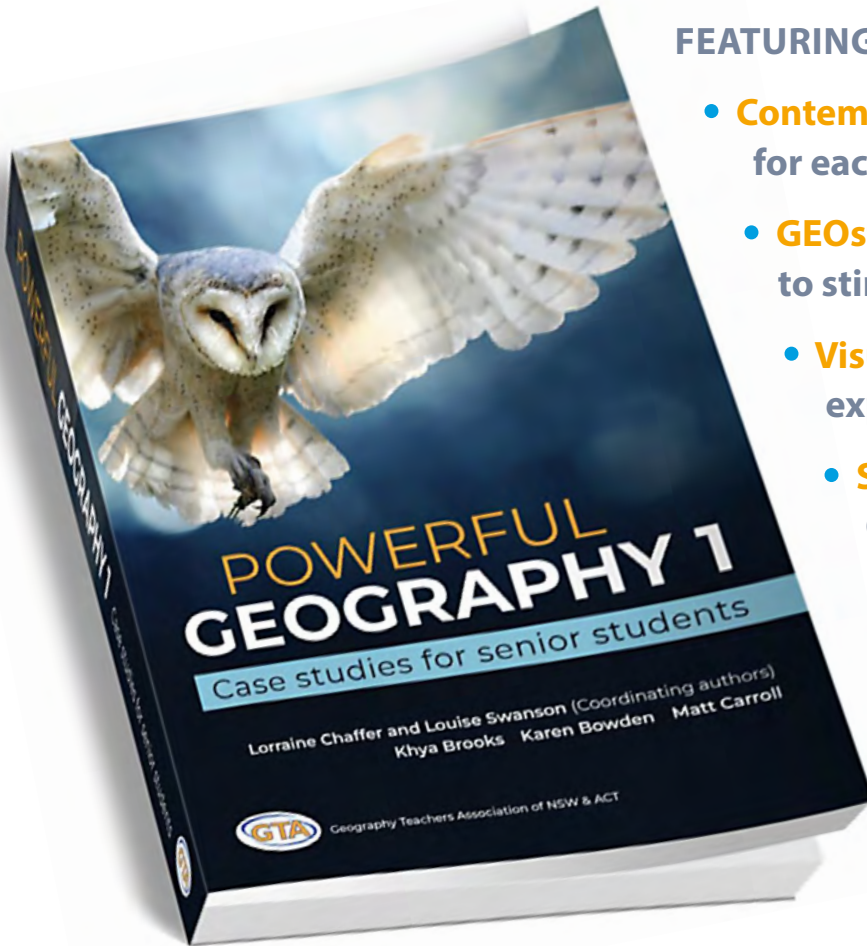


POWERFUL GEOGRAPHY 1 AND 2

Case studies for Senior Geography



FEATURING:

- **Contemporary case studies** for each Content Focus Area
- **GEOstories** – micro case studies to stimulate discussion
- **Visualise This** – key concepts explained using illustrations
- **Student Activities** – Core knowledge, Application, Extension, Fieldwork & Skills

Visit the
Authors' Blog
HERE

CONTENT OUTLINE

Lorraine Chaffer, Coordinating author

The team of authors for Powerful Geography 1 are excited about the case studies they have created, the beautiful illustrations created for the book or used with permission, many never seen before, and the inclusion of Visualise This, concept explainers.

This book offers teachers and students a range of case studies and GEOstories (mini case studies) to support teaching the NESA Stage Geography Syllabus (2022).

Powerful Geography 1 is organised into the three Content Focus Areas for Year 11, however the content in each case study is relevant across more than one of these.

This is NOT a traditional textbook and does not cover all syllabus content. The use of GEO stories (micro studies), large case studies and a visual dictionary (Visualise This) for each Content Focus Area covers essential content knowledge, concepts, tools, and skills.

Short GEOstories provide an opportunity to differentiate student learning on the basis of depth of content, cognitive load and student activities.

STAGE 6 GEOGRAPHY: CASE STUDIES

The student activities throughout each section focus on three areas.

- Demonstrating understanding of content and concepts.
- Using geographical tools and skills
- Analysing stimulus material

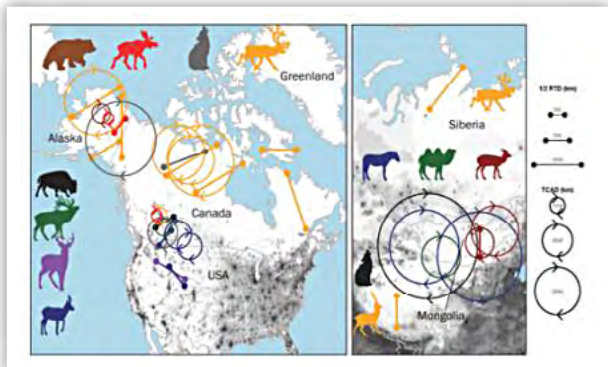
The activities are scaffolded as Core Knowledge, Application and Extension.

