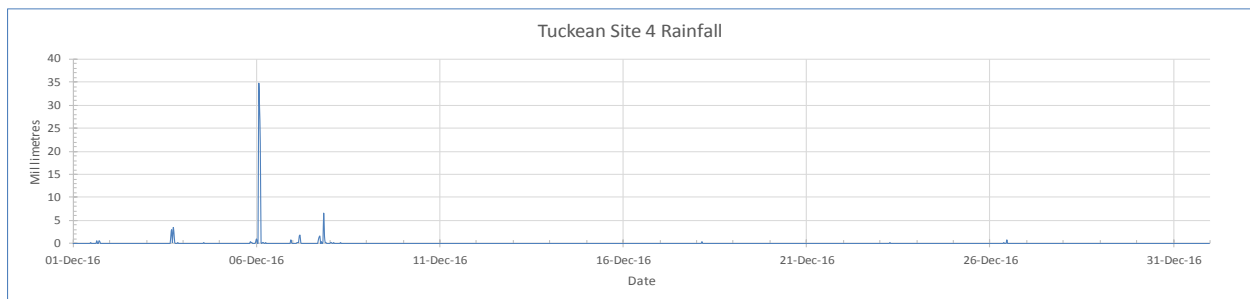
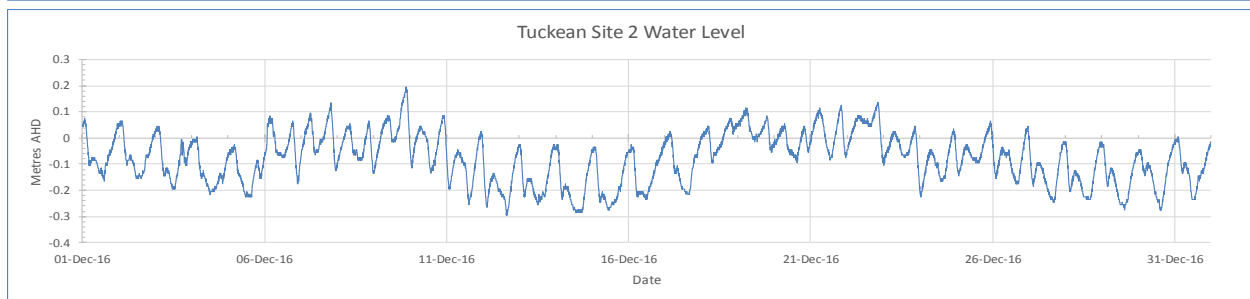
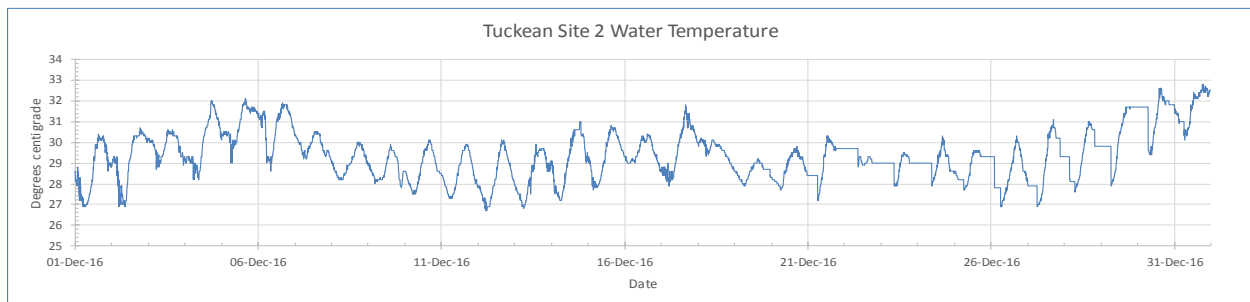
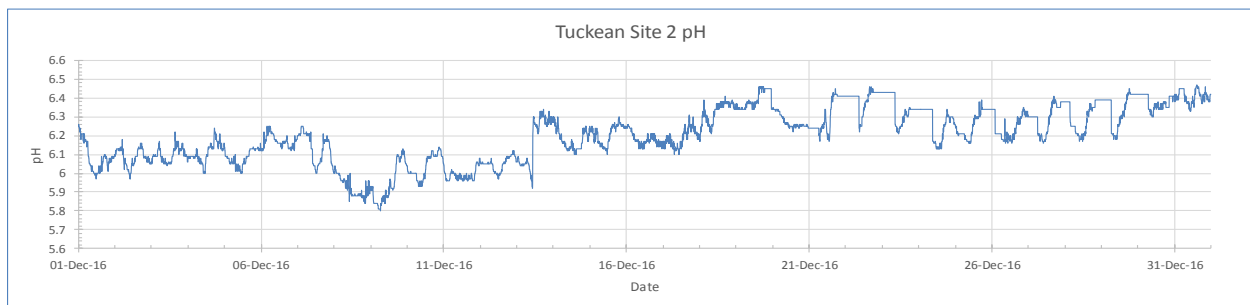
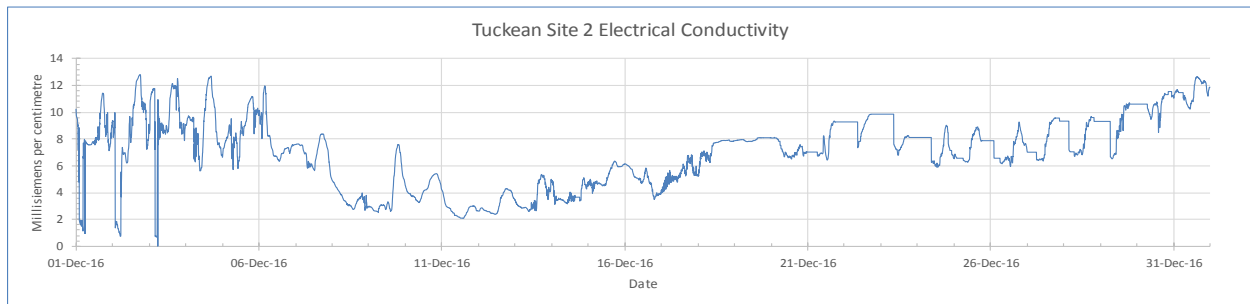


