

# Glossary of terms, abbreviations and metadata used on the Water Monitoring Information Portal

Terms and abbreviations

## **AHD**

Australian Height Datum: generally equivalent to elevation above median sea level (MSL). Please see the [BoM Glossary](#) for further details.

## **AMTD**

Adopted Middle Thread Distance: the distance in kilometres, measured along the middle of a watercourse that a specific point in the watercourse is from the watercourse's mouth or junction with the main watercourse.

## **BoM**

Bureau of Meteorology.

## **Cumec (m<sup>3</sup>s<sup>-1</sup>)**

A common unit of discharge or flow rate, "cubic metres per second", also expressed as m<sup>3</sup>/sec.

## **Degrees Celsius (Deg. C)**

Also presented as °C, a measure of temperature.

Please see the [BoM Glossary](#) for further information.

## **Discharge**

Hydrology commonly deals with discharge, also known as a flow rate, which is expressed as a volume of water passing by a point within a particular time-frame, e.g. the discharge or flow rate at a Gauging Station may be 250 m<sup>3</sup>/sec.

## **DNRME**

Queensland [Department of Natural Resources, Mines and Energy](#).

## **Dissolved Oxygen (DO)**

A measure of oxygen (O<sub>2</sub>) dissolved in water. The unit of measurement is milligrams per litre (mg/L).

**Electrical Conductivity (EC)**

A measure of the ability of water to conduct an electrical current. This is a reflection of the amount of salt dissolved in water (i.e. salinity). EC is temperature dependent, DNRME data is temperature compensated unless it is specifically identified as such. The units are micro Siemens per centimetre ( $\mu\text{S}/\text{cm}$ ).

**Flow Rate**

See Discharge, Cumec and Megalitre.

**Gauging Station**

Also known as a stream gauge, is a permanent device located at a given point along a stream channel, used to measure the rate and volume of water flowing past. Generally, water surface elevation (stage) and /or volumetric discharge (flow) are measured and observations of biota and collection of water quality samples may also be made at some sites.

**Groundwater Management Area (GMA)**

A Groundwater Management Area within, for example, the Pioneer Sub-artesian Area.

**Hydrograph**

A graph showing changes in stream discharge and/or height over a period of time.

**Hydstra**

A proprietary database DNRME uses for managing flow and water quality information. Please see the [KISTERS website](#) for further information.

**Kilometre (km)**

A measure of distance. 1 km equals 1000 metres.

**Mean**

The arithmetic mean or average of a dataset. Please see the [BoM Glossary](#) for further details.

**Median**

The "middle number" in a sorted list of numbers. Please see the [BoM Glossary](#) for further details.

**Megalitre (ML)**

A common measure of water volume, 1 ML is equivalent to 1,000,000 litres. ML is generally used when defining TOTAL volume in a defined period of time (e.g. per day).

**Metre (m)**

The basic unit of length adopted under the Systeme International d'Unites (SI or Metric System).

**Micro Siemens per centimetre ( $\mu\text{S}/\text{cm}$ ) EC measurement unit.****Millimetre (mm)**

A metric unit of length equal to one thousandth of a metre.

Unit of rainfall measurement, one millimetre of accumulated rainfall is equivalent to one litre per square metre.

**Nephelometric Turbidity Units (NTU)**

A measure of water turbidity (suspended solids in water).

**Percentile**

Please see the [BoM Glossary](#) for further information.

**pH**

The measure of hydrogen ( $\text{H}^+$ ) ion activity in a solution that is reported as the acidity or alkalinity of the water. A low pH (considered acidic pH 0-6) has a high concentration of hydrogen ions while a high pH (considered basic pH 8-14) has a low concentration of hydrogen ions. A pH value of 7 is considered neutral, being neither acidic nor basic.

**Quality Code**

A schema used to code data in order to define a degree of confidence in quality of the water monitoring data. All monitoring data is required to have an associated quality code.

**Square Kilometres ( $\text{km}^2$ )**

Also presented as sq. km, a unit of area, e.g. land surface.

### **Time Series Data**

Time Series (TS) data is the continuous measurement of an environmental or control parameter repeated through time. The interval between successive measurements need not be fixed, while the most basic features of Time Series data are:

- Time (including the date)
- A single-dimensional value (e.g. a continuous water level measurement)

Some Water Quality (WQ) parameters are captured as continuous Time Series data (e.g. EC, Temperature, pH and turbidity). Sensors concurrently record water quality parameters in the data logger along with water level data. This is often referred to as TSWQ.

### **Turbidity**

Turbidity is the cloudiness or clarity of water and is often a measure of the amount of suspended particulate matter. The units are Nephelometric Turbidity Units (NTU).

### **Water Quality Sample Data**

Water Quality sample data is discrete, non-continuous measurement of environmental parameters (e.g. EC, Temperature, Major Ions, Nutrients etc.). Generally a bottled water sample which is analysed by a laboratory, or measured directly/ *in-situ* with hand-held sensors. See Time Series Data for TSWQ definition.

