This book is dedicated to the new generation of geographers:
Keita, Heidi, May, and Sophia
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Readers will find this fourth edition of *Geography of British Columbia* to be a major departure from the third edition. In my research of British Columbia – which has traced overall population, rural versus urban population, employment in the various sectors (goods and services), as well as provincial revenues over time, all of which are in this new edition – it is apparent that the resource sector of the economy is not nearly as important as it once was. It is also apparent that a great deal of the population is located in the larger municipalities. These changes are reflected in this revised edition.

The text begins with an Introduction. Following, there are now two parts to the text: Part 1 contains revisions to the previous edition’s Chapters 1, 2, 3, and 7 (now Chapter 4). All other chapters are a deviation from the previous edition, but the content has not been lost. The major focus of Part 2 is on resources and resource development; however, there are no individual chapters on resources. Rather, the discussion is organized in chapters chronologically. In this manner, I believe, it assesses how resources have been used, exploited, managed, and mismanaged to our present day. “The Tragedy of the Commons” story (see the Introduction) is used throughout a number of the chapters to illustrate attitudes and consequences of resource exploitation. The final “tragedy” may be climate change.

Throughout Part 2, the treatment and mistreatment of First Nations has been assessed, as well as that of Asians; their stories are woven into this historical perspective. Indigenous Peoples and other racialized peoples, as well as the province’s resources, were subject to government policies that guided economic, social, and political development. And while provincial and federal policies were influential and often contentious, many other intervening events and conditions, such as technological innovations, wars, recessions, geophysical hazards, and terrorism, were also significant in the transition of the provincial landscape. After Confederation, more and more people moved to the province, more infrastructure was constructed, and new urban patterns were added to the map of British Columbia. These issues are all addressed in this book. This fourth edition concludes with policy directions for a more sustainable future.
Geography of British Columbia
The geography of British Columbia is in constant flux. Between 2014 and 2017 alone, the following events occurred, transforming the landscape and the way people engage with it:

- Heat waves shattered temperature records, and wildfires devasted parts of the province, causing thousands to flee their homes.
- Fracking triggered large quakes in the oil and gas patch.
- Tla’amin First Nation implemented a treaty with the provincial government.
- The high-tech sector became a bigger employer than mining, oil and gas, and forestry combined.
- A tragic avalanche took the lives of five snowmobile riders.
- The provincial government formally opposed the Kinder Morgan Pipeline expansion.
- A tent city popped up to protest the lack of affordable housing in Vancouver.
- The wine industry boomed in BC’s interior.
- The number of sockeye salmon returning to the Skeena River reached record lows.

As this list suggests, human and physical processes are altering the province’s landscape.

The discipline of geography seeks to understand these processes, in the present and in the past. Geography has been defined as the study of “where things are and why they are where they are” (McCune 1970, 454). “Things” can be physical features, people, places, ideas (or human innovations), or anything in the landscape. “Where” questions concentrate on location as well as recognizing physical and human patterns and the distribution of various activities, people, and features of the landscape. Many of these questions can be answered simply by looking at a map. Look at a road map or online map of British Columbia. Where is wine country? Where is the territory covered by the Tla’amin treaty? Where do earthquakes occur, and what towns were affected by the wildfires? Where are the sockeye spawning grounds?

Knowledge of where things are is basic, essential geographical information. To test your knowledge of British Columbia, draw a map of the province from memory and place on it the features you consider important. This cognitive mapping exercise reveals individual landscape experiences (which can be shared with others) and demonstrates the importance of location. Using maps to answer “where” questions is the easiest aspect of geographical study.

Answering the question “Why are things where they are?” is more complicated. “Why” questions are far more difficult than “where” questions and may ultimately verge on the metaphysical. Even so, as you study geography, you’ll be encouraged to conduct research about and to analyze the various physical, economic, political, cultural, and historical factors that have shaped a specific location or locational patterns, whether it be the location of a type of vegetation, a community, a group of people, or a resource. Why do grape wines grow so well in the Okanagan Valley? Why is Vancouver where it is, and why has it grown so rapidly? Why did Barkerville become a ghost town? Why were the Japanese removed from the coast of British Columbia? Why did the Nechako River get dammed for hydroelectric power? Why is the Peace River region not part of Alberta? These questions are not easy and often require historical, physical, cultural, political, and economic assessments.

