

Paper Reference 4GE1/01
Pearson Edexcel
International GCSE (9–1)

Geography

PAPER 1: Physical geography

Friday 17 May 2024 – Afternoon

Time: 1 hour 10 minutes

Resource Booklet

**DO NOT RETURN THIS
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QUESTION PAPER.**

V75749A

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For some Figures there is a modified colour and modified black and white diagram. You may use whichever version is easier for you to view. Some diagrams are only in modified colour but you are then provided with a description of the diagram.

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Figure 1a – Key (Colour)
OS map of an upland river landscape

KEY

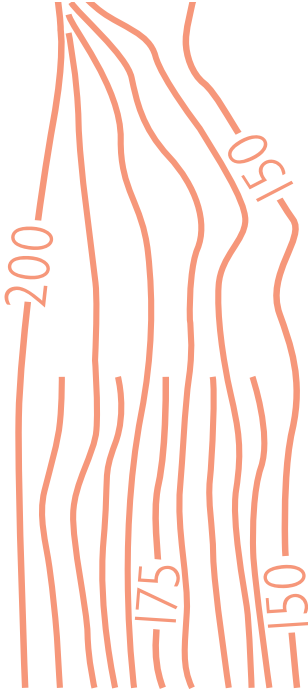
Contour lines shown at
10 metre intervals

