**Victorian Certificate of Education
2023**

Letter

**STUDENT NUMBER**

# GEOGRAPHY
## Written examination

**Thursday 9 November 2023**

**Reading time: 2.00 pm to 2.15 pm (15 minutes)
Writing time: 2.15 pm to 4.15 pm (2 hours)**

## QUESTION AND ANSWER BOOK

**Structure of book**

| Number of questions | Number of questions to be answered | Number of marks |
| --- | --- | --- |
| 10 | 10 | 80 |

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners, rulers, coloured pencils, water-based pens and markers.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or correction fluid/tape.
- No calculator is allowed in this examination.

**Materials supplied**
- Question and answer book of 15 pages, including **assessment criteria for extended-answer questions** on page 15
- Data book
- Additional space is available at the end of the book if you need extra space to complete an answer.

**Instructions**
- Write your **student number** in the space provided above on this page.
- All written responses must be in English.

**At the end of the examination**
- You may keep the data book.

**Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.**

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**Instructions**

Answer **all** questions in the spaces provided. Refer to the data book as indicated.

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*Use Figure 1 on pages 2 and 3 of the data book when responding to Question 1.*

**Question 1** (4 marks)

Before 1950, the area of Papua New Guinea shown in Figure 1 was largely tropical rainforest as well as some mangrove and wetland areas. Local farming produced secondary growth forest but there were no commercial plantation areas. Figure 1a dates from 1973 and includes the expanding town of Kimbe.

