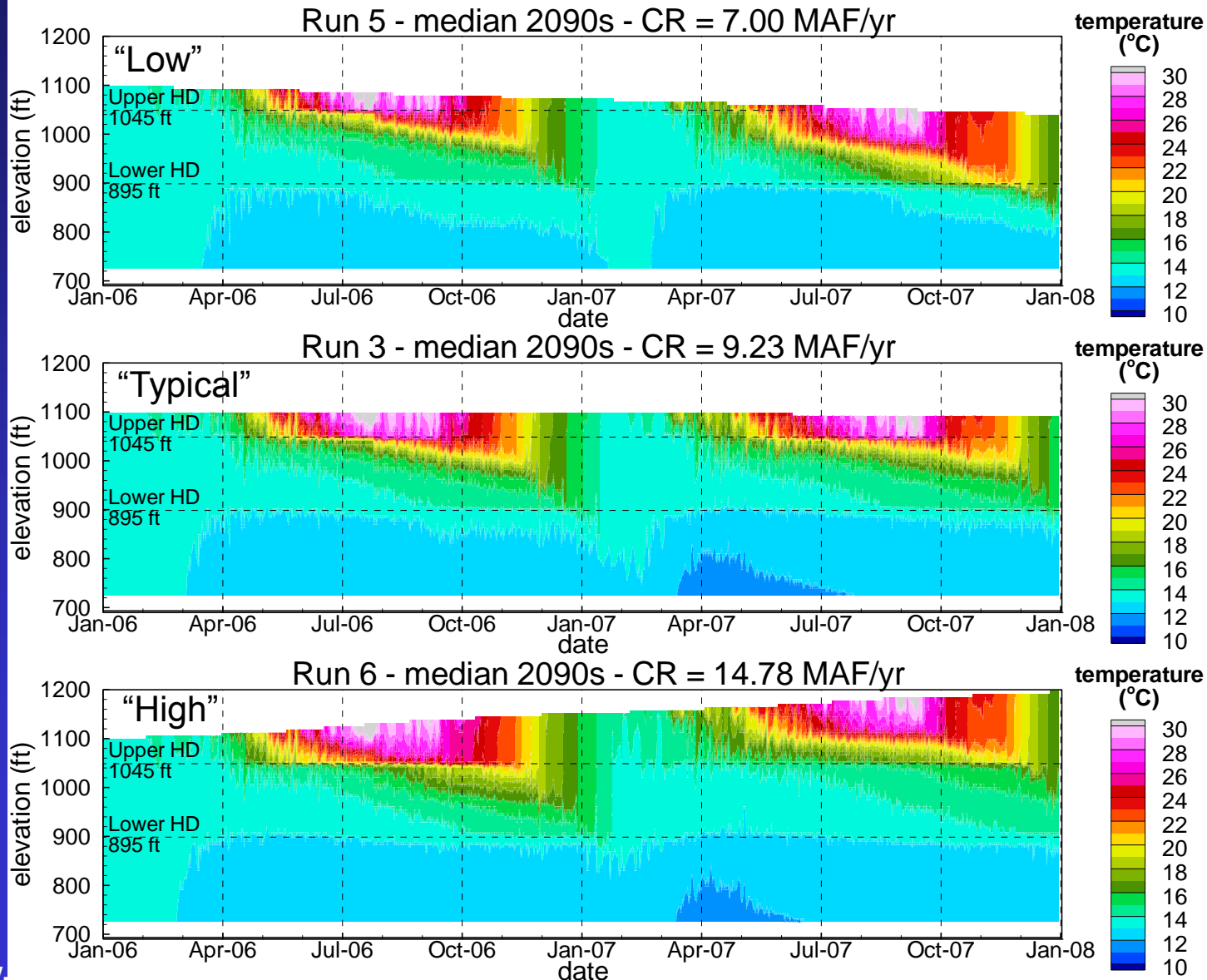


# Results

- “Hoover Dam effect”
  - Withdrawals from epilimnion
- WSEL
  - SNWA Intake #3
- Algae (Chlorophyll a)

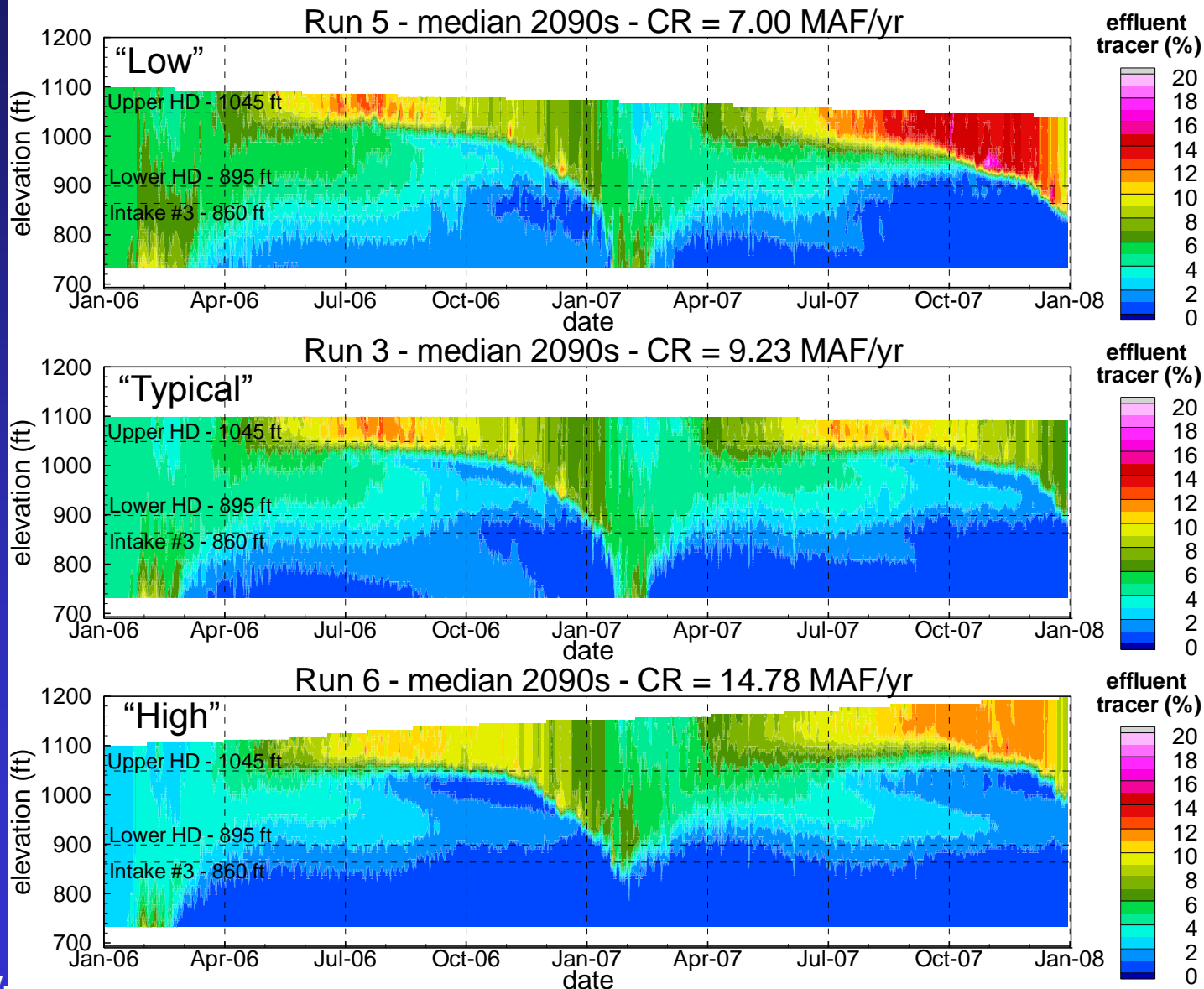
# “Hoover Dam Effect”

