds governing the issuance of Small Craft Advisories for Rough Bar are specific to local geographic areas, and are based upon parameters such as wave steepness, wind speed and direction, and local bathymetry.

Small Craft Advisory for Winds

(SCAW) - An advisory for wave heights lower than small craft advisory criteria, yet wind speeds are potentially hazardous. Thresholds governing the issuance of small craft advisories are specific to geographic areas. * Eastern (ME..SC, Lake Erie, Lake Ontario) - Sustained winds ranging between 25 and 33 knots (except 20 to 25 knots, lower threshold area dependent, to 33 knots for harbors, bays, etc.) * Central (MN..OH) - Sustained winds or frequent gusts (on the Great Lakes) between 22 and 33 knots inclusive. * Southern (GA..TX and Caribbean) - Sustained winds of 20 to 33 knots that are expected for more than 2 hours. * Western (WA..CA) - Sustained winds of 21 to 33 knots. * Alaska (AK) - Sustained winds or frequent gusts of 23 to 33 knots. * Pacific - (HI, Guam, etc) Sustained winds 25 knots or greater; except in Guam where it is sustained winds of 22 to 33 knots.

Small Craft Should Exercise Caution

Precautionary statement issued to alert mariners with small, weather sensitive boats.

Small Hail

Technically used to refer to snow pellets or graupel.

Small Stream Flooding

In hydrologic terms, flooding of small creeks, streams, or runs.

Smog

Originally smog meant a mixture of smoke and fog. Now, it means air that has restricted visibility due to pollution or pollution formed in the presence of sunlight--photochemical smog.

Smoke

(abbrev. K) Smoke in various concentrations can cause significant problems for people with respiratory ailments. It becomes a more universal hazard when visibilities are reduced to ¼ mile or less.

Smoke Dispersal

Describes the ability of the atmosphere to ventilate smoke. Depends on the stability and winds in the lower layers of the atmosphere, i.e., a combination of mixing heights and transport winds.

Smoke Management

The use of meteorology, fuel moisture, fuel loading, fire suppression and burn techniques to keep smoke impacts from prescribed fires within acceptable limits.

Smoothed Sunspot Number

An average of 13 monthly RI numbers, centered on the month of concern.

SMW

(Special Marine Warning) - A warning product issued for potentially hazardous weather conditions usually of short duration (up to 2 hours) producing sustained marine thunderstorm winds or associated gusts of 34 knots or greater; and/or hail 3/4 inch or more in diameter; and/or waterspouts affecting areas included in a Coastal Waters Forecast, a Nearshore Marine Forecast, or an Great Lakes Open Lakes Forecast that is not adequately covered by existing marine warnings. Also used for short duration mesoscale events such as a strong cold front, gravity wave, squall line, etc., lasting less than 2 hours and producing winds or gusts of 34 knots or greater.

SN

snow

Snotel

SNOw TELemetry - An automated network of snowpack data collection sites. The Natural Resources Conservation Service (NRCS), formerly the Soil Conservation Service (SCS), has operated the Federal-State-Private Cooperative Snow Survey Program in the western United States since 1935. A standard SNOTEL site consists of a snow pillow, a storage type precipitation gage, air temperature sensor and a small shelter for housing electronics.

Snow

Precipitation in the form of ice crystals, mainly of intricately branched, hexagonal form and often agglomerated into snowflakes, formed directly from the freezing [deposition] of the water vapor in the air.

Snow Accumulation and Ablation Model

In hydrologic terms, a model which simulates snow pack accumulation, heat exchange at the air-snow interface, areal extent of snow cover, heat storage within the snow pack, liquid water retention, and transmission and heat exchange at the ground-snow interface.

Snow Advisory

This product is issued by the National Weather Service when a low pressure system produces snow that may cause significant inconveniences, but do not meet warning criteria and if caution is not exercised could lead to life threatening situations. The advisory criteria varies from area to area. If the forecaster feels that it is warranted, he or she can issued it for amounts less than the minimum criteria. For example, it may be issued for the first snow of the season or when snow has not fallen in long while.

Snow Core

A sample of either freshly fallen snow, or the combined old and new snow on the ground. This is obtained by pushing a cylinder down through the snow layer and extracting it.

Snow Cornice

A mass of snow or ice projecting over a mountain ridge.

Snow Density

The mass of snow per unit volume which is equal to the water content of the snow divided by its depth.

Snow Depth

The combined total depth of both the old and new snow on the ground.

Snow Flurries

Snow flurries are an intermittent light snowfall of short duration (generally light snow showers) with no measurable accumulation (trace category).

Snow Grains

Precipitation consisting of white, opaque ice particles usually less than 1 mm in diameter.

Snow Pack

Same as Snowcover; the combined layers of snow and ice on the ground at any one time.

Snow Pellets

Precipitation, usually of brief duration, consisting of crisp, white, opaque ice particles, round or conical in shape and about 2 to 5 mm in diameter. Same as graupel or small hail.

Snow Pillow

1) A window of snow deposited in the immediate lee of a snow fence or ridge.
or
2) In hydrologic terms, an instrument used to measure snow water equivalents. Snow pillows typically have flat stainless steel surface areas. The pillow below this flat surface is filled with antifreeze solution and the pressure in the pillow is related to the water-equivalent depth of the snow on the platform. One great advantage of snow pillows over a snow survey is the frequency of observations, which can be as high as twice per day.

