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MODULE 5

HEATWAVES AND WILDFIRES



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About This Module (1 of 2)

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Module 5 covers a hazard that is becoming more frequent and more severe across Southern Europe as seasons grow hotter and drier. It follows the same four-phase structure as every hazard module in this training.

This module is built around Italy's experience, but wildfire and heatwave risk run across Southern Europe. It should be developed broadly enough that any RISE partner can localise and deliver it.

Extreme heat and wildfires are different hazards, but they can affect communities during the same high-risk period. Prolonged heat and dry conditions can dry vegetation and increase fire danger.

About This Module (2 of 2)

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The correct action is not always the same for both hazards. During extreme heat, the safest action may be to remain in a cooler place. During a wildfire, the safest action may be to evacuate promptly. For this reason, the module has two clearly marked tracks: Track A, extreme heat; and Track B, wildfire.

Learning Outcomes

By the end of this module, you will have learned:



- Explain how heat, dryness, smoke and wildfire risk can interact
- Identify your personal and community exposure to extreme heat and wildfire
- Prepare separate actions for a heat warning, a smoke event and a wildfire evacuation
- Recognise when urgent health or emergency assistance may be needed
- Identify one household action and one community action to complete before the next high-risk season



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01

Understanding the Risk

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Wildfire Risk

1,000,000+ hectares burned across the EU in 2025 — the bloc's most destructive wildfire season on record.

- Wildfire risk depends on a combination of heat, dryness, wind and available fuel — dry vegetation, forestry, or scrub close to homes.
- In Italy alone, ISPRA estimated fires affected around 96,500 hectares in 2025, almost twice the area burned in 2024.
- All Italian regions can experience wildfires, but risk period varies: southern Italy and the islands are most exposed in summer, while Alpine and high Apennine areas can also see important fire periods in winter and spring.

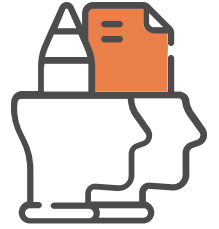
Heat Risk

500+ excess deaths among older people recorded during a severe heat period in July 2023, in cities across central and southern Italy

- A heatwave is a period of unusually hot weather compared with normal conditions for a place and season. Danger depends on intensity and duration, night-time temperatures, humidity, housing, health, work and access to cooling.
- Heat can cause heat exhaustion and heatstroke, and worsen cardiovascular, respiratory, kidney and mental health conditions. Anybody can become seriously ill from excessive heat.
- Higher increases were seen where heat coincided with wildfire smoke — a clear example of how the two hazards can combine.

How Heat and Wildfire Connect

- High temperatures do not automatically cause a wildfire. Fires start through human activity, technical failures, lightning or deliberate acts — but heat, drought and dry vegetation create conditions in which a fire starts more easily, spreads faster, or becomes harder to control.
- **Wildland-urban interface:** where natural vegetation and buildings sit close together, fire can threaten homes as easily as it threatens forest.
- **A possible chain of impacts:** prolonged heat → dry vegetation → increased fire danger → wildfire → smoke or evacuation → electricity and transport disruption → additional pressure on health and emergency services.
- Not every event follows this sequence — a heatwave can cause serious harm without a wildfire, and a wildfire can occur outside a heatwave. The two-track approach keeps the required actions clear.



Exercise: Wildland-Urban Interface Check

Exercise (2 minutes):

- Identify whether your home sits within, or close to, an area classified as wildland-urban interface, using your regional civil protection service's mapping if available.

Who May Need Additional Support?

- Older people, particularly those living alone, and infants and young children
- People with cardiovascular, respiratory, kidney, neurological or mental health conditions, or disabilities and reduced mobility
- People who depend on electrically powered medical equipment, or medicines requiring careful storage in hot weather
- Outdoor workers and volunteers, and people living in homes that overheat
- People without private transport, people experiencing homelessness, and people facing language, literacy or digital-access barriers
- People responsible for children, pets or livestock
- Vulnerability is not a permanent label. Someone who normally lives independently may need assistance during a power cut, prolonged heat, heavy smoke or an evacuation.

Understanding Your Own Exposure

- **Heat:** does your home become very hot during the day or stay hot at night? Which room stays coolest, and can windows be shaded safely? Is there a cooler public place you could reach? Would a power cut remove your main source of cooling?
- **Wildfire:** is your home or workplace close to woodland, scrub, grassland or neglected vegetation? Does your area have only one road in or out? Do you know where you would go if evacuated, and would anybody need help to leave?



Italy

The 2003 Heatwave

- The summer 2003 heatwave affected much of Europe and caused a serious rise in mortality in Italy.
- Showed that heat can be a major emergency even when buildings and roads remain standing.

Lesson: a heat plan must identify who receives the warning, who needs assistance, and what happens when a home is no longer safe because of indoor heat.

“4,175 excess deaths among people aged 65+ between 16 July and 15 August”



Italy

Montiferru, Sardinia, July 2021

- Severe fires affected Montiferru and Alta Marmilla, causing extensive damage to fields, trees and pasture.
- A regional state of emergency was declared, followed by urgent civil protection and financial recovery measures.

