

GCOOS QC Flags

All data that are distributed by GCOOS are flagged using the IOOS QARTOD recommendations and other community practices. The following are the references used and the list below is still evolving:

Parameter	References
water temperature	gartod_temperature_salinity_manual.pdf
air temperature	USGS Field Manual (6.1 Temperature)
dew point	USGS Field Manual (6.1 Temperature)
significant wave height	gartod_wave_data_manual.pdf
wave period	gartod_wave_data_manual.pdf
wind direction	gartod_wind_manual.pdf
wind speed	gartod_wind_manual.pdf
wind gust	gartod_wind_manual.pdf
salinity	gartod_temperature_salinity_manual.pdf
turbidity	USGS Field Manual (6.7. Turbidity)
pH	USGS Field Manual (6.4. pH)
dissolved oxygen	gartod_dissolved_oxygen_manual.pdf
phytoplankton concentration	PhytoplanktonManual_v1.0.pdf
water level	gartod_water_level_manual.pdf
current speed	gartod_currents_manual.pdf
current direction	gartod_currents_manual.pdf
chlorophyll	QARTODOceanOptics_v1.1_Final.pdf

All data published come with the QC flags with 8 digits (refer to the references listed above for details on the test):

- 1 – Timing/Gap test
- 2 – Syntax test
- 3 – Location test
- 4 – Gross range test
- 5 – Climatology test
- 6 – Spike test
- 7 – Rate of change test
- 8 – Flatline test

Details of how tests are performed are available in this document:

https://cdn.ioos.noaa.gov/media/2019/08/QARTOD_Currents_Update_Second_Final.pdf

Winds data comes with three sets of QC flags to represent the QC for wind speed, wind to direction and wind speed of gust.

Ocean currents data comes with three sets of QC flags to represent the QC for current speed, current to direction, and vertical velocity. Ocean currents observations also come with an extra digits:

- 9 – Echo test

The following are the flags used:

Flag Value	Meaning	Comment
1	Good	Data passed test
2	Untested	Data not tested or evaluated
3	Suspect	Measurement is questionable
4	Bad	Data failed test
9	Missing data	Data absent