Recreational route

Contours



Water



Scree



Boulders



Vertical face/cliff

Footpath



Outcrop

Ground survey height

52

National Trail

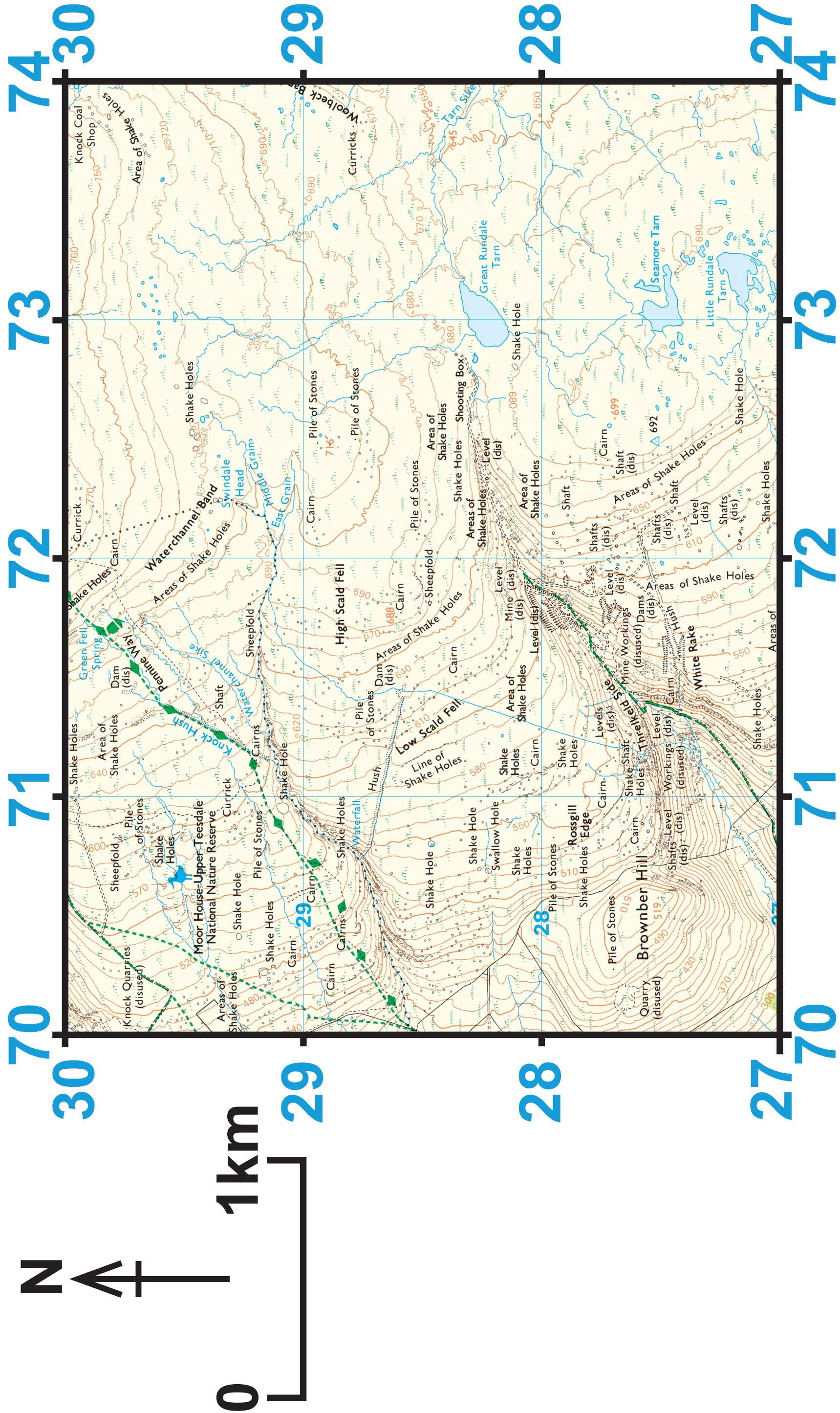


Bracken, heath or
rough grassland

Turn over

Figure 1a – Diagram (Colour) Page 7

OS map of an upland river landscape



Turn over

Figure 1a – Key (Black and White) – Part 1

OS map of an upland river landscape

KEY







Contour lines shown at 20 metre intervals		Water
Contours		Rivers/streams
—200— -180~180		Vertical face/cliff and outcrop
----- Footpath		Scree
• 52 Ground survey height		Boulders
NT National Trail		Bracken, heath or rough grassland
◆◆◆ Recreational route		
		Turn over