Lesson: recovery extends beyond extinguishing the fire, and may involve housing, agriculture, livestock, livelihoods and long-term support.

***“13,000 hectares burned —
Sardinia's most destructive wildfire
in 30 years”***

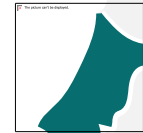


Portugal

Pedrógão Grande, June 2017

- Italy is not the only RISE country to have lived through a severe wildfire disaster.
- Remains the deadliest wildfire event in Portugal's history, and prompted a nationwide overhaul of land management and evacuation policy.

Lesson: an evacuation plan needs more than a destination — a trigger for leaving, an official route, an alternative, and support for people without transport.



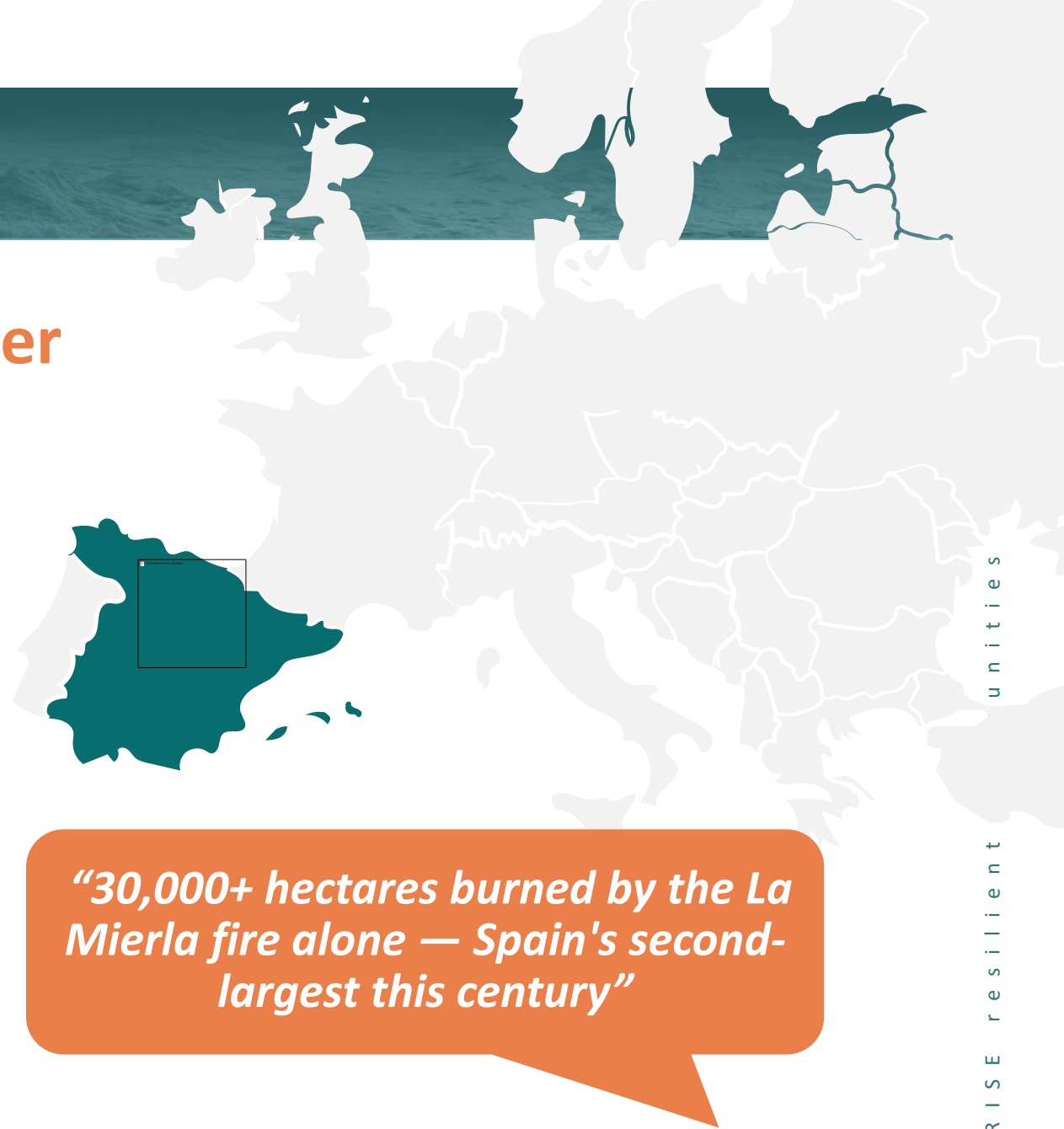
“66 deaths, most trapped in vehicles on a single road while evacuating”

Spain

La Mierla and Vall d'Uixó, Summer

- The La Mierla fire, in Guadalajara, forced the evacuation of 1,200+ people from 30+ municipalities.
- Nine days later, a fire near Vall d'Uixó evacuated 16,000+ people and placed tens of thousands more under confinement.