## Comparison of Temperature Profiles at Hoover Dam Outlets



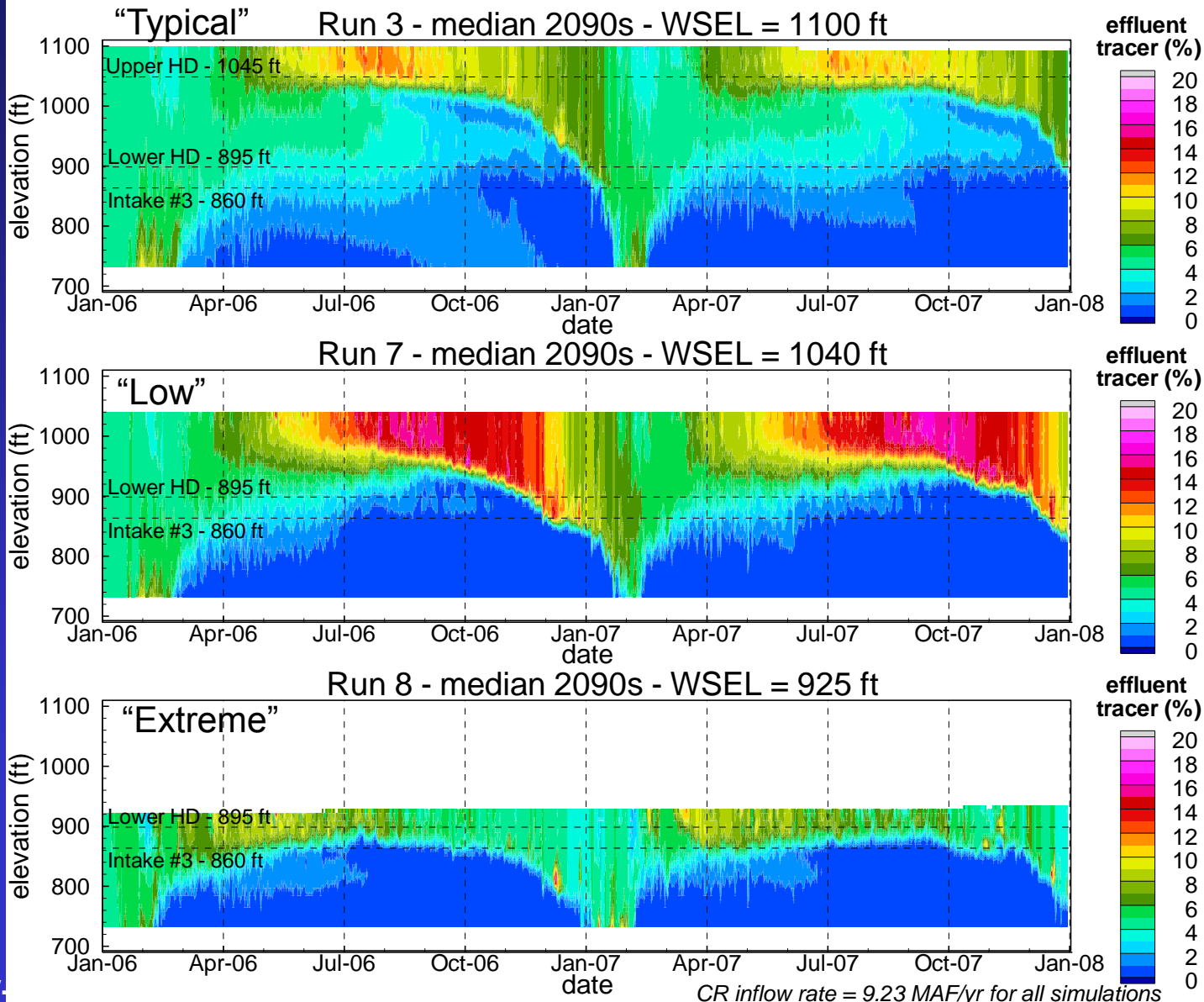
# “Hoover Dam Effect”

