

Ohio: Overview

Everything in the main manual and the skill guides applies in Ohio exactly as written. What's different here is the specific hazard profile and the state, local, and legal context around it. This page is the starting point; the other three pages under Ohio go deeper on laws, local resources, and the data behind the risks named here.

The Xenia tornado: one of the deadliest in U.S. history

On April 3, 1974, an F5 tornado tore through Xenia, Ohio during the 1974 Super Outbreak, at the time the largest tornado outbreak ever recorded, 148 tornadoes across 13 states in 24 hours. The Xenia tornado alone killed 32 people and destroyed or damaged roughly half the town's buildings. Statewide, the outbreak killed 39 Ohioans, injured 2,000, and destroyed 7,000 homes. See the Risks page for the full data.

East Palestine: a hazard this manual's framework already covers, from a different cause

In February 2023, a Norfolk Southern freight train carrying hazardous chemicals derailed in East Palestine, Ohio, near the Pennsylvania border. Several tank cars, including ones carrying vinyl chloride, ruptured, and officials conducted a controversial controlled burn days later. This is the first industrial/hazmat disaster covered in this section of the site, every other state's case studies so far have been natural hazards, and it's a useful reminder that this manual's shelter-in-place, evacuation, and go-bag guidance applies just as directly to a chemical release as to a hurricane or earthquake.

What this means for how you use the rest of this manual

The manual's Tier structure and the skill guides apply without modification. What's different in Ohio: tornado season preparation (a safe room, a weather radio, a practiced shelter plan) matters across the state, and households anywhere near a major rail line, which in Ohio's industrial corridors is a meaningful number of people, benefit from the same evacuation-kit and shelter-in-place planning this manual already recommends for other hazards, just triggered by a different kind of warning.

Sources

- 1974 Xenia tornado and Super Outbreak Ohio-wide figures: Wikipedia, sourced to NWS and NCEI; NOAA NCEI
- East Palestine train derailment details: EPA; NPR

BY STATE › OHIO

Ohio: Laws & Legal Considerations

Rainwater harvesting: the first state covered here that allows potable use

Every other state covered on this site restricts collected rainwater to non-potable use only. Ohio is different: under specific conditions, it’s legal to drink it.

Rule	Ohio
Source water	Rooftop or other catchment
Non-potable use	Legal, generally without a permit for typical residential systems
Potable use	Legal as a "private water system" under Ohio Revised Code §3701.344 if it serves fewer than 15 connections and doesn't regularly serve 25+ people at least 60 days a year
Collection volume	Ohio DNR allows collection up to 10,000 gallons without additional approval
Permits	Required from local authority or the Ohio Department of Health before starting collection; requirements vary by locality

Potable use still means treatment, not just a bigger tank

The legal pathway to drinking harvested rainwater exists, but it requires the water to be treated to private-water-system standards under Ohio Administrative Code 3701-28-12, not simply collected and consumed. This is a meaningfully higher bar than the non-potable systems covered on every other state’s laws page so far.

Where to find it: the Ohio Department of Health (odh.ohio.gov) administers private water system rules; check with your county or city building department for local permit requirements.

Water rights: riparian reasonable use, with an explicit constitutional protection

Ohio follows the same riparian reasonable-use doctrine as most of the states covered on this site, but it’s the first one where that protection is written directly into the state constitution rather than resting on case law alone.

Concept	How it works in Ohio
Surface water	Riparian owners have a property interest in the reasonable use of water in an adjacent lake or watercourse
Groundwater	A property owner has a property interest in the reasonable use of groundwater beneath their own land, explicitly protected under Ohio Constitution Article I, §19b
Limits	Reasonable use only; groundwater may be used on the overlying tract but can't be transported to a different, non-overlying tract

Where to find it: Ohio State University’s Agricultural & Resource Law Program (farmoffice.osu.edu) publishes a plain-language guide to Ohio water rights for property owners.

Permitless carry, with an optional license for reciprocity

Ohio eliminated its permit requirement for concealed carry in June 2022, joining Utah, Texas, and Florida among the permitless-carry states covered on this site.

Requirement	Detail
Standard	Permitless ("constitutional") carry: any adult 21+ who can legally possess a firearm may carry concealed with no permit
Optional Concealed Handgun License (CHL)	Available for reciprocity in states that require a permit from Ohio residents; requires 8 hours of firearms safety training
Cost and validity of optional CHL	\$67 for Ohio residents of 5+ years (plus an FBI background-check fee for newer residents), valid 5 years

Sources

- Ohio rainwater harvesting rules, potable-use pathway, and collection limits: Enlight Inc.; Ohio Revised Code §3701.344

- Ohio riparian water rights and constitutional groundwater protection: Ohio Constitution Article I §19b; OSU Agricultural & Resource Law Program
- Ohio permitless carry and optional CHL requirements: Protect With Bear; CCW Hub

BY STATE › OHIO

Ohio: Local Resources

Ohio EMA and Ready Ohio

The Ohio Emergency Management Agency runs public outreach through the Ready Ohio campaign, most visibly during National Preparedness Month each September, covering the same core steps as most other states’ campaigns: know your local hazards, build a communications plan, store important documents safely, and sign up for emergency alerts.

