



EBOOK

# 4 Days In A 500-Year Flood

A story with insights from emergency management  
and business continuity experts





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# Once Every 500 Years

**“500-year floods”** can have disastrous consequences for everyone involved. From homeowners who live near rising waters to businesses at risk of a shutdown, floods of this magnitude can have a devastating effect. Luckily, as the name implies, 500-year floods come around only once every 500 years. Still, they serve as stark reminders of a flood’s potential impact.

On the following pages, we trace a typical major flood event, the response from local public safety agencies and businesses and commentary from two OnSolve® emergency communications experts — one government, one commercial.

**The upshot:** When it comes to flood response plans, speed and accuracy matter most — and agencies and businesses can learn a lot from each other.

Whether it’s a breaching dam, overflowing river or surging coastal storm – all floods create hazards, displace people and restrict goods, services and commerce.





# DAY 1

## 7 INCHES IN 24 HOURS

The downpour starts early on a Sunday morning. By Monday morning, seven inches of rain have fallen across a densely populated region of a mid-western state. The wastewater treatment plant needs an auxiliary pump to contain the surge of water. Heavy rains force road closures throughout the area. The local emergency management agency sends out an alert, warning residents of road closures and flooded areas.

### REMEMBER...

Floods are seasonal. Tropical storms on the Gulf Coast tend to start in June and peak in September. Snow melt in the Ohio River Valley comes in early spring. Routine recurring flooding often follows – and that’s a predictable pattern.



## DAY 1

# TAKING ACTION

### Local businesses

- Focus on pinpointing the flood's location and monitoring risk
- Use a *risk intelligence* product, if they have it, to quickly gauge whether their employees and facilities are in the flood zone and face imminent danger
- Stay informed as the storm develops by monitoring automated weather warnings

“Once a year, dust off your flood response plan and evaluate your readiness and communications protocols and plans to have them up to date in the event something should occur.”

— Ann Pickren  
Chief Customer Officer, OnSolve

### Local agencies

- Use *predictive analysis* to forecast the potential level of impact based on historical events
- Perform a comparative analysis, looking at factors like the timing of the rain, special events planned for that time and impact on schools
- Create worst case scenarios to help determine what to do next