Tuckean site 2 water quality – December 2016

Data logger located upstream of Bagotville Barrage, Tuckean Swamp, NSW.



Interpretation

- **Electrical conductivity (EC)** is related to salinity with EC at site 2 during December ranging between 2.1 ms/cm and 12.6 millisiemens per centimetre (ms/cm), excluding dropouts, and averaging 6.98 ms/cm, which is considered saline water and has increased from the November fresh water average of 5.81 ms/cm due to continuing dry weather and increased tidal exchange, however dropouts indicate unreliable data. Water is considered fresh if below 1.8 ms/cm, brackish from 1.8-4.8 and saline above 4.8, with seawater approximately 60 ms/cm.
- **pH** in December was recorded between 5.8 and 6.5 and averaged 6.2, which is 0.2 units higher or 1.58 times less acid than the November average of 6.0 due to below average rainfall. On the pH scale neutral is at pH 7 and for every consecutive whole number below 7 acidity increases by ten times on a logarithmic scale. pH is affected by surface and groundwater level, drainage, rainfall, runoff and tidal exchange.
- **Water temperature** for December ranged between 26.9°C and 32.7°C giving a range of 5.8°C and averaging 29.4°C, which is 1.6°C higher than the November average of 27.8°C due to seasonal change. Water temperature peaks in the late afternoon as air temperature and solar radiation decreases. Temperature variations can be caused by a combination of factors including solar radiation, air temperature, tidal exchange, day /night, shade, turbidity and rainfall.
- **Water level** was recorded between -0.30 and +0.20 m AHD for December giving a range of 0.5 m and averaging -0.08 m AHD, which is 0.05 lower than the November average of -0.03 m AHD and 0.10 m lower than the site 1 November average of +0.02m. Water height at site 2 fluctuates with tides, degree of sluice gate opening, rainfall in the catchment and to a lesser extent temperature, wind and barometric pressure.
- **Rainfall** recorded during December at the site 4 data logger situated 4 km to the north was 122.8 mm over 10 days, which compares to the November reading of 50.0 mm over 11 days. Peak daily rainfall of 34.2 mm was recorded between 1:00 am and 1:30 am on the 6th December. During December, the Rocky Mouth Creek data logger located 19 km to the SSW recorded 102.2 mm over 9 days, while Ballina AWS located 19 km to the NE recorded 42.8 mm over 9 days.