SECTION 1: EARTH'S NATURAL SYSTEMS

The purpose of this section is to develop an understanding of the processes, cycles and circulations that create an integrated Earth System, including the natural processes that change Earth's land cover over time.

Chapter 1: GEOstories

Five GEOstories provide examples of the interconnectedness of Earth's – hydrological, atmospheric, ecological, and geomorphic systems and the wonder and values of nature. These stories can be used as an introduction to the syllabus content Focus Area, Earth's Natural Systems, or to engage students in discussion about the interconnectedness and value of natural systems for the overview section. The stories go beyond the narrative to engage with geographical content, tools, skills, and concepts. Each is supported by student activities.



Great terrestrial wildlife migrations. Adapted with permission

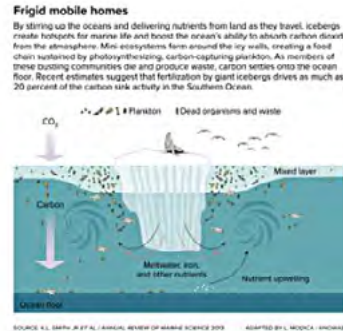
- 1.1. Inspirational wildlife migrations
- 1.2. Forest elephants: Valuing nature.
- 1.3. Whales: Ecological engineers.
- 1.4. Blown away: The story of dust.
- 1.5. Iceberg Alley: An uncertain future

Earth Systems taught through the lens of a case study

The purpose of the case studies for Earth's Natural Systems is to teach natural processes, cycles, and circulations in a context that will assist conceptual understanding. Select one option from the two case

studies provided – The Cryosphere and Forest Systems. Each study incorporates place-based studies and is supported by the Visualise This section that follows.

Chapter 2: THE CRYOSPHERE

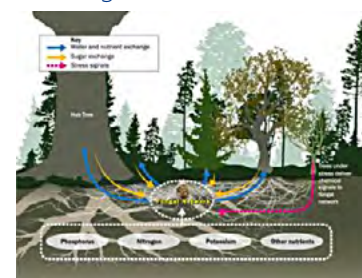


Icebergs support diverse ecological communities

There are significant links to climate change – natural and anthropogenic. A study of Patagonia provides a deeper insight into glaciers, the global retreat of glaciers and loss of ice mass. This content links to anthropogenic land cover change from the Focus Area: Human – Environment Interactions.

Chapter 3: FOREST SYSTEMS

Forests link all of Earth's natural systems and can be used to explain key concepts related to atmospheric and hydrological processes, cycles, and circulations as well as ecological succession and geomorphic influences. Factors influencing forest systems such as latitude, altitude and oceanity are integrated throughout. Natural and anthropogenic change have impacted forests at a range of scales. Canada's Boreal Forests and the



Forests function through underground networks

NASA and IPCC are two global organisations that refer to the cryosphere as a distinct natural system because of the role it plays in global processes, cycles and circulations and its impact on Earth's systems.

Congo Rainforest are place-based studies. Each study touches on anthropogenic change studied in the Content Focus Area – Human – Environment Interactions.

VISUALISE THIS

Visualise This 1–7 use illustrations, maps, graphs, and photographs to explain key concepts related to Earth systems and natural change to build conceptual understanding. Many of these are also relevant to Human – Environment Interactions.



Fieldwork equipment and techniques

STAGE 6 GEOGRAPHY: CASE STUDIES

- Visualise This 1: Earth's Natural Systems – a safe space for humanity.
- Visualise This 2: Global atmospheric circulation.
- Visualise This 3: Global oceanic circulations.
- Visualise This 4: Glacial and interglacial cycles.
- Visualise This 5: Ecological succession.
- Visualise This 6: Permafrost.
- Visualise This 7: Fieldwork techniques for Earth's natural systems.

SECTION 2: PEOPLE, PATTERNS & PROCESSES

The purpose of this section is to develop an understanding of global trends in population growth, the distribution and use of Earth's natural resources, and the transformation of places.