Snow Shower

A snow shower is a short duration of moderate snowfall. Some accumulation is possible.

Snow Squall

A snow squall is an intense, but limited duration, period of moderate to heavy snowfall, accompanied by strong, gusty surface winds and possibly lightning (generally moderate to heavy snow showers). Snow accumulation may be significant.

Snow Stake

A 1-3/4 inch square, semi-permanent stake, marked in inch increments to measure snow depth.

Snow Stick

A portable rod used to measure snow depth.

Snow Water Equivalent

The water content obtained from melting accumulated snow.

Snowboard

A flat, solid, white material, such as painted plywood, approximately two feet square, which is laid on the ground, or snow surface by weather observers to obtain more accurate measurements of snowfall and water content.

Snowcover

Also known as Snow Pack; the combined layers of snow and ice on the ground at any one time.

Snowflake

An agglomeration of snow crystals falling as a unit.

Snowmelt Flooding

In hydrologic terms, flooding caused primarily by the melting of snow.

Snowpack
The total snow and ice on the ground, including both the new snow and the previous snow and ice which has not melted.

SNR
Signal-to-Noise Ratio

SNW
snow

SNW
Snowfall

SNWFL
Snowfall

SOI
The Southern Oscillation Index (SOI) has been developed to monitor the Southern Oscillation using the difference between sea level pressures at Darwin, Australia, and Tahiti, although other stations have sometimes been used. Large negative values of the SOI indicate a warm event, and large positive values indicate a cold event (also referred to as La Niña). It is important to note that there is not a one-to-one correspondence between the occurrence of Southern Oscillation events and El Niño events, using the spatially restrictive original definition of El Niño.

Soil Moisture
Water contained in the upper part of the soil mantle. This moisture evaporates from the soil and is the used and transpired by vegetation.

Solar Coordinates
In solar-terrestrial terms, Central Meridian Distance (CMD). The angular distance in solar longitude measured from the central meridian

Solar Cycle
In solar-terrestrial terms, the approximately 11-year quasi-periodic variation in frequency or number of solar active events.

Solar Maximum
In solar-terrestrial terms, the month(s) during the solar cycle when the 12-month mean of monthly average sunspot numbers reaches a maximum.

Solar Minimum
In solar-terrestrial terms, the month(s) during the solar cycle when the 12-month mean of monthly average sunspot numbers reaches a minimum.

Solar Noon
The time of day at which the sun is the highest in the sky. This time varies through the year due to the change in speed of the earth's orbit around the sun.

Solar Sector Boundary (SSB)
In solar-terrestrial terms, the apparent solar origin, or base, of the interplanetary sector boundary marked by the larger-scale polarity inversion lines.

Solar Wind
The outward flux of solar particles and magnetic fields from the sun. Typically, solar wind velocities are near 350 km/s.

SOLN
Solution

SOLNS
solutions

Solstice
Either of the two times per year when the sun is at its greatest angular distance from the celestial equator: about June 21 (the Northern Hemisphere summer solstice), when the sun reaches its northernmost point on the celestial sphere, or about December 22 (the Northern Hemisphere winter solstice), when it reaches its southernmost point.

SOO
Science and Operations Officer

Sounding
A set of data measuring the vertical structure of an atmospheric parameter (temperature, humidity, pressure, winds, etc.) at a given time.

Southern Oscillation
(SO) - a "see-saw" in surface pressure in the tropical Pacific characterized by simultaneously opposite sea level pressure anomalies at Tahiti, in the eastern tropical Pacific and Darwin, on the northwest coast of Australia. The SO was discovered by Sir Gilbert Walker in the early 1920's. Walker was among the first meteorologists to use the statistical techniques to analyze and predict meteorological phenomena. Later, the three-dimensional east-west circulation related to the SO was discovered and named the "Walker Circulation". The SO oscillates with a period of 2-5 years. During one phase, when the sea level pressure is low at Tahiti and High at Darwin, the El Nino occurs. The cold phase of the SO, called "La Nina" by some, is characterized by high pressure in the eastern

equatorial Pacific, low in the west, and by anomalously cold sea surface temperature (SST) in the central and eastern Pacific. This is called El Nino Southern Oscillation or ENSO.

Southern Oscillation Index
A numerical index measuring the state of the Southern Oscillation. The SOI is based on the (atmospheric) pressure difference between Tahiti and Darwin, Australia. It is highly correlated with tropical sea surface temperature anomaly indices recorded in Niño3.

Space Environment Center
(SEC) - This center provides real-time monitoring and forecasting of solar and geophysical events, conducts research in solar-terrestrial physics, and develops techniques for forecasting solar and geophysical disturbances. SEC's parent organization is the National Oceanic and Atmospheric Administration (NOAA). SEC is one of NOAA's 12 Environmental Research Laboratories (ERL) and one of NOAA's 9 National Centers for Environmental Prediction (NCEP). SEC's Space Weather Operations is jointly operated by NOAA and the U.S. Air Force and is the national and world warning center for disturbances that can affect people and equipment working in the space environment.

SPC
Storm Prediction Center

SPCLY
Especially

SPD
1) Speed
2) On a buoy report, ten-minute average wind speed values in m/s.

Spearhead Echo
A radar echo associated with a downburst with a pointed appendage extending toward the direction of the echo motion. The appendage moves much faster than the parent echo, which is drawn into the appendage. During it's mature stage, the appendage turns into a major echo and the parent echo loses its identity.

