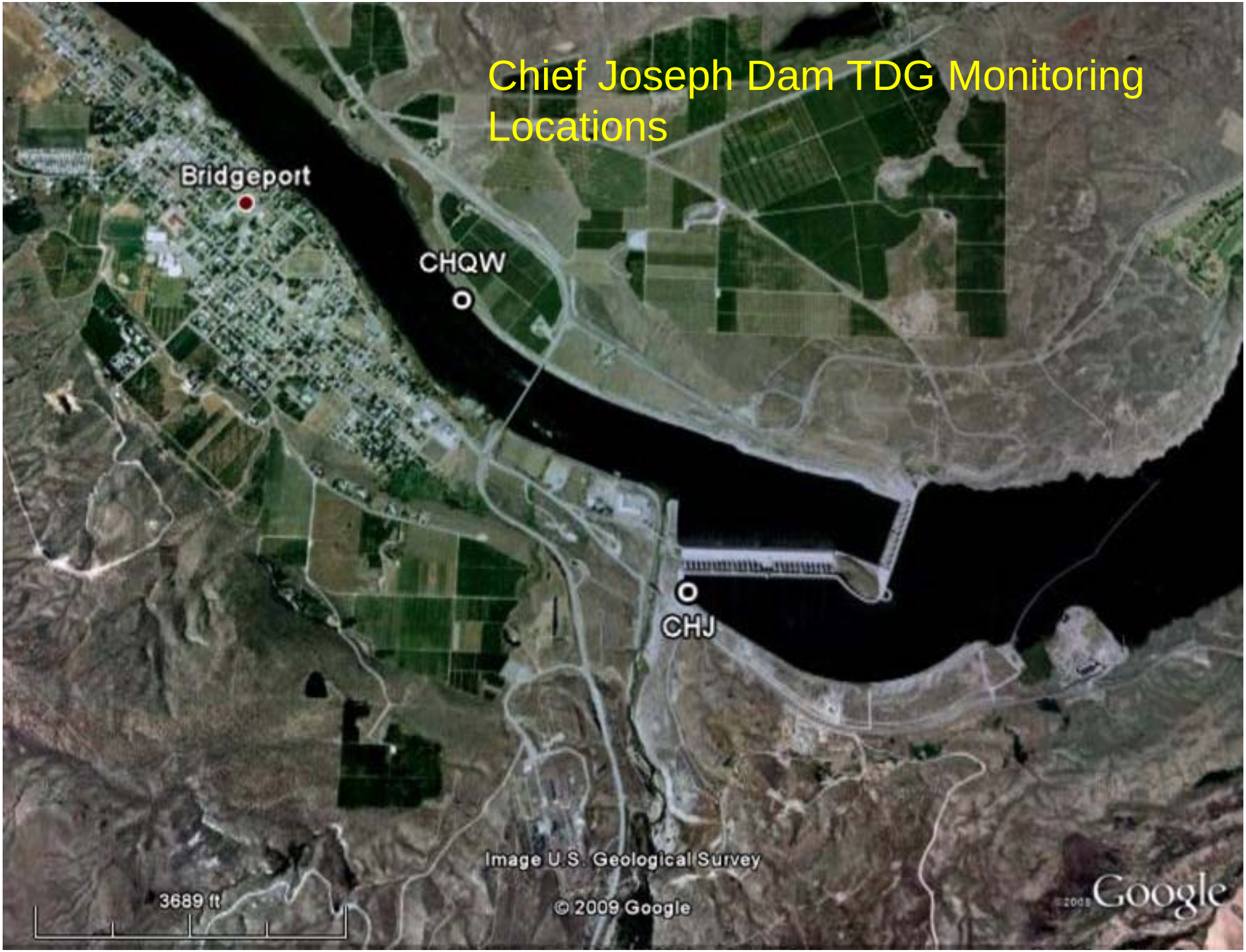
Upper Columbia Basin TDG Monitoring Locations

US Army Corps of Engineers, Seattle District
Total Dissolved Gas Monitoring System
2011

Chief Joseph Dam TDG Monitoring Locations



Albeni Falls Dam TDG Monitoring Locations

ALQI site damaged during high flows.