Lesson: a single severe fire season can produce more than one large-scale emergency at once — plan before the season starts.



"30,000+ hectares burned by the La Mierla fire alone — Spain's second-largest this century"

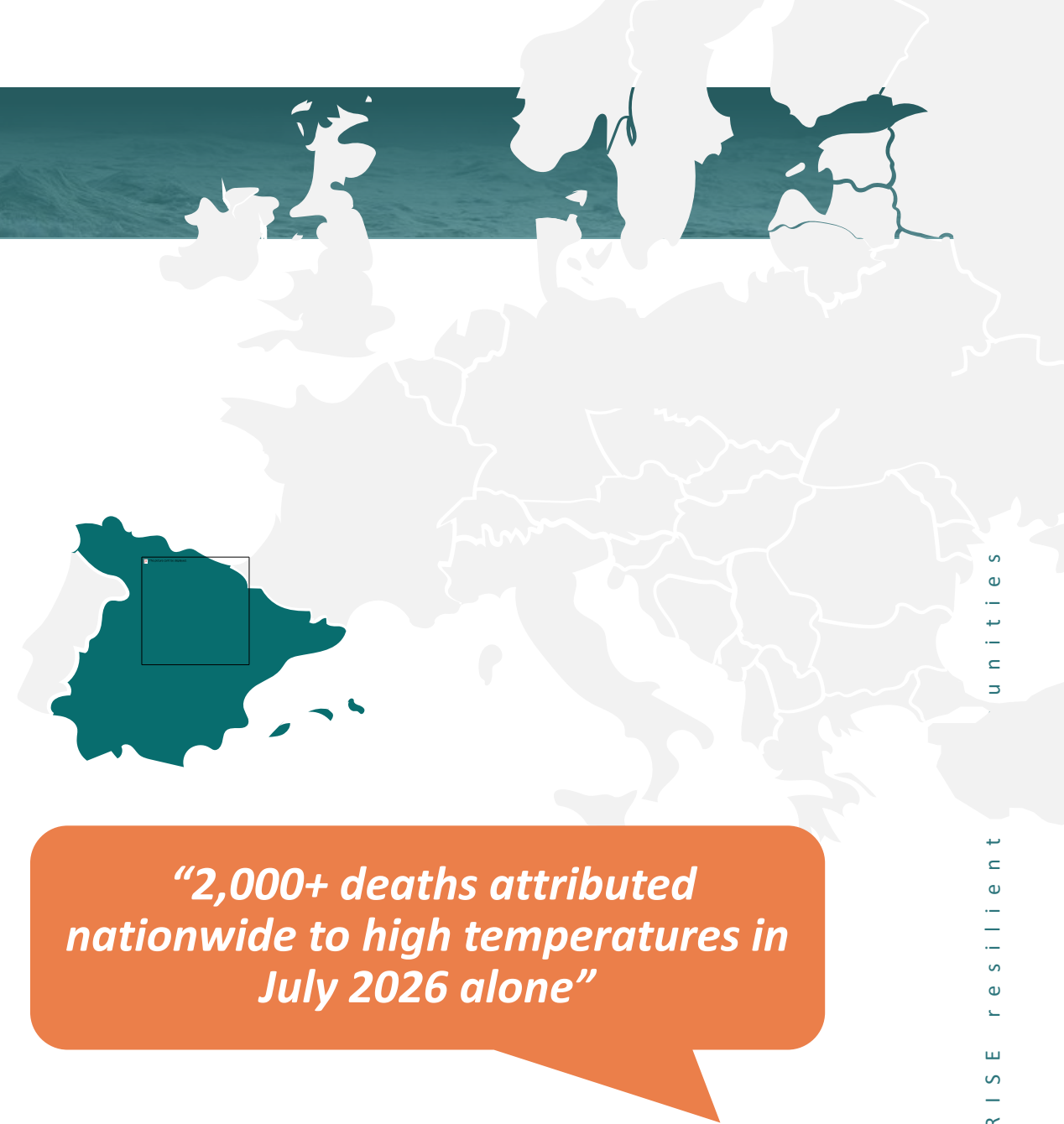
Spain

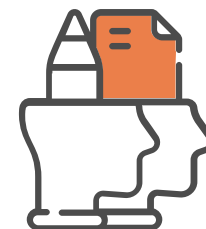
The 2026 Heat Season

- Spain's Daily Mortality Monitoring System (MoMo) tracked the season's third heatwave (21–23 July) as linked to 138 deaths on its own.
- Part of a summer of successive heatwaves, each tracked and reported individually.

Lesson: heat mortality is measured as systematically as flood or fire damage — identify your national monitoring system in advance.

