



# CHAPTER 1

## *West Coast Defined*

### Power of place

Places have power, power over what is possible. The power of place speaks to the combination of features that uniquely defines each locale on Earth. Many of the most fundamental aspects of the West Coast relate to where it sits on the planet. Like all places on Earth, the West Coast has moved about, being pushed and pulled as the crustal plates are rearranged slowly but continuously by plate tectonics. Every locale is underpinned by a foundation of solid rock. While not always exposed at the surface, if you were to dig deeply enough through the cover of plants, soil and loose sediment you would encounter bedrock. The distribution of shale, granite and sandstone bedrock on the West Coast reflects the culmination of a deep geological history and, together with climate, exerts a strong influence on its landforms, soils and life. The West Coast at times in the past was landlocked within the interior of a supercontinent far from any ocean. It supported dense vegetation under warm and humid conditions while positioned near the equator, before drifting near the South Pole and was covered by a thick mantle of ice. Today, the West Coast lies adjacent to one of the world's most productive oceans, a swirling cauldron of ocean currents and upwelling of cold water that influences its climate. Powerful ocean waves shape the contours of the shoreline (Fig. 2), which has at times flooded the Cape Flats and at other times retreated to reveal large areas of the now submerged shelf. In this chapter the West Coast is defined in terms of its physical attributes – its landforms (Fig. 3), bedrock geology (Fig. 4), climate, rivers, beaches and lagoons – and how these have evolved through time to the present day.

Figure 2 (opposite page). The West Coast and beyond as seen from the International Space Station.