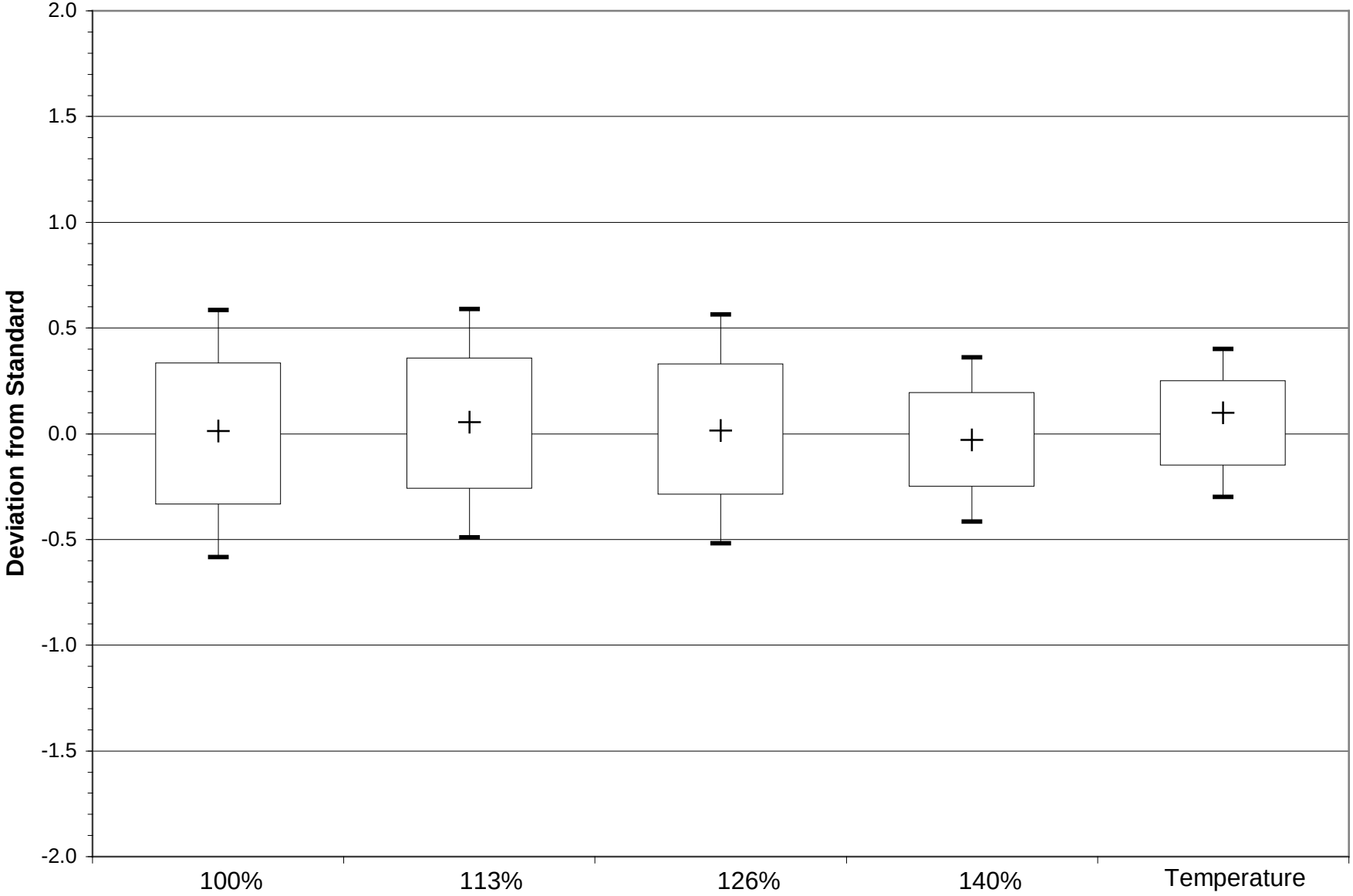
Libby Dam TDG Monitoring Location

05.03.2011

05.03.2011

05.03.2011

USACE-NWS 2011 Calibration Summary Box Plots

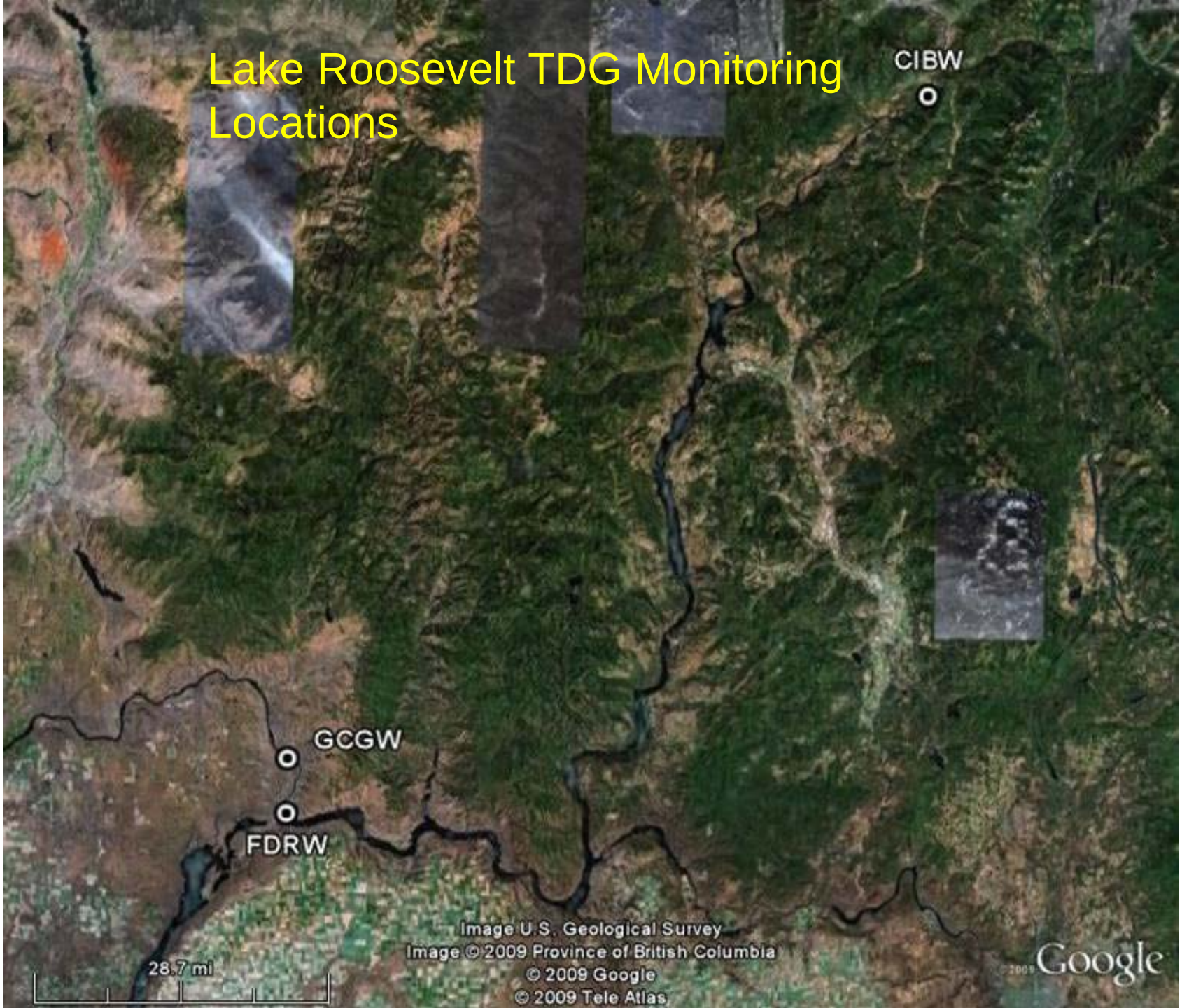


USACE-NWS 2011 Calibration Summaries

	Temperature (ºC)	TDG %Saturation			
		100%	113%	126%	140%
Mean	0.06	-0.01	0.04	0.03	-0.03
Median	0.10	0.01	0.06	0.01	-0.03
Standard Deviation	0.07	0.12	0.11	0.11	0.11
Variance	0.00	0.01	0.01	0.01	0.01
Minimum	-0.10	-0.34	-0.34	-0.34	-0.34
Maximum	0.20	0.21	0.30	0.30	0.30
n	69	69	65	69	69

US Bureau of Reclamation Total Dissolved Gas Fixed Monitoring System 2011

Lake Roosevelt TDG Monitoring Locations



International Boundary (CIBW) TDG Monitor

Established:	1984
Dates in Operation:	Year round
Calibration Frequency:	Bi-weekly (Mar-Oct) Monthly (Oct-Mar)

