Account for the distinctive nature of one global climate type that you have studied. (2015 Q22)

In this answer I will discuss The Mediterranean Climate.

Aspect 1 – General Characteristics

A Mediterranean climate is the climate typical of the lands in the Mediterranean Basin. The lands around the Mediterranean Sea form the largest area where this climate type is found, but it is also found in most of coastal California, in parts of Western and South Australia, In south-western South Africa, sections of Central Asia and in central Chile.

The Mediterranean climate is characterised by dry summers with drought often common, to mild, moist winters. It is located between 30/40degrees N+S of the equator.

This climate is seen as a stable environment with relatively predictable weather patterns. There are approximately 300 days of sunshine per year due to the high-pressure cells which remain over or near its location.

Mediterranean climate zones are associated with the five large subtropical high-pressure cells of the oceans; the Azores High, South Atlantic High, North Pacific High, and Indian ocean High.

These high-pressure cells shift towards the poles in the summer and towards the equator in the winter, playing a major role in the formation of the worlds subtropical and tropical deserts as well as the Mediterranean Basin's climate.

The five areas are generally located on the western side of their land masses.

The Azores High is associated with the Mediterranean climate found in Southern Europe and north Africa and the Sahara Desert (as well as that of the Azores, Canary Islands and other Eastern Atlantic Islands) with France and England both bordering this climate, France especially.

The South Atlantic High is similarly associated with the Namib Desert and the Mediterranean climate of the western part of South Africa.

The Pacific North Highs related to the Sonoran Desert and California's climate, while the South Pacific High is related to the Atacama Desert and Central Chiles climate.

The Indian Ocean High is related to the deserts of westerns Australia (Great Sandy Desert, Great Victoria Desert, and the Gibson Desert) and the Mediterranean climate of the southwest and southcentral Australia

Aspect 2 - Precipitation

The precipitation of this climate type is very distinctive and tends to fall between regular parameters. Usually there is not more than 800mm of rainfall in one year.

During the summer, regions of Mediterranean climate are dominated by subtropical high-pressure cells with dry sinking air that makes rainfall unlikely. There can be up to five months of drought.

Since the westerlies are well north of the Mediterranean latitudes from late spring through to mid-autumn, most Mediterranean climates are stable and dry due to the dry descending air from this pressure cell.

In winter, Mediterranean climates encounter the polar jet stream and associated periodic storms reach into the lower latitudes of the Mediterranean zones, bringing rain, with snow at higher elevations where skiing is possible e.g. Mt Etna

As a result, with this climate receive almost all the moisture during their winter autumn and spring seasons and may go anywhere from 4-6 months during the summer without having any significant precipitation.

Toward the equatorial latitudes, winter precipitation decreases as a share of annual precipitation as the climate grades equator ward onto the steppe dessert climate, normally too dry to support non irrigated agriculture.

Toward the polar latitudes total precipitation usually increases; in the higher latitude European Mediterranean climate there is more summer rain while along the lower latitudes west coast of the United States summer is nearly (and in some cases totally) rainless and the dry season sever (irrigation is needed in agriculture here if it is present).

In the north western Mediterranean Basin, the rainiest season is divided into a primary maximum during the autumn and a secondary in spring, making for a shorter dry season than in the classic Mediterranean climate.

Rainfall can differ depending on altitude and the influence of relief locally. For example, in Italy there are variations in rainfall depending on which side of the Apennines you live on. The eastern side gets only 500mm of rainfall per year and the western side 800mm whereas some mountain regions can get up to 2,500mm per year, often falling as snow.

Aspect 3 - Temperatures

Most regions with Mediterranean climates have relatively mild temperature in the winter months and very warm summers. However, winter and summer temperatures can vary greatly between different regions with a Mediterranean climate. The average temperatures being between 12degreesC and 29degreesC.

For instance, in the case of winters, Lisbon and Los Angeles experience mild temperatures in the winter with frost and snowfall almost unknown. Some Mediterranean areas experience colder winters with annual frosts and snowfall especially in the eastern Mediterranean zone near Turkey.

In summer Athens experiences rather high temperatures of 48degreesC whereas in contrast San Francisco has cool summers with daily highs around 21degreesC due to the upwelling of cold subsurface waters along the coast producing regular summer fog.

In many Mediterranean climates there is a strong Diurnal character to daily temperatures in the warm months, again dues to the stability of the subtropical high-pressure cells.

Because most regions with a Mediterranean climate are near large bodies of water, temperatures are generally moderate with a comparatively small range of temperatures between the winter low and summer high (although the daily range of temperature during the summer is large due to dry and clear conditions, except along the immediate coasts).

Temperatures during winter only occasionally fall below the freezing point and snow is generally seldom seen. In the summer, the temperatures range from mild to very hot, depending on distance from a large body of water, elevation and latitude.

Even in the warmest locations with a Mediterranean type climate temperatures usually do not reach the highest readings found in adjacent desert regions because of cooling from water bodies, although strong winds from inland desert regions can sometimes boost summer temperatures e.g. Sirocco winds from the Sahara quickly increasing the risk of wildfires.

Upwellings from the oceans proximal to the landmasses that experience this climate effect the temperatures greatly. Marine fog can form in areas with long, unbroken, coastlines. The area around San Francisco gets large amounts of fog which is channelled into its bay due to the cloud upwellings of water. This does not occur as much in the actual Mediterranean or in Perth, Australia.

Aspect 4 - Vegetation

The native vegetation of Mediterranean climate lands must be adapted to survive long, hot summer droughts and prolonged wet periods in winter.

Mediterranean vegetation examples include evergreen trees: such as bay laurel, pine, cypress and oak grow naturally around this climate. Deciduous trees such as sycamore, oak and buckeyes make up the large plants.

Fruit trees such as olives figs walnuts and grapes are also characteristic of this area. Also, shrubs such as rosemary and lavender grow wild in this region.

Much native vegetation in Mediterranean climate area valleys have been cleared for agriculture. In places such as the Sacramento valley in California the draining or marshes and estuaries combined with supplemental irrigation in the San Juaquin Valley has led to a century of intensive agriculture.

Much of the Overberg, a region in the southern Cape of South Africa, once covered with Renosterveld (a major plant & vegetation type) has likewise been largely converted to agriculture, mainly wheat. It is an eco-system of the Mediterranean climate.

In hillside and mountains areas away from urban sprawl ecosystems and habitats of active vegetation are more sustained with large olive, bay and laurel trees in existence.

The Fynbos vegetation in the south-western cape in South Africa is famed for its high floral diversity and includes such plant types as members of the Erica’s and proteas families.

In the oceans off these regions large kelp grows. On land the vegetation has adapted to the climate by developing short, waxy leaves to retain water during drought.

The plants have also developed long tap roots to access deep water aquifers. Plants can also release seeds that will not germinate unless water is present and so they can remain dormant in the ground for long periods as a result.