## Comparison of Effluent Tracer Profiles at Station CR346.4

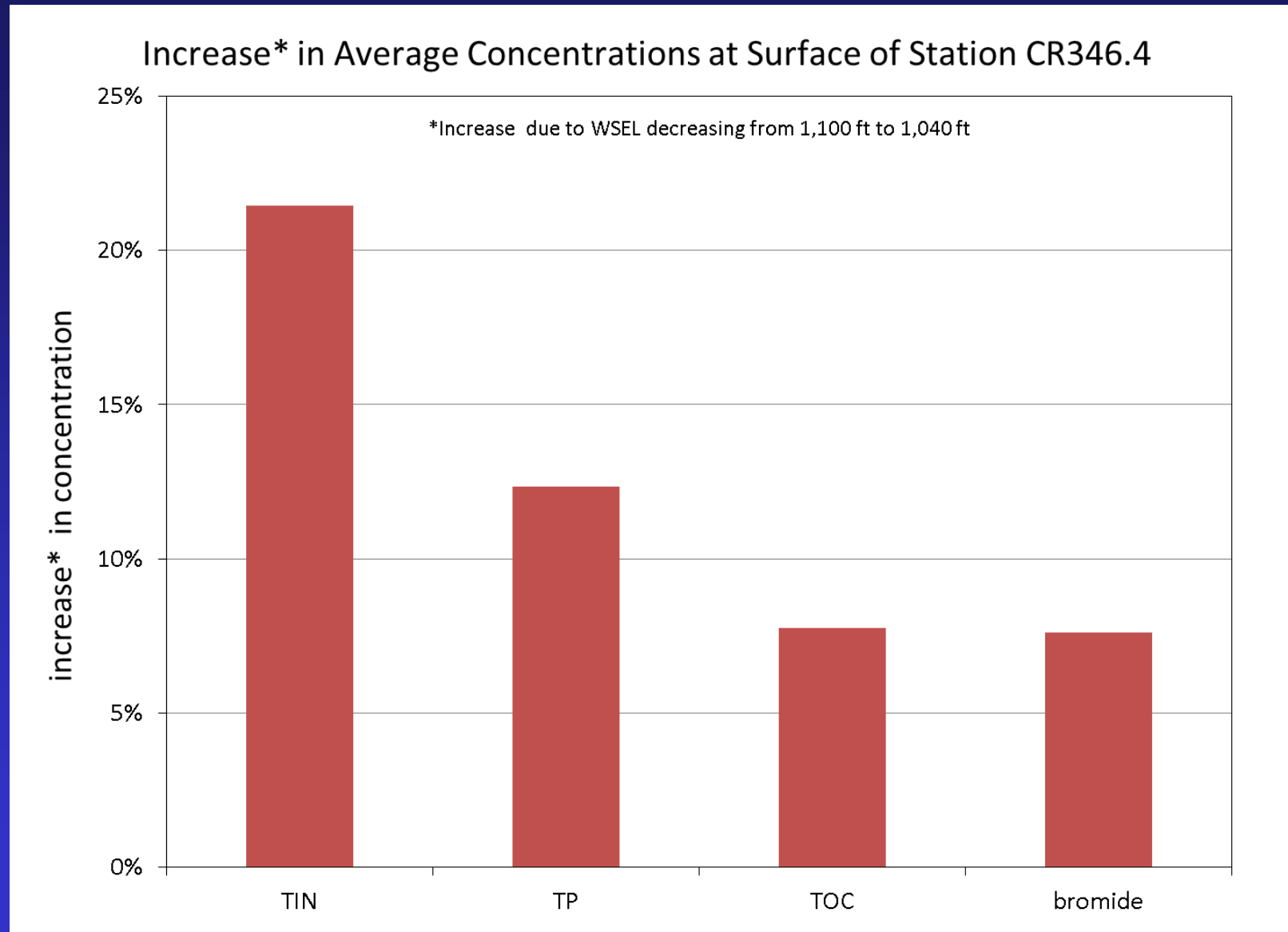


# WSEL ( and Hoover Dam Effect )

## Comparison of Effluent Tracer Profiles at Station CR346.4

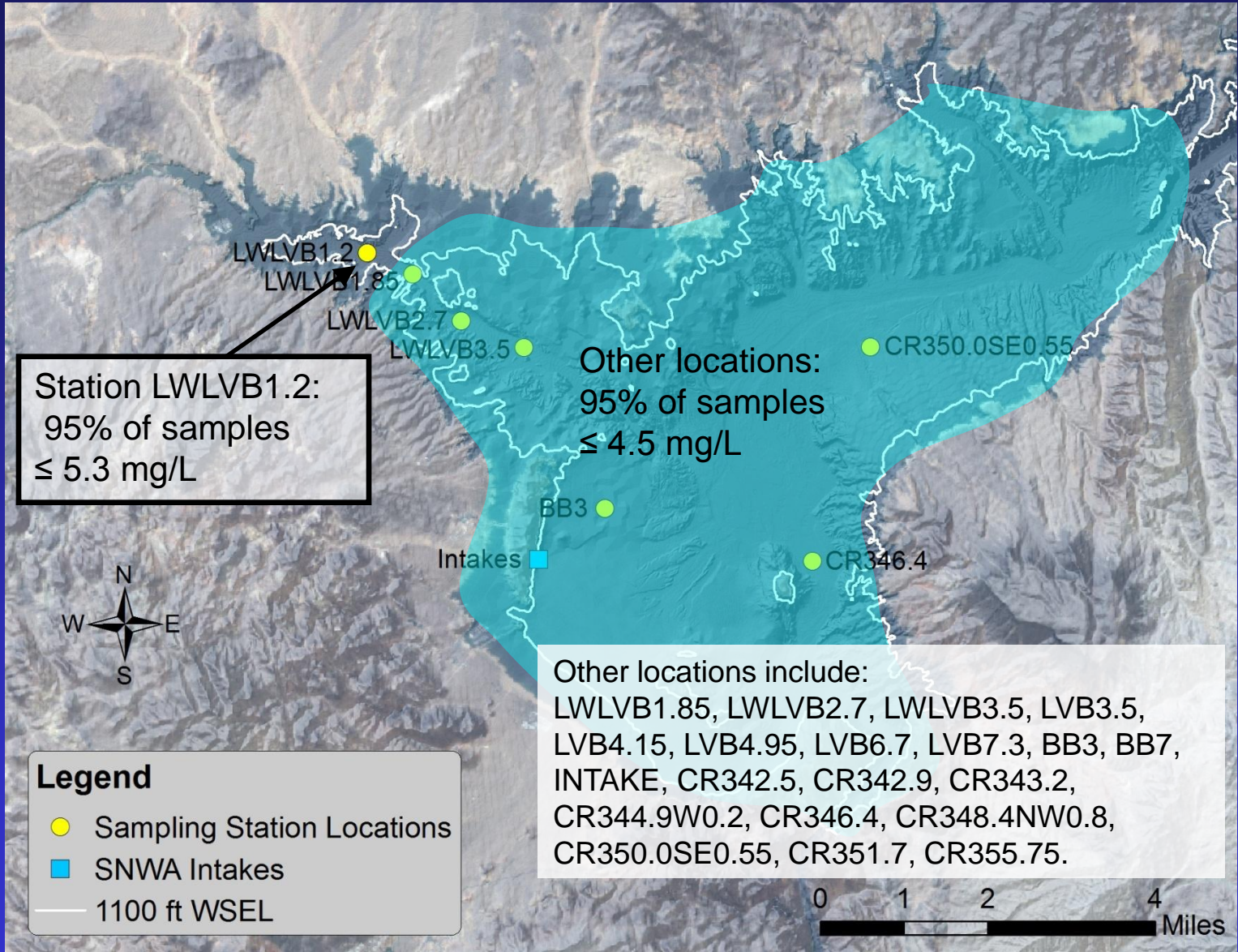