Grand Coulee Dam TDG Monitoring Locations

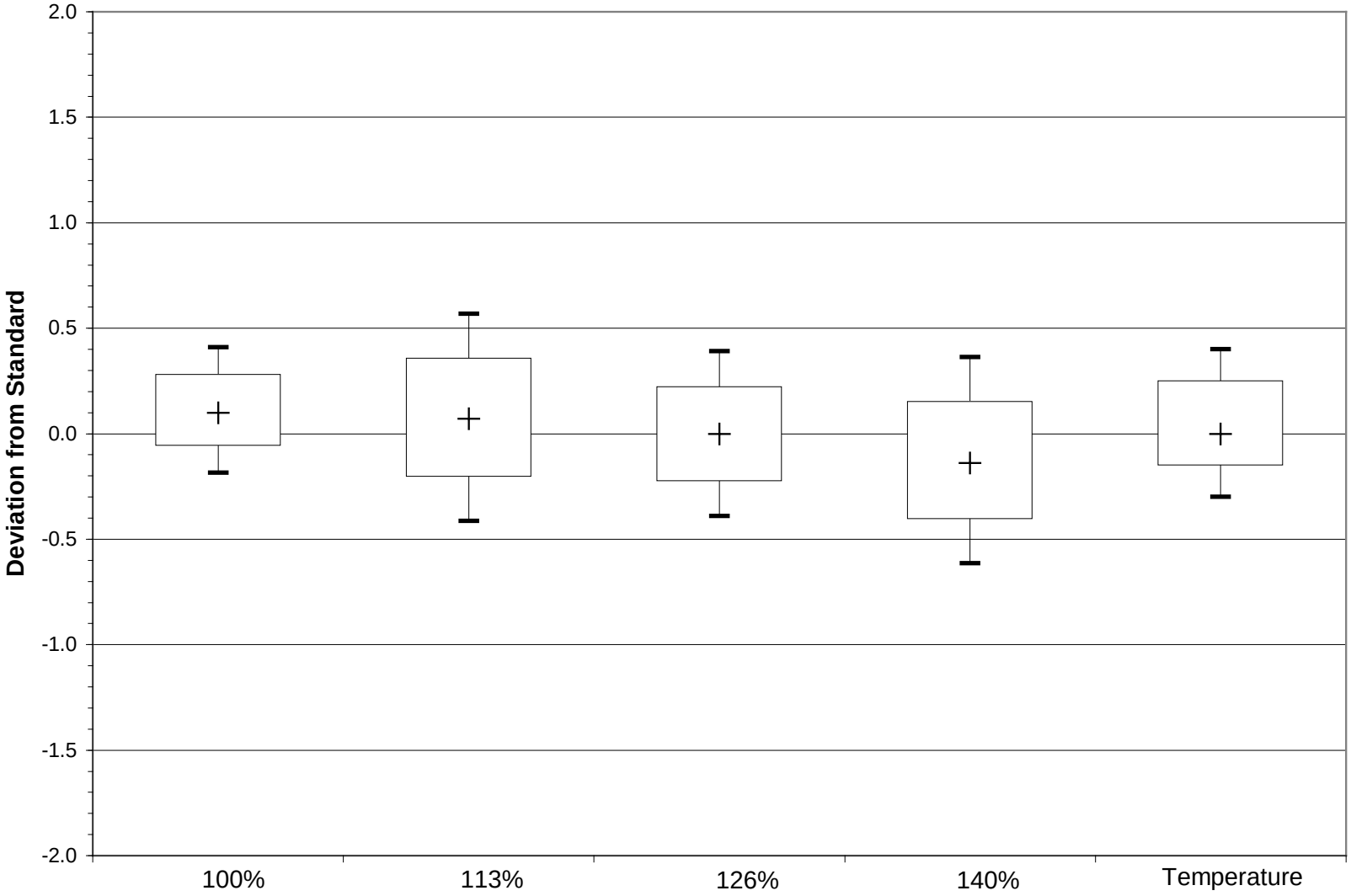
05.04.2011

05.25.2011

Hungry Horse Dam TDG Monitoring Location

Established: 1998