Where to find it: ready.ohio.gov.

Ohio State University Extension: Ohio’s version of the other states’ land-grant Extension programs

Ohio State University Extension runs the same category of program as every other state covered on this site, and its Master Gardener Volunteer program is one of the larger, more established ones covered so far.

Scale

More than 3,000 active Master Gardener Volunteers serve across more than 62 Ohio counties, with 618 new volunteers trained in 2024 alone. Certification requires 50 hours of initial training plus 50 hours of volunteer service within the first year, then 20 volunteer hours and 10 continuing-education hours annually to maintain it. An online option, Buckeye Gardener Online, is also available.

Where to find it: mastergardener.osu.edu lists the program by county.

Ohio CERT: a genuine hybrid model

Unlike states covered so far where CERT is either fully decentralized (Texas, Florida) or run directly by one dominant city (New York City, Chicago), Ohio runs an actual statewide program, Ohio CERT, coordinated by Ohio EMA, with active county-level teams operating underneath it, Franklin County (Columbus), Cuyahoga County (Cleveland), and Summit County (Akron) among the established examples.

How the layers fit together

Ohio EMA sets statewide CERT program standards and provides coordination and resources, while individual counties run their own teams and training schedules, in Cuyahoga County's case, explicitly organized as independent teams with the county emergency management office acting as a resource hub rather than a direct operator.

Where to find it: ema.ohio.gov for the statewide program; search “[your county] CERT” for a local team.

Sources

- Ohio EMA Ready Ohio campaign: Ready Ohio
- Ohio State University Extension Master Gardener Volunteer Program scale and requirements: OSU Master Gardener Volunteers; MGVP Policy Statement
- Ohio CERT statewide and county program structure: Ohio EMA; Cuyahoga County

BY STATE › OHIO

Ohio: Risks & Trends

Same standard as every other page on this site: every figure below is independently sourced, and figures that vary across sources, or measure genuinely different things, are flagged as such rather than collapsed into one number that looks more precise than the underlying data actually supports.

The Xenia tornado (1974): one of the deadliest single tornadoes on record

Metric	Figure
Xenia deaths	32
Ohio-wide deaths, full outbreak	39
Ohio-wide injuries	2,000
Ohio-wide homes destroyed	7,000
Xenia buildings damaged or destroyed	~1,400, roughly half the town
Damage estimate (1974 dollars, inflation-adjusted)	\$250 million (\$1.63 billion in 2025 dollars)
Peak rating	F5

The Xenia tornado struck during the 1974 Super Outbreak, at the time the largest tornado outbreak ever recorded: 148 tornadoes across 13 states in 24 hours. Xenia’s tornado was the single deadliest of that entire outbreak, and the event became a major driver of subsequent improvements to tornado warning systems nationwide.

East Palestine (2023): a still-unfolding hazmat disaster

Metric	Figure
Total cars derailed	38
Cars carrying hazardous materials	11 (20 cars total contained hazardous cargo per some counts)
Key chemicals involved	Vinyl chloride, ethylene glycol, ethylhexyl acrylate, butyl acrylate, isobutylene
Initial evacuation radius	~1 mile
NTSB-identified root cause	Overheating wheel bearing

Why there's no clean death-toll or damage-total figure here, unlike this site's other case studies

Unlike a hurricane or tornado, East Palestine didn’t produce an acute, countable death toll or a settled damage estimate; its consequences are long-tail and still being studied. Independent investigations found toxic chemicals lingering in buildings for months after the derailment, and as of two years later, residents’ health concerns and chemical monitoring were still ongoing news, not a closed case. This manual’s standard is to report what’s actually confirmed rather than manufacture a false sense of resolution, and for this event, “still under investigation, years later” is itself the honest answer.

What these two have in common

Xenia and East Palestine are structurally opposite kinds of disaster, one an instant, visible, countable catastrophe, the other a slow-motion, still-unresolved one, but both demonstrate the same practical lesson this manual is built around: a real evacuation plan and a real go-bag don’t care whether the trigger is a funnel cloud on radar or a derailment alert from the county emergency system. The warning looks different; the preparation doesn’t.

Sources

- 1974 Xenia tornado and Super Outbreak figures: Wikipedia, sourced to NWS and NCEI; NOAA NCEI
- East Palestine train derailment details and NTSB findings: EPA; The Conversation; NPR, two-year follow-up