# WSEL ( and Hoover Dam Effect )

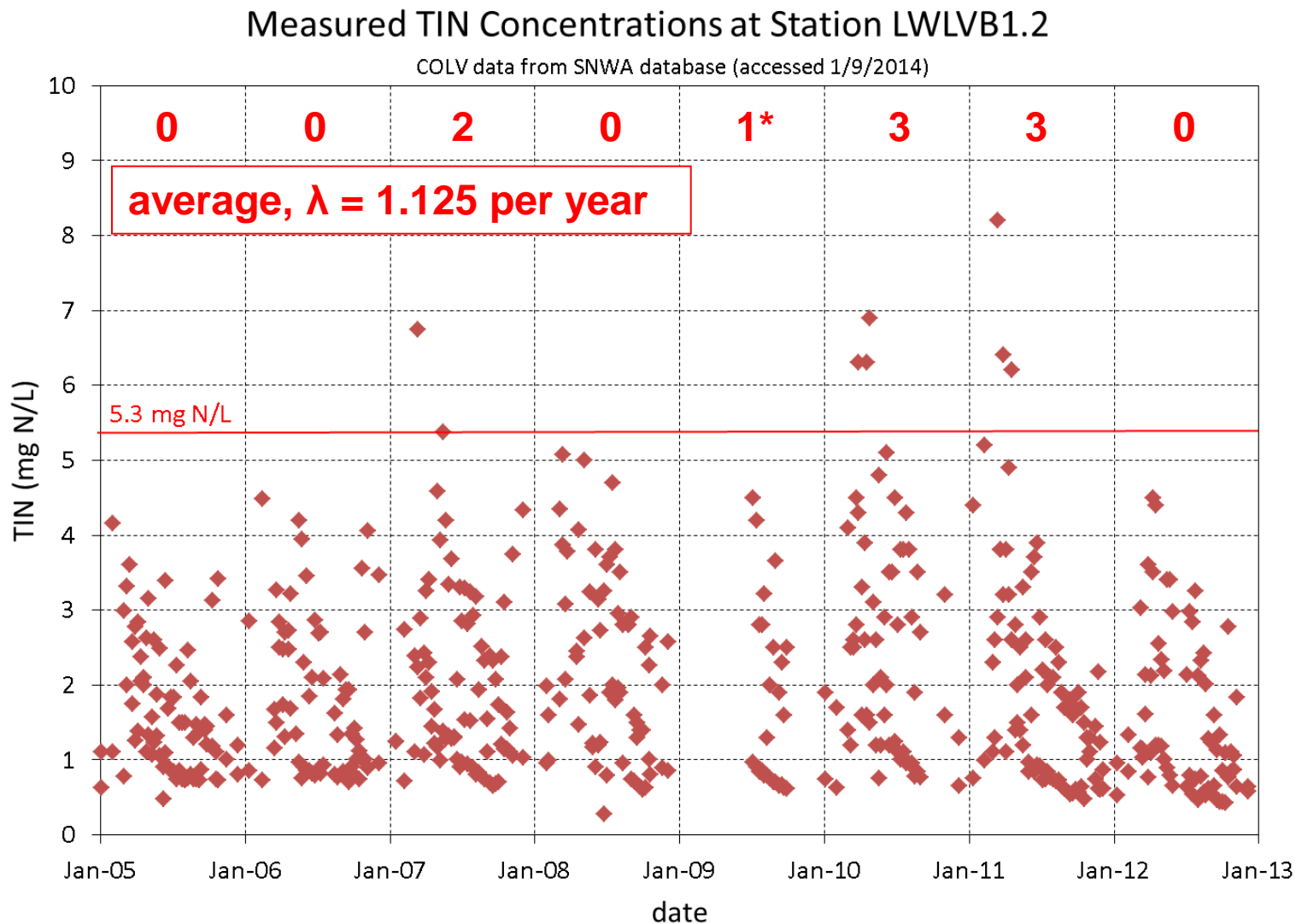




# Boulder Basin TIN WQS

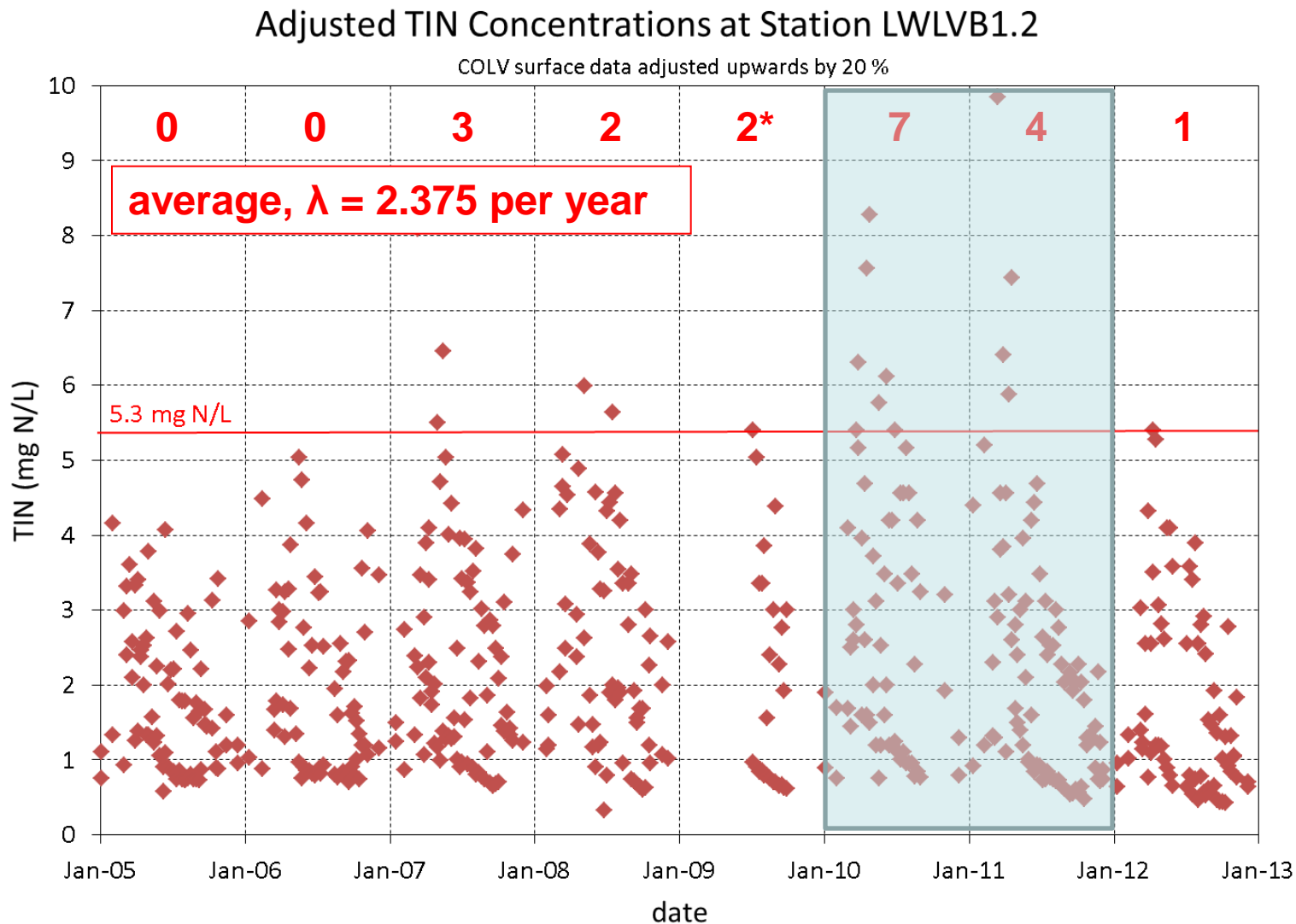


# WSEL ( and Hoover Dam Effect )



\* Missing data in 2009. One digression is from results in *Lake Mead and Las Vegas Wash 2009 Annual Report*