**Land Categories Map, Du Faure map, Papua New Guinea**
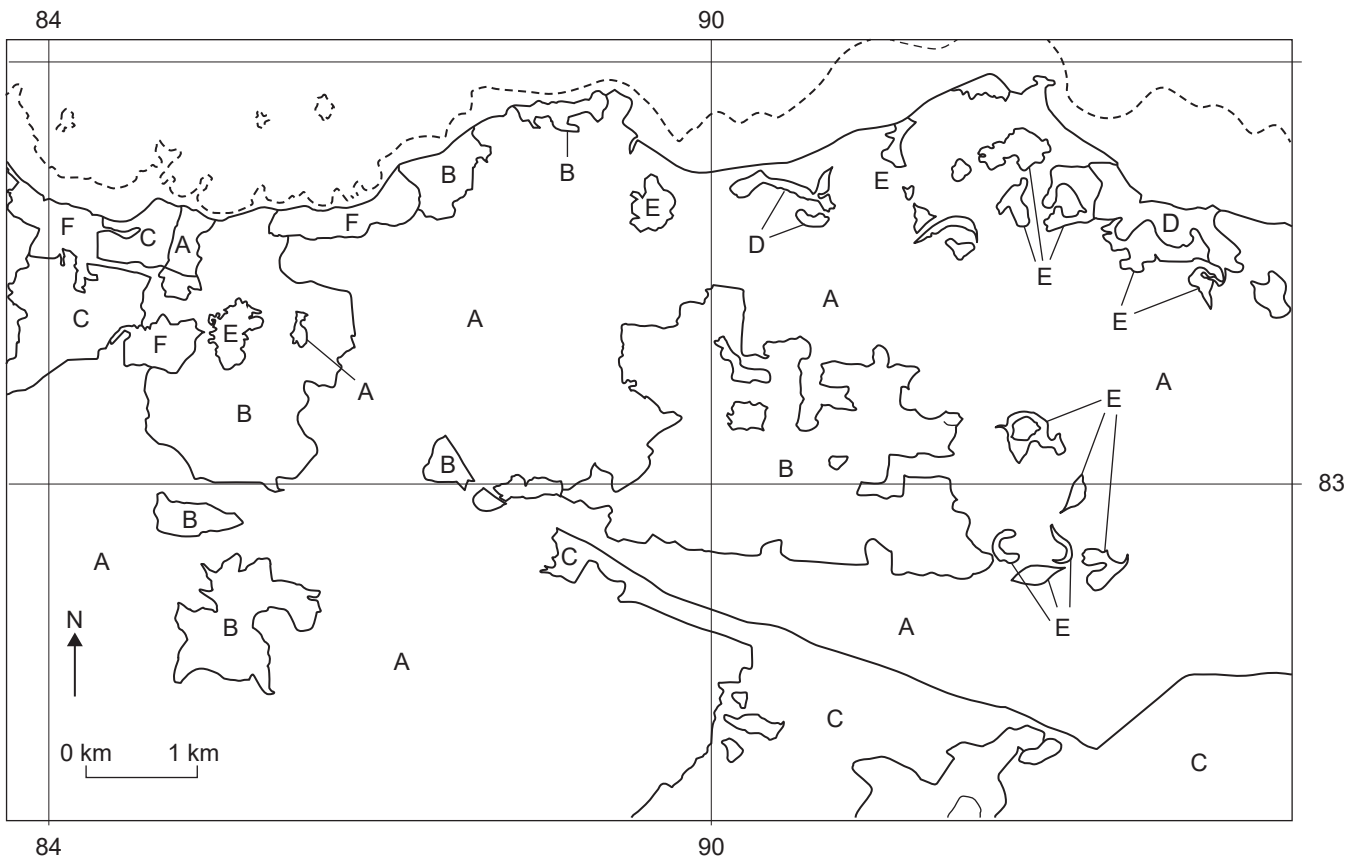


Source: adapted from Papua New Guinea, 1:50 000 topographic survey, Central Mapping Bureau, Port Moresby,
<trove.nla.gov.au>

a.   Which letter on the Land Categories Map represents a change in land cover from tropical rainforest to commercial plantation?                                                                1 mark

b.   Which letter on the Land Categories Map represents a change in land cover from tropical rainforest to secondary growth?                                                                           1 mark

**c.** The urban area of Kimbe is expanding into map grid square 8584.

Which is the main land cover that will change as a result?    1 mark

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**d.** A proposal to expand commercial plantations into the map area of grid square 9485 could be limited by swamp, land subject to inundation, open water and tropical rainforest.

Name **one** other potential limitation in grid square 9485 shown on Figure 1a.    1 mark

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**Question 2** (12 marks)

**a.** Explain **two** environmental impacts resulting from the process of deforestation at **one** selected location that you have studied this year. Do **not** use the map area of Figure 1a from Question 1.    6 marks

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**b.**  Evaluate the effectiveness or likely effectiveness of a response to **one** of the two impacts of
deforestation at the location selected in **part a.**                                          6 marks

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**Question 3** (10 marks)

Discuss the impacts of melting ice sheets and glaciers on economic activity and social conditions at a selected location you have studied this year.

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**Question 4** (4 marks)

Describe a local response to the impacts discussed in Question 3, on **either** economic activity **or** social conditions.

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**Question 5** (10 marks)

a. Describe a geospatial technology used for your fieldwork investigation that assisted in answering your research question.

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b. Evaluate how land use change, or predicted change, has impacted, or is likely to impact, the region surrounding your fieldwork area.

5 marks

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*Use Figure 2 on page 4 of the data book when responding to Question 6.*

**Question 6** (10 marks)

What are the implications of the total fertility rates in the 21st century for the future structure of population within the following countries?

**a.**  Country A                                                                          5 marks

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**b.**  Country B                                                                          5 marks

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*Use Figure 3 on pages 6 and 7 of the data book when responding to Question 7.*

**Question 7** (4 marks)

**Background information**

Buenos Aires is Argentina's largest urban area, with an estimated 15.4 million residents in 2023. The growth of its informal settlements has resulted from rural-to-urban migration as well as intra-urban movement. Informal settlements can also be referred to as squatter settlements, slum cities, shanty towns and favelas, depending on their location.

Describe the spatial distribution of Buenos Aires' informal settlements.

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**Question 8** (6 marks)

Explain the interconnection between rural-to-urban migration and the resulting informal settlements that occur globally. Do **not** use the example of Buenos Aires from Question 7.

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**Question 9** (10 marks)

Identify a country with population strategies that have been developed in response to issues relating to its ageing population.

Apply an appropriate criterion to evaluate the effectiveness of these strategies.

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**Question 10** (10 marks)

Identify a country with a growing population. It must be a different country from the one selected for Question 9.

**a.**  Identify a current demographic issue resulting from this growing population.                2 marks

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**b.**  Discuss the causes of this issue with specific reference to cultural and economic factors.    8 marks

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## Extra space for responses

**Clearly number all responses in this space.**

An answer book is available from the supervisor if you need extra space to complete an answer. Please ensure you write your **student number** in the space provided on the front cover of the answer book.
**At the end of the examination, place the answer book inside the front cover of this question and answer book.**

## Assessment criteria for extended-answer questions

The extended-answer questions will be assessed against the following criteria, as appropriate:

- application of geographical knowledge and understanding
- demonstration of geographical skills
- description and application of key geographical concepts
- interpretation and analysis of data and other geographical information

**END OF QUESTION AND ANSWER BOOK**

VICTORIAN CURRICULUM
AND ASSESSMENT AUTHORITY

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## DATA BOOK

### Instructions

A question and answer book is provided with this data book.