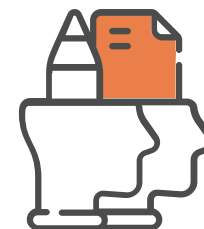
“2,000+ deaths attributed nationwide to high temperatures in July 2026 alone”





Exercise: Your Summer Risk Picture (5 min, 1 of 2)

- **One heat risk:** name one place where you or people around you could be exposed to dangerous heat.
- **One wildfire risk:** name one place where vegetation or limited access may increase wildfire exposure.
- **One person:** identify one person who may need a call, visit, information, transport or other support.

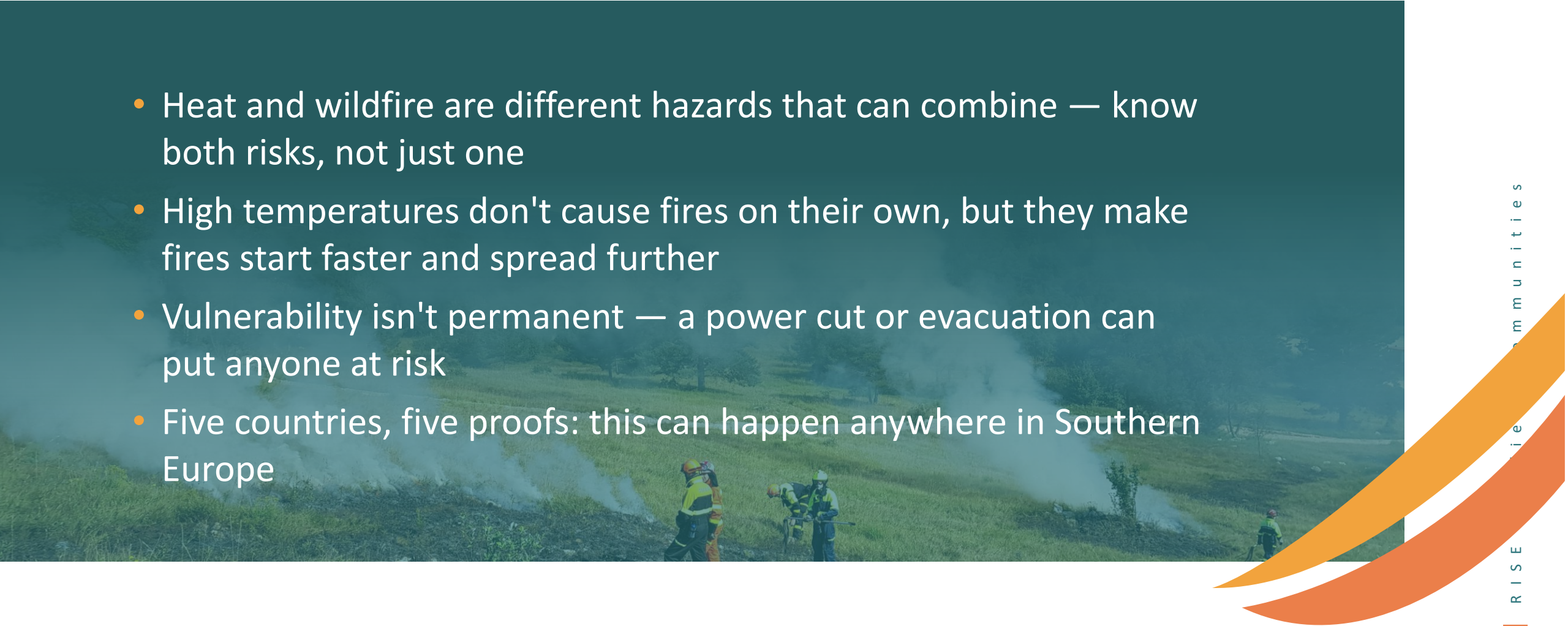


Exercise: Your Summer Risk Picture (5 min, 2 of 2)

- **One official source:** write down where you will receive official heat, fire and evacuation information.
- **Two safe places:** one place if your home became dangerously hot, and one destination if evacuated.
- Compare answers with a neighbour or colleague, and check whether either of you overlooked somebody who may need support.

Section 1: Key Takeaways

- Heat and wildfire are different hazards that can combine — know both risks, not just one
- High temperatures don't cause fires on their own, but they make fires start faster and spread further
- Vulnerability isn't permanent — a power cut or evacuation can put anyone at risk
- Five countries, five proofs: this can happen anywhere in Southern Europe



02

PREPAREDNESS

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Shared Preparation for Both Tracks (1 of 2)