Figure 1a – Key (Black and White) – Part 2

OS map of an upland river landscape

- A

Moor House—Upper
Teesdale National
Nature Reserve
- E

Rossgill Edge
- F

Threlkeld Side
- B

Swindale Head
- G

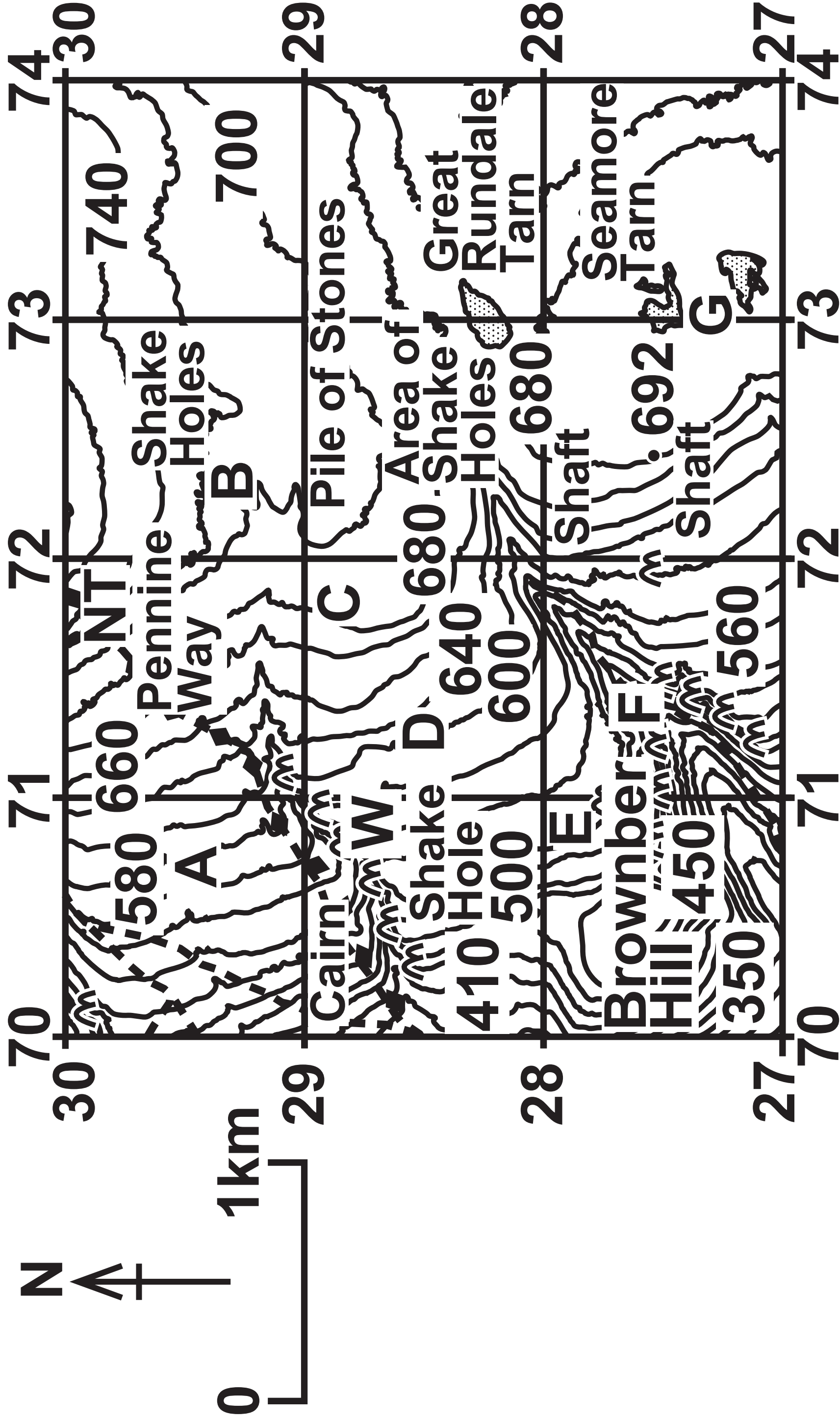
Little Rundale Tarn
- C

High Scald Fell
- W

Waterfall
- D

Low Scald Fell

Figure 1a – Diagram (Black and White) – Part 1
OS map of an upland river landscape



Turn over

Figure 1a – Diagram (Black and White) – Part 2
OS map of an upland river landscape

