



# Forensic Weather Report Terms

Scope, methodology, data sources, deliverables, limitations, and use terms for forensic meteorological reports.

Meteorology Consulting • Forensic Weather Analysis • Aerial Documentation

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## Purpose of a Forensic Weather Report

A forensic weather report reconstructs weather conditions for a specific location and time period. It may support insurance, legal, appraisal, engineering, construction, property, operational, or business decisions. The report is intended to answer defined meteorological questions within the authorized scope.

## Weather Issues Commonly Reviewed

- Hail, wind, tornado, downburst, thunderstorm, and convective storm events.
- Hurricane and tropical storm wind, gust, rainfall, surge, wave, tornado, and timing questions.
- Rainfall, flooding, water intrusion, drainage, and precipitation timing.
- Lightning, visibility, fog, marine weather, coastal weather, heat/WBGT, and incident weather.
- Climate or historical weather context for property and operational decisions.

## Data Sources and Methodology

- **Official observations** — NWS/FAA ASOS and AWOS sites, cooperative observations, mesonet stations, RAWS/HADS, and other relevant surface records.
- **Radar and satellite** — Archived WSR-88D Level II/III radar, GOES satellite imagery, MRMS precipitation products, velocity data, reflectivity, derived products, and supporting graphics.
- **Tropical/coastal datasets** — NHC advisories, best-track data, post-storm reports, NOAA buoy/ship observations, Hurricane Hunter data, USGS high-water marks, NOAA Tides & Currents, CERA/ADCIRC guidance, and storm tide/wave information when applicable.
- **Historical archives** — NOAA/NCEI Storm Events Database, Local Climatological Data, station histories, storm reports, climate normals, and certified records if requested.
- **GIS mapping** — ArcGIS or comparable spatial mapping, interpolation, distance analysis, contours, property overlays, storm tracks, and exhibit-ready graphics.
- **Aerial/photo evidence** — Drone imagery, site photographs, client photos/videos, EagleView/Pictometry/Nearmap, and lawful aerial imagery if available and included in scope.

## Deliverables

- Executive summary of findings.
- Site-specific timeline and weather-history narrative.
- Maps, graphics, radar/satellite panels, storm tracks, tables, and appendices.
- Summary of relevant observations and official data sources.
- Professional findings and bases of opinion, if requested and within scope.



- Optional aerial documentation/photo log when included in the engagement.

### **Legal and Professional Limitations**

- The report is a meteorological analysis, not a legal opinion, insurance coverage determination, engineering opinion, building-code determination, or structural causation opinion.
- Weather data availability and quality vary by location, time, radar geometry, sensor coverage, station outages, archive limitations, and data format.
- Findings may change if additional records, photographs, videos, site information, testimony, or data become available.
- The report should not be altered, excerpted out of context, or represented as covering issues outside the scope.

### **Drafts and Final Reports**

Drafts are provided for factual review, formatting, and correction of project details. Drafts are not final opinions unless labeled final. Final reports should be distributed only to authorized recipients and used within the stated scope.