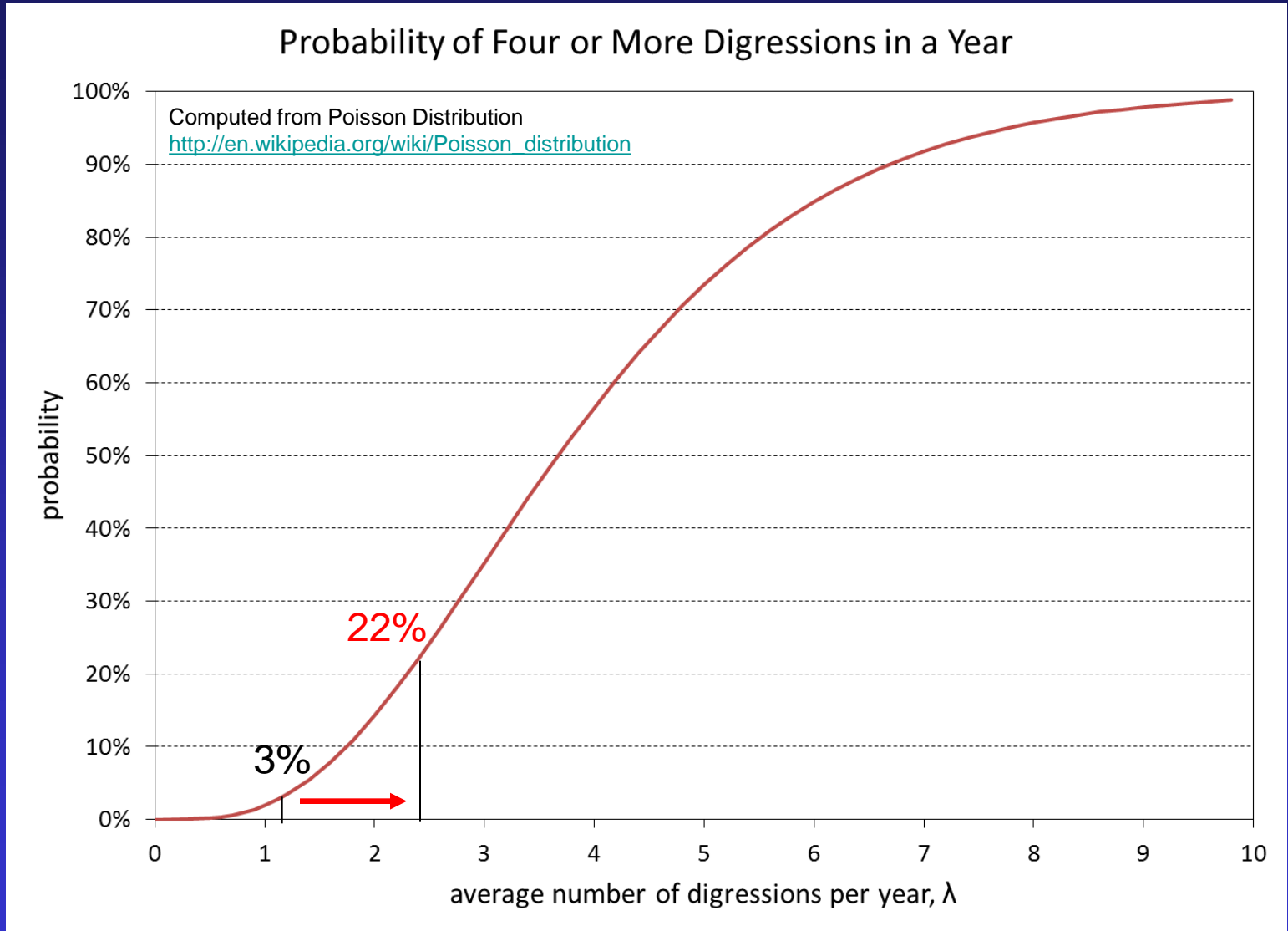
# WSEL ( and Hoover Dam Effect )



\* Missing data in 2009. Includes one digression from results in *Lake Mead and Las Vegas Wash 2009 Annual Report*



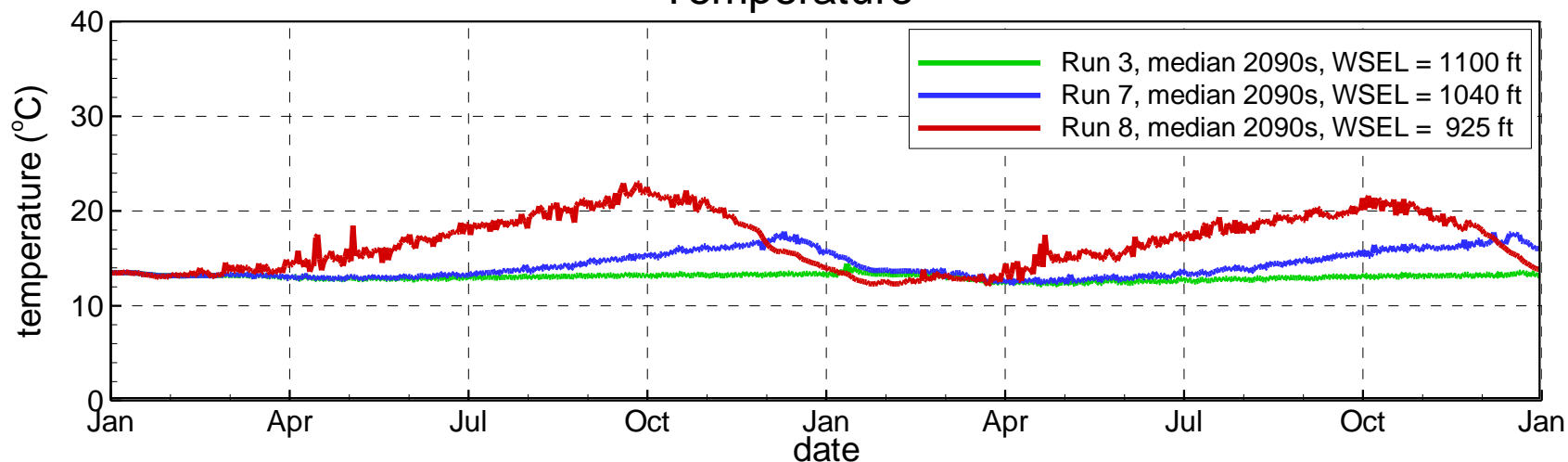
# WSEL ( and Hoover Dam Effect )



