

# Terms Used

Emergency landing is the most general term to describe situations where an aircraft makes an abnormal touchdown. Various other terms are used to point out a specific aspect of the event. Examples of related terms are listed below. Note that sometimes more than one term can be used while in other cases an alternative term will apply but the situation will not be considered as an emergency landing.

- Forced landing
  - Precautionary landing
  - Ditching
  - Belly landing
  - Crash landing
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- **Forced landing** is a situation where an aircraft unavoidably needs to land, usually regardless of terrain. A typical example of this is an airplane forced down by engine failure. Normally, a forced landing is also an emergency landing because the underlying cause of the event is often a good reason for declaring an emergency (e.g. fire on board, engine failure of a single-engine aircraft, extensive structural damage, etc.). There are situations, however, where a forced landing is not an emergency, e.g. when an aircraft is forced to use a particular aerodrome following a military interception. Also, there are many situations where an emergency is declared but the crew decides to continue the flight to a more suitable aerodrome. An example of this is the 1989 event involving a DC10 where the aircraft continued flight for about 45 minutes after experiencing an engine failure that caused a loss of all hydraulic systems. If made at an aerodrome, the forced landing would normally coincide with a "*full emergency*" procedure, meaning that the RFFS equipment and personnel will be at their designated positions (near the runway).
  
  - **Precautionary landing** is a situation where further flight is possible but inadvisable, i.e. in the judgement of flight crew, a hazard exists with continued flight. A common situation requiring a precautionary landing is a technical problem that is not serious enough to declare "Mayday" (e.g. navigation system degradation) but the company SOPs suggest that landing at the nearest suitable aerodrome should be made. Other examples of conditions that may call for a precautionary landing, particularly on small general aviation aircraft, include deteriorating weather, being lost, fuel shortage, and gradually developing engine degradation. The difference between a precautionary and a forced landing is that in the former case the crew may choose to continue the flight (at least for a time) while in the latter case there is no such option. Precautionary landings are often made at an aerodrome although this is not always the case. Sometimes landing in a field (and accepting there will be damage to the aircraft) is preferable to trying to reach an aerodrome (and risk to be forced to land on worse terrain). Depending on the hazard, a "*full emergency*" or a "*local standby*" procedure may be activated. The difference is that in the latter case the RFFS will remain at their normal positions but their state will be set to "ready" so that they may leave for the accident site immediately if necessary. It should be noted that some precautionary landings are not preceded by a declaration of an emergency and therefore not treated as emergency landings.

- **Ditching** is an emergency (forced or precautionary) landing on water. It includes occurrences by landplanes only. Events involving landings on water by seaplanes or amphibious aircraft are normally reported as precautionary/forced landings.
- **Belly landing** is an emergency landing with the gear in the "up" position. This is usually caused by equipment malfunction (the gear cannot be extended or cannot reach locked position). Sometimes the pilots would choose to perform a forced landing with the landing gear intentionally up if they consider this would lead to a safer outcome, especially when landing outside an aerodrome. A situation where the aircraft lands with the gear up due to human error (i.e. the crew forgetting to extend it) is normally referred to as "gear up landing". While this would usually be followed by a rapid RFFS response it is not considered an emergency or belly landing because the crew would not anticipate anything abnormal until the moment the aircraft touches down.
- **Crash landing** is a landing where the aircraft receives significant structural damage. Not all emergency landings are classified as crash landings - if the aircraft has remained intact (or has received minor damage) using the term would be inappropriate.