

Modified Mercalli Intensity Scale

(Earthquake Damage Reporting)

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In the immediate aftermath of an earthquake, search and recovery efforts will be on the way and conventional communications and mobility are usually disrupted or destroyed. As a radio operator, you may be the only one to get the status and effects of damage in your area reported in a timely manner. This is critical to better help emergency services know where to concentrate their limited resources and energy.

The AmRRON network now has a **County Status Report (STATREP) form** in both **printable PDF format**, as well as an **FLMSG Custom Form** that can be imported into your NBEMS custom forms folder for use over the radio using digital modes.

When an earth quake strikes, you may not know immediately where the epicenter is, nor the magnitude in terms of Richter Scale readings. What you do know is the effects you felt and observed. The Modified Mercalli Intensity scale is a tool that anyone can use to report the effects of an earthquake in their immediate location. Even if conventional communications, commercial radio and television, and internet are disrupted, the reports sent in by radio operators can provide great insight as to the size and scope of the incident.

When reporting using the Modified Mercalli Intensity scale, it should normally be part (Line 8) of the AmRRON County STATREP custom report. The Mercalli scale can also be used to report major explosions, such as a nuclear, dirty, conventional massive ordinance, or other bomb.

HOW TO USE: Simply read the description in the right column of the charts to locate the one that best fits what you experienced. In some cases there can be some overlap. For example, if the description in intensity levels 3 and partial description in level 4 describe your situation, you could report your Mercalli scale experience as a 3.5 (or three and a half).

In the blue and green chart below you'll notice a Richter Scale reading to the far right. This does not mean that is how strong the quake was. The quake could be much stronger but the epicenter could be 100 miles away. The Richter Scale reading is only an approximation, assuming that your exact location is where the epicenter was located. However, in reality you won't immediately know where the epicenter was.

There are two charts below which are commonly found on the internet. One is not necessarily better than the other. Either one will work to get the job done.

The following is an abbreviated description of the levels of Modified Mercalli intensity.

Intensity	Shaking	Description/Damage
I	Not felt	Not felt except by a very few under especially favorable conditions.
II	Weak	Felt only by a few persons at rest, especially on upper floors of buildings.
III	Weak	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Very strong	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Violent	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Extreme	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.

Modified Mercalli Scale		Richter Magnitude Scale
I	Detected only by sensitive instruments	1.5
II	Felt by few persons at rest, especially on upper floors; delicately suspended objects may swing	2
III	Felt noticeably indoors, but not always recognized as earthquake; standing autos rock slightly, vibration like passing truck	2.5
IV	Felt indoors by many, outdoors by few, at night some may awaken; dishes, windows, doors disturbed; motor cars rock noticeably	3
V	Felt by most people; some breakage of dishes, windows, and plaster; disturbance of tall objects	3.5
VI	Felt by all, many frightened and run outdoors; falling plaster and chimneys, damage small	4
VII	Everybody runs outdoors; damage to buildings varies depending on quality of construction; noticed by drivers of automobiles	4.5
VIII	Panel walls thrown out of frames; fall of walls, monuments, chimneys; sand and mud ejected; drivers of autos disturbed	5
IX	Buildings shifted off foundations, cracked, thrown out of plumb; ground cracked; underground pipes broken	5.5
X	Most masonry and frame structures destroyed; ground cracked, rails bent, landslides	6
XI	Few structures remain standing; bridges destroyed, fissures in ground, pipes broken, landslides, rails bent	6.5
XII	Damage total; waves seen on ground surface, lines of sight and level distorted, objects thrown up into air	7
		7.5
		8