Climate

Use this section to find out more about the climate of the Abercrombie River sub-catchment. Learn about rainfall, drought, temperature, frosts, and the variability of our local climate.

N.B. Rainfall data for the Abercrombie River sub-catchment is limited and temperature data does not exist.

How much rain?

An important measure of rainfall for an area is the **average annual rainfall**. This shows how much rain, on average, a place receives per year. Rainfall records exist for Ballyroe, approximately 15 km to the south of Ballyroe, and Trunkey Creek in the Abercrombie River sub-catchment. Ballyroe has an average annual rainfall of 723 mm and Trunkey Creek has an average annual rainfall of 850 mm. Trunkey Creek (~860 m ASL) is higher than Ballyroe (~750 m ASL) and demonstrates the general rule that annual average rainfall usually increases with altitude. Other factors may be responsible for this difference, such as Ballyroe being situated in a valley up to 200 metres deep.

Average annual rainfall gives a general indication of how much rainfall an area receives but it does not show the variation of rainfall that can occur between years or the time of year rain generally falls.

When does it fall?

Annual patterns

Apart from the amount of rain that falls it is also important to know when during the year it falls and how reliable the rain will be.

The Abercrombie River sub-catchment lies in between the predominantly summer rainfall area of northern Australia and the winter rainfall areas of the south. The figures in Table 1 show that both Trunkey Creek and Ballyroe have a moderately winter dominant rainfall pattern.

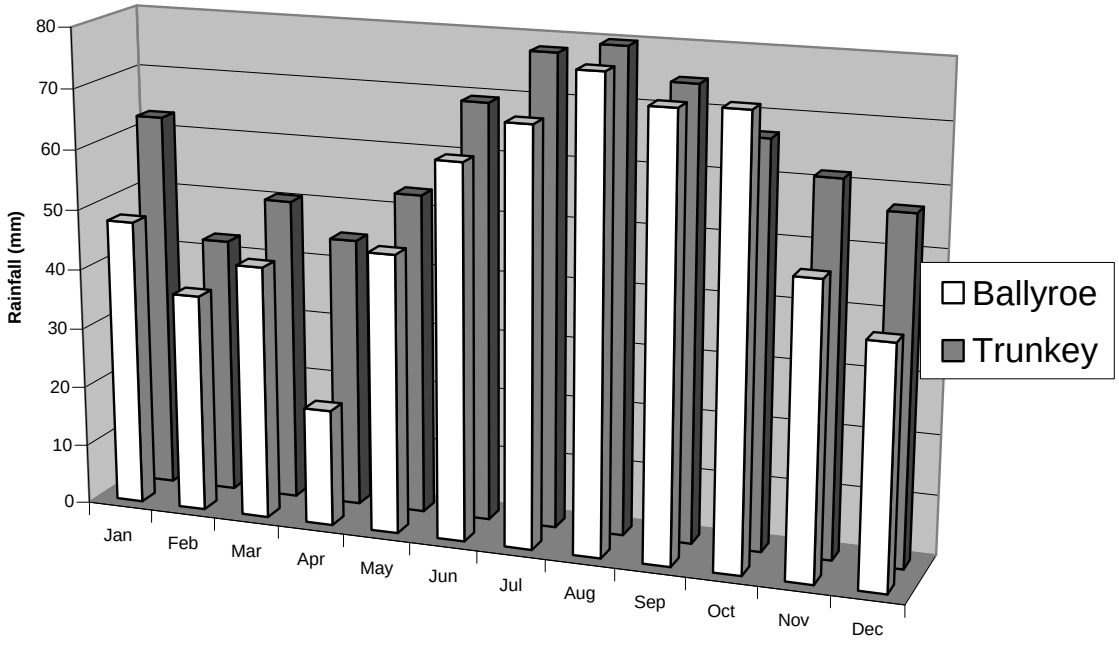
Table 1
Summer/winter rainfall (mm) and winter dominance for Trunkey Creek and Ballyroe. (Bureau of Meteorology)

Location	Summer Rainfall	Winter Rainfall	Winter dominance*
Trunkey Creek	203	245	1.21
Ballyroe	172	210	1.21

*Winter dominance is ratio of the sums of the mean rainfall for the 3 winter months compared to the 3 summer ones. A ratio of 0.5 indicates summer dominance where as 1.5 indicates winter dominance.