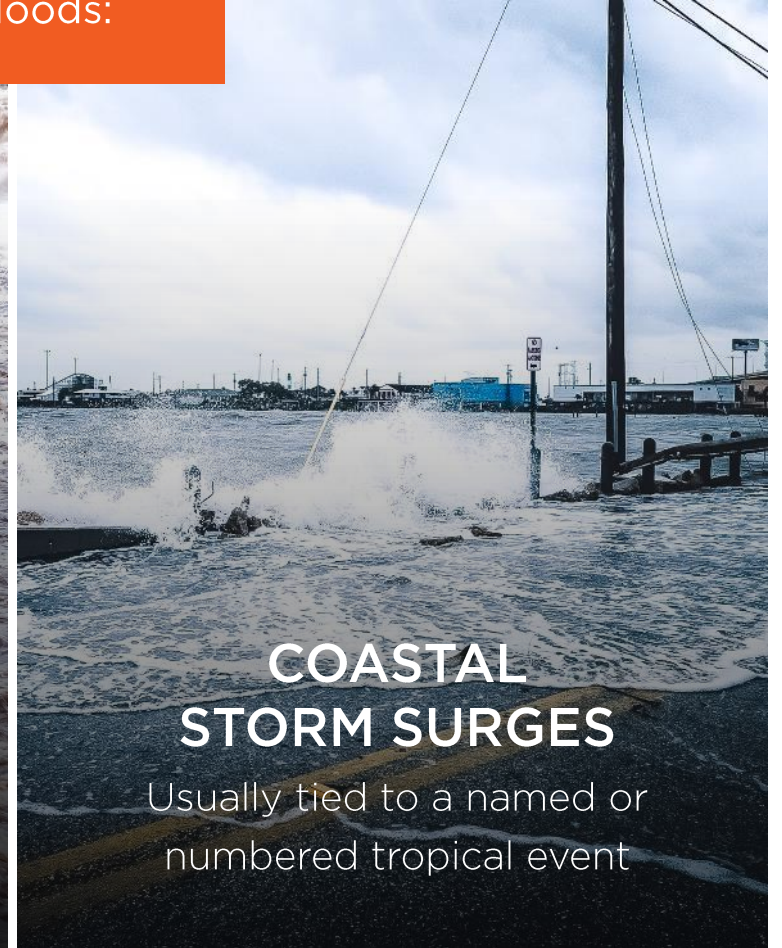
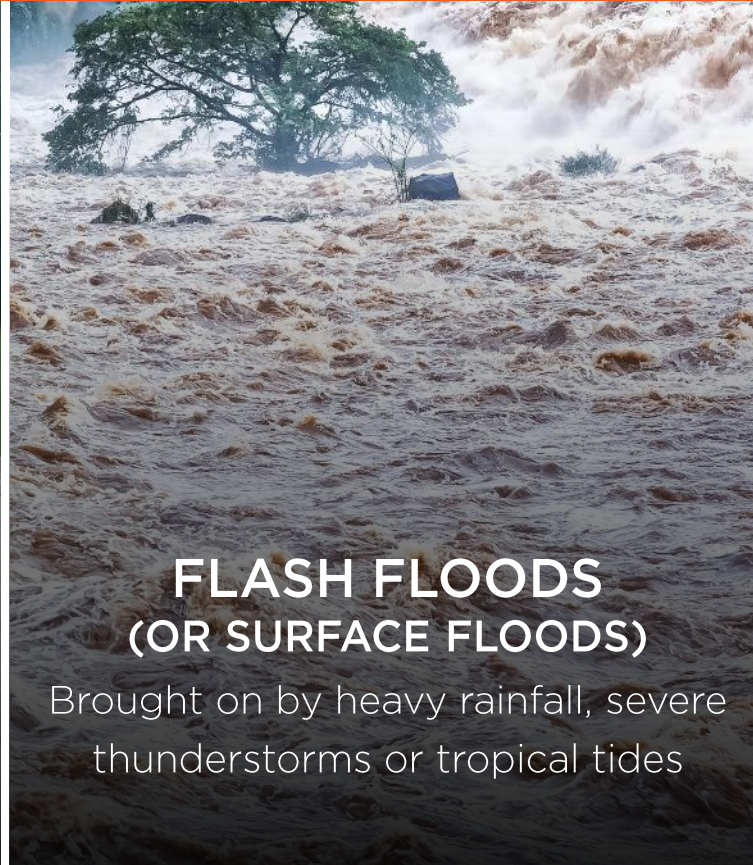
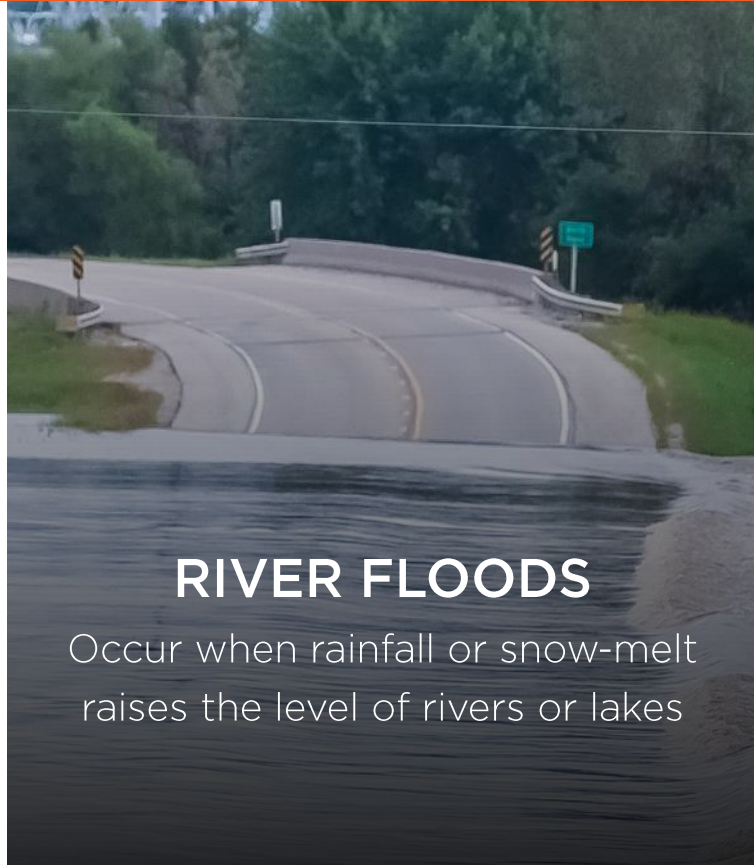
“Do some pre-planning, like checking your facility insurance to make sure you've got adequate coverage and check your communication tools to make sure you can communicate with staff.”