Dates in Operation: March - September
Calibration Frequency: Bi-weekly

USBR Calibration Summary Box Plots



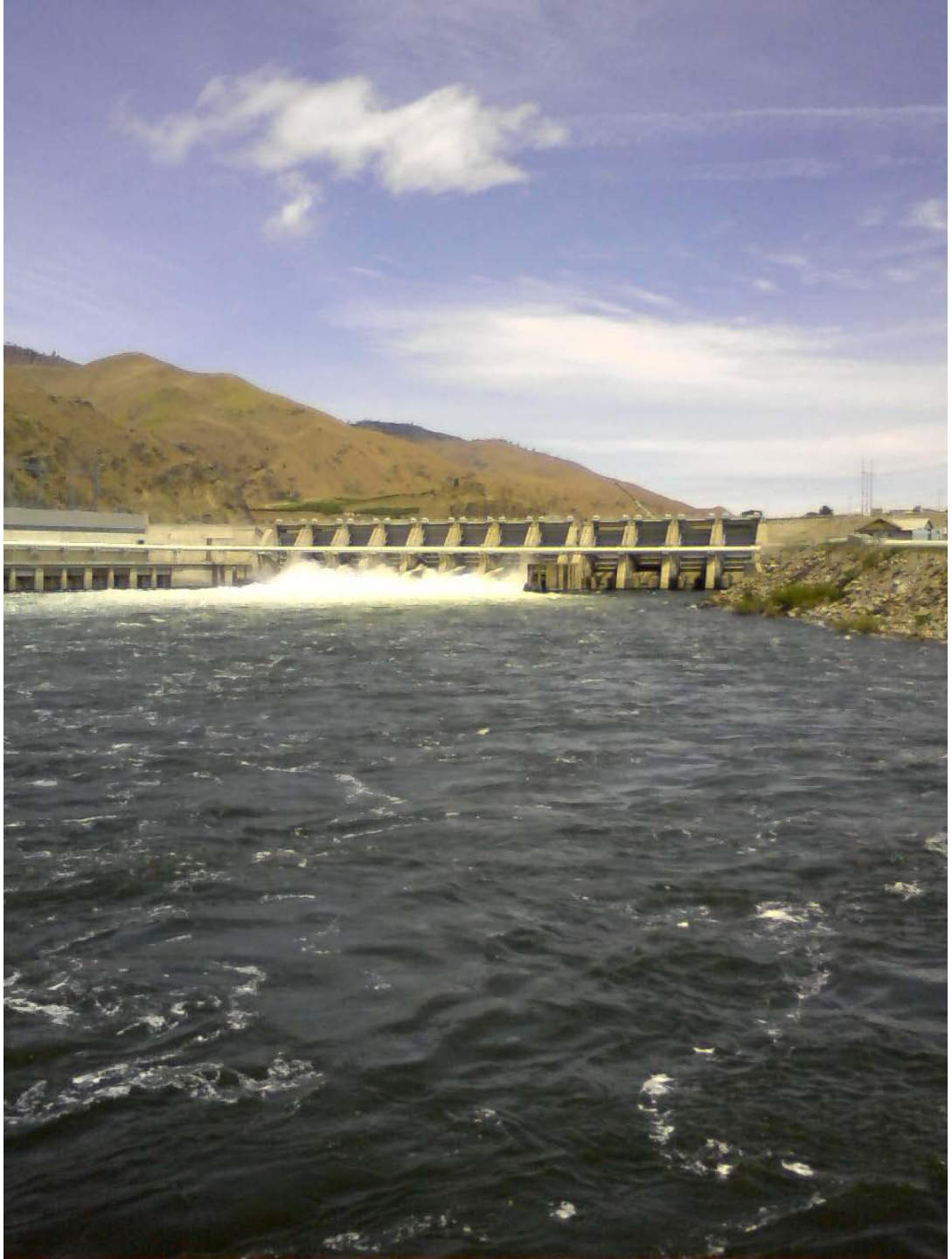
US Bureau of Reclamation 2011 Calibration Summaries