Special Avalanche Warning
Issued by the National Weather Service when avalanches are imminent or occurring in the mountains. It is usually issued for a 24 hour period.

Special Fire Weather
Meteorological services uniquely required by user agencies which cannot be provided at an NWS office during normal working hours. Examples are on-site support, weather observer training, and participation in user agency training activities.

Special Marine Warning
(SMW) A warning product issued for potentially hazardous weather conditions usually of short duration (up to 2 hours) producing sustained marine thunderstorm winds or associated gusts of 34 knots or greater; and/or hail 3/4 inch or more in diameter; and/or waterspouts affecting areas included in a Coastal Waters Forecast, a Nearshore Marine Forecast, or an Great Lakes Open Lakes Forecast that is not adequately covered by existing marine warnings. Also used for short duration mesoscale events such as a strong cold front, gravity wave, squall line, etc., lasting less than 2 hours and producing winds or gusts of 34 knots or greater.

Special Tropical Disturbance Statement
This statement issued by the National Hurricane Center furnishes information on strong and formative non-depression systems. This statement focuses on the major threat(s) of the disturbance, such as the potential for torrential rainfall on an island or inland area. The statement is coordinated with the appropriate forecast office(s).

Specific Gravity
The ratio of the density of any substance to the density of water.

Specific Humidity
In a system of moist air, the ratio of the mass of water vapor to the total mass of the system.

Specific Yield
In hydrologic terms, the ratio of the water which will drain freely from the material to the total volume of the aquifer formation. This value will always be less than the porosity.

Spectral Density
A radar term for the distribution of power by frequency.

Spectral Wave Density
On a buoy report, energy in (meter*meter)/Hz, for each frequency bin (typically from 0.03 Hz to 0.40 Hz).

Spectral Wave Direction
On a buoy report, mean wave direction, in degrees from true North, for each

frequency bin.

Spectrum Width

This WSR-88D radar product depicts a full 360 degree sweep of spectrum width data indicating a measure of velocity dispersion within the radar sample volume. It is available for every elevation angle sampled, it provides a measure of the variability of the mean radial velocity estimates due to wind shear, turbulence, and/or the quality of the velocity samples. It is used to estimate turbulence associated with boundaries, thunderstorms, and mesocyclones; check the reliability of the velocity estimates; and locate boundaries (cold front, outflow, lake breeze, etc.).

Spectrum Width Cross Section

This WSR-88D radar product displays a vertical cross section of spectrum width on a grid with heights up to 70,000 feet on the vertical axis and distance up to 124 nm on the horizontal axis. Two end points to create cross section are radar operator selected along a radial or from one AZRAN to another AZRAN within 124 nm of the radar that are less than 124 nm apart.
It is used to:
1) Verify features on the Reflectivity Cross Section (RCS) and Velocity Cross Section (VCS) and to evaluate the quality of the velocity data
2) Estimate vertical extent of turbulence (aviation use).

Speed Shear

The component of wind shear which is due to a change in wind speed with height, e.g., southwesterly winds of 20 mph at 10,000 feet increasing to 50 mph at 20,000 feet. Speed shear is an important factor in severe weather development, especially in the middle and upper levels of the atmosphere.

SPENES

NESDIS Satellite Precipitation Estimates

Sphere Calibration

Reflectivity calibration of a radar by pointing the dish at a metal sphere of (theoretically) known reflectivity. The sphere is often tethered to a balloon.

Spillway

In hydrologic terms, a structure over or through which excess or flood flows are discharged. If the flow is controlled by gates, it is a controlled spillway, if the elevation of the spillway crest is the only control, it is an uncontrolled spillway.

Spillway Crest

In hydrologic terms, the elevation of the highest point of a spillway.

Spin-Up

Slang for a small-scale vortex initiation, such as what may be seen when a gustnado, landspout, or suction vortex forms.

SPKL

Sprinkle

Split Flow

A flow pattern high in the atmosphere characterized by diverging winds. Storms moving along in this type of flow pattern usually weaken.

Splitting Storm

A thunderstorm which splits into two storms which follow diverging paths (a left mover and a right mover). The left mover typically moves faster than the original storm, the right mover, slower. Of the two, the left mover is most likely to weaken and dissipate (but on rare occasions can become a very severe anticyclonic-rotating storm), while the right mover is the one most likely to reach supercell status.

SPLNS

Southern Plains

Sporadic E

In solar-terrestrial terms, a phenomenon occurring in the E region of the ionosphere, which significantly affects HF radiowave propagation. Sporadic E can occur during daytime or nighttime and it varies markedly with latitude.

SPOTNIL

In solar-terrestrial terms, a spotless disk.

Spotting

Outbreak of secondary fires as firebrands or other burning materials are carried ahead of the main fire line by winds.

Spray

An ensemble of water droplets torn by the wind from an extensive body of water, generally from the crests of waves, and carried up into the air in such quantities that it reduces the horizontal visibility.

SPRD

Spread

Spring

1. The season of the year comprising the transition period from winter to summer

occurring when the sun is approaching the summer solstice. In the Northern Hemisphere, spring customarily includes the months of March, April and May.

2. In hydrologic terms, an issue of water from the earth; a natural fountain; a source of a reservoir of water.

Spring Tide
A tide higher than normal which occurs around the time of the new and full moon.

