

# Direct Disaster Deaths

Written by M. Glantz. Posted in [All Fragileecologies \(http://fragileecologies.com/?cat=1\)](http://fragileecologies.com/?cat=1)

Published on October 17, 2009 with [No Comments \(#comments\)](#)

**Fragileecologies Archives**  
**12 January 2004**

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A flood is imminent or in progress. With the usual wisdom, a retirement home has been built in the floodplain. Single storey, of course, so that stairs do not worry the tenants. An emergency evacuation is implemented and a resident dies from a heart attack during the evacuation. Is that an indirect disaster death?

Flood hazard parameters including depth, velocity, temperature, contamination, and lack of oxygen did not contact the person. Therefore, a common suggestion is that the fatality did not occur directly due to the flood disaster. Furthermore, a non-flood-related condition — age, possibly with a heart condition—was a significant factor in the death. The conclusion is that the person died indirectly as a result of the flood disaster.

The flood disaster was not even a necessary condition for the death to occur. Instead, it was the trigger that caused an underlying, long-term vulnerability to manifest. The heart attack could easily have occurred the next day, the next week, or the next year.

Unfortunately, this approach to classifying the death relies too much on the quantitative flood hazard parameters without fully considering vulnerability. The “underlying, long-term vulnerability” mentioned does not stop at the victim’s age or heart condition. Instead, vulnerability encompasses the range of systems, processes, and conditions which led an elderly person with a weak heart to be forced into a rapid evacuation because some water approached their abode.

These vulnerabilities include:

- The placement and design of the retirement home.
- The choice of residents for the retirement home.
- Inadequate warning systems, emergency decision-making processes, and evacuation plans.
- Community design and land use which led to flood waters threatening the retirement home.

These issues were more guilty of causing the death than rainfall or a medical condition.

Such issues also cause flood-related drownings. Drownings are generally accepted as being direct flood disaster deaths. If a house gets wet and the occupant drowns, we ask why they were living there and why few precautions were taken to prevent them dying. Examples of possible solutions are proper planning and land use; enacting pre-event, careful, slow evacuation; or living elsewhere.

Similarly, if a retirement home is flooded and a resident dies from a heart attack while being evacuated, we ask why they were living there and why few precautions were taken to prevent

them dying. Examples of possible solutions are proper planning and land use; enacting pre-event, careful, slow evacuation; or living elsewhere.

In both cases, the deaths had much more to do with society's attitudes, behaviour, decisions, and actions over the long-term than with the water, the specific flood event, or the hazard parameters. The same questions are asked and similar solutions are proposed, irrespective of cause of death or the specific physical vulnerabilities of the victim. Instead, social, societal, and community vulnerabilities must be considered to have caused the specific deaths.

The principle to emerge is that any death which would not have occurred without the disaster event counts as a direct death from that event. A flood disaster is a disaster event and deaths from it are from that disaster. Challenges and inconsistencies emerge, but it is a reasonable starting point. Further analogies reinforce this view.

If someone dies from a heart attack or kidney failure while awaiting rescue after being trapped in an earthquake, or during the rescue process, those deaths are usually considered to be direct. If someone dies from a heart attack or kidney failure while awaiting rescue from floodwaters, or during the rescue process, the deaths are similarly direct.

In the flood case, perhaps water deaths are being confused with flood deaths. A heart attack during evacuation from a flood is not caused by water; however, it is directly related to the flood disaster. A flood disaster is much more than water. A flood disaster needs water, but it is a primarily a disaster event rather than a water event, with all the vulnerability characteristics that a disaster event implies.

Disasters are sociological, not physical, phenomena. Disasters are caused by us, not by nature. Hence, flood disasters are caused by us, not by water. Any deaths resulting from the disaster are directly attributable to that disaster.

Labelling some disaster-related deaths as indirect, secondary, or side effects diminishes the connection with the event and suggests that less could have been done for prevention. Neither is true. We hear "an act of god", "inconceivable", "unpreventable", "they would have died anyway", and "impossible to imagine". Poor excuses. It is our fault and we must admit that to solve the problem.

Any disaster-related deaths are unacceptable.

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