— Troy Harper  
Director, Government Strategy, OnSolve



# DID YOU KNOW?

Flooding doesn't fall into just one bucket. There are actually three types of floods:







# DAY 2

## THE FLOODGATES OPEN

On Monday night, more roads close due to possible bridge damage and overflowing rivers. Floodwaters begin to pass through the watershed and downstream areas face potential severe flooding. Floodgates are opened at two dams to control the flow of high waters. Emergency management sends out an alert warning residents and businesses of road closures and flooded areas.



Day 2

## TAKING ACTION



### Local businesses

- Work to ensure the safety of employees in the flood's path. Are any teams stuck in the business's building(s)? Have facilities or critical transportation venues been impacted? Should the facilities be closed or evacuated, given the potential impact?
- Monitor their *risk intelligence* product and communicate with local agencies

“The business point person needs to be part of the communication coming out of the local agency, so there's a direct line of communication that allows them to take action for their facility and the people in that facility.”

— Ann Pickren

Chief Customer Officer, OnSolve

### Local agencies

- Coordinate with managers of privately owned and managed dams to know if they should expect a breach or overflow and to learn the consequences further downstream
- Prepare to evacuate and alert the community. If they're fully prepared, they've taken care of the most critical piece — a *critical communications (or mass notification) product* and informing citizens how to use it

“We can pull information from data sets like 911 data, but those are only a portion of the community. The best data is when a citizen or business goes to an opt-in web portal and puts their own information in — and then checks it yearly.”

— Troy Harper

Director, Government Strategy, OnSolve



## “UNMET NEEDS”

Most commercial emergency preparedness plans instruct employees to cover electronics, lift everything off the floor and take home any personal items.

What happens when someone needs something different? Some of the most unusual examples happen during hurricanes. “Because it’s a low-pressure system,” said Troy Harper, “third-trimester early labor tends to go up in land-falling hurricane areas.” In fact, government checklists include making sure birthing centers anticipate an influx of births as a hurricane comes ashore. “It sounds bizarre, but it’s factual,” said Harper. Harper recommends a comprehensive evaluation, asking questions like “What do you need?” and “What can we provide for responders to best prepare them?”







DAY 3

## THE DAM BREAKS

Early Tuesday morning, the deluge takes out one power dam and severely damages another, forcing 20,000 people to evacuate. Two counties declare a local state of emergency. That evening, the state department of transportation tweets out to report highway closings. Later that night, the governor holds a press conference, sending out the National Guard to help after the dam failure and announcing an emergency appeal for federal assistance.



# TAKING ACTION

## Local businesses

### Large businesses

- Focus on protecting — and shutting down — facilities
- Check on locations and coordinate with utilities
- Communicate with employees and check on their wellness

### Smaller businesses

- May rely on support from local emergency management teams
- Ensure power and gas have been shut off
- Check that everything has been moved off the floor
- Communicate that employees must go home until notified it's safe to return

**“Community groups — it could be companies, faith-based organizations or just citizens deciding to serve as the block leader — are starting to come together to be their own community support. It's like building your own network to cover for you while you're waiting on government to deal with the infrastructure.”**

**— Ann Pickren**

Chief Customer Officer, OnSolve

## Local agencies

- Focus on sheltering, feeding and keeping people safe
- Work with utility departments to shut off services to protect the infrastructure and prevent additional incidents
- Keep tabs on rumors, dispelling them and putting out factual, timely information
- Communicate with those most impacted by the flood and initiate a plan for recovery

**“The last thing a government wants to do is fail in its response and recovery efforts. So its messaging has to be very definitive, timely and accurate.”**

**— Troy Harper**

Director, Government Strategy, OnSolve





# DAY 4

## FLOODING ENDS, CLEANUP BEGINS

Residents return to their homes, as conditions allow. Thousands of homes and businesses have sustained severe water damage, with hundreds more destroyed. **The bad news:** Damages are assessed at \$225,000,000.