SPS
Severe Weather Potential Statement

SQLN
Squall Line

Squall
A strong wind characterized by a sudden onset in which the wind speed increases at least 16 knots and is sustained at 22 knots or more for at least one minute. 2. In nautical use, a severe local storm considered as a whole, that is, winds and cloud mass and (if any) precipitation, thunder and lightning.

Squall Line
A line of active thunderstorms, either continuous or with breaks, including contiguous precipitation areas resulting from the existence of the thunderstorms.

SRF
(Surf Zone Forecast) - A National Weather Service routine or event driven forecast product geared toward non-boating marine users issued for an area extending from the area of water between the high tide level on the beach and the seaward side of the breaking waves.

SRH
Storm-Relative Helicity

SRN
Southern

SS
Sandstorm

SSHS
Saffir/Simpson Hurricane Scale

SST
Sea Surface Temperature

ST
Stratus

St Lawrence Freeze-Up Outlook
A National Weather Service forecast product to keep mariners informed of the projected freeze-up date of ice the St. Lawrence River.

St. Elmo's Fire
The glow on a masthead produced by an extreme buildup of electrical charge. Unprotected mariners should immediately move to shelter when this phenomena occurs. Lightning may strike the mast within five minutes after it begins to glow.

Stability
The degree of resistance of a layer of air to vertical motion.

Stability Index
The overall stability or instability of a sounding is sometimes conveniently expressed in the form of a single numerical value. Used alone, it can be quite misleading, and at times, is apt to be worthless. The greatest value of an index lies in alerting the forecaster to those soundings which should be examined more closely.

Stable
An atmospheric state with warm air above cold air which inhibits the vertical movement of air.

Stable Boundary Layer
The stably-stratified layer that forms at the surface and grows upward, usually at night or in winter, as heat is extracted from the atmosphere's base in response to longwave radiative heat loss from the ground. Stable boundary layers can also form when warm air is advected over a cold surface or over melting ice.

Stable Core
Post-sunrise, elevated remnant of the temperature inversion that has built up overnight within a valley.

Staccato Lightning
A Cloud to Ground (CG) lightning discharge which appears as a single very bright, short-duration stroke, often with considerable branching.

Stage
The level of the water surface of a river or stream above an established datum at a given location.

Stair Stepping
In hydrologic terms, the process of continually updating river forecasts for the

purpose of incorporating the effects rain that has fallen since the previous forecast was prepared.

Standard Atmosphere
A hypothetical vertical distribution of atmospheric temperature, pressure, and density that, by international agreement, is taken to be representative of the atmosphere for purposes of pressure altimeter calibrations, aircraft performance calculations, aircraft and missile design, ballistic tables, etc.

Standard Synoptic Times
The times of 0000, 0600, 1200, and 1800 UTC. Also known as the main synoptic times.

State Forecast Product
This National Weather Service product is intended to give a good general picture of what weather may be expected in the state during the next 5 days. The first 2 days of the forecast is much more specific than the last 3 days. In comparison with the Zone Forecast Product, this product will be much more general.

State Weather Roundup
This is a National Weather Service tabular product which provides routine hourly observations within the state through the National Weather Wire Service (NWWS). It gives the current weather condition in one word (cloudy, rain, snow, fog, etc.), the temperature and dew point in Fahrenheit, the relative humidity, wind speed and direction, and finally additional information (wind chill, heat index, a secondary weather condition). These reports are broken up regionally. When the complementary satellite product is not available, reports from unaugmented ASOS stations will report "fair" in the sky/weather column when there are few or no clouds (i.e., scattered or less) below 12,000 feet with no significant weather and/or obstructions to visibility.

Station ID
Five-digit WMO Station Identifier used by the Buoy Data Center since 1976. ID's can be reassigned to future deployments within the same 1 degree square.

Station Model
A specified pattern for plotting, on a weather map, the meteorological symbols that represent the state of the weather at a particular observing station.

Station Pressure
The absolute air pressure at a given reporting station. The air pressure is directly proportional to the combined weight of all air in the atmosphere located in a column directly above the reporting site. Consequently, the station pressure may vary tremendously from one location to another in mountainous regions due to the strong variation of atmospheric pressure with height. Vertical variations of pressure range up to 150 mb per mile whereas horizontal variations are usually less than .1 mb per mile.

Stationary Front
A front between warm and cold air masses that is moving very slowly or not at all.

STBL
Stable

Steam Fog
Fog formed when water vapor is added to air which is much colder than the source of the vapor. It may be formed when very cold air drifts across relatively warm water. At temperatures below about-20°F, ice particles or droxtals may be formed in the air producing a type of ice fog known as frost smoke.

Steepness
In marine terms, on a buoy report, wave steepness is the ratio of wave height to wave length and is an indicator of wave stability. When wave steepness exceeds a 1/7 ratio, the wave becomes unstable and begins to break.

Steering Currents
Same as Steering Winds; a prevailing synoptic scale flow which governs the movement of smaller features embedded within it.

Steering Winds
Same as Steering Currents; A prevailing synoptic scale flow which governs the movement of smaller features embedded within it.

Stepped Leader
A faint, negatively charged channel that emerges from the base of a thunderstorm and propagates toward the ground in a series of steps of about 1 microsecond duration and 50-100 meters in length, initiating a lightning stroke.

