

# WORKSHEET - What would you do if you were in Mr Jersey's boots?

Read the following information.

## Consider this scenario facing Mr Jersey

Mr Jersey is the owner of a 180 hectare, 200 cow dairy and cropping farm in the north west of Victoria – which falls in the Mediterranean Agro-climatic zone (see map below).

### Water Needs:

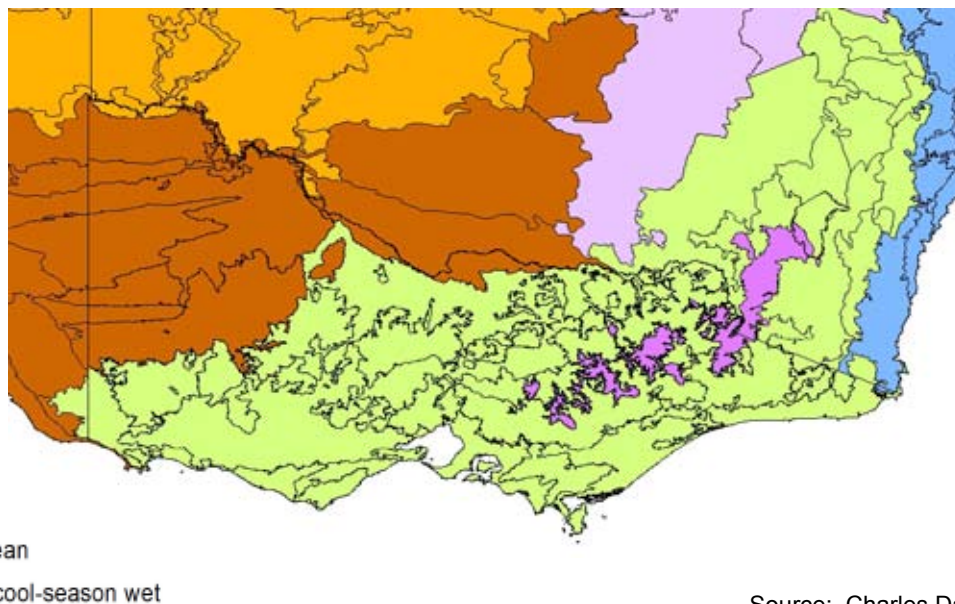
**Summer & Autumn:** The pasture for his dairy cattle to graze is irrigated from the Murray River.

**Winter & Spring:** The crops grown rely on winter rain.

### Temperature Needs:

Mr Jersey also grows peach trees, which require cold temperatures over winter (chill factor) in order to fruit.

Map showing location of Mr Jersey's farm and the Agro-climatic zone it is found in



Source: Charles Darwin University SER

*Predictive modelling is a best guess about what will happen in the future based on the information we have now.*

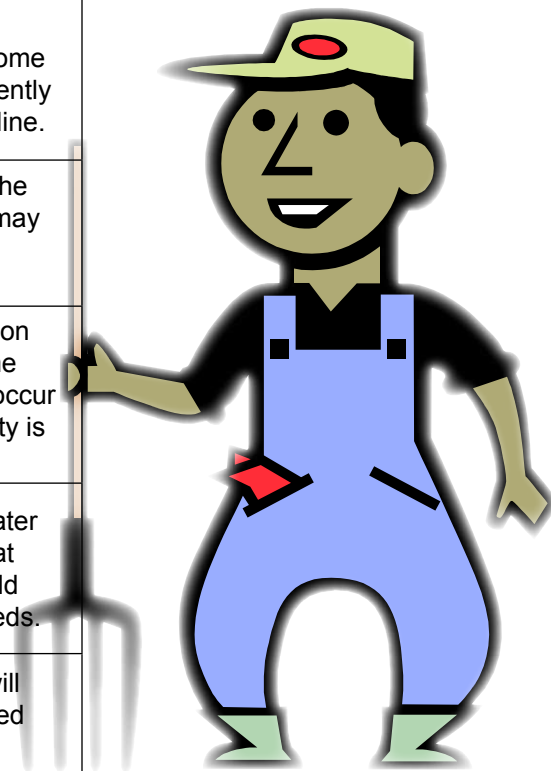
The following tables and predictive modelling are based on CSIRO research

Table 1: Characteristics of the Mediterranean Agro-climatic Zone in Victoria – now and in the future

Agro-climatic Zone	Present Characteristics/Uses	Future predicted changes
Mediterranean	<ul style="list-style-type: none"> <li>• Warm climate, wet winter, very little rain in summer</li> <li>• Winter/spring growth</li> <li>• Winters can be cold and frosty</li> <li>• Long hot summers, regular drought and fire</li> <li>• Open forest and woodland</li> <li>• Heavily cleared for agriculture and urban development</li> </ul>	<ul style="list-style-type: none"> <li>• Fewer frosts and earlier longer growing season</li> <li>• Reduced summer growth due to reduced winter rainfall</li> <li>• Increased fire weather, probably more frequent and intense</li> <li>• Reduction in stream flows and rivers/wetlands drier</li> </ul>

Table 2: Industries in the Mediterranean region and climatic change impacts and issues

Industries	Impacts and Issues
Cropping (eg. wheat, lucerne)	Reductions in rainfall will reduce <b>yields</b> . Cropping will become more challenging in some areas but may be introduced into areas currently considered too wet. <b>Salinity</b> levels may decline.
Viticulture (eg. wine grapes)	Wine grapes may ripen in a warmer part of the season which could affect quality. Growers may need to plant later ripening varieties. Water availability may be limiting.
Horticulture (eg. apricots )	Timing of <b>crop cycles</b> may change. Reduction in winter chilling may affect suitability of some fruit crops. Extremely hot or cold days may occur more often and affect crops. Water availability is an issue.
Intensive livestock (eg. dairy)	Irrigated dairy will be affected by reduced water <b>allocation</b> and increased temperatures. Heat stress issues for livestock may decrease yield and/or increase energy demands to cool sheds.
Water resources	Less rain is predicted, meaning less water will be available in water storage areas. Increased demand and reduced supply.



*Use Table 1 and 2 to answer the questions 1-5.*

1. List the foods that may have been produced/partly produced by Mr Jersey. Using your list, underline the foods that you regularly consume (eat or buy). \_\_\_\_\_  
\_\_\_\_\_
2. Using Table 1, what climatic characteristics does Mr Jersey need from the environment to run his farm? \_\_\_\_\_  
\_\_\_\_\_
3. Using Tables 1 and 2, what are the predicted changes that will affect Mr Jersey's farm? \_\_\_\_\_  
\_\_\_\_\_
4. If you were Mr Jersey would you be able to continue farming in the same way? Explain. \_\_\_\_\_  
\_\_\_\_\_
5. As Mr Jersey, what changes might you make to your farming? \_\_\_\_\_  
\_\_\_\_\_

*Questions 6-8 require you to reflect and think creatively about climate change.*

6. As a consumer, what changes may you encounter due to the effects of climate change on Mr Jersey? \_\_\_\_\_  
\_\_\_\_\_
7. How might scientific research be able to assist Mr Jersey? \_\_\_\_\_  
\_\_\_\_\_
8. What can we as consumers do to assist farmers and food producers to adapt to climate change? \_\_\_\_\_  
\_\_\_\_\_