**The good news:** No one was hurt and not a single life was lost.

Day 4

## TAKING ACTION

### Local agencies

- Perform a damage assessment, checking on power, water, roadways and services like grocery stores and pharmacies
- Determine if a business is critical to the reopening of an impacted area, and needs to be up and running before the public goes back
- Gather information about any facilities that had impact, especially those that store chemicals, which may have leaked into the drinking water or sent unsafe fumes into the air

“When transitioning from response to recovery, I would bring those critical businesses in, either by bus or helicopter, to do an assessment of their own property and determine the impact beyond what we know as cops, firefighters and emergency managers.”

— Troy Harper

Director, Government Strategy, OnSolve

### Local businesses

- Inspect facilities impacted by the storm to determine whether they can be declared “workable”
- Look to facilities managers to communicate with team members and executives
- Determine if they have the authority to issue an all-clear or if they need to wait for local government authorities to give permission to go back

“More communities and local agencies need to work together to establish an open portal for businesses to get information — and not wait until government pushes it out. That way they can see what everybody’s posting, like gas stations that are open and cash machines that are still functioning.”

— Ann Pickren

Chief Customer Officer, OnSolve





# Critical Event Management from Onsolve

The OnSolve® Platform for Critical Event Management helps organizations of any size respond and react to a crisis faster and more effectively. The Platform consists of three elements:

- 1 **Risk Intelligence** — Human-validated AI works 24/7 to pinpoint and promote the most relevant information for organizations, residents and employees to act on — in real time.
- 2 **Critical Communications** — Response teams can send targeted, time-sensitive notifications to every person they need to reach during and after an emergency.
- 3 **Incident Management** — Using a mobile-first platform, response teams can accelerate and simplify crisis response with real-time visibility and orchestrated coordination.

Through a modern, integrated platform, organizations can leverage faster response times, shorter recovery times and consistent actions to help mitigate risk, strengthen resilience and better protect people, places and property.