So, too, do “what” questions. Some definitions of geography include the question, “What is the significance of these locational patterns?” (Renwick and Rubenstein 1995, 5). What influence do people have on the environment, and what influence does the environment have on people? Humans are constantly shaping and modifying the landscape to meet the demand for resources – clear-cutting forests, damming rivers, and building power plants that pour emissions into the air and water – and these acts produce an environmental backlash to ecosystems and human health.

All these questions – Where? Why? What? – mean geography is a practical and pragmatic discipline, one that encourages an understanding of the surface of the earth on all geographic scales. Geography is a discipline that lends itself to being out of the classroom and in the environment, where one can read both the physical and human landscapes. Physical geographers are interested in the physical processes that influence the landscape. Human geographers, by contrast, look at where
people live, what their activities are, and how they have modified the landscape. Of course, a combination of physical and human processes often modify landscapes, and both sides of the discipline incorporate a spatial perspective. As Figure I.1 shows, geography can be divided into a number of subfields and is associated with many other disciplines, but the spatial element keeps it distinct.

Geography allows us to recognize the range of physical characteristics responsible for mountain building and erosion and for weather and climate patterns. From the viewpoint of physical geography, changes to the landscape are often measured in several hundreds of millions of years, and the BC landscape is no exception. A combination of physical processes produced a spectacular variety of mountains, rivers, lakes, islands, fjords, forests, and minerals in British Columbia. Studying the province’s geography allows us to understand why some communities and regions are at considerable risk from floods, forest fires, or avalanches and how these risks can be reduced or eliminated.

*Geography of British Columbia* will help you develop the critical thinking skills necessary to unravel the complexity of spatial patterns, processes, and relationships, and these skills can open up many career opportunities. This book will help you understand not only physical processes that led to changes to the landscape but also the processes responsible for settlement and development of the land and why people live and work where they do. You’ll come away with an understanding of how past decisions and actions have shaped the landscape of the present. Throughout the book, complex processes are described in simple language, and more complex terms, highlighted in bold (on first use), are explained in a glossary, located at the end of the text.

From a European, colonial perspective, British Columbia has a short history of settlement and development compared to eastern Canada or to many other nations in the world. Indigenous Peoples, however, have well over ten thousand years of history with the lands that eventually became British Columbia, and anthropologists and archaeologists are still adding new evidence of their settlement patterns and use of resources. Indigenous Peoples and the explorers, fishers, sojourners, and settlers who began to arrive in the eighteenth century exploited and altered the landscape, sometimes irreversibly.

To understand these developments and their significance over time, we need to consider movement over space. “*Time-space convergence*” (sometimes referred to as time-space compression or collapse) refers to changing technologies of movement that shrink time and space. Today, for example, a flight from London, England, to Vancouver, British Columbia, takes approximately nine hours. In the 1790s, when the maritime fur trade for sea otters began to draw Europeans to the Pacific Northwest – the region that comprises present-day British Columbia, Washington, Oregon, and northern California – a trip to the region from London took nearly seven months and meant sailing around South America. By 1886, when Vancouver was incorporated.
as a city, the voyage from London to the new city had been reduced to three weeks with the introduction of steam-driven vessels and the completion of the Canadian Pacific Railway across Canada. Changing transportation routes affected the movement of goods and people, settlement patterns, and resource development. Railways (along with ship transport) promoted the movement of high-bulk, low-value goods such as wheat, lumber, and coal over great distances with relatively low freight rates. By comparison, current satellite systems provide instant global communications that have led to a worldwide reorganization in the production of goods and services and spatial relationships more generally.

The concept of time-space convergence helps explain a shrinking world, but it’s important to keep in mind that the shrinking of time and space does not occur evenly. Geographic locations that are connected differ, sometimes greatly, from locations that are not connected. Freeways such as the Coquihalla allow people to travel quickly to communities in southern British Columbia, while northern and coastal communities that have only secondary roads or, in some cases, no roads are significantly more isolated. The construction of airports, railways, port facilities, pipelines, and communications infrastructure have given birth to similar disparities. These transportation developments have played a significant role in settlement, development, and economic advantage throughout the province.

Another important and related concept to keep in mind is spatial diffusion, which is employed to trace the movement (or flow) from one location to another of goods, people, services, innovations, and ideas. For example, the spatial diffusion process is used to trace where new innovations in computer software occur and where they are adopted. The spatial diffusion process is also used to describe events, such as the waves of smallpox epidemics that decimated Indigenous Peoples, the evolution and pattern of salmon cannery locations, or the spread of high-speed internet service. All of these movements were influenced by carriers and barriers (Gould 1969). Carriers are instrumental in the spread and adoption of innovations, goods acquisition, or the contraction of diseases; barriers prevent, or block, this movement. “Relocation diffusion” refers specifically to the movement of people (e.g., refugees) from one place to another. The terms “barriers” and “carriers” apply to relocation diffusion, but the terms “push” and “pull” factors are also used. Push factors include the many political, economic, and social forces that cause people to move, such as over-population, warfare, or religious persecution. Pull factors are the various conditions that attract people to a new location. Both push and pull factors have been responsible for moving people to British Columbia.