### **Water Resource Plan (WRP)**

A plan approved under section 50(2) of the *Water Act 2000* (Qld).

Further information on terms and abbreviations

Also see the Bureau of Meteorology site for their:

[Glossary](#)

Metadata

### **Google Map Colour Indicators**

When displayed on the map window, each Gauging Station locator pin/dot is coloured according to the current streamflow conditions relative to its long-term historic record.

## Percentile Categories

| Examples | Colour | Percentile | Based on the historic record, for this time of year it indicates that present discharge is: |
|----------|--------|------------|---|
|          | Green  | > 80%      | Very high   |
|          | Blue   | 51- 80%    | Higher  |
|          | Orange | 21- 50%    | Lower   |
|          | Red    | < 20%      | Very Low  |
|          | Gray   |            | No recent telemetry data is available   |

## Gaps in data records

Gaps in data records are more to occur likely during extreme events, particularly for TSWQ stations, where the data is automatically audited and potentially erroneous data is prevented from being displayed (Unreported data).

## Data validation

DNRME is endeavouring to validate data as quickly as possible. Our performance indicator aims for data to be validated is within 160 days. You may wish to request updated information periodically to be supplied with the current validated data. With respect to use of data:

- Unvalidated data (Quality Code 130) has not been rigorously assessed and the data is quality coded to identify this. These data should be used with care as they may change after validation. These data should only be used by persons who are familiar with the characteristics of streamflow information.
- Validated data are data that has been assessed and is the best available quality at the time, however the data should always be interpreted taking into account the quality codes that have been applied.
- Hydrologic advice should be sought to assist with any interpretation.

### Water monitoring sites

Please see [How water is monitored](#) for further information on the departments water quality and quantity monitoring networks.

### Current TS and water quality data Quality Codes

The Quality Codes the department currently uses are listed in the table below. These may be seen when viewing recent data.

| Description                           | Print Quality Code | Quality Code | Height (m) | Flow | Rain (mm) | EC (µS/cm) | Temp (°C) | PH | DO (mg/L) |
|---------------------------------------|--------------------|--------------|------------|------|-----------|------------|-----------|----|-----------|
| Good                                  |                    | 10           | √          | √    | √         | √          | √         | √  | √         |
| Water level below threshold (no flow) | B                  | 15           | √          | √    | √         | √          | √         | √  | √         |
| Fair                                  |                    | 20           | √          | √    | √         | √          | √         | √  | √         |
| Poor                                  |                    | 30           | √          | √    | √         | √          | √         | √  | √         |
| Estimate                              | E                  | 60           | √          | √    |           |            |           |    |           |
| Interim                               |                    | 130          | √          | √    | √         | √          | √         | √  | √         |

√ applies to time series data type

Print Quality Code reflects the numerical Quality Code on pre-computed outputs

### All current and historic data Quality Codes

The complete list of all current and historical Quality Codes are shown in the table below. Historical codes are indicated in italics and may be seen when viewing historical data, DNRME does not employ them in routine operations.

| Description           | Print Quality Code | Quality Code |
|-----------------------|--------------------|--------------|
| Good (Actual reading) |                    | 1            |

|  |   |    |
|--|---|----|
| <i>Historical data code</i>                |   | 9  |
| Good                                       |   | 10 |
| Water level below threshold (no flow)      | B | 15 |
| Fair                                       |   | 20 |
| Good daily records (BoM data)              |   | 26 |
| Poor                                       |   | 30 |
| <i>Gauging temp - Good</i>                 |   | 31 |
| <i>Gauging temp - Fair</i>                 |   | 32 |
| <i>Gauging temp - Poor</i>                 |   | 33 |
| <i>Gauging temp - Composite</i>            |   | 34 |
| <i>Gauging temp - Suspect instrument</i>   |   | 35 |
| <i>Gauging temp - Derived measurement</i>  |   | 36 |
| <i>Gauging temp - Discharge correlated</i> |   | 37 |
| <i>Gauging temp - Data of no value</i>     |   | 39 |
| <i>Derived height (CITEC data)</i>         | * | 59 |
| Estimate                                   | E | 60 |

|   |                   |   |
|---|-------------------|---|
| <i>Derived discharge</i>                      | *                 | 69  |
| <i>Back water affected (CITEC data)</i>       |                   | 79  |
| Accumulated rainfall (BoM data)               |                   | 80  |
| <i>Wet days within period</i>                 |                   | 81  |
| Rainfall (non-standard)                       |                   | 83  |
| <i>Gauge height &gt; instrument threshold</i> |                   | 119   |
| <i>Historic water quality data, Fair</i>      |                   | 125   |
| Not coded (unvalidated data)                  | *                 | 130   |
| <i>Interim</i>                                | I                 | 140   |
| <i>Unknown quality</i>                        | U                 | 150   |
| Unreported data                               | Blank value field | 151<br>160<br>170<br>180<br>200<br>201<br>255 |

*Italics* applies to historically used data QualityCodes

Print Quality Code reflects the numerical Quality Code on pre-computed outputs