	Temperature (ºC)	TDG %Saturation			
		100%	113%	126%	140%
Mean	0.03	0.10	0.06	0.00	-0.11
Median	0.00	0.10	0.07	0.00	-0.14
Standard Deviation	0.09	0.14	0.16	0.14	0.14
Variance	0.01	0.02	0.02	0.02	0.02
Minimum	-0.20	-0.54	-0.54	-0.54	-0.54
Maximum	0.20	0.45	0.45	0.45	0.45
n	65	65	63	65	65

CPUD

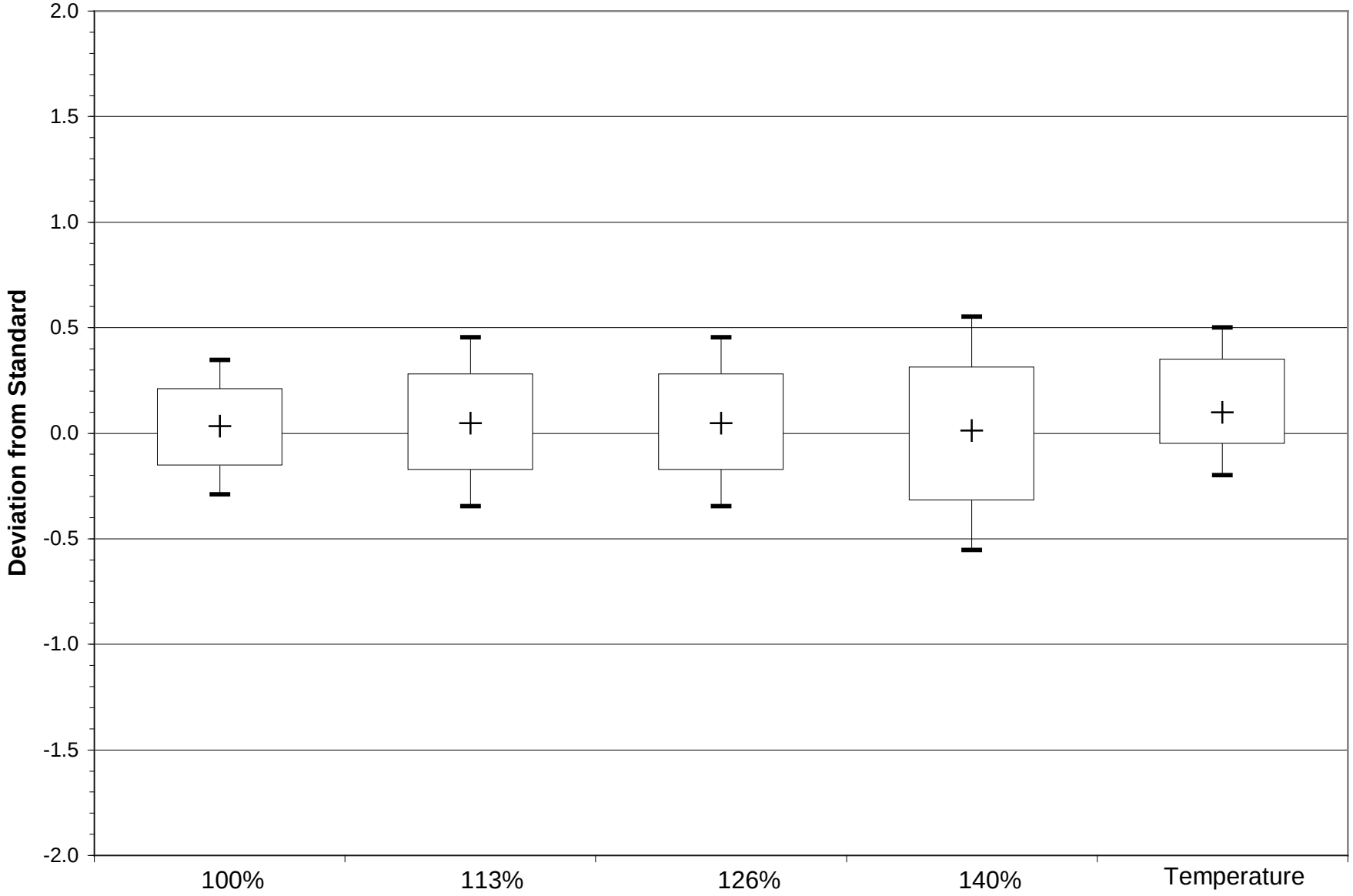
PUD No. 1 of Chelan Co. TDG Monitoring Locations
RRH
RRDW
Wenatchee
RIS
RIGW
Image U.S. Geological Survey
© 2009 Europa Technologies
© 2009 Google
5.61 mi
Google

Rocky Reach Dam TDG Monitoring Locations



Rock Island Dam TDG Monitoring Locations

CPUD 2011 Calibration Summary Box Plots



PUD No. 1 of Chelan County 2011
Calibration Summaries

	Temperature (ºC)	TDG %Saturation			
		100%	113%	126%	140%
Mean	0.11	0.04	0.08	0.09	0.05
Median	0.10	0.03	0.05	0.05	0.01
Standard Deviation	0.09	0.14	0.17	0.20	0.24
Variance	0.01	0.02	0.03	0.04	0.06
Minimum	-0.10	-0.34	-0.20	-0.20	-0.20
Maximum	0.30	0.40	0.67	0.70	0.83
n	27	28	28	28	28