Refer to the data in this book for each question as indicated in the question and answer book.

The data contained in this book is drawn from real-world case studies.

**Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.**
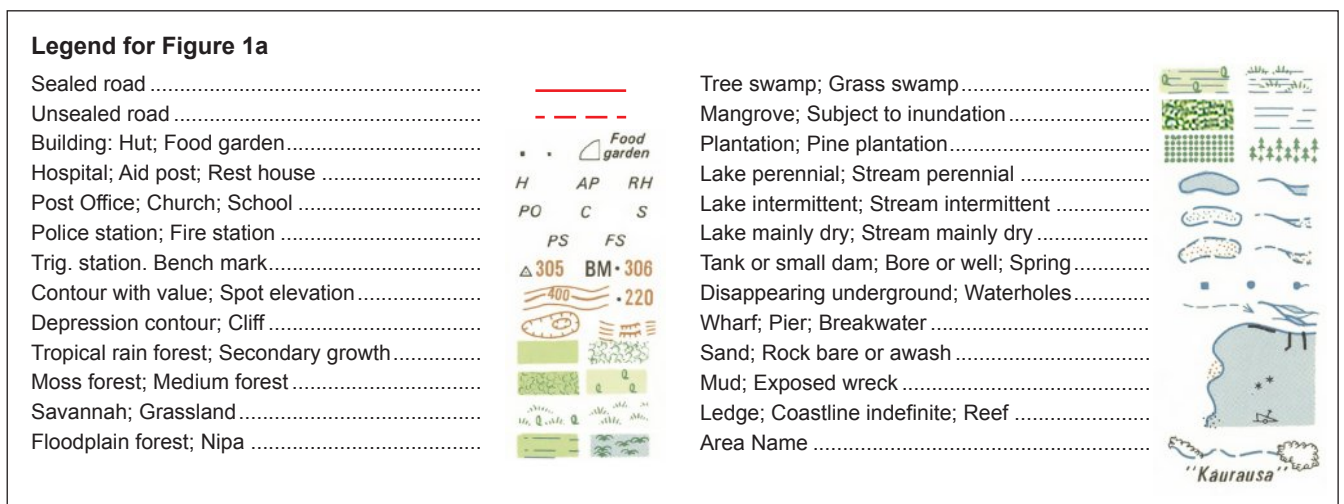
Figure 1 | **Land cover change**
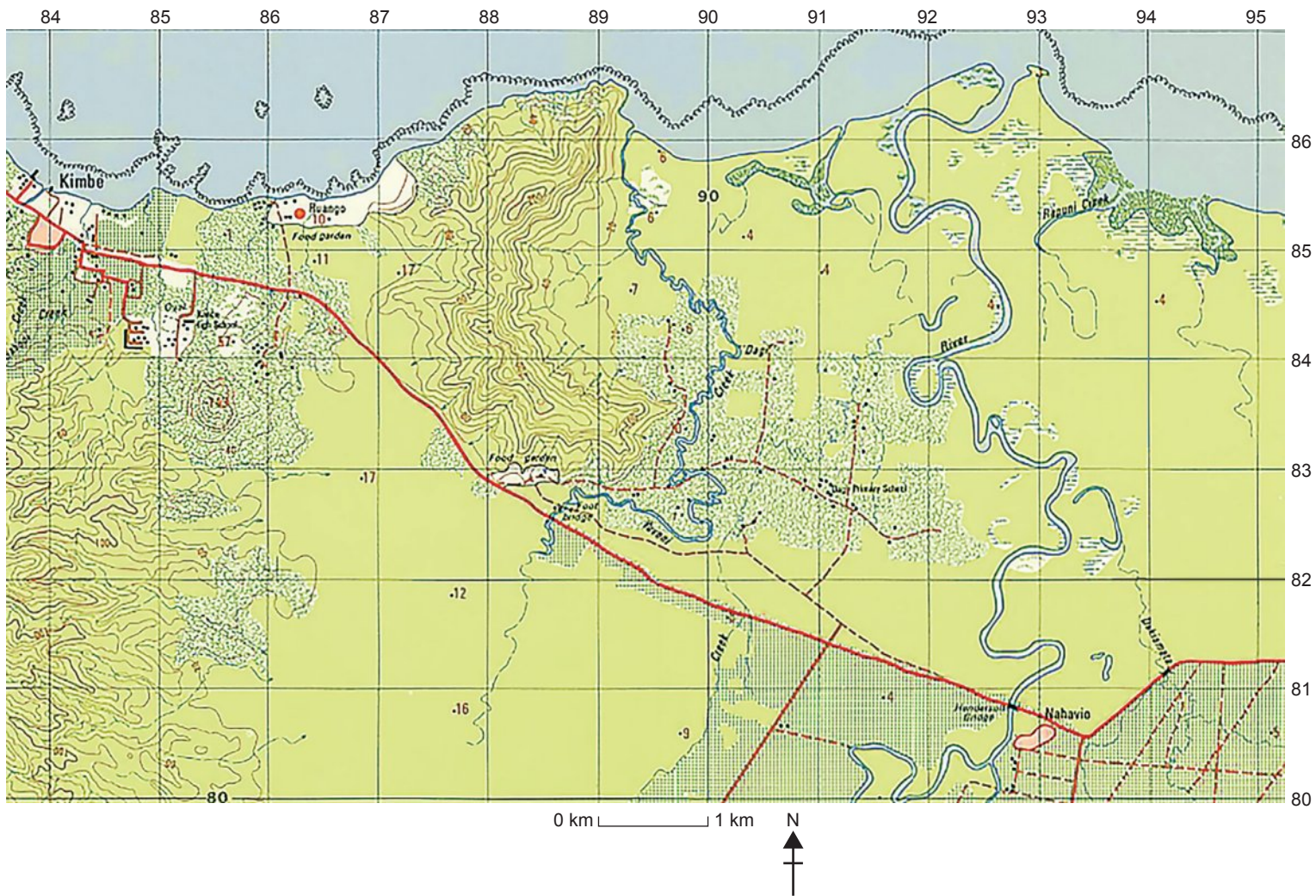