STFR
Stratus Fractus

STG
Strong

Stilling basin
In hydrologic terms, a basin constructed to dissipate the energy of fast-flowing water (e.g., from a spillway or bottom outlet), and to protect the streambed from

erosion.

STJ
Subtropical Jet - this jet stream is usually found between 20° and 30° latitude at altitudes between 12 and 14 km.

STLT
Satellite

STM
Stratiform

STNRY
Stationary

Stoplogs
In hydrologic terms, large logs, timbers or steel beams placed on top of each other with their ends held in guides on each side of a channel or conduit providing a temporary closure versus a permanent bulkhead gate.

Storm
Any disturbed state of the atmosphere, especially affecting the Earth's surface, and strongly implying destructive and otherwise unpleasant weather. Storms range in scale from tornadoes and thunderstorms to tropical cyclones to synoptic-scale extratropical cyclones.

Storm Data
This National Climatic Data Center (NCDC) monthly publication documents a chronological listing, by states, of occurrences of storms and unusual weather phenomena. Reports contain information on storm paths, deaths, injuries, and property damage. An "Outstanding storms of the month" section highlights severe weather events with photographs, illustrations, and narratives. The December issue includes annual tornado, lightning, flash flood, and tropical cyclone summaries.

Storm Motion
The speed and direction at which a thunderstorm travels.

Storm Relative
Measured relative to a moving thunderstorm, usually referring to winds, wind shear, or helicity.

Storm Relative Mean Radial Velocity Map
(SRM): This WSR-88D radar product depicts a full 360º sweep of radial velocity data with the average motion of all identified storms subtracted out. It is available for every elevation angle sampled. It is used to aid in displaying shear and rotation in storms and storm top divergence that might otherwise be obscured by the storm's motion, investigate the 3-D velocity structure of a storm, and help with determining rotational features in fast and uniform moving storms.

Storm Relative Mean Radial Velocity Regi
(SRR): This WSR-88D radar product depicts a 27 nm by 27 nm region of storm relative mean radial velocity centered on a point which the operator can specify anywhere within a 124 nm radius of the radar. The storm motion subtracted defaults to the motion of the storm closest to the product center, or can be input by the operator. It is used to examine the 3-dimensional storm relative flow of a specific thunderstorm (radar operator centers product on a specific thunderstorm; aid in displaying shear and rotation in thunderstorms and storm top divergence that might otherwise be obscured by storm motion; and gain higher resolution velocity product

Storm Scale
Referring to weather systems with sizes on the order of individual thunderstorms. See synoptic scale and mesoscale.

Storm Surge
An abnormal rise in sea level accompanying a hurricane or other intense storm, whose height is the difference between the observed level of the sea surface and the level that would have occurred in the absence of the cyclone. Storm surge is usually estimated by subtracting the normal or astronomic tide from the observed storm tide.

Storm Tide
The actual level of sea water resulting from the astronomic tide combined with the storm surge. Most NWS flood statements, watches, or warnings quantifying above-normal tides will report the Storm Tide.

Storm Total Precipitation
This radar image is an estimate of accumulated rainfall since the last time there was a one-hour, or more, break in precipitation. It is used to locate flood potential over urban or rural areas, estimate total basin runoff and provide rainfall accumulations for the duration of the event and is available only for the short range (out to 124 nm). To determine accumulated precipitation at greater distances you should link to an adjacent radar.

Storm Tracking Information

This WSR-88D radar product displays the previous, current, and projected locations of storm centroids (forecast and past positions are limited to one hour or less). Forecast tracks are based upon linear extrapolation of past storm centroid positions, and they are intended for application to individual thunderstorms not lines or clusters. It is used to provide storm movement: low track variance and/or 2 or more plotted past positions signify reliable thunderstorm movement.

Storm Warning

A warning of sustained surface winds, or frequent gusts, in the range of 48 knots (55 mph) to 63 knots (73 mph) inclusive, either predicted or occurring, and not directly associated with a tropical cyclone.

Storm Watch

A watch for an increased risk of a storm force wind event for sustained surface winds, or frequent gusts, of 48 knots (55 mph) to 63 knots (73 mph), but its occurrence, location, and/or timing is still uncertain.

Stormwater Discharge

In hydrologic terms, precipitation that does not infiltrate into the ground or evaporate due to impervious land surfaces but instead flows onto adjacent land or water areas and is routed into drain/sewer systems.

Straight-Line Hodograph

The name pretty well describes what it looks like on the hodograph. What causes this shape is a steady increase of winds with height (vertical wind shear). This shape of hodograph favors multicell thunderstorms.

Straight-line Winds

Generally, any wind that is not associated with rotation, used mainly to differentiate them from tornadic winds.

Stratiform

Having extensive horizontal development, as opposed to the more vertical development characteristic of convection. Stratiform clouds cover large areas but show relatively little vertical development. Stratiform precipitation, in general, is relatively continuous and uniform in intensity (i.e., steady rain versus rain showers).

Stratiform Rings and Bands

These occur between the active convective bands of a hurricane outside of the eye wall. Inner stratiform bands often exhibit the bright band aloft, a VIP Level 2, and in the lower layers typically show a VIP Level 1.

Stratocumulus

Low-level clouds, existing in a relatively flat layer but having individual elements. Elements often are arranged in rows, bands, or waves. Stratocumulus often reveals the depth of the moist air at low levels, while the speed of the cloud elements can reveal the strength of the low-level jet.

