

# 1 Perth, Western Australia

The following section deals with the fundamental information about Perth and Western Australia.

## 1.1 Geography and population in Western Australia

Western Australia (WA), as shown in Figure 1-1, is the biggest state in Australia and is a quarter of the size of Canada and seven times the size of Germany. The state borders the east of longitude 129°E. The Meridian, 129 degrees east of Greenwich, defines the straight border between WA and the neighboring states. The shores of the Indian Ocean are to the south, west and north of WA. WA has about 2.6 million inhabitants, and 92 percent of the population lives in the south-west corner of the state.



Figure 1-1 Map of Australia with its states and major cities. [1]

## 1.2 Climate in Western Australia

The climate in Western Australia is diverse, ranging from hot and dry or hot and damp to cold and wet. Snow is rare. Rainfall varies from 300 mm to 1,400 mm. Through most regions, there is a long dry season from November to March (summer), during which the evaporation exceeds precipitation. The climate depends on the region in this largest state of Australia.

## 1.3 Geography, population and economics in Perth

Perth is the biggest city on the west coast of Australia and the fourth-most populous city in Australia. About two million people live in Perth's metropolitan area, which is situated in the south-west of WA [1]. Since 1990, Perth has had unexpected population and economic growth [2]. This economic growth also affected the housing market as shown in Figure 1-2. Since 2015, the population growth has been stagnating and the economy is slowing down - mainly because of the price drop of 50 percent in iron ore over the last three years [3]. The seasonally adjusted housing finance commitments decreased by 5.2 percent in April and May 2015 [4]. This economic slowdown will lead to a reduction in the construction volume and should give rise to a higher building quality.

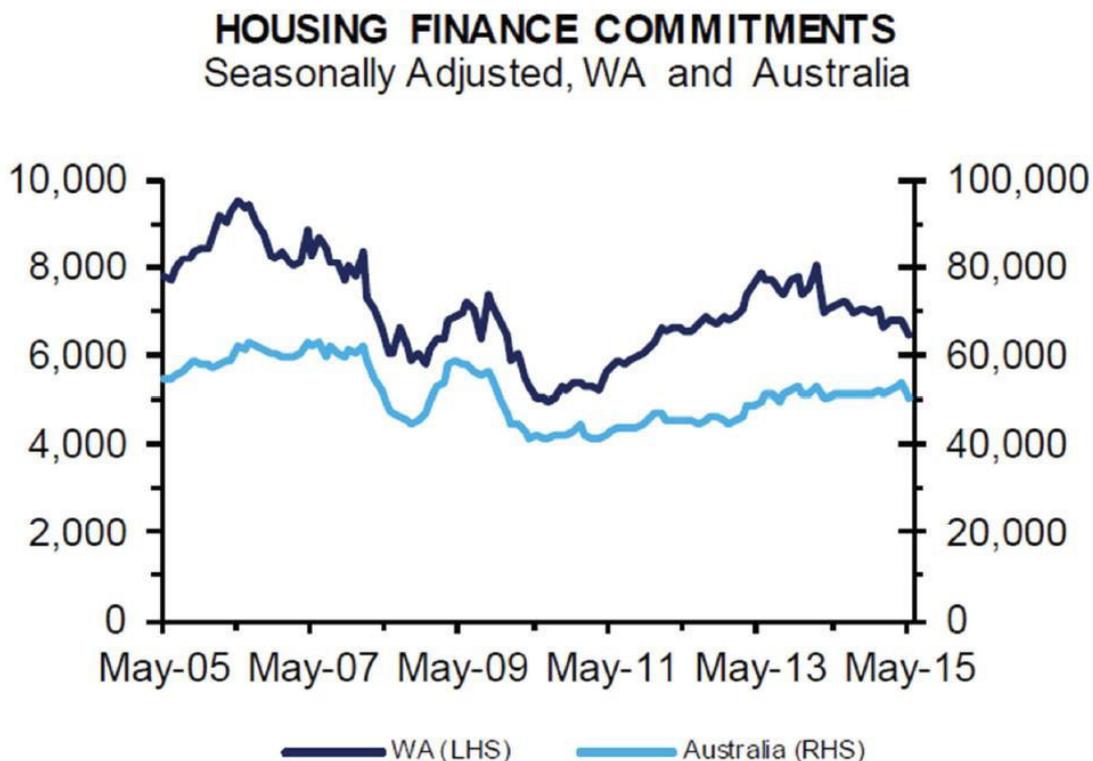


Figure 1-2 Seasonally adjusted housing finance commitments in WA and Australia. [4]