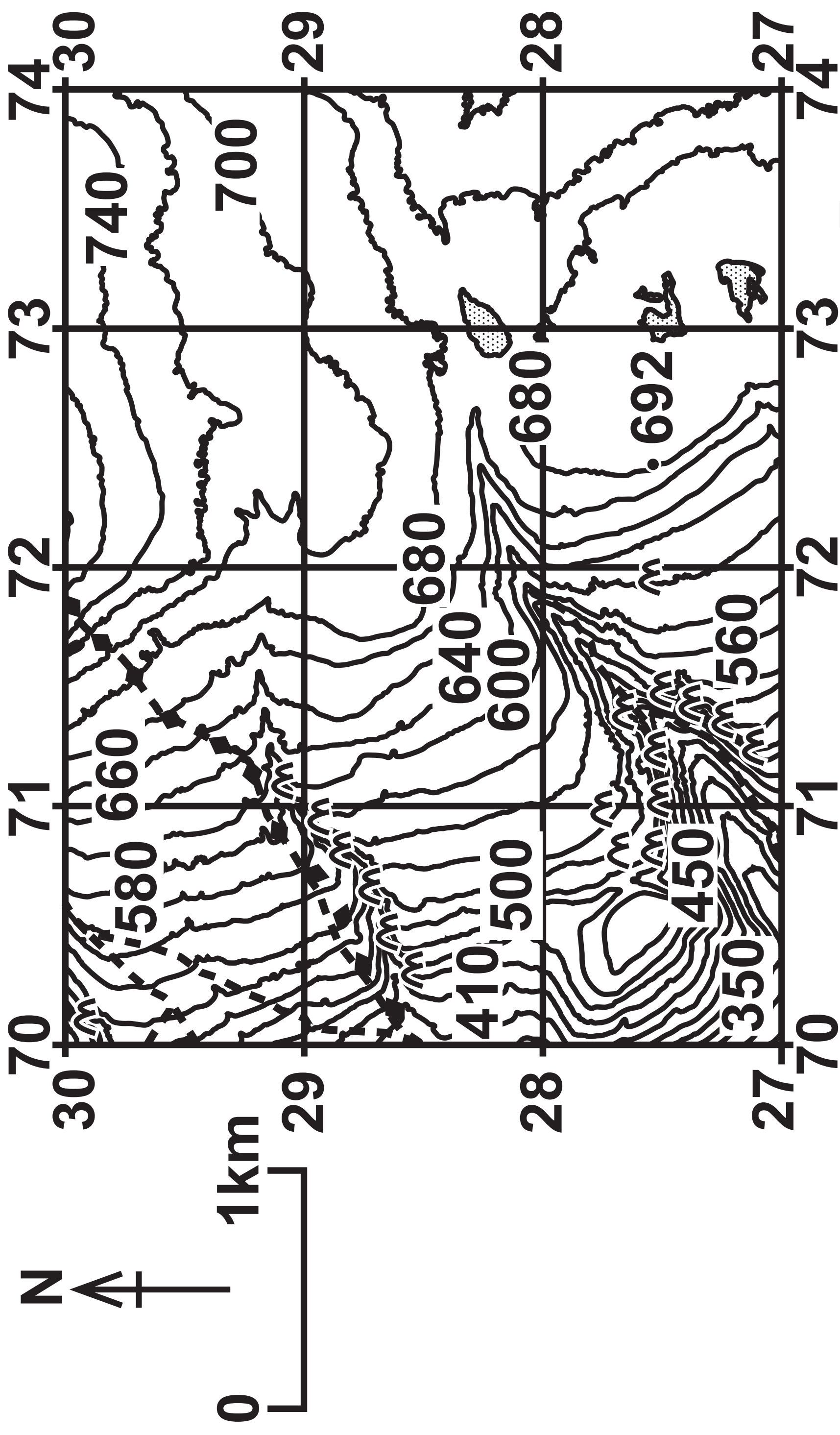


Figure 1a – Diagram (Black and White) – Part 3
OS map of an upland river landscape

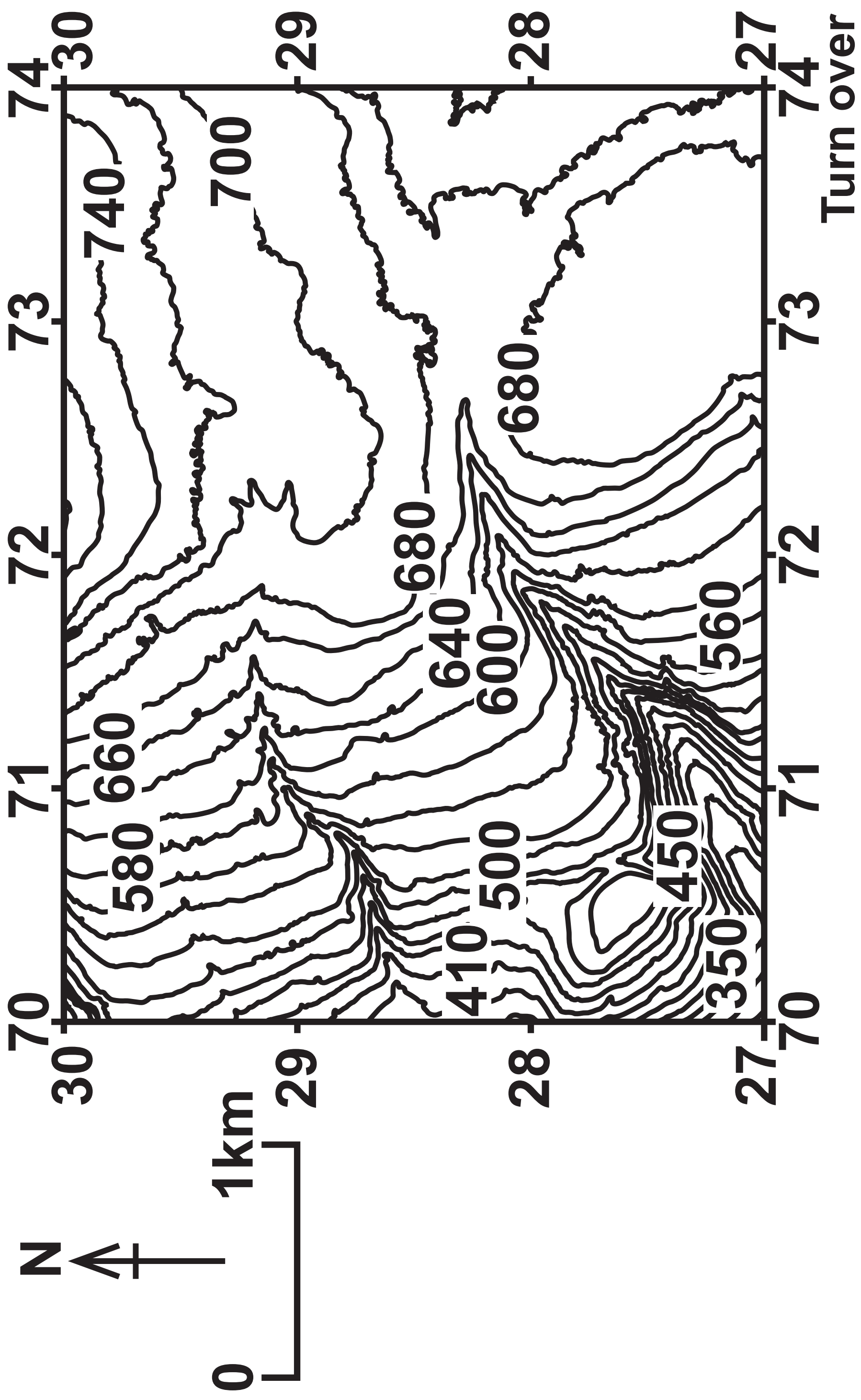


Figure 1a – Diagram (Black and White) – Part 4
OS map of an upland river landscape

