

California's Surface Water Ambient Monitoring Program Basic Concepts in Data Quality

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What are we looking for?

We want usable, reliable, and scientifically defensible data of known quality.



Usable Data....

- Answer questions, support decisions
- All supporting parameters included
- Comparable to other data sets
- Adequate Measurement Quality Objectives
- Adequate Statistical Power of the dataset
- Reported in usable formats



Data are reliable (credible) when....

The reported value....

falls within the range of error specified
for it, and

complete documentation is provided, and

it is honestly reported by field operators.



Valid Data....

The test, assay, or analysis used to collect the data was valid
and
compliance with data quality objectives has been confirmed



Of Known Quality: ...How Good is the Result....

Quality of the measurement itself
(accuracy, precision, detection limit,
resolution)

Sample integrity
(lack of deterioration, lack of
contamination)



Of Known Quality: ...and What It Represents...

Representativeness of the measured value
(how does the sample represent “true”
conditions, across time & space: issues of
sampling design and sample collection
method in relation to inherent variability



And do not forget....

Correctly Entered

(All data and metadata must be correctly entered into your database.)

Traceable to Certified Standards;
Analyzed by Certified Laboratories
(Use, record, report all which are
used.)



THANK YOU 

“Our mission is to preserve and enhance the quality of California’s water resources and ensure their proper allocation and efficient use for present and future generations”

S W R C B