Stratopause

The boundary between the stratosphere and mesosphere.

Stratosphere

The region of the atmosphere extending from the top of the troposphere to the base of the mesosphere, an important area for monitoring stratospheric ozone.

Stratospheric Ozone

In the stratosphere, ozone has beneficial properties where it forms an ozone shield that prevents dangerous radiation from reaching the Earth's surface. Recently, it was discovered that in certain parts of the world, especially over the poles, stratospheric ozone was disappearing creating an ozone hole.

Stratus

A low, generally gray cloud layer with a fairly uniform base. Stratus may appear in the form of ragged patches, but otherwise does not exhibit individual cloud elements as do cumulus and stratocumulus clouds. Fog usually is a surface-based form of stratus.

Stream line

Arrows on a weather chart showing wind speed and direction. The head of the arrow points toward where the wind is blowing and the length of the arrow is proportional to the wind speed. Sometimes shows wind direction and trajectory only.

Streamflow

In hydrologic terms, water flowing in the stream channel. It is often used interchangeably with discharge.

STRFM

Stratiform

Striations

Grooves or channels in cloud formations, arranged parallel to the flow of air and therefore depicting the airflow relative to the parent cloud. Striations often reveal the presence of rotation, as in the barber pole or "corkscrew" effect often

observed with the rotating updraft of a Low Precipitation (LP) storm.

Strike

For any particular location, a hurricane strike occurs if that location passes within the hurricane's strike circle, a circle of 125 n mi diameter, centered 12.5 n mi to the right of the hurricane center (looking in the direction of motion). This circle is meant to depict the typical extent of hurricane force winds, which are approximately 75 n mi to the right of the center and 50 n mi to the left.

Sub-synoptic Low

Essentially the same as mesolow.

Sublimation

The transition of a substance from the solid phase directly to the vapor phase, or vice versa, without passing through an intermediate liquid phase. Thus an ice crystal or icicle sublimes under low relative humidity at temperatures below 0°C. The process is analogous to evaporation of a liquid.

Sublimation of ice

The transition of water from solid to gas without passing through the liquid phase.

Subrefraction

The bending of the radar beam in the vertical which is less than under standard refractive conditions. This causes the beam to be higher than indicated, and lead to the underestimation of cloud heights.

Subsidence

1. A descending motion of air in the atmosphere occurring over a rather broad area.
2. In hydrologic terms, sinking down of part of the earth's crust due to underground excavation, such as the removal of groundwater.

Subsidence Inversion

A temperature inversion that develops aloft as a result of air gradually sinking over a wide area and being warmed by adiabatic compression, usually associated with subtropical high pressure areas.

Substation

A location where observations are taken or other services are furnished by people not located at NWS offices who do not need to be certified to take observations.

Subsurface Storm Flow

In hydrologic terms, the lateral motion of water through the upper layers until it enters a stream channel. This usually takes longer to reach stream channels than runoff. This also called interflow.

Subtle Heavy Rainfall Signature

This heavy rain signature is often difficult to detect on satellite. These warm top thunderstorms are often embedded in a synoptic-scale cyclonic circulation. Normally, they occur when the 500 mb cyclonic circulation is quasi-stationary or moves slowly to the east or northeast (about 2 degrees per 12 hours). The average surface temperature is 68ºF with northeasterly winds. The average precipitable water (P) value is equal to or greater than 1.34 inches and the winds veer with height, but they are relatively light. The heavy rain often occurs north and east of the vorticity maximum across the lower portion of the comma head about 2 to 3 degrees north or northeast of the 850 mb low.

Subtropical Cyclone

A non-frontal low pressure system that has characteristics of both tropical and extratropical cyclones. This system is typically an upper-level cold low with circulation extending to the surface layer and maximum sustained winds generally occurring at a radius of about 100 miles or more from the center. In comparison to tropical cyclones, such systems have a relatively broad zone of maximum winds that is located farther from the center, and typically have a less symmetric wind field and distribution of convection.

Subtropical Depression

A subtropical cyclone in which the maximum 1-minute sustained surface wind is 33 knots (38 mph) or less.

Subtropical Jet

(Abbrev. STJ) - this jet stream is usually found between 20° and 30° latitude at altitudes between 12 and 14 km.

Subtropical Storm

A subtropical cyclone in which the maximum 1-minute sustained surface wind is 34 knots (39 mph) or more.

Suction Vortex

A small but very intense vortex within a tornado circulation. Several suction vortices typically are present in a multiple-vortex tornado. Much of the extreme damage associated with violent tornadoes (F4 and F5 on the Fujita scale) is attributed to suction vortices.

Sudden Commencement (SC)

In solar-terrestrial terms, an abrupt increase or decrease in the northward

component of the geomagnetic field, which marks the beginning of a geomagnetic storm.

Sudden Impulse (SI+ or SI-)
In solar-terrestrial terms, a sudden perturbation of several gammas in the northward component of the low-latitude geomagnetic field, not associated with a following geomagnetic storm. (An SI becomes an SC if a storm follows.)

Sudden Ionospheric Disturbance (SID)
In solar-terrestrial terms, HF propagation anomalies due to ionospheric changes resulting from solar flares, proton events and geomagnetic storms.