Statistics are also useful in assessing trends and patterns over time. Table I.1 indicates the evolution of British Columbia’s population, including its gradual transformation from a rural to an urban province. Isolation was a major factor in prohibiting early non-Indigenous settlement and development. However, time-space convergence overcame the friction of distance in this frequently vertically challenged landscape, and this change is reflected in rapid population growth, particularly after the completion of the transcontinental railway. The conquering of distance also facilitated the global transition, especially in trade and investment, from the Atlantic to

Table I.1

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<tr>
<th>Year</th>
<th>Population</th>
<th>Ten-year change</th>
<th>Rural</th>
<th>Urban</th>
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<td>36,247</td>
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<td>91.1</td>
<td>8.9</td>
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<td>88.1</td>
<td>11.9</td>
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<td>98,173</td>
<td>47,786</td>
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<td>80,484</td>
<td>49.5</td>
<td>50.5</td>
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<td>1911</td>
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<td>48.1</td>
<td>51.9</td>
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<td>4,991,687</td>
<td>591,630*</td>
<td>10.7</td>
<td>89.3</td>
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* Seven-year change only.

the Pacific, tying British Columbia closely to the Asia-Pacific region.

Time-space convergence and spatial diffusion are basic geographic concepts essential to understanding movement over space and through time, while statistics, graphs, and maps are the key tools of the geographic trade (the “techniques” shown in Figure I.1). They allow geographers to begin to understand the dynamics of the where, why, and what questions. *Geography of British Columbia* employs these concepts, tools, and techniques in a comprehensive exploration of British Columbia’s peoples and landscapes and their transition over time. The book is divided into two parts. Part I offers a foundational understanding of the geography of British Columbia, especially for those with little or no knowledge of the discipline. Chapter 1 underscores the importance and relevance of adopting a spatial approach to understanding the development of the province, including settlement patterns in the eight provincial regions. Chapter 2 introduces some of the basic processes of physical geography with a particular focus on the profound impact that weather, climate, and the physical features of the surface of the earth have had over the span of tens of millions of years.

Chapter 3, in turn, explores how these basic processes of physical geography gave birth to geophysical hazards – extreme events such as floods, wildfires, avalanches, and earthquakes. In British Columbia, the combination of a rugged, vertical landscape with mainly prevailing westerly winds has led to considerable property damage and loss of life, for which corrective and preventative measures had to be (and must be) taken. Finally, Chapter 4 sets the stage for Part 2 by defining what geographers mean by “resources” and introducing several models for examining the implications of resource harvesting and the importance of resource management, including how resources have been used to grow the economy over time.

Part 2 unfolds chronologically rather than thematically to show the role that resources have played in shaping and reshaping the province while at the same time avoiding giving the impression that British Columbia remains a resource-dependent province. Since the 1970s, there has been a fundamental transformation of the province’s economy, to the point where resources now contribute few jobs or provincial revenues. Today, British Columbia is a service economy. Adopting a historical approach allows for a better understanding of how this major transition took place and, tragically, why resources have been mismanaged in the province. And it makes it easier to trace how and why the shift away from resources has had a negative impact on some regions more than others.

Resources – especially renewable resources such as furs, fish, and forests – played a significant role historically, but, unfortunately, both settlers and governments treated them as never-ending in a boundless “frontier,” an approach that can best be understood as part of the tragedy of the commons, an economic theory that explains why people use natural resources to their advantage without considering the good of society as a whole. In a classic essay published in *Science* in 1968, Garret Hardin explained the theory by telling the story of two tribes who measure their wealth in cattle. In the beginning, the cattle feed on the commons – a finite, shared territory or common property resource. Over time, war and cattle poaching cause grief, but the commons remain sustainable and support the cattle economy. The tragedy occurs when “peace” is achieved, when individuals from each tribe have the motivation to gain wealth by increasing their herd. In this time of unrestricted capitalism, the commons soon becomes overgrazed, bringing tragedy to all.