## 1.4 Climate of the Perth metropolitan area

The annual temperatures and rainfall in the capital city of WA, Perth, is shown in Figure 1-3. Climate change is not a just a theory in Perth. Since 1990, the rainfall has declined by 12 percent, and the run-off into Perth's metropolitan primary supply dams has fallen by more than 50 percent [5] [2]. The summer of 2012-2013 was the hottest summer ever recorded and broke more than 120 weather records in just 90 days [6]. It is expected that Perth's eastern region will see massive climate change by 2070 including a minimum temperature rise of 4 Kelvin, the annual number of days above 35°C will increase from the current 28 days to about 36 to 67 days, and a sea-level rise of 25 – 75 cm [7].

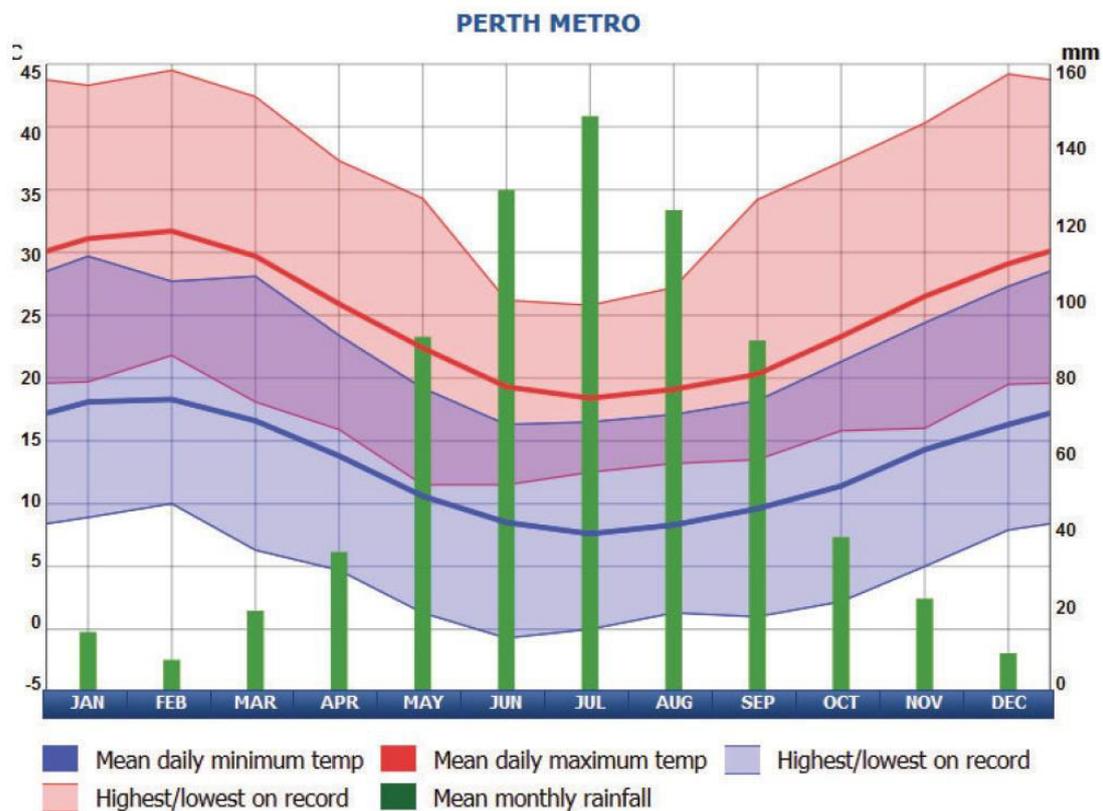


Figure 1-3 Perth's annual temperatures & rainfall. [5]



## Sources

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- [5] weatherzone.com.au, "weatherzone.com.au," [Online]. Available: <http://www.weatherzone.com.au/climate/station.jsp?lt=site&lc=9225>. [Accessed 16 02 2015].
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- [7] Eastern Metropolitan Regional Council, "Regional Climate Change Adaptation Action Plan 2013-2016 (RCCAAP)," Eastern Metropolitan Regional Council, Perth, 2014.