Understanding weather and keeping safe habits

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Weather concerns the state of the atmosphere and its short-term changes. A forecast helps plan an activity; a warning draws attention to a risk. This guide explains general concepts. Saved offline, it provides no current forecast, local warning or assurance that it is safe to go out.

Forecasts, climate and observations

An observation describes measurements at a place and time. A forecast combines measurements and models to estimate what follows. Climate concerns the characteristics of weather over long periods. One cold day is therefore not enough to explain or refute a climatic trend.

The time horizon, place and uncertainty matter as much as the number given. A sunshine icon for a town does not describe every street, mountain summit or hour of the day. For an activity affected by weather, consult detailed bulletins, their dates and local recommendations rather than an isolated picture or an encyclopaedic answer.

Four concepts to recognise

Air temperature is measured under specified conditions. How it feels also depends on wind, humidity and exposure. Atmospheric pressure corresponds to the weight of air over an area. Its changes help explain how weather develops, but one measurement alone does not provide a reliable forecast.

Relative humidity expresses, as a percentage, the ratio of water vapour's partial pressure to its saturation vapour pressure at the same temperature. At 100%, saturation is reached. This ratio therefore changes with temperature. Precipitation includes rain, snow and hail. On a horizontal surface, 1 millimetre of rain represents 1 litre per square metre. This alone does not predict a flood level.

Read a warning together with its bulletin

In France, Météo-France's Vigilance system combines a colour, a phenomenon, an area and a time period. Green does not rule out every particular danger. Yellow means staying alert, especially for exposed activities. Orange and red require following the stronger instructions in the bulletins. A colour alone cannot replace those explanations.

Also consult instructions from the relevant authorities and notices of local closures. Outside France, use the territory's official meteorological service and warnings. Do not mechanically transfer one country's colours or thresholds to another. Advice relates to the phenomenon announced, not simply to a general category of bad weather.

Adapt an activity without taking unnecessary risks

Before leaving, check the bulletin, fallback routes and a way to receive updates. During a thunderstorm, seek a substantial enclosed building and follow official instructions; an isolated tree is not safe shelter. Do not cross a flooded road on foot or in a vehicle. Postpone an activity if its safety conditions cannot be met.

For ordinary outings, bring water and suitable protection, and inform a contact. During an extreme event, current official messages take priority over this guide. To learn, compare your observations afterwards with the bulletin. You will better understand a forecast's limits without turning an estimate into a guarantee.

Primary sources

Météo-France - Comprendre la Vigilance Météo-France
https://meteofrance.com/vigilance-et-securite/5-questions-sur-la-vigilance-meteorologique

Météo-France - Conséquences et conseils de comportement
https://vigilance.meteofrance.fr/fr/consequences-conseils

Organisation météorologique mondiale / WMO - Climate
https://wmo.int/themes/climate

NOAA / National Weather Service - Humidity
https://www.weather.gov/lmk/humidity

NOAA / National Weather Service - Flood safety
https://www.weather.gov/safety/flood-turn-around-dont-drown

NOAA / National Weather Service - Lightning Safety
https://www.weather.gov/safety/lightning-safety

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