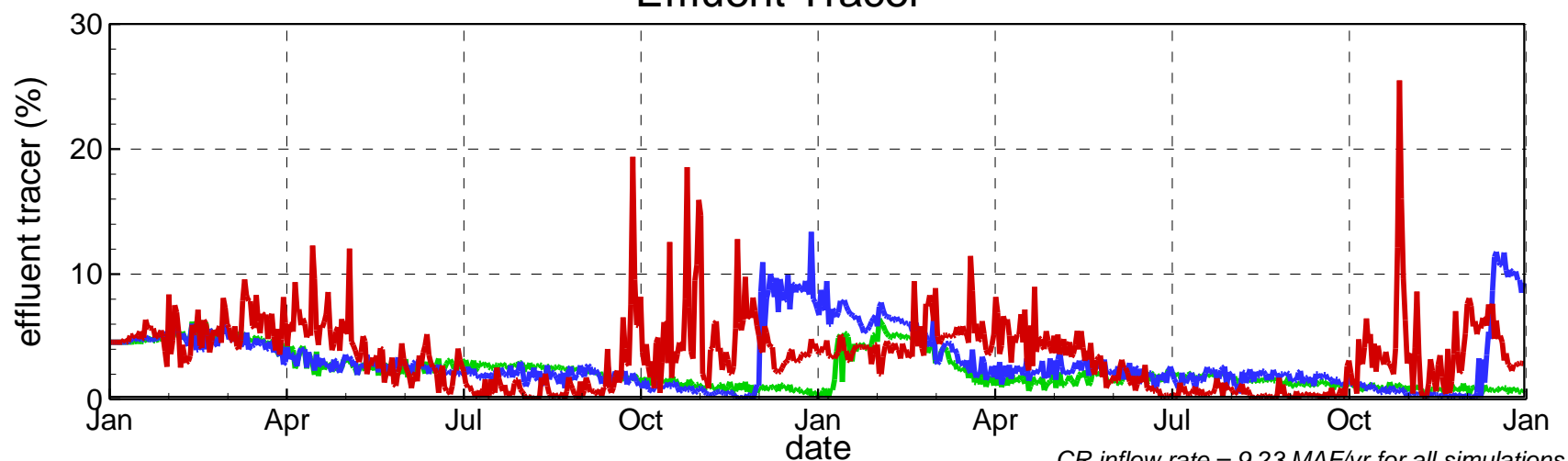
# SNWA Intake #3

## Temperature and Effluent Tracer at SNWA Intake #3

### Temperature



### Effluent Tracer

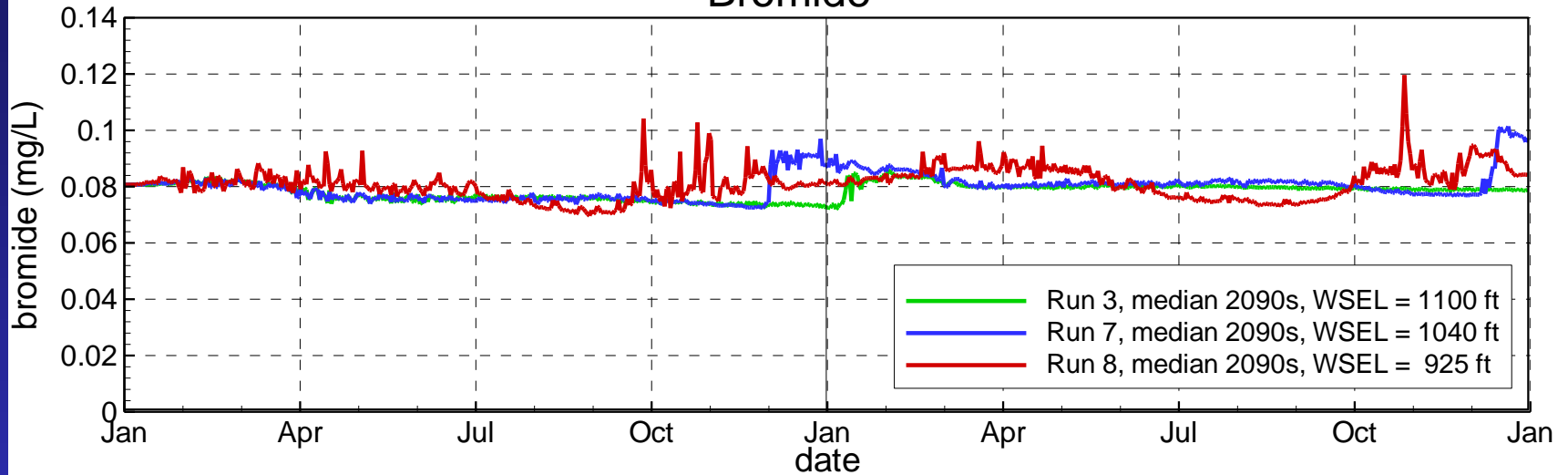


CR inflow rate = 9.23 MAF/yr for all simulations

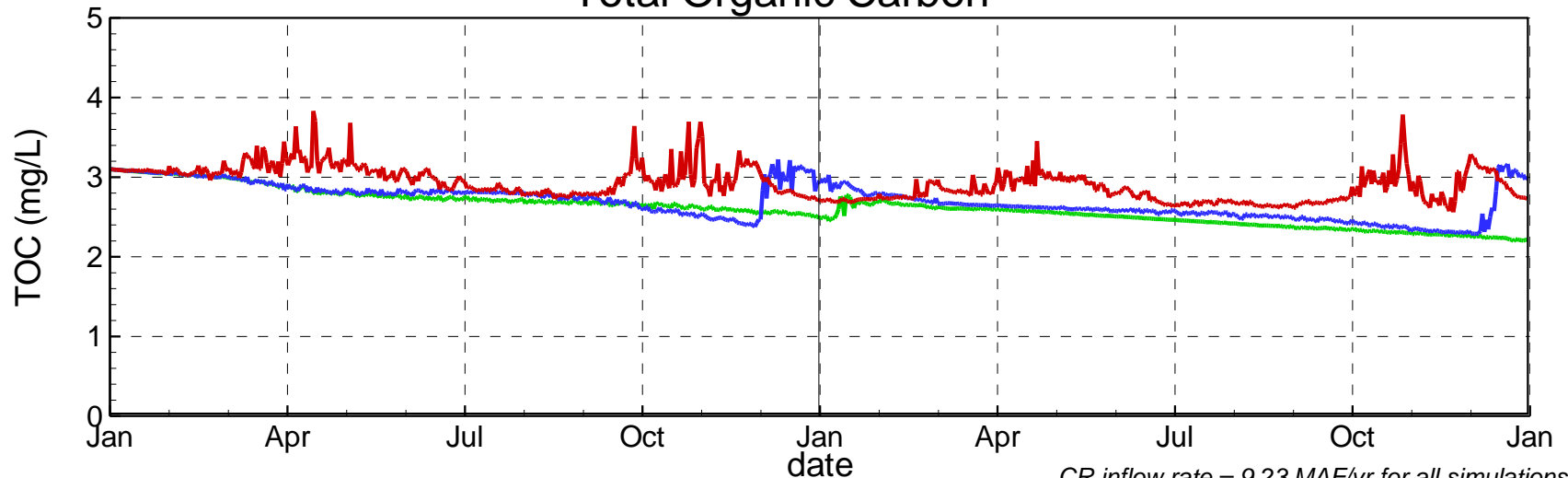