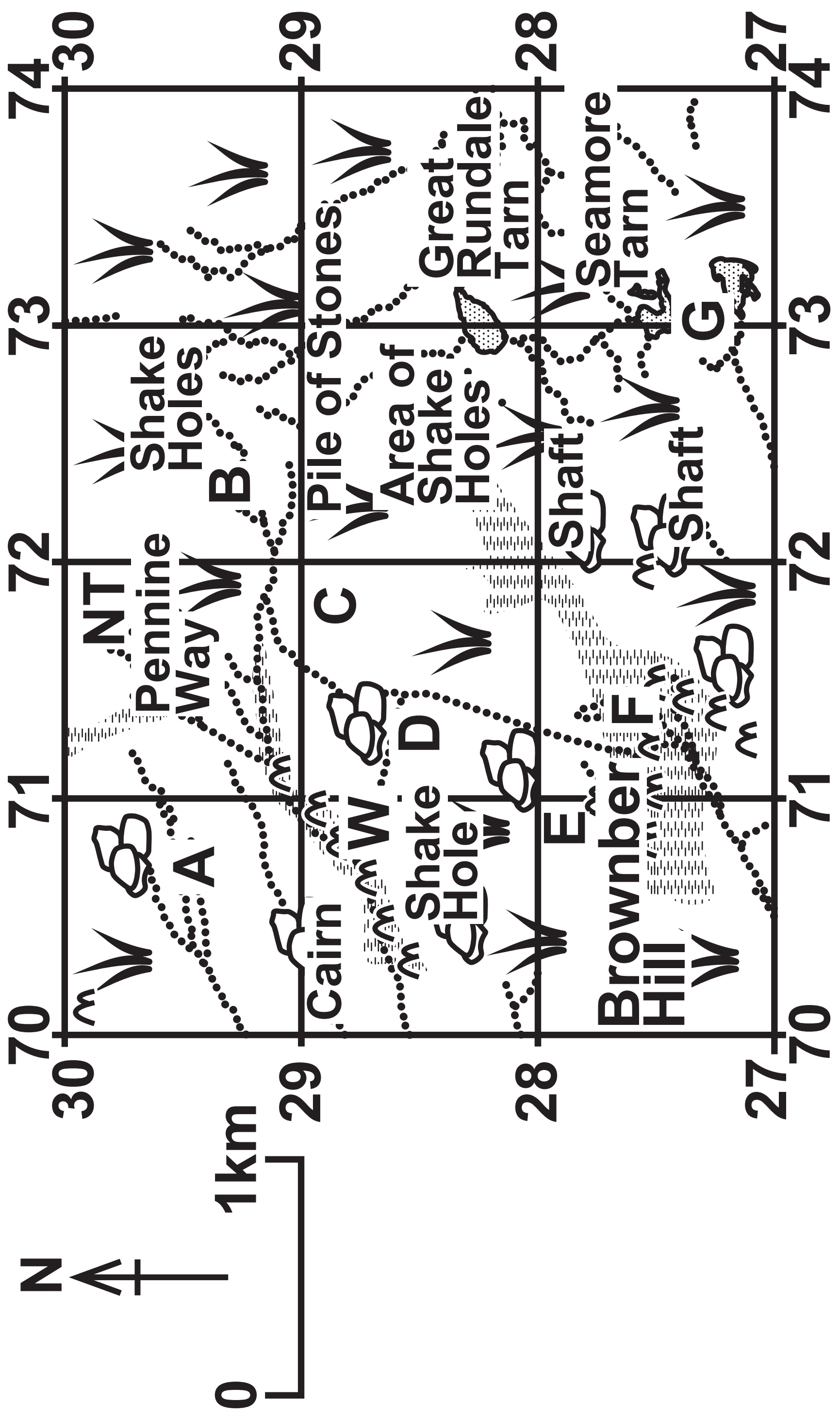




Figure 1b – Key Storm hydrograph

KEY		Precipitation
		Discharge
A		0–2
B		2–4
C		4–6
D		6–8
E		8–10
F		10–12
G		12–14
H		14–16
I		16–18
J		18–20
K		20–22
L		22–24
M		24–26

