

ACP S&T PROGRAMME

Enhancing Farming through Weather and Climate Information

CARIBBEAN AGRO-METEOROLOGICAL INITIATIVE





PUBLIC WEATHER FORECAST TERMS: An Explanation

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The Public Weather Forecast

The public depends on meteorologists to provide the most accurate information available to help them plan their daily lives. How the Citizenry is interpreting this information is important.

When issuing public forecasts, you need to have a set of forecast terms that convey to the user forecast information in a clear and concise manner.

This means that you need a set of terminology that are explicitly defined.

Allows for similar forecasts to have similar meanings and also permits consistency among meteorologist.



Understanding The Terms

Weather forecasts and warnings have to compress a lot of information into standardized, brief messages.

They have to accommodate variations across the time range, and often large areas, that they apply to. They must also accommodate Uncertainties.

It is important therefore to understand the use of duration and distribution terms and all the other terms .



Time Of The Day

- Evening: During the months January to late September, refers from around 6 pm or there about close to sunset and runs until 9.00pm perhaps as late as 10 pm.
- During the months October to December : evening is considered as the period from sunset to around 8 pm.



Time Of The Day

- **Morning:** Sunrise to noon .
- **Afternoon:** Noon to sunset.
- **Today:** Until sunset.
- **Tomorrow:** Sunrise to midnight.
- **Tonight:** Nightfall to midnight and extended to sunrise.
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- **Night, Overnight:** From nightfall to sunrise
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- **Early Morning:** Until 2 hours after sunrise
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- **Late afternoon:** from 2 hours before sunset
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Forecast Content

- The typical public forecast contains a forecast for the following weather elements:
 - Sky cover/cloud cover
 - Present weather (precipitation and obstructions to vision), as needed
 - Temperature, usually maximum or minimum, as appropriate.
 - Wind direction and wind speed ·
 - Human comfort issues, as needed.



Cloud Cover

The amount of cloud in the sky is an important part of a forecast. The typical terminology used and the amount of Sky cover associated with each term are given below.

- **Clear:** Free from cloud, fog, mist or dust haze.
- **Sunny:** Little chance of the sun being obscured by cloud. Cloud expected to cover approximately 0 to 12.5% or 1/8 or less of the sky for the majority of the day.
- **Mostly sunny :** Predominantly more clear sky than cloud. Cloud expected to cover approximately 30% or less than 3/8 of the sky for the majority of the day. For example, during the day the sun would be obscured by cloud for short periods of time.



Cloud Cover

- **Partly Cloudy:** Predominantly more clear sky than cloud. Cloud expected to cover approximately 30 to 65% or $\frac{3}{8}$ to $\frac{5}{8}$ of the sky for the majority of the day. For example, during the day the sun would be regularly obscured by cloud for short periods of time.
- **Partly Sunny:** means more clouds than sun, also means more cloud cover than partly cloudy; could be occasionally cloudy.
- **Occasionally Cloudy:** Infrequent periods when most of the sky is covered with clouds, but conditions will still be bright.



Cloud Cover

- **Variably Cloudy:** Cloud cover varying between less than half to more than half, perhaps between partly cloudy to cloudy.
- **Mostly Cloudy:** Cloudy most of the time but cloudiness is expected to abate or break up for short periods perhaps even becoming partly cloudy at times.
- **Cloudy:** Predominantly more cloud than clear sky. Cloud expected to cover approximately 65 to 100% or 5/8 and greater of the sky for the majority of the period. For example, during the day the sun would be obscured by cloud for substantial periods of time.
- **Overcast:** Sky completely covered with cloud. Cloud expected to cover 100% of the sky for the majority of the day.

From least cloud cover to most, the scale is: sunny, mostly sunny, partly cloudy, partly sunny, variably cloudy, occasionally cloudy, mostly cloudy, cloudy, overcast.



Variation of Terms

- Some variations on these cloud terms can be used if you want to move away from the usual verbage.
- In some cases where precipitation is the dominant weather parameter, sky cover can be omitted and cloudy skies implied. For example: "Periods of rain this morning ... giving way to partly cloudy skies this afternoon" implies cloudy skies during the morning period.
- For situations where sunny or mostly sunny skies are expected, terms such as "an abundance of sunshine will dominate this afternoon" or "a mixture of clouds and sun" can be used.
- If the amount of cloud cover varies during a forecast period, especially during the first period of the forecast, a combination of the above terms may be appropriate. E.g you might use the phrase "cloudy skies this morning giving way to sunshine this afternoon" in your forecast.



TYPES OF PRECIPITATION FORECAST

Precipitation: Precipitation forecasts can take several forms in a forecast statement:

- Time bound.
- An areal coverage description.
- Categorical.
- Probability of precipitation (POP).
- Combinations of these.

POP is defined as the likelihood of occurrence (usually expressed as a %) of a measurable amount of precipitation during a specified period.