Rainfall information can be reduced further to show the **monthly distribution** of rain throughout the year. This distribution for Trunkey Creek and Ballyroe is shown below (figure 1) and shows that both locations have relatively dry autumns.

Figure 1
Annual distribution of rainfall by monthly rainfall medians. (Bureau of Meteorology)



The **average number of raindays** indicates how many days during a period that rain falls in a locality. It can be measured per month, season or for a year. Trunkey Creek has 96 raindays per annum whereas Ballyroe has 58 raindays per year and the monthly trend is shown below for Trunkey Creek only.

Figure 2
Average number of raindays per year on a monthly basis for Trunkey Creek. (Bureau of Meteorology)

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Intensity

Rain does not fall with the same intensity at all places. Some areas get heavy rain occasionally whilst other places get light showers frequently. Heavy rainfall events are more likely to cause erosion as a greater proportion of water runs off. The **average rainfall event** measures the relative intensity of rainfall by showing the average amount of rain that falls each rainday. Trunkey Creek has an average rainfall event of 8.9 mm per rainday whilst for Ballyroe it is 12 mm per rainday. It must be remembered that the figure for Ballyroe is an indication only.

Reliability

Expressing rainfall as annual **deciles** can give an idea of reliability (see the main climate section of the toolkit for more information on deciles)**.** The deciles for Trunkey Creek and Ballyroe are shown in the table below (Table 2).

Table 2
The 1st, median and 9th decile for rainfall at Trunkey Creek and Ballyroe. (Bureau of Meteorology)

Town	1st decile	Median decile	9th decile
Trunkey Creek	559	834	1532
Ballyroe	479	723	1076

On an annual basis the median amount for Trunkey Creek and Ballyroe is 834 and 723 mm, respectively. In 50% of years these towns can expect more than this amount and in 50% it can expect less.

As for other climate data, deciles can be shown on a monthly basis. The graph below (figure 3) shows the the 1st decile (0.1 percentile), the median decile and the 9th decile (0.9 percentile) for Trunkey Creek and Ballyroe on a monthly basis.

Figure 3
The 1st, median and 9th rainfall deciles for Trunkey Creek and Ballyroe on a monthly basis (Bureau of Meteorology)

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Drought

Drought is a widely used term to describe periods of low rainfall. More accurate terms are used to describe a drought and these are covered in the main **climate** chapter. It is important to remember that *the maintenance of ground cover is essential in times of drought.* **This should become a major goal for landholders**. With at least minimal ground cover and the good root mass that accompanies this, recovery of pastures is much quicker when adequate rains do return. Ground cover protects the farmer's major asset – his soil - from wind and water erosion both during and at the end of a drought. Compaction and loss of soil structure make the problem worse if ground cover is not maintained.

What influences our temperatures?

No temperature data exists for the Abercrombie River sub-catchment so the many variables (e.g. elevation, exposure, local topography) influence the temperature of an area cannot be demonstrated for this sub-catchment. An overview of these variables for the entire Central Tablelands Landcare district is available in the main climate section.

Conclusion

The climate within any sub-catchment is highly variable unfortunately little climatic data exists for this variation to be demonstrated for the Abercrombie River sub-catchment. Further, the rainfall data collected for the two locations in the sub-catchment break the general rule that rainfall increases with elevation.

When considering rainfall, it is important to focus on the median value and *not* the mean value. The mean is the average of all records taken for an area whereas the median *the value that occurred the most frequently*. The mean gives a more accurate indication of the rainfall that is most likely to occur in an area.

Remember that the climate data provided in this section should be used only as a guide, especially because of the inconsistent records for raindays at Ballyroe. For a more detailed picture on the climate at your location you should consider keeping records. This can be done with instruments as simple as a rain gauge and thermometer.

Bibliography

- Bureau of Meteorology - Australia
  www.bom.gov.au