A similar process has occurred in British Columbia again and again. Since the arrival of European colonizers to the northwest coast of America, renewable resources have suffered from species extinction, or near extinction, through colonial and then provincial exploitation. Once one resource was depleted, colonizers, governments, or companies have moved on to exploit another. These physical-human interactions prompt us to look at the landscape another way, namely, from an environmental perspective.

Chapter 5, which opens Part 2, reveals how the accidental discovery of a lucrative market for furs in China became the lure for Russian, Spanish, British, and American interest in the Pacific Northwest. At first, the maritime fur trade, which focused on the sea otter, led to conflict between the British and the Spanish and between colonizers and Indigenous Peoples. But it was two nonrenewable resources – coal and gold – that ultimately led to the British acquiring colonial control...
over the territory, which in turn led to the arrival of more settlers, declining Indigenous populations, and, eventually, Confederation, when British Columbia became part of Canada in 1871.

Chapter 6 begins with the promises made by the federal government during Confederation and ends in the early twentieth century. One of the key promises made was a transcontinental railway. Although the railway was delayed by a scandal, it was eventually constructed but not without tremendous amounts of racism being directed towards Chinese contract labourers and anguish being felt among residents in Victoria who wanted the terminus to be in their own city rather than Vancouver. The completion of the Canadian Pacific Railway led to the construction of regional rails, which were connected to steam paddlewheelers (steamers) on lakes and the ocean, allowing for the movement of resources and people throughout the province and the emergence of a new “boom and bust” economy.

Chapter 7 examines BC’s increasing resource dependency in the context of unpredictable global events such as the two world wars. Dependent on resource development, immigration, and British investment in railways, the province was rocked by swings in commodity prices that led to more boom-and-bust cycles, and tough economic times brought on extreme racism towards Asians. But the Second World War catapulted Canada into an industrial nation, fuelled by major inputs from BC’s natural resources. As Chapter 8 explains, the greatest economic boom in North American history followed the war, and it was accompanied by a baby boom, high immigration rates, increased disposable income, a demand for single-family dwellings, and the birth of car culture. In British Columbia, as elsewhere, values changed in a rapidly changing world marked by the Cold War and fear of nuclear annihilation. British Columbians witnessed the beginnings of the megaprojects era as clear-cut logging, open-pit mining, major hydroelectric dams, transmission lines and pipelines, and roads and rails scarred the landscape, giving rise to the environmental movement and renewed protests by First Nations.

But Chapter 9 explores a major shift that occurred in the last three decades of the twentieth century as the province shifted from being profoundly rural and resource-dependent to highly urban and service-oriented. The transition, fuelled by globalization, was complicated and difficult and required resource industries to restructure themselves and downsize as they were hit by major and unforeseen economic predicaments, including the end of the Cold War, energy crises, recessions, and free trade agreements. On another level, they had to contend with environmental organizations and First Nations demanding, and gaining, recognition of Indigenous Title (called “Aboriginal Title” by the Supreme Court of Canada).

Although the Nisga’a Treaty, which recognizes Indigenous Title, was signed in 2000 by the federal government and BC’s NDP government, Chapter 10 explores what happened when the Liberal Party came to power from 2001 to 2017, some of the strangest, most contradictory decades in the province’s history. One of the first things the new government did was hold a referendum to reverse recognition of Indigenous Title. But by 2005 the Liberals had forged a New Relationship with First Nations that recognized Indigenous Title. However, both Gordon Campbell’s and Christie Clark’s governments continued to conduct land-use decisions on unceded territories as if treaties and landmark Supreme Court decisions had not occurred. The period was also characterized by some of the most stringent regulations to reduce greenhouse gas emissions, including a carbon tax to address climate change. As these regulations were put in place, the government simultaneously insisted that resources were “the backbone of the economy,” promoted liquefied natural gas as if it were not a fossil fuel, and supported oil pipelines from Alberta. It became embroiled in land-use conflicts, many of which were over resource exploitation.

To conclude, I reflect on the history of resource mismanagement in the province in the context of a present and a future in which climate change is a reality. Geography is about people and the environment, and this edition of Geography of British Columbia stresses the political decisions that have affected and moulded the province’s landscape. But it also addresses the impact of unforeseen events and conditions, including geophysical hazards, war, recessions and depressions, and, more recently, terrorism. Collectively, these global and local forces helped shape a province that was once reliant on resources but no longer depends on them. In the era
of climate change, the regional economies that have developed in British Columbia and the uneven distribution of its population and employment opportunities means that some regions are or will be more vulnerable than others, and both governments and citizens need to be prepared.

REFERENCES