Turn over

Figure 1b – Diagram
Storm hydrograph

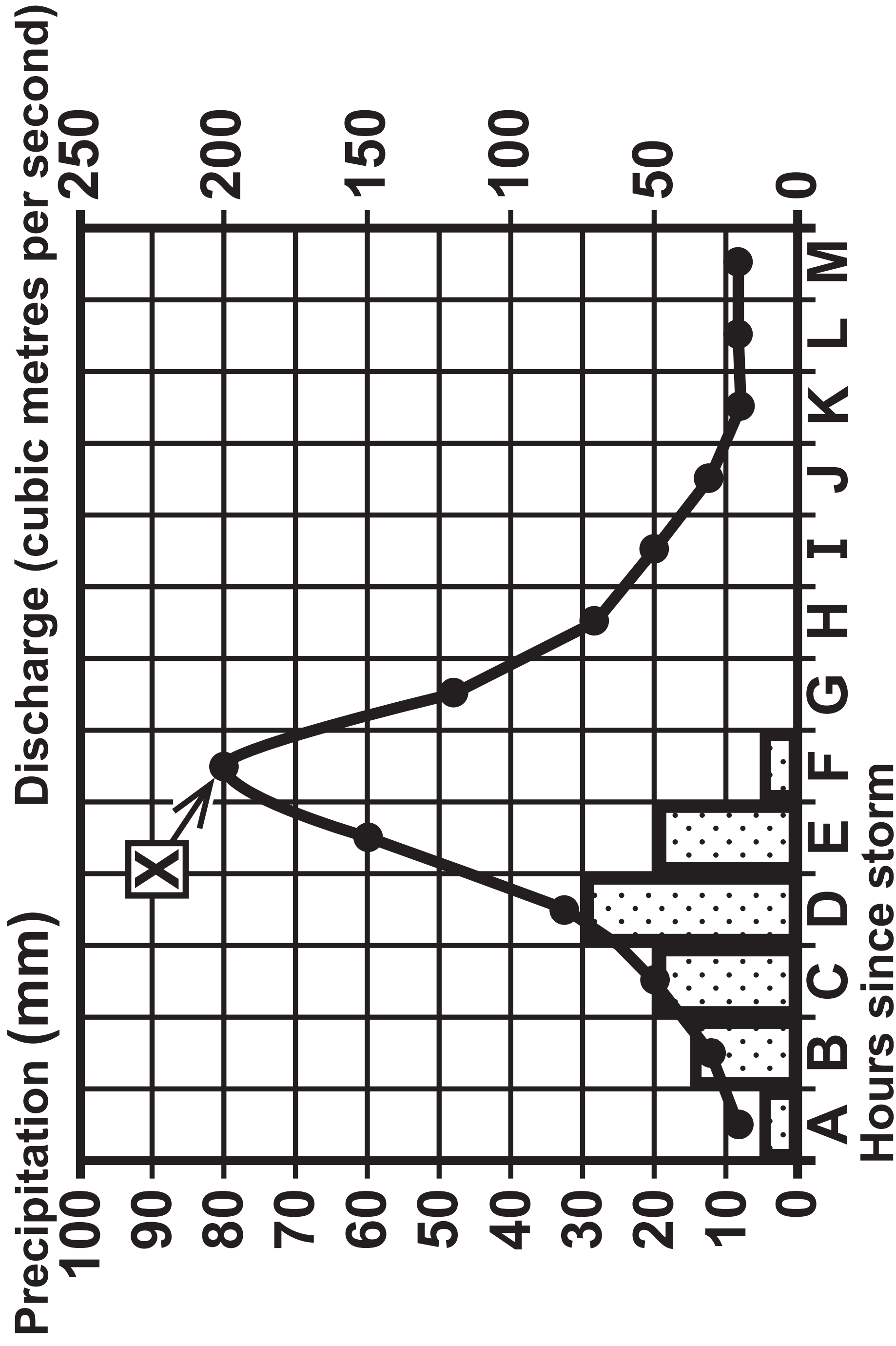


Figure 1c – Information

Areas of water shortage and selected data

Southwestern USA

Population density: **154 people/km²**

Average annual precipitation: **454 mm**

Average hours of sunshine per year: **4,000**

Egypt

Population density: **111 people/km²**

Average annual precipitation: **22 mm**

Average hours of sunshine per year: **4,400**

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Turn over

Figure 1c – Information continued.