**Figure 1a: Extract from Du Faure topographic map, 1:50 000, Papua New Guinea, 1973**

**Legend for Figure 1a**

| | | | |
|---|---|---|---|
| Sealed road | | Tree swamp; Grass swamp | |
| Unsealed road | | Mangrove; Subject to inundation | |
| Building: Hut; Food garden | | Plantation; Pine plantation | |
| Hospital; Aid post; Rest house | | Lake perennial; Stream perennial | |
| Post Office; Church; School | | Lake intermittent; Stream intermittent | |
| Police station; Fire station | | Lake mainly dry; Stream mainly dry | |
| Trig. station. Bench mark | | Tank or small dam; Bore or well; Spring | |
| Contour with value; Spot elevation | | Disappearing underground; Waterholes | |
| Depression contour; Cliff | | Wharf; Pier; Breakwater | |
| Tropical rain forest; Secondary growth | | Sand; Rock bare or awash | |
| Moss forest; Medium forest | | Mud; Exposed wreck | |
| Savannah; Grassland | | Ledge; Coastline indefinite; Reef | |
| Floodplain forest; Nipa | | Area Name | |

**Figure 1b: Location map for Papua New Guinea**

Figure 2 | **Human population**

| | COUNTRY A | | COUNTRY B | |
|---|---|---|---|---|
| Year | Total Fertility Rate | Average Life Expectancy | Total Fertility Rate | Average Life Expectancy |
| 1960 | 3.0 | 66.86 | 6.9 | 38.03 |
| 2000 | 1.4 | 73.47 | 6.6 | 51.86 |
| 2005 | 1.2 | 74.98 | 6.0 | 55.80 |
| 2010 | 1.4 | 76.20 | 5.2 | 60.93 |
| 2015 | 1.3 | 77.67 | 4.5 | 64.61 |
| 2020 | 1.4 | 78.78 | 4.2 | 66.71 |
| 2022 | 1.4 | 79.11 | 3.99 | 67.44 |