Chapter 4: GEOstories

- 4.1. Environmental refugees: Forgotten Victims
- 4.2. Slipping through our fingers: A global sand crisis.
- 4.3. Sea floor mining: The next frontier.
- 4.4. Churchill: A story of human resilience
- 4.5. Global networks: Eyes in the sky



Seafloor mining (with permission)

Place-based case studies

Each study is place-based and supported by illustrated concepts in Visualise This.

Chapter 5: POPULATION and RESOURCES

Three studies focus on understanding:

- population dynamics in **Japan** and **Uganda**, both at different stages in the Demographic Transition Model and how each nation is dealing with the challenges related to their situation.
- issues associated with the exploitation of oil in Nigeria.



Oil in exploitation in Nigeria

Issues related to resource use are also investigated in GEOstories 2 (Sand) and 4 (Sea floor mining) and linked to Visualise This 11: The global commons.

Option studies

Chapters 6 and 7 investigate the role of people in transforming places and environments, the processes involved, and responses to change. The selected options are:

- Human resilience in diverse environments (Venice)
- Political power and contested spaces. (Ukraine)

GEOstories 4.4 and 4.5 provide other insights into human resilience (Churchill) and technological change (Global satellite networks).

Chapter 6: VENICE: Human ingenuity and resilience

Venice was settled in a shallow lagoon where challenges relating to its survival, including access to freshwater and constructing buildings in mud, were overcome through human ingenuity and resilience over a long period of time. Today, sea level rise, mass tourism and depopulation are contemporary challenges facing Venice and raise the question of whether ingenuity can once again save the city and secure its future.



The Venetian Lagoon is one of the world's most famous coastal systems. The lagoon is also known as known as the 'Queen of the Adriatic' and Venice as the 'Floating City'.

Venice and the Venetian Lagoon.

Chapter 7 UKRAINE: A contested place

This study investigates the interplay of history, geography and politics that led to the Russian invasion of Ukraine in 2022 and the ongoing conflict.

The Ukraine story today follows a complex history as a contested place, with long periods of time under the dominance of other nations or nation states including Russia. Now Ukraine is politically aligning itself with the west while Russia considers Ukraine an integral part of the Russian Federation.

Geography	History	Politics
<ul style="list-style-type: none"> • Ukraine shares borders with Russia in the East and North East. • Ukraine has fertile agricultural land and is an important exporter of commodities to the world. • Russia annexed Crimea in 2014 - an important access point to the Black and Mediterranean Seas and the ice free port of Sevastopol. Russia has no other ice free ports. • Ukraine is an important transit route for Russian gas into Europe. 	<ul style="list-style-type: none"> • The Cold War was a period of mistrust between the USA (the West) and the USSR (the East). • Ukraine was part of the USSR until independence in 1991 when many other countries gained independence and the USSR collapsed. • Russia considers Ukraine as belonging in its sphere of influence and is hostile to any close ties to the West. • Russian and Ukraine have a long history and many people in both countries are related to each other. 	<ul style="list-style-type: none"> • Russia does not want Ukraine to be closer to the West and to join NATO which it sees as anti-Russia. • Relations between Russia and NATO have deteriorated over recent years as more countries join the organisation. • Russia invaded Ukraine. NATO countries and others placed economic sanctions on Russia and supported Ukraine with aid. • Ukraine is more closely aligned to western political ideologies and seeking acceptance by the west.

Key influences in the Ukraine – Russian conflict.

STAGE 6 GEOGRAPHY: CASE STUDIES

VISUALISE THIS

Visualise This 8 - 12 use illustrations, maps, graphs, and photographs to explain key concepts relevant to population and resource use and human perceptions of places.

- Visualise This 8: The Demographic Transition Model
- Visualise This 9: Perspectives on population and resources
- Visualise This 10: Global value chains
- Visualise This 11: Global commons
- Visualise This 12: Fieldwork techniques for investigating people and places.

SECTION 3 HUMAN – ENVIRONMENT INTERACTIONS

The purpose of this section is to develop an understanding of the role of people in contemporary climate change, human impact on Earth's land cover and the interactions of natural and human processes in an option study.

Chapter 8: GEOstories

- 8.1. Saving a species: Wollemi pine (Fire)
- 8.2. Masters of the flood: The Netherlands_(Flood)
- 8.3. Forests of hope: Madagascar. (Deforestation)
- 8.4. Lost Oases: Morocco. (Desertification)
- 8.5 Species migration: Ecological responses to change (Climate change)
- 8.6 Parks on fire: NPWS bushfire management. (Fire)



The Netherlands leads to world in innovative flood management developed in response to storms from the North Sea inundating the country.