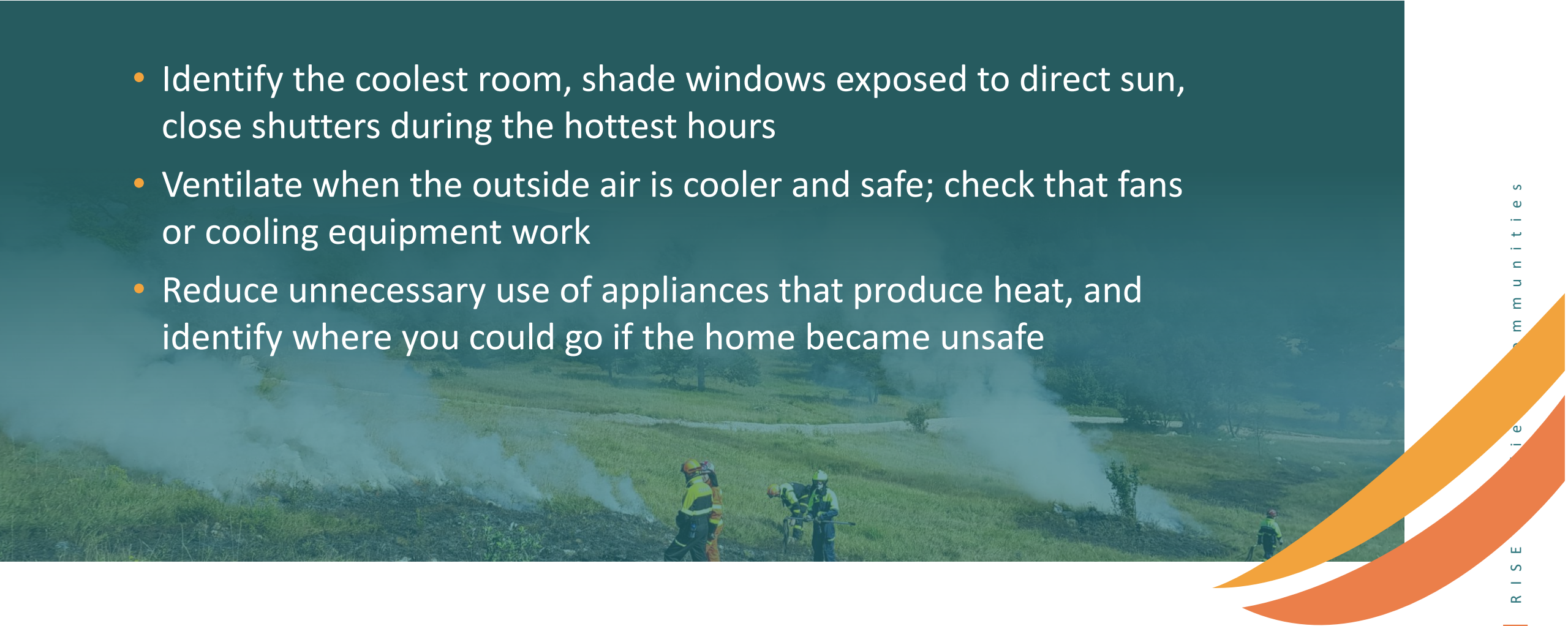
- Save the contact details of your municipality, health service, civil protection authority and emergency services
- Subscribe to official warning services, and read the municipal civil protection or emergency plan
- Identify people who may need assistance, and agree how household members will communicate
- Keep essential medicines, documents and contact information accessible; maintain charged power banks

Shared Preparation for Both Tracks (2 of 2)

- Plan for pets and livestock, and identify transport for somebody without a car or with limited mobility
- Learn which local buildings may be used as cooling, assistance or evacuation centres
- Write this plan down as a household, and give each person a specific task: who carries the kit, who turns off the gas, who helps a family member or pet. Agree a meeting point reachable without a phone signal.

Track A: Prepare for Extreme Heat (1 of 4)

- Identify the coolest room, shade windows exposed to direct sun, close shutters during the hottest hours
- Ventilate when the outside air is cooler and safe; check that fans or cooling equipment work
- Reduce unnecessary use of appliances that produce heat, and identify where you could go if the home became unsafe



Track A: Prepare for Extreme Heat (2 of 4)

- Know your nearest climate refuge. Spanish cities, Barcelona among the first, have built networks of free public spaces kept at a safe temperature (around 27°C indoors) with water and seating. Not every RISE country has one yet, but the action works anywhere: identify a genuinely cooler public place before the warning level rises.



Track A: Prepare for Extreme Heat (3 of 4)

- Know your nearest climate refuge. Spanish cities, Barcelona among the first, have built networks of free public spaces kept at a safe temperature (around 27°C indoors) with water and seating. Not every RISE country has one yet, but the action works anywhere: identify a genuinely cooler public place before the warning level rises.



Track A: Prepare for Extreme Heat (4 of 4)

- Keep drinking water easily available, and plan to reduce strenuous activity during the hottest part of the day
- Know who to contact if you feel unwell, and ask a health professional whether heat may affect essential medicines or their storage
- Never change prescribed medication without professional advice, and plan regular contact with people at increased risk
- Italy-specific: the Ministry of Health's heat bulletins use risk levels to communicate possible health impact — consult the current bulletin and its instructions, not just the air temperature.

Track B: Prepare for Wildfire (1 of 2)

- Remove dry vegetation and flammable material near buildings, and clear leaves from gutters and terraces
- Store firewood and fuel away from buildings, and keep access clear for emergency vehicles
- Report neglected vegetation through the correct local channel, and check vents and openings through which embers could enter
- Regional wildfire plans differ. Use local guidance for exact clearance distances — following the vegetation-management and fire-prevention rules that apply in your municipality.