DPUD

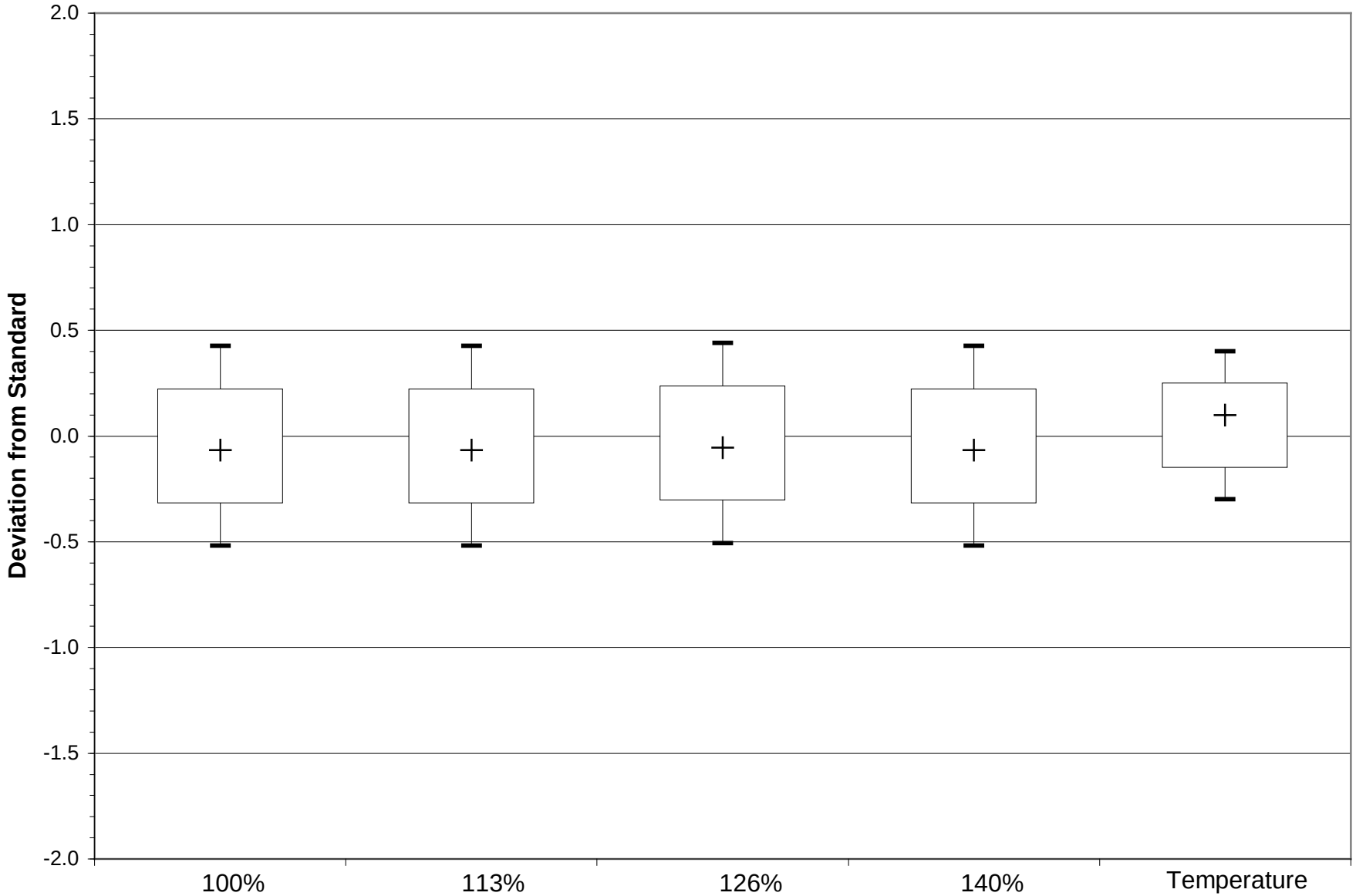
Wells Dam TDG Monitoring Locations

06.25.2009 14:19

06.25.2009 14:19

55

DPUD 2011 Calibration Summary Box Plots



PUD No. 1 of Douglas County 2011
Calibration Summaries

	Temperature (ºC)	TDG %Saturation			
		100%	113%	126%	140%
Mean	0.05	-0.03	-0.03	-0.02	-0.03
Median	0.10	-0.07	-0.07	-0.05	-0.07
Standard Deviation	0.07	0.15	0.18	0.18	0.18
Variance	0.00	0.02	0.03	0.03	0.03
Minimum	-0.10	-0.20	-0.30	-0.30	-0.30
Maximum	0.16	0.35	0.49	0.49	0.49
n	15	15	15	15	15