

# Get ahead of summer THM risk

## Why spring THM monitoring is your most powerful tool

### Spring sets the precursor baseline

Spring runoff mobilizes large quantities of natural organic matter (NOM) from watersheds into source waters. This seasonal influx raises dissolved organic carbon (DOC), introduces more reactive functional groups, and shifts molecular weight distributions toward THM-forming species.

Critically, this organic load does not disappear quickly. Reservoirs, sediments, and distribution system biofilms act as temporary storage zones — meaning spring establishes a persistent precursor inventory that carries directly into summer.

### Operational decisions in spring lock in summer risk

Utilities respond to spring conditions by increasing chlorine dosing, modifying contact times, and adjusting residual maintenance. These settings are often carried forward as baseline positions into early summer — creating a reaction environment already primed for THM formation as temperatures rise.

### Temperature and Hydraulic Effects

While water temperatures increase in reservoirs and throughout the distribution system, reaction kinetics accelerate, increasing the potential for THM formation in downstream portions of the network. High runoff conditions can alter hydraulic residence time and flow patterns. Storage tank cycling may shift, flow velocities may rise in some zones while stagnation develops in others, and stratification can occur in reservoirs and tanks, all of which influence where and when THMs form within the distribution system.



### Early signals to watch for

Subtle spring indicators often precede summer exceedances:

- Slight increases in finished water THMs despite cool temperatures
- Rising distribution system THMs without corresponding plant increases
- Increased chlorine demand or faster residual decay
- Elevated DOC with changing UV254 or SUVA signatures.

# YSI THM 1000 Selective VOC Analyzer

## Built for proactive monitoring

### Purpose-built for drinking water labs

The YSI THM 1000 is a dedicated trihalomethane analyzer designed specifically for drinking water testing. Unlike general-purpose GC systems, the THM 1000 is optimized for the speed, simplicity, and ppb accuracy that municipal and utility labs demand.

### Nitrogen carrier gas compatible

As helium supply becomes increasingly constrained and costly, the THM 1000 is fully validated to operate on nitrogen carrier gas, delivering equivalent analytical performance at significantly lower and more predictable operating costs.

### Fast results to support proactive decisions

Spring monitoring requires turnaround that keeps pace with treatment decisions. The THM 1000 delivers rapid results so your team can act on early warning signals before conditions escalate.

### Recommended spring monitoring strategy

To leverage spring THM behavior as a compliance leading indicator, we recommend:

- Begin systematic THM sampling at the start of snowmelt season
- Monitor both treatment plant effluent and distal distribution points
- Track chlorine demand trends alongside THM formation.



### Contact us

To learn how the YSI THM 1000 can support your spring monitoring program, or to request more information, contact your Xylem sales representative or visit [ysi.com/thm1000](https://ysi.com/thm1000).

YSI Incorporated  
1725 Brannum Lane  
Yellow Springs, OH 45387

Tel +1 937.767.7241  
[info@ysi.com](mailto:info@ysi.com)  
[ysi.com](https://ysi.com)



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[ysi.com/thm1000](https://ysi.com/thm1000)