SUF
Sufficient

Summation Principle
This principle states that the sky cover at any level is equal to the summation of the sky cover of the lowest layer plus the additional sky cover provided at all successively higher layers up to and including the layer in question.

Summer
Typically the warmest season of the year during which the sun is most nearly overhead. In the Northern Hemisphere, summer customarily includes the months of June, July, and August.

Summer Solstice
The time at which the sun is farthest north in the Northern Hemisphere, on or around June 21.

Sun Dog
see Parhelion

Sun Pillar
A bright column above or below the sun produced by the reflection of sunlight from ice crystals.

Sun Pointing
Alignment of the radar antenna by locating the position of the sun in the sky, which has an exactly known position given the radar's location and the present time. This may be necessary to verify that when we think we're pointing "north", we actually are! The sun's signal is usually several dB above the background noise, and this technique is also sometimes used to examine the receiver sensitivity.

Sunny
When there are no opaque (not transparent) clouds. Same as Clear.

Sunrise
The phenomenon of the sun's daily appearance on the eastern horizon as a result of the earth's rotation. The word is often used to refer to the time at which the first part of the sun becomes visible in the morning at a given location.

Sunset
The phenomenon of the sun's daily disappearance below the western horizon as a result of the earth's rotation. The word is often used to refer to the time at which the last part of the sun disappears below the horizon in the evening at a given location.

Sunspot
In solar-terrestrial terms, an area seen as a dark spot on the photosphere of the sun. Sunspots are concentrations of magnetic flux, typically occurring in bipolar clusters or groups. They appear dark because they are cooler than the surrounding photosphere.

Sunspot Group Classification
- A: A small single unipolar sunspot or very small group of spots without penumbra.
- B: Bipolar sunspot group with no penumbra.
- C: An elongated bipolar sunspot group. One sunspot must have penumbra.
- D: An elongated bipolar sunspot group with penumbra on both ends of the group.
- E: An elongated bipolar sunspot group with penumbra on both ends. Longitudinal extent of penumbra exceeds 10 deg. but not 15 deg.
- F: An elongated bipolar sunspot group with penumbra on both ends. Longitudinal extent of penumbra exceeds 15 deg.
- H: A unipolar sunspot group with penumbra.

Sunspot Number
In solar-terrestrial terms, a daily index of sunspot activity (R), defined as R = k (10 g + s) where S = number of individual spots, g = number of sunspot groups, and k is an observatory factor.

Super Typhoon
Typhoon having maximum sustained winds of 130 knots (150 mph) or greater.

Supercell
Short reference to Supercell Thunderstorm; potentially the most dangerous of the

convective storm types. Storms possessing this structure have been observed to generate the vast majority of long-lived strong and violent (F2-F5) tornadoes, as well as downburst damage and large hail. It is defined as a thunderstorm consisting of one quasi-steady to rotating updraft which may exist for several hours.

Supercell Thunderstorm

Potentially the most dangerous of the convective storm types. Storms possessing this structure have been observed to generate the vast majority of long-lived strong and violent (F2-F5) tornadoes, as well as downburst damage and large hail. It is defined as a thunderstorm consisting of one quasi-steady to rotating updraft which may exist for several hours. Supercells usually move to the right of the mean wind. These are called "Right Movers" and they are favored with veering winds. Occasionally, these thunderstorms will move to the left of the mean wind. These thunderstorms are called "Left Movers". These supercells typically don't last as long as their "Right Mover" cousins and they usually only produce large hail (greater than 3/4 inch in diameter) and severe wind gusts in the excess of 58 miles an hour. Left Movers are favored when you have backing winds.

Radar will observe essentially one long-lived cell, but small perturbations to the cell structure may be evident. The stronger the updraft, the better the chance that the supercell will produce severe (hail greater than 3/4 inch in diameter, wind gusts greater than 58 miles an hour, and possibly a tornado) weather.

Severe supercell development is most likely in an environment possessing great buoyancy (CAPE) and large vertical wind shear. A Bulk Richardson Number of between 15 and 35 favor supercell development. Typically, the hodograph will look like a horse shoe. This is due to the wind speed increasing rapidly with height and the wind direction either veering or backing rapidly with height.

Supercool

To cool a liquid below its freezing point without solidification or crystallization.

Supercooled Liquid Water

In the atmosphere, liquid water can survive at temperatures colder than 0 degrees Celsius; many vigorous storms contain large amounts of supercooled liquid water at cold temperatures. Important in the formation of graupel and hail.

Superrefraction

Bending of the radar beam in the vertical which is greater than sub-standard refractive conditions. This causes the beam to be lower than indicated, and often results in extensive ground clutter as well as an overestimation of cloud top heights.

Surcharge Capacity

In hydrologic terms, the volume of a reservoir between the maximum water surface elevation for which the dam is designed and the crest of an uncontrolled spillway, or the normal full-pool elevation of the reservoir with the crest gates in the normal closed position.

Surf Zone

Area of water between the high tide level on the beach and the seaward side of the breaking waves.

Surf Zone Forecast

(SRF) - A National Weather Service routine or event driven forecast product geared toward non-boating marine users issued for an area extending from the area of water between the high tide level on the beach and the seaward side of the breaking waves.

Surface Energy Budget

The energy or heat budget at the earth's surface, considered in terms of the fluxes through a plane at the earth-atmosphere interface. The energy budget includes radiative, sensible, latent and ground heat fluxes.