# SNWA Intake #3

## Bromide and TOC Concentrations at SNWA Intake #3

### Bromide



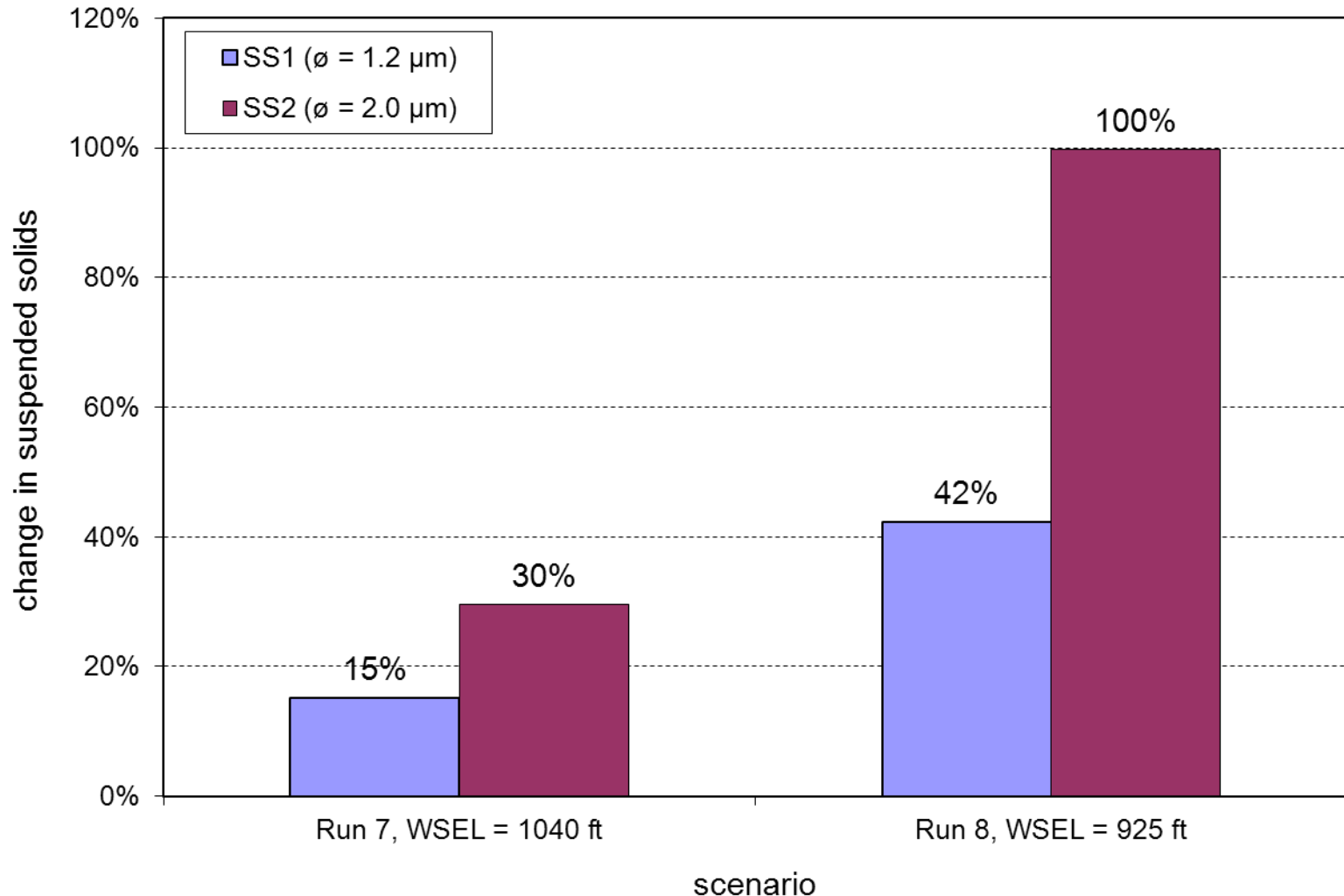
### Total Organic Carbon



CR inflow rate = 9.23 MAF/yr for all simulations

# SNWA Intake #3

Change<sup>1</sup> in Average<sup>2</sup> Suspended Solids Concentrations at SNWA Intake #3