India

Population density: 464 people/km²

Average annual precipitation: 1,236 mm

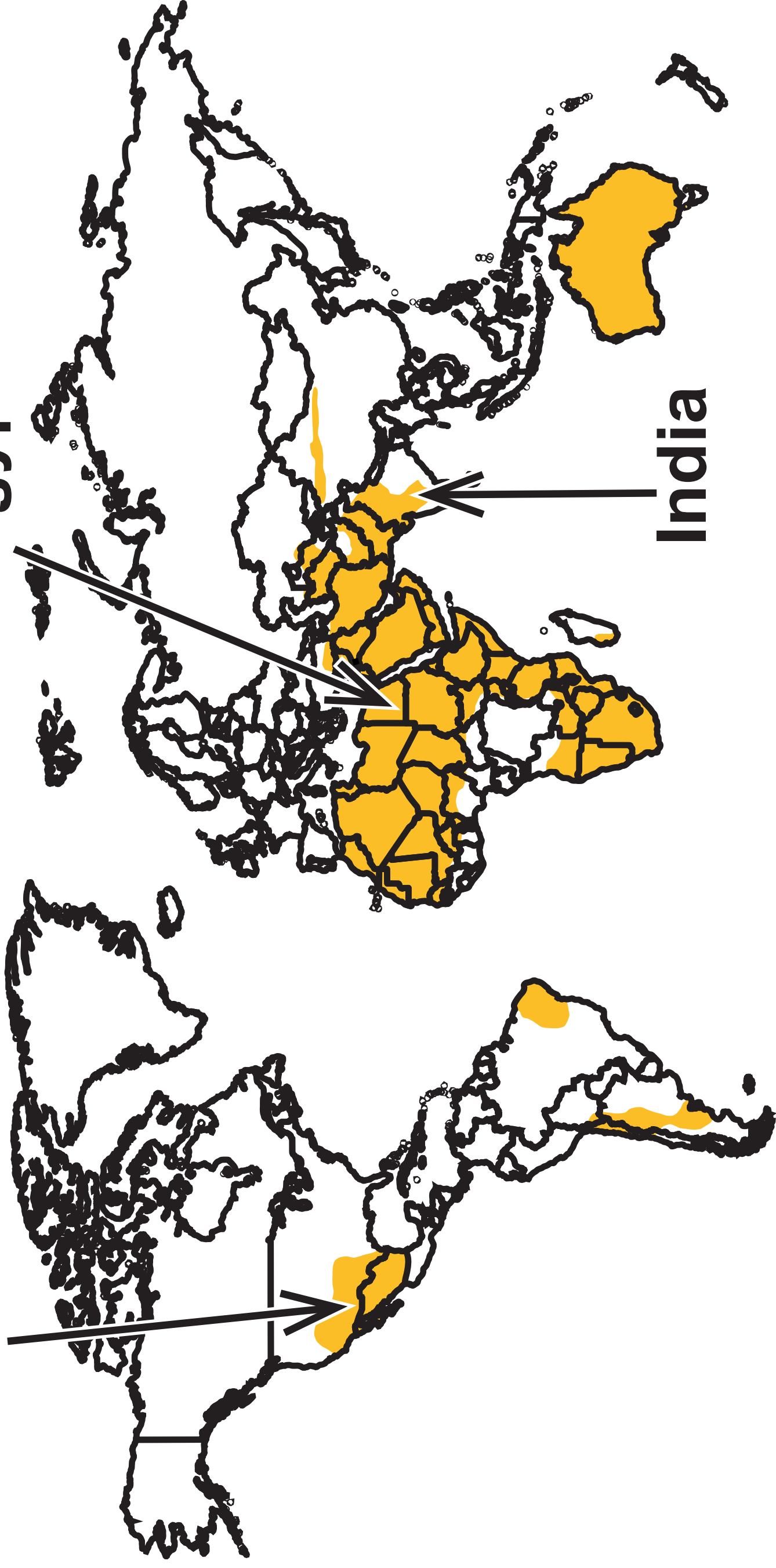
Average hours of sunshine per year: 3,000