Surface impoundment

In hydrologic terms, an indented area in the land's surface, such as a pit, pond, or lagoon.

Surface Runoff

In hydrologic terms, the runoff that travels overland to the stream channel. Rain that falls on the stream channel is often lumped with this quantity.

Surface Water

Water that flows in streams and rivers and in natural lakes, in wetlands, and in reservoirs constructed by humans.

Surface Weather Chart

An analyzed synoptic chart of surface weather observations. A surface chart shows the distribution of sea-level pressure (therefore, the position of highs, lows, ridges and troughs) and the location and nature of fronts and air masses. Often added to this are symbols for occurring weather phenomena. Although the

pressure is referred to mean sea level, all other elements on this chart are presented as they occur at the surface point of observation.

Surface-based Convection

Convection occurring within a surface-based layer, i.e., a layer in which the lowest portion is based at or very near the earth's surface. Compare with elevated convection.

Surge

In solar-terrestrial terms, a jet of material from active regions that reaches coronal heights and then either fades or returns into the chromosphere along the trajectory of ascent.

Sustained Overdraft

In hydrologic terms, long-term withdrawal from the aquifer of more water than is being recharged.

Sustained Wind

Wind speed determined by averaging observed values over a two-minute period.

SVR

1. Severe

2. Abbreviation for Severe Thunderstorm Warning

SVRL

Several

SW

1. Southwest

2. Snow Showers

SWD

On a buoy report, Swell Direction is the compass direction from which the swell wave are coming from.

SWE

Snow Water Equivalent (the amount of water content in a snowpack or snowfall).

SWEAT

Severe Weather ThrEAT index; a stability index developed by the Air Force which incorporates instability, wind shear, and wind speeds as follows:

SWEAT=(12 Td 850) + (20 [TT-49]) +(2 f 850) + f 500 + (125 [s+0.2]) where

- **Td 850 is the dew point temperature at 850 mb,**
- **TT is the total-totals index,**
- **f 850 is the 850-mb wind speed (in knots),**
- **f 500 is the 500-mb wind speed (in knots), and**
- **s is the sine of the angle between the wind directions at 500 mb and 850 mb (thus representing the directional shear in this layer).**

SWEAT values of about 250-300 or more indicate a greater potential for severe weather, but as with all stability indices, there are no magic numbers.

The SWEAT index has the advantage (and disadvantage) of using only mandatory-level data (i.e., 500 mb and 850 mb), but has fallen into relative disuse with the advent of more detailed upper air sounding analysis programs.

Swell

Wind-generated waves that have travelled out of their generating area. Swells characteristically exhibit smoother, more regular and uniform crests and a longer period than wind waves.

Swell Direction

The direction from which the swells are propagating.

SWH

On a buoy report, swell height is the vertical distance (meters) between any swell crest and the succeeding swell wave trough.

SWLY

Southwesterly

SWODY1

The Day-1 Convective Outlook, sometimes called the "AC" is a guidance product issued by the Operational Guidance Branch (OGB) unit of the Storm Prediction Center (SPC) in Norman, Oklahoma. The Day 1 outlook outlines areas in the continental United States where severe thunderstorms may develop during the next 6 to 30 hours.

SWODY2

The Day 2 Convective Outlook is very similar to the Day 1 Outlook. It is issued only twice a day, at 08Z and 18Z, and covers the period from 12Z the following day to 12Z the day after that. For example, if today is Monday then the Day 2 Outlook will cover the period 12Z Tuesday to 12Z Wednesday. The outlook issued at 08Z

now qualifies the degree of risk like the Day 1 has (i.e. SLGT, MDT, and HIGH risk areas). The Day 2 Outlook has also includes a general thunderstorm outline.

SWP
On a buoy report, Swell Period is the time (usually measured in seconds) that it takes successive swell wave crests or troughs pass a fixed point.

SWRN
Southwestern

SWS
Severe Weather Statement

SWWD
Southwestward

SX
Stability Index

SXN
Section

Symmetric Double Eye
A concentrated ring of convection that develops outside the eye wall in symmetric, mature hurricanes. The ring then propagates inward and leads to a double-eye. Eventually, the inner eye wall dissipates while the outer intensifies and moves inward.

Synchronous Detection
Radar processing that retains the received signal amplitude and phase but that removes the intermediate frequency carrier.

SYNOP
Synoptic - relating to the general weather pattern over a wide region, such as areas of high and low pressure or frontal boundaries, as opposed to mesoscale or smaller features such as a thunderstorm.

Synopsis
A broad discussion of the weather pattern expected across any given area, generally confined to the 0-48 hour time frame.

Synoptic Code
Rules and procedures established by the World Meteorological Organization (WMO) for encoding weather observations.

Synoptic Scale
The spatial scale of the migratory high and low pressure systems of the lower troposphere, with wavelengths of 1000 to 2500 km.

Synoptic Track
Weather reconnaissance mission flown to provide vital meteorological information in data sparse ocean areas as a supplement to existing surface, radar, and satellite data. Synoptic flights better define the upper atmosphere and aid in the prediction of tropical cyclone development and movement.

Synoptic Weather
Weather occurring over a wide region on time scales exceeding 12 hours.

SYNS
Synopsis

SYS
System

Syzygy
In solar-terrestrial terms, the instance (new moon or full moon) when the earth, sun, and moon are all in a straight line.

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