**Figure 2: Demographic indicators of Country A and Country B**

Source: United Nations World Population Prospects;
World Bank data indicators
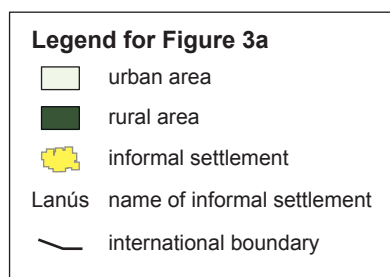
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# Figure 3 | **Human population**
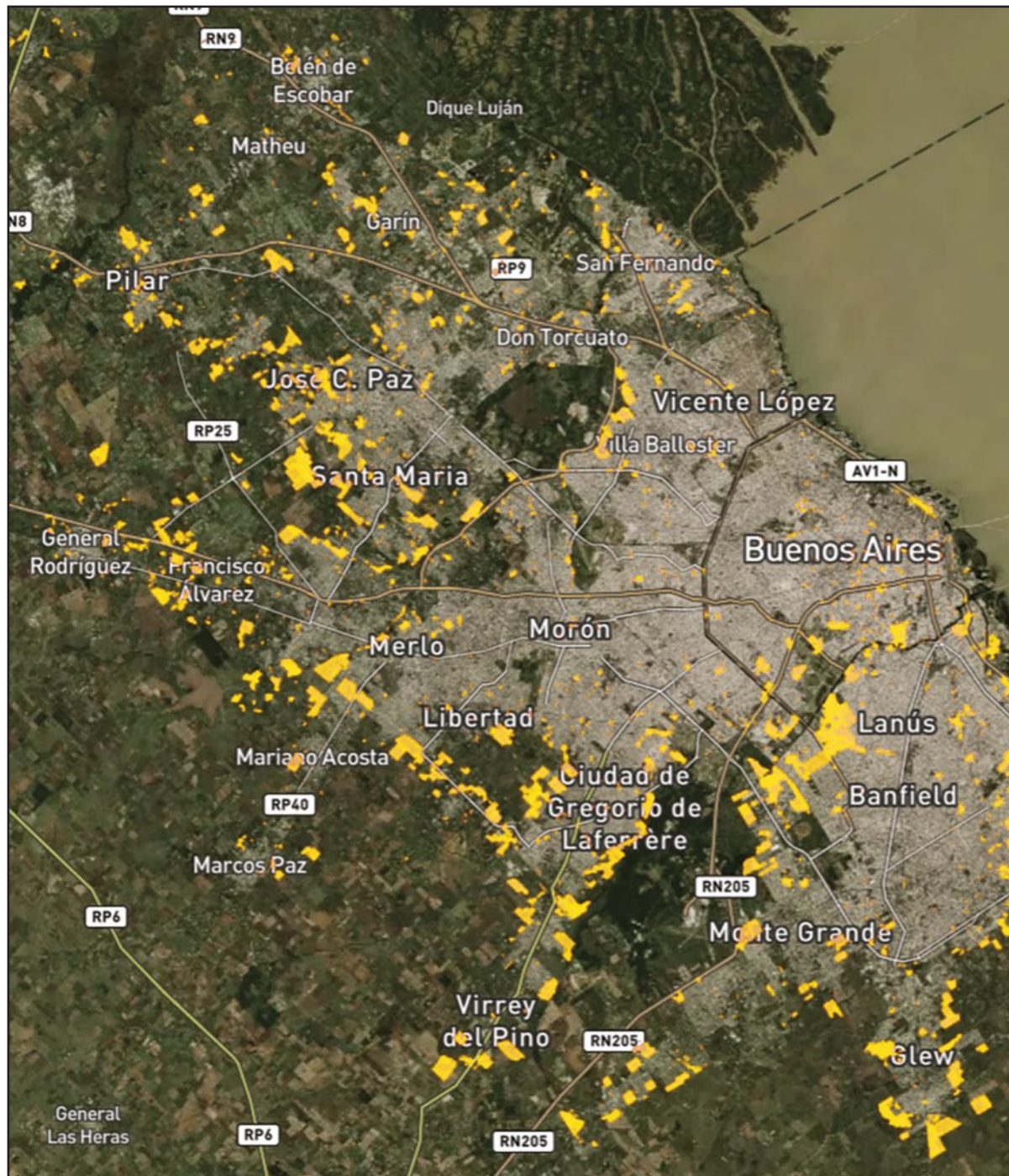
**Figure 3a: Satellite image of Buenos Aires, Argentina**

**Legend for Figure 3a**

- urban area
- rural area
- informal settlement
- Lanús  name of informal settlement
- international boundary

Source: Dymaxion Labs, 'Detecting Informal Settlements using Satellite Imagery and Convolutional Neural Networks', medium.com, <blog.goodaudience.com>, original: Dymaxion Labs (https://ap-latam.dymaxionlabs.com/en/map?id=argentina-buenos_aires)
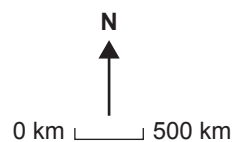


**Figure 3b: Location map for Buenos Aires, Argentina**

**Legend for Figure 3b**
- 🔴 location of Buenos Aires
- ▪‑▪ international boundary

**END OF DATA BOOK**