Track B: Prepare for Wildfire (2 of 2)

- **Prepare to evacuate.** Learn local warning levels and evacuation terms, know the official route and an alternative, prepare a small bag, keep the vehicle fuelled, plan transport for people without a vehicle, and agree who will tell relatives you're safe. Do not plan to remain and protect property unless part of an authorised, trained system.
- **Prepare for smoke.** Wildfire smoke can travel far beyond visible flames and irritate the eyes and respiratory tract. Identify the official source of air-quality information, a room that can stay relatively protected, and keep essential medicines accessible.

When Heat and Smoke Occur Together

- Closing windows may reduce smoke entering the home, but can let indoor temperatures rise
- Opening windows may reduce heat when the outside air is cooler, but can let smoke in
- Follow both heat-health and air-quality information, and monitor indoor conditions
- Prioritise people with respiratory, cardiovascular or heat-related vulnerability
- Move to an officially recommended cooler and cleaner place if the building is unsafe, and remain ready to evacuate if wildfire conditions change

At Community Level

- Who monitors official heat and wildfire alerts, and how verified information will be shared
- Who checks on agreed vulnerable residents and who may need transport
- Which buildings could provide a cooler or cleaner indoor space, or whether your municipality has, or could establish, a climate refuge network
- How people with language, sensory or digital barriers will receive information
- How vegetation or other hazards will be reported — including whether a fire-watch group exists to join or start
- Who contacts municipal, health or emergency services, and how volunteers will avoid placing themselves in danger
- **Data protection:** collect only what the support activity needs, obtain consent, and never circulate unnecessary medical or personal information.

Key Actions

- **Clear the defensible space around your home this month.** Walk the perimeter and identify the driest, most flammable material. Clear at least the first metre as a minimum, then check your own region's rule — Spain's guidance, for example, commonly asks for around 10 metres. This does not replace the technical measures required by local law.
- **Community level.** Find out who to call to report a fire risk or hazard before it spreads, and share that contact with your neighbours.

Exercise: One Plan, Different Triggers

For each trigger below, write your own action and a community action

TRIGGER	MY ACTION	COMMUNITY ACTION
An official heat warning is issued		
Your home becomes too hot to remain safely		
A smoke or air-quality warning is issued		
Authorities advise you to prepare to evacuate		
An evacuation instruction is issued		
Electricity fails during heat or smoke		

Section 2: Key Takeaways

- A heat warning, a smoke alert, a prepare-to-evacuate notice and an evacuation instruction are different triggers — each needs its own response
- Track A and Track B share a foundation (documents, contacts, a plan) but diverge in the details
- Defensible space distances vary by region — 1 metre is a starting point, not the rule everywhere
- Preparation has to be complete before the hazard reaches its peak, not started when it arrives

03

DURING THE DISASTER

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If You Are in Extreme Heat (1 of 2)

- Move to the coolest safe place available, and reduce strenuous activity
- Avoid unnecessary exposure during the hottest period, and drink water regularly unless advised otherwise
- Wear light clothing, check official heat-health information, and contact the person identified in your plan



If You Are in Extreme Heat (2 of 2)

- Never leave a person or animal in a parked vehicle
- **Heatstroke is a medical emergency.** Warning signs: confusion, delirium, fainting, loss of consciousness, severe weakness, nausea. Call the emergency medical service immediately, move the person to a cooler place if safe, begin cooling, never leave them alone, and never give oral fluids to an unconscious or severely confused person.

If Smoke Is Present, No Evacuation Order

- Check official fire, health and air-quality information, and remain ready to evacuate
- Reduce smoke entering the building when advised, and avoid strenuous outdoor activity
- Move vulnerable people to a cleaner-air location when possible, and keep medicines, documents and the evacuation bag ready
- Do not travel toward the fire to watch, photograph or record it
- Do not assume remaining indoors will still be safe if an evacuation instruction is issued

If You See Flames or Smoke

- Report it promptly. Do not assume somebody else has already reported it.
- **In Italy**, contact the Fire and Rescue Service on 115, the European emergency number 112 where operational, or the relevant regional number, and give clear information about the location and municipality.
- Move away using a safe escape route
- Do not remain in a location the wind is carrying the fire or smoke toward

When Evacuation Is Ordered

- **Prepare to evacuate:** review the official route and destination, place the evacuation bag and medicines where they can be reached immediately, prepare children, people requiring assistance and animals, charge equipment, and continue monitoring official instructions.
- **Once an instruction is issued:** leave promptly, follow the official route, take only essential items already prepared. Do not use an unofficial shortcut, delay to watch or film, or drive toward flames or dense smoke.
- Tell your agreed contact that you have left and where you are going
- Assist another person only when safe and it doesn't delay evacuation, and do not obstruct emergency personnel or vehicles
- Do not return until the competent authority says it's safe