Figure 1c – Diagram (Colour)
Areas of water shortage and selected data

KEY  **Areas of high water shortage**

Southwestern USA

Egypt



Turn over

Figure 1c – Diagram (Black and White)
Areas of water shortage and selected data

KEY  Areas of high water shortage

Southwestern USA

Egypt

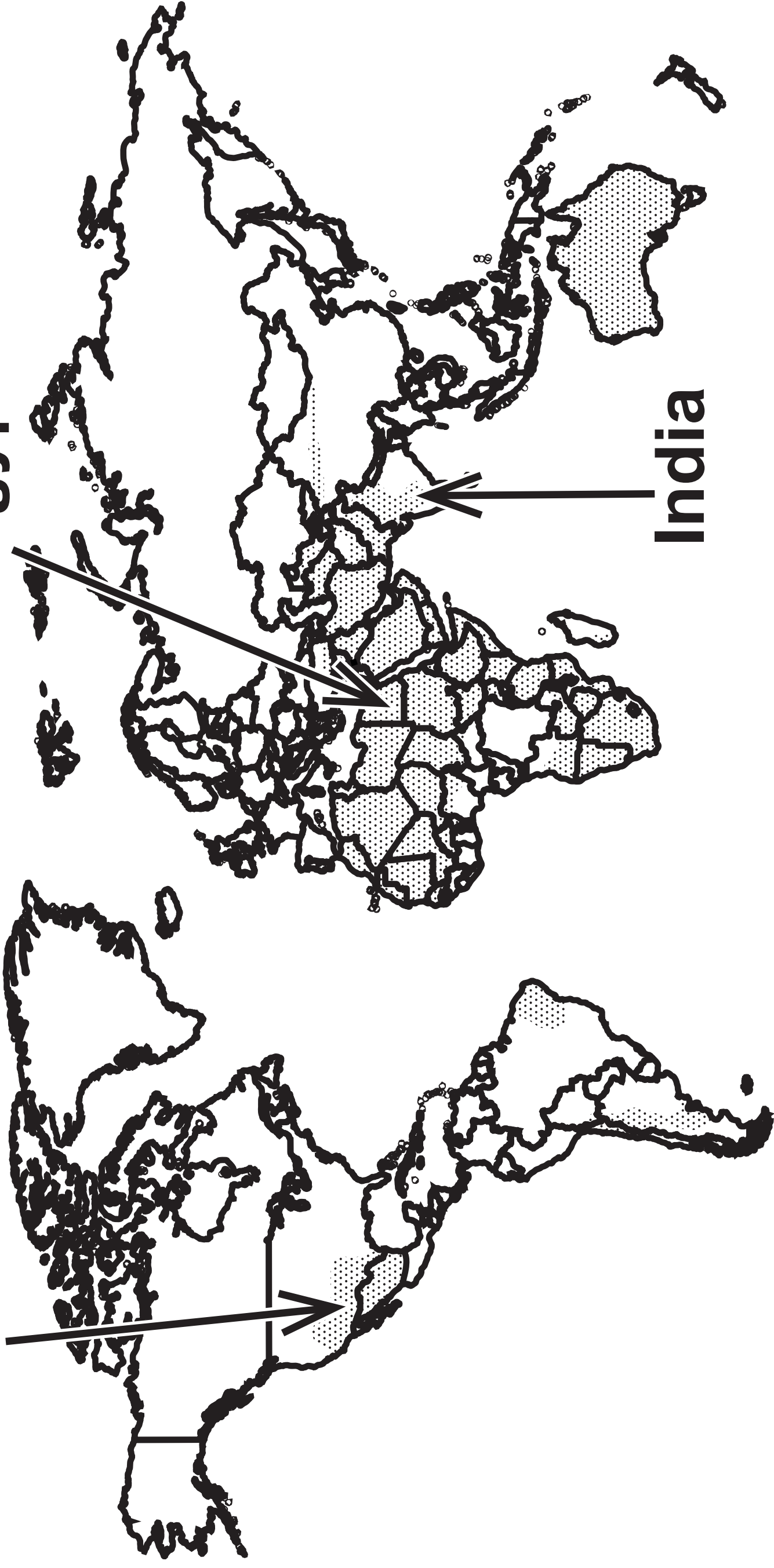


Figure 2a – Key (Colour)

OS map extract showing a coastal landscape

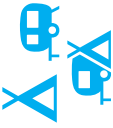





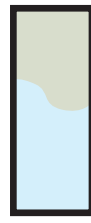