# LESSONS LEARNED

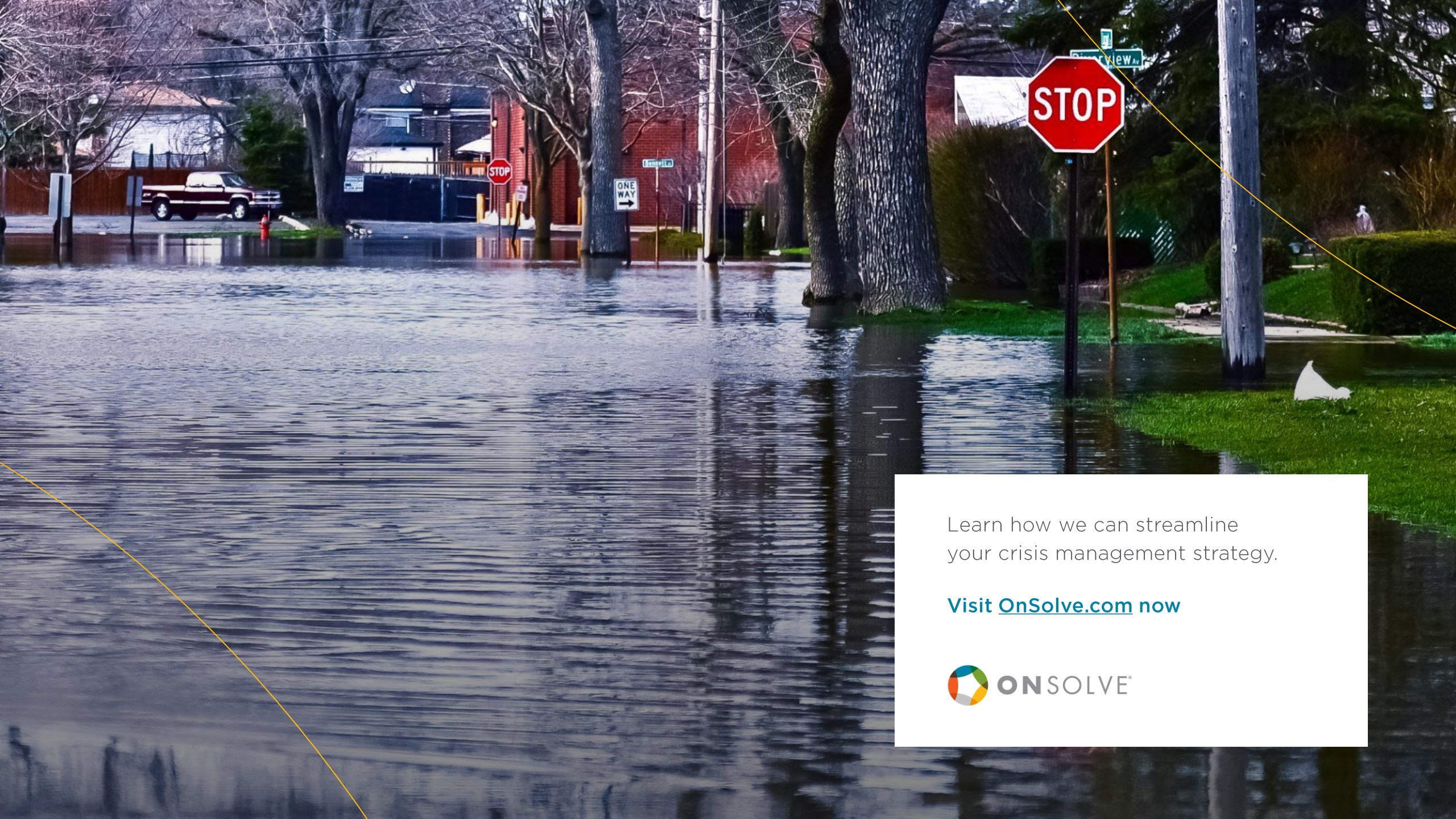
If there's one thing to take away from our conversation with Troy Harper and Ann Pickren, it's this: government agencies and commercial enterprises need to work together. The key: Alignment on goals and priorities, open communication and strong relationships. Good advice, right?

Start by identifying the goals and priorities of your organization: Do they align to the business outcomes you want or the community obligations you need to achieve? List them out; for example: 1) Enhance duty of care 2) Avoid revenue loss and 3) Prevent building/property damage.

**To further illustrate, here are 8 recommended action items for driving the desired business outcomes in the above example:**

- 1 Once a year, evaluate if you have the right people, processes and technology in place to anticipate, respond to and adapt to any situation. Twice a year, review your emergency response or continuity plans, test your communications and fill any gaps.
- 2 Join forces with local agencies to become a part of the planning process. Large organizations should encourage employees to register to receive alerts from local agencies.
- 3 Prioritize ongoing communication between local officials and businesses; even large corporations with their own fire or security department want to ensure they receive official government evacuation warnings.
- 4 Improve coordination between local public safety agencies and business/industry associations (such as the chamber of commerce or economic development office) to reach local businesses more effectively.
- 5 Seek partnerships between agencies and businesses; from a government standpoint, sourcing of information about a current situation is just as important as the ability to plan, respond and recover.
- 6 Raise situational awareness by monitoring the social media feeds of local news outlets; organizations in flood-prone areas can easily keep tabs on storm progression and/or worsening.
- 7 Leverage FEMA's Ready Business Program, which provides disaster response and recovery guidance and training to agencies and commercial industries nationwide (a great resource for local emergency and facilities managers, in particular).
- 8 Learn from what went wrong — and right — by reviewing the after-action report, and identify areas for improvement.





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your crisis management strategy.

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