If Electricity or Communications Fail

- A power cut may remove cooling, lifts, lighting, internet access, water pumps or medical equipment
- Use battery power carefully, keep one device available for emergency calls, and use a battery radio if available
- Check whether anybody depends on powered medical equipment, and activate the pre-arranged support plan
- Move to an authorised assistance space if home is no longer safe
- **Never use an outdoor generator, barbecue or fuel-burning appliance inside a building.**

Digital Tools and Misinformation

- **Before sharing a warning, map or message, ask:** who published it, is it current, does it apply to my location, can it be confirmed through an official channel, and could sharing it cause somebody to ignore an instruction or take an unsafe route?
- Do not share unverified changes to evacuation routes
- Do not share claims that an alert has ended without an official source
- Do not share old photographs presented as current, or rumours about the direction or speed of a fire
- Do not share personal or live-location information about vulnerable people, or unofficial health advice

At Community Level

- Communicate only verified information, and check on people identified in the agreed plan
- Activate pre-arranged transport support, and notify the responsible authority if somebody cannot leave
- Direct people to official information
- Respect the limits of your role: do not enter a fire zone, direct traffic unless authorised, undertake firefighting without training and authorisation, or place yourself in danger while trying to help somebody else.

Section 3: Key Takeaways

- Evacuate early — most wildfire fatalities involve people who left too late
- Heatstroke is a medical emergency: call for help immediately, don't wait to see if it passes
- Report fire the moment you see it — never assume someone else already has
- Verify before you share: old photos and unconfirmed routes cause real harm during an emergency

04

AFTER THE DISASTER

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Coordination and Communication

This is a shared job, not an individual one.

- **For heat:** continue contact with people who were unwell, isolated or left without cooling. The end of an official warning does not mean every health or social effect has ended, so community organisations should keep checking on people who need support.
- **For wildfire:** return only when the responsible authority confirms the area is safe, since roads, buildings, power systems and burned ground may remain hazardous. The Montiferru recovery, which involved civil protection intervention and financial support for affected agricultural and livestock businesses, shows the coordination needed beyond the immediate fire response.

Digital Tools and Misinformation

- Use official tools to check return-home instructions, heat and air-quality information, road closures, and the restoration of electricity and water.

Be cautious of:

- false fundraising appeals, unofficial volunteer requests and misleading claims about compensation — verify an organisation before sending money, goods or personal information.
- Community leaders should clearly distinguish confirmed information, information still being checked, personal opinion, and formal instructions from an authority.

Psychological Dimension (1 of 2)

- Extreme heat can cause anxiety, irritability, exhaustion and a feeling of being trapped, particularly when it repeatedly affects the same home or workplace.
- Wildfire can cause grief connected to the loss of homes, land, animals, livelihoods and familiar landscapes, and evacuated people may feel fear, guilt, anger or uncertainty even without physical injury. Volunteers, educators and community leaders may experience stress and burnout too.

Psychological Dimension (2 of 2)

- Helpful community actions:
- acknowledging what happened rather than minimising it, maintaining contact with isolated people, sharing verified information about professional and peer support, rotating volunteer responsibilities, and recognising when specialist support is needed.

Short-Term Actions

○ After Extreme Heat:

Continue welfare checks, seek health advice where symptoms continue, review which homes or facilities became unsafe, and restore access to medicines and essential supplies.

○ After Wildfire:

Follow official return instructions, continue monitoring air quality, keep children and animals away from hazardous burned areas, avoid unstable trees and damaged power lines, and do not clear hazardous material without suitable advice and protection.

Within two weeks, a shared community review is worth doing: did official alerts reach everybody, did anybody lack transport, did the cooling or cleaner-air space function, and what needs to change before the next event?

Long-Term and Sustaining Solutions

For Heat

Increasing shade, maintaining suitable vegetation, improving insulation and passive cooling, creating accessible cooling spaces, and using urban planning to reduce the heat-island effect. Cities including Rome and Turin have connected early warning with longer-term urban adaptation planning.

For Wildfire

Coordinated vegetation and landscape management, safer storage of combustible materials, maintained access for emergency vehicles, regular community exercises, and fire-resistant repair where appropriate. Post-fire restoration should suit the local ecosystem rather than simply replanting what was there before.

Both Tracks

A community building prepared as a cooling, cleaner-air and coordination space, maintained backup communication, and local volunteer networks kept active year-round.