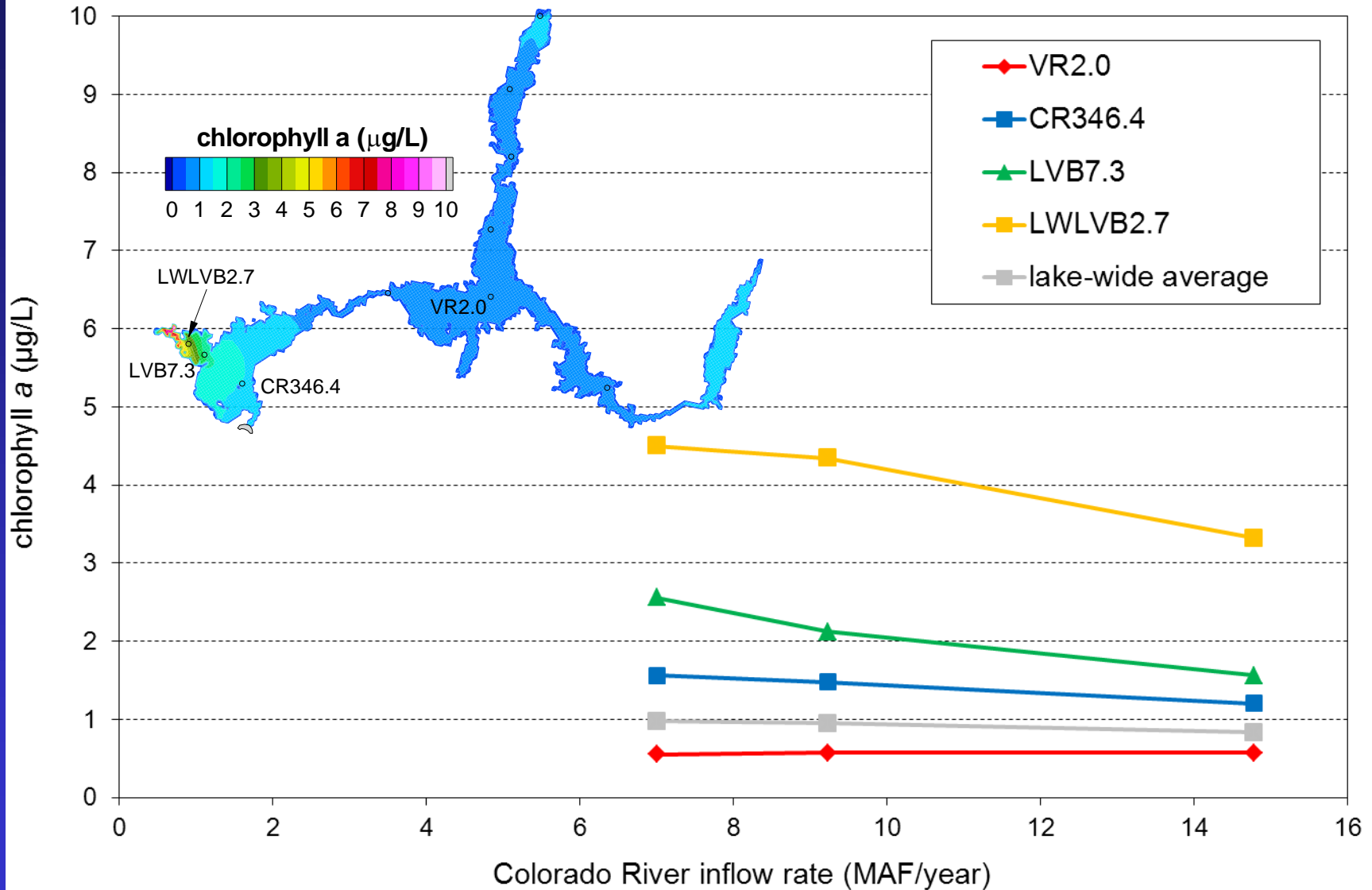


1. Change is percent change in concentration relative to Run 3, WSEL = 1100 ft.
2. Average is annual average for second simulation year.
3. CR inflow rate = 9.23 MAF/yr for all simulations.

# Algae ( Chlorophyll a )

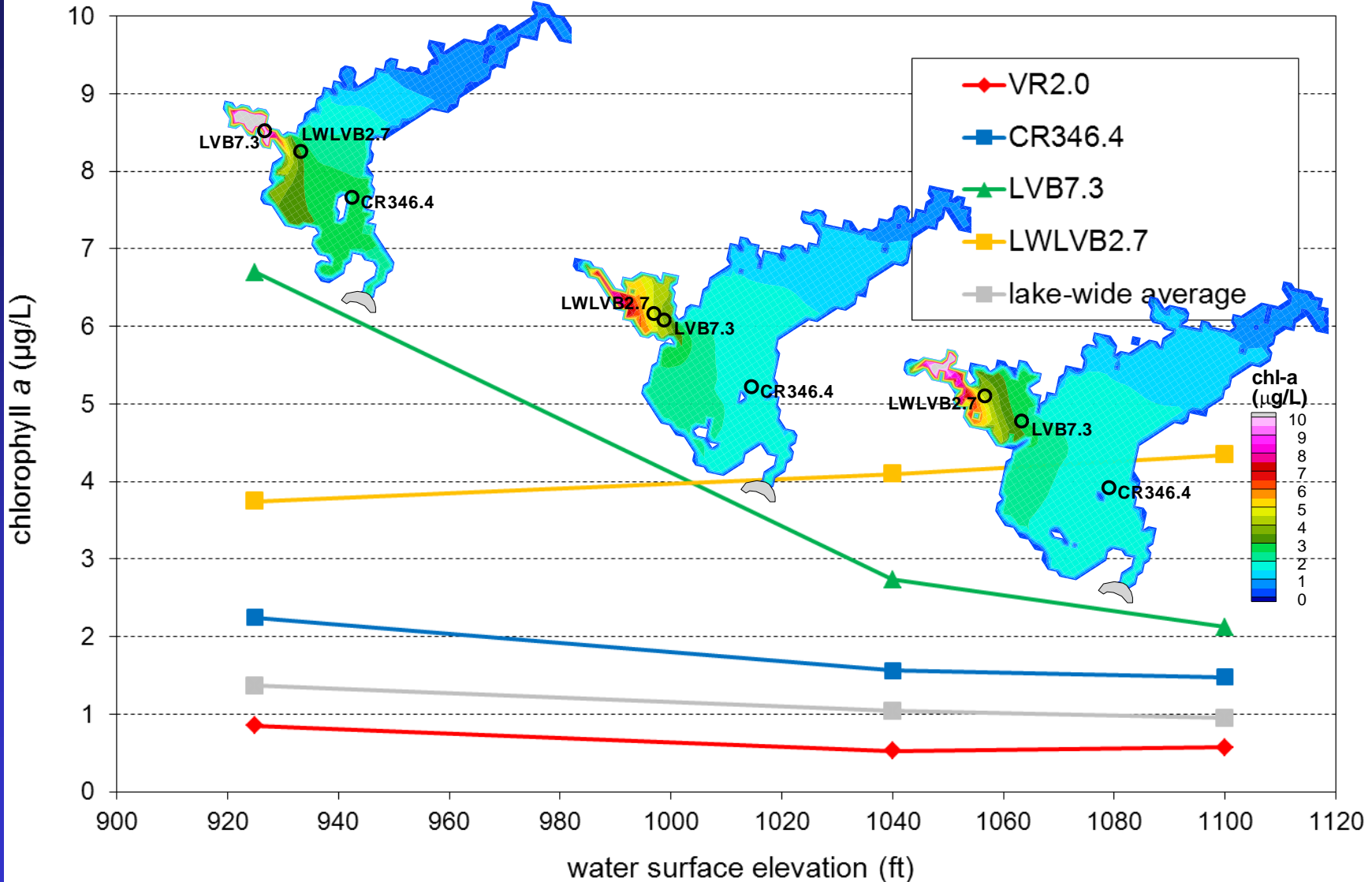


# Annual Average Chlorophyll a Top 5-m Average versus Colorado River Inflow Rate



*Initial WSEL = 1,100 ft for all simulations.  
Values are for the second simulation year.*

# Annual Average Chlorophyll a Top 5-m Average versus Water Surface Elevation



CR inflow rate = 9.23 MAF/yr for all simulations.  
 Values are for the second simulation year.

# Conclusions

## ■ Hoover Dam effect

- Withdrawals from epilimnion
- TIN at Station LWLVB1.2

## ■ Lower WSELs

- Higher suspended-solids concentrations
- Higher water temperatures, bromide, and TOC concentrations at SNWA Intake #3

## ■ Chlorophyll a Concentrations increase due to

- Lower WSEL
- Lower Colorado River inflow rate

## ■ These changes could occur in the near future!

# Acknowledgements

- U.S. Bureau of Reclamation
- Southern Nevada Water Authority
- Clean Water Coalition
  - City of Las Vegas
  - City of Henderson
  - City of North Las Vegas
  - Clark County Water Reclamation District

# Questions

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