Duration of Precipitation

- **Brief:** Short duration (Not lasting more than 5 to 10 minutes).
- **Intermittent:** Precipitation which ceases at times. I.e precipitation starting and stopping at intervals, not continuous. E.g. 1 to 2 showers in a given locale every 1 to 2 hours.
- **Occasional:** Precipitation which while occurring infrequent or irregular is recurrent. E.g a shower every 3 hours.
- **Frequent:** Showers occurring and often (Persistent). E.g. in excess of 2 showers within an hour.
- **Continuous:** Precipitation which does not cease, or ceases only briefly.
- **Periods of Rain/Showers:** Rain/showers are expected to fall most of the time, but there will be breaks. I.e. a series of episodes of precipitation.
- **Sharp:** Brief abrupt showers. Could be moderate to heavy with gusty winds.
- **Brisk Shower:** Fast moving showers, usually the low level winds are strong.



Distribution of Showers/ Thunderstorms over time for a location

- **Shower or two:** Not many, less than a few. Used to describe showers occurring infrequently.
- **Odd Shower:** Very infrequent in time, not likely to recur.
- **Few:** Not many, amounting to a small number. Used to describe a small number of showers over a time period, similar to isolated.



Distribution of Showers/Thunderstorms Over An Area

- **Isolated:** Showers which are well separated in space (i.e. generally covering 10 to 25% of the total area) during a given period.
- **Scattered:** Irregularly distributed over an area (i.e. generally covering 25 to 55% of the area). Showers which, while not widespread, can occur anywhere in an area. Implies a slightly greater incidence than isolated.
- **Widely scattered:** means the precipitation areas are displaced a considerable distance from each other (generally covering approximately 20% of the area).
- **Widespread:** Occurring extensively throughout an area (i.e. generally covering over 55% of each island).



Probability of precipitation

POP forecasts can be explicitly stated as a numerical value or described using an expression of uncertainty.

POP Percentage

- 0, 10 %
- 20 %
- 30, 40, 50 %
- 60, 70 %
- 80, 90, 100 %

Expression of Uncertainty

No precipitation Mention
Slight chance
Chance
likely
No descriptor (Categorical)

These are used to communicate uncertainty especially because of the Random nature of showers and thundershowers.

Risk is often used to communicate the chance of thundershowers.

E.g. of a combination forecast: Slight chance of isolated showers or 20% probability of isolated showers.



Intensity of Precipitation

- **Light:** Of mild intensity , up to 2 mm per hour. Individual drops easily identified, puddles form slowly, small streams may flow in gutters.
- **Moderate:** In a 5 min. period nearly 1 mm of rainfall. Drops too numerous for individual ones to be seen. Rapidly forming puddles, some spray visible over hard surfaces.
- **Heavy:** More than 1 mm (up to 4 mm) in a 5 minute period. Falls in sheets, misty spray over hard surfaces, may cause roaring noise on roof, drains could overflow in heavy showers. Last 15 to 20 minutes.
- **Violent:** Heavy showers accompanied by gusty winds. Over 50mm mm per hour. Gutters and downpipes overflowing, spray to height of several centimeters over hard surfaces, may cause roaring noise on roof. A rainstorm that can cause damage to structures.



Combination Forecast of Precipitation and Cloud Cover

- **Fair:** refers to less than 3/8 cloud cover, no precipitation or a light shower of short duration (less than 5 mins) is possible, and no extremes in temperature, visibility or winds.
- **Mostly Fair:** As fair but mostly hints at a few light showers.
- **Mainly/Generally Fair:** Long or numerous fair spells.
- **Fine/Clear :** 1/8 or less cloud cover, bright, good visibility at least greater than 15 km, no precipitation expected, stars easily visible at night.



Other Present Weather Terms

- **Hazy:** Dust or normal haze causing reduction in visibility to less than 10 km.
- **Dull:** Cloudy to overcast with little or no sunlight. Presence of dense dust or smoke or haze could also cause dull conditions.
- **Gloomy:** Absence of sunlight; dark, dull, threatening or ominous. Often associated with threatening severe weather.
- **Settled:** Poor conditions have abated, skies may still be cloudy, but the threat of thunder-showers is negligible. Normally after an extensive period of active thundershowers.



WIND

Breezy or Fresh Breeze : Prolonged periods of average speeds of 11 – 21kt (20/40 km/h).

Windy: A prolonged period of average wind speeds of 22/27 kt (41 to 50 km/h).

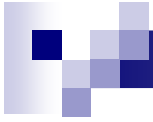
The range supports the variability found in wind speed .

E.g. *Fresh, gusty winds* indicates that the mean wind speed will be between 30 and 39 km/h (17 - 21 knots) and that there will also be gusts to speeds significantly higher than the mean.



Human Comfort Terms

- **Humid:** High relative humidity with warm/hot temperatures. Sticky feeling.
- **Hot:** Warm Temperatures (Above 32)
- **Cool:** Mild temperatures during the night (Low twenty or less)
- **Heat Index(Feel Like)** – An index that combines air temperature and humidity to give an apparent temperature. How hot one actually feels.



Thank You.