Section 4: Key Takeaways

- A warning ending doesn't mean the impact has ended — keep checking on people afterwards
- Verify before donating: false fundraising appeals follow every disaster
- There's no single 'right' emotional response — for either heat or wildfire
- The strongest long-term recovery builds something more resilient than what was lost

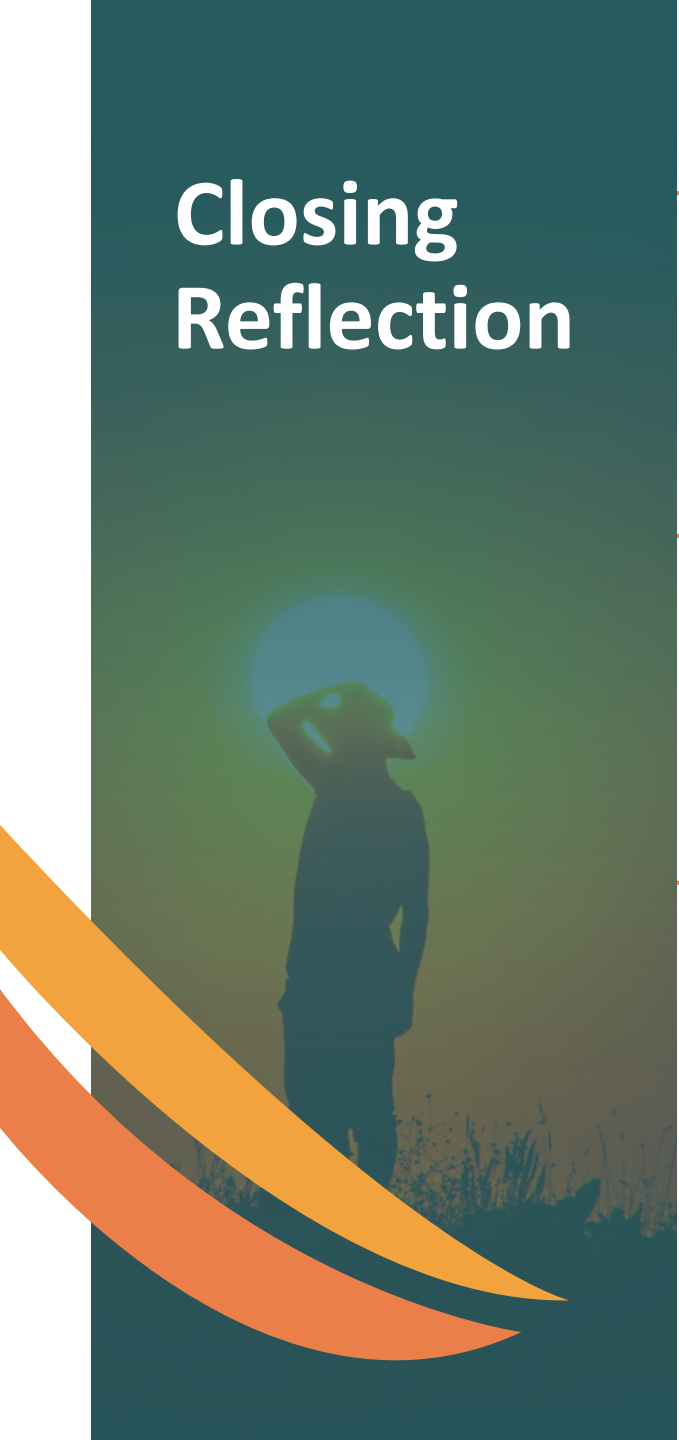


**ONE RISK. ONE ACTION. ONE
QUESTION.**

Before you finish this module, three short prompts to
take with you.



Closing Reflection



- **One Risk**

Name whether your home sits within, or close to, a wildland-urban interface area.

- **One Action**

Name one piece of defensible space work from Section 5.2 you will do this month.

- **One Question**

Name one thing you still want to know. Bring it to the next module.

Sources (1 of 2)

- European Commission Joint Research Centre (March 2026). “2025 was EU's most destructive wildfire season on record.”
- ISPRA (2025). Ecosistemi terrestri ed incendi boschivi in Italia: Stagione degli incendi 2025.
- ISPRA (2026). “Wildfires on the rise in 2025: more investment in prevention needed.”
- Wikipedia. “June 2017 Portugal wildfires.” Overview of the Pedrógão Grande wildfire disaster and its policy aftermath.
- Dipartimento della Protezione Civile. “Rischio incendi boschivi: il fenomeno,” and “In caso di incendio boschivo.”
- Dipartimento della Protezione Civile, Io non rischio. “Cosa fare: incendi boschivi.”
- Dipartimento della Protezione Civile. “Piani regionali di previsione, prevenzione e lotta attiva agli incendi boschivi.”
- European Forest Fire Information System (EFFIS). Current Situation Viewer and Statistics Portal.
- Copernicus Sentinel. “Aftermath of the Montiferru fires.”
- Regione Autonoma della Sardegna. “Emergenza Incendi Sardegna 2021.”

Sources (2of 2)

- Ministero della Salute. “Ondate di calore,” “Livelli di rischio: cosa fare,” and “Piano nazionale per la prevenzione degli effetti del caldo sulla salute.”
- Istituto Superiore di Sanità, EpiCentro. “Indagine epidemiologica sulla mortalità estiva in Italia: risultati preliminari,” 2003.
- World Health Organization. “Heatwaves,” “Health advice for hot weather” (2026), “Wildfires,” and “Public health advice during wildfires” (WHO Regional Office for Europe).
- European Environment Agency (2025). “Nature-based solutions for fire-resilient European forests.”

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