Case study options

The case studies for this section focus on understanding the interplay of natural systems and human actions in causing land cover change and the implications of those interactions. The case studies cover the three option topics – A Geographic Region, A Contemporary Hazard, and Climate Change. The feature study on the Lake Eyre Basin Region embeds many geographical tools and skills. The other studies are smaller and less skills based. Each study is supported by the Visualise This section that follows.

Chapter 9: LAKE EYRE BASIN REGION

Lake Eyre Basin (LEB) is one of the world's great desert river systems, one of the last unregulated river systems in the world and a place with a rich Aboriginal heritage. It is a place of inspiring natural beauty and ephemeral rivers that never reach the sea and where wetlands, waterholes, and mound springs support unique ecosystems. The Lake Eyre Basin has high economic value from the



activities of pastoralists, mining and energy companies and tourists. Although the region has a small population and low population density it faces increasing pressure to develop water and energy resources and increase tourism.

Mithaka people and Dreaming tracks.

Chapter 10: THE ARCTIC: Region on a threshold

The Arctic is on a threshold of irreversible environmental change due to global warming. The interplay of natural systems and human activities in the region provides a deep understanding of the consequences of melting sea ice, ice sheets and glaciers and melting permafrost on people and the environment, including First Nations communities. The 'Race for the Arctic' highlights growing political interest in a potentially ice free ocean ripe for resource exploitation and as an all year shipping route. This study can be used as a stand-alone investigation of a region or to illustrate land cover change (melting ice sheets and glaciers).



Indigenous reindeer herders

Chapter 11: NORTH COAST FLOODS 2022

In February 2022, the east coast of the NSW recorded over a year's rain in a week that led to a series of devastating floods in the Richmond River catchment on the far North Coast. Nothing in the history of flooding in the town of Lismore and downstream settlements such as Woodburn and



Extent of the North Coast floods

STAGE 6 GEOGRAPHY: CASE STUDIES

the Cabbage Tree Island Indigenous community could prepare for this unprecedented event. A lack of contemporary monitoring technology and the unpreparedness of authorities in responding quickly to the unfolding disaster exacerbated the impact of the floods. The magnitude and intensity of the flooding, the impact on communities and responses to the event continue to be the centre of debate.

Chapter 12: PACIFIC ISLAND ATOLL NATIONS: A climate change challenge

Low lying Pacific Island nations such as Kiribati, Solomon Islands, Maldives and Tuvalu are at the forefront of climate change. These countries may potentially disappear as sea levels rise, extreme weather events increase in frequency and intensity, coastal erosion worsens, and water invasion of freshwater aquifers continues. When the foreign minister for Tuvalu recorded a speech for the United Nations climate conference in 2022, he stood knee-deep in seawater and spoke about creating a 'Metaverse' version to highlight the impact of climate change. It was a plea for international action. This



Coral atolls increasing vulnerability to climate change.

study will investigate the effectiveness of people and organisations in managing ONE climate change challenge *at a selected place*.

Chapter 13: THE GEOGRAPHICAL INVESTIGATION

This is a step-by-step guide to undertaking a geographical investigation using excerpts of best practice from past student investigations for the Senior Geography Project.

VISUALISE THIS

Visualise This 13–18 use resources such as illustrations, maps, graphs, and photographs to explain key concepts relevant to climate and land cover change as well as case studies such as the Cryosphere and The Arctic Region.

Visualise This 13: The Anthropocene

Visualise This 14: Land cover change

Visualise This 15: Tipping points

Visualise This 16: Feedback loops

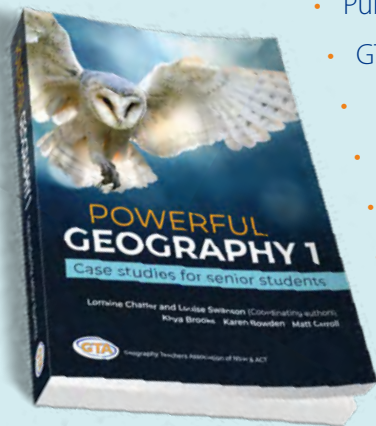
Visualise This 17: Rewilding

Visualise This 18: Antarctica's Doomsday glacier



Climate Change: Feedback loops

SALES and SUPPORT



- Publication is anticipated to be between December 2023 – January 2024 tbc.
- GTA is self-publishing and working hard to have the books available asap
- Books will be sold through the GTANSW & ACT online shop.
- The cost of the books will depend on final production costs tbc.
- An author's Blog will provide online support.
- Units of work based on the case studies in Powerful Geography 1 and other resources are being prepared and will be released during Term 4.
- Sample pages will be available soon.