

GateOps[™] in Contrail[®]

Decision Support for Dam and Reservoir Water Inflow/Outflow Operations

IE Lake Levels (300) ** Cur	F Discharge Calcs (1 Hr) 000 ** Discharge Variance (1 Hr) 000 rent Adjusted Stage (300) I I I	-6931 cfs ^{8 minutes ago} Nonar	me GateOps
131.300 131.200 131.100 131.000 Mar 29, 2016 16:00:00 Mar 30, 20 00:00:00	Dam) 16 Mar 30, 2016 → 06. Hours t	name GateOps	Farget (05. Hours to 16.4 hrs 2 minutes ago
		13.1 hrs 2 minutes ago	

FEATURES

- Automated real time calculations and analytics using real-time data
- Easy to understand visual graphics and custom real-time dashboards allow for quick data exploration and targeted decision-making
- Event-based alerts enable operators to focus on the right information at the right time
- Accelerates planning and decisionmaking abilities
- Supports historical analysis, prediction, forecasting, and optimization
- 24/7 web-based mobile and desktop access for authorized users

Automated Guidance for Gate Operating Procedures

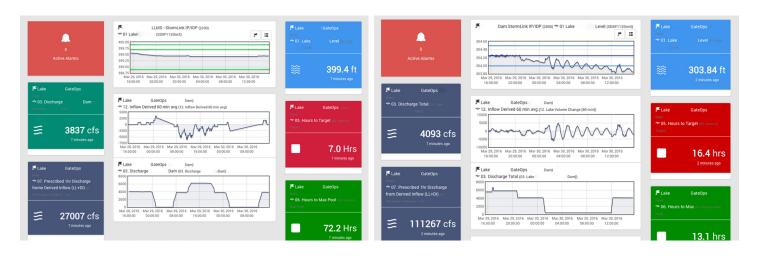
GateOps is a set of automated management tools in OneRain's Contrail hydrometeorologic management software that provides real time guidance for operating a reservoir through a rainfall or inflow event based upon the standard operating procedures for a reservoir or dam.

The goal of operations during a rainfall or high flow event is to properly manage the event from beginning to end without jeopardizing the integrity of the dam structure and without adversely impacting life or property downstream. The event is not over until the reservoir is back to nominal pool elevation.

GateOps automatically makes calculations and analysis based on **real time** rainfall, streamflow, stage and water level sensor data along with other variable formulas, and presents recommended minimum and maximum outflow rates and prescribed discharge adjustments to help operators effectively manage the event and eventually return the reservoir to nominal pool elevations.

GateOps[™] Calculations and Graphical Displays

With real-time processes in GateOps, operators are guided to take appropriate actions and follow guidelines and procedures. GateOps eliminates manual calculation and possible process errors.



C Reload

Real-time data management and decision support

Customized real-time dashboards show actionable decisionmaking data when monitoring conditions and indicators that impact reservoir control and gate operating procedures.





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Experts measuring rainfall and its consequences[™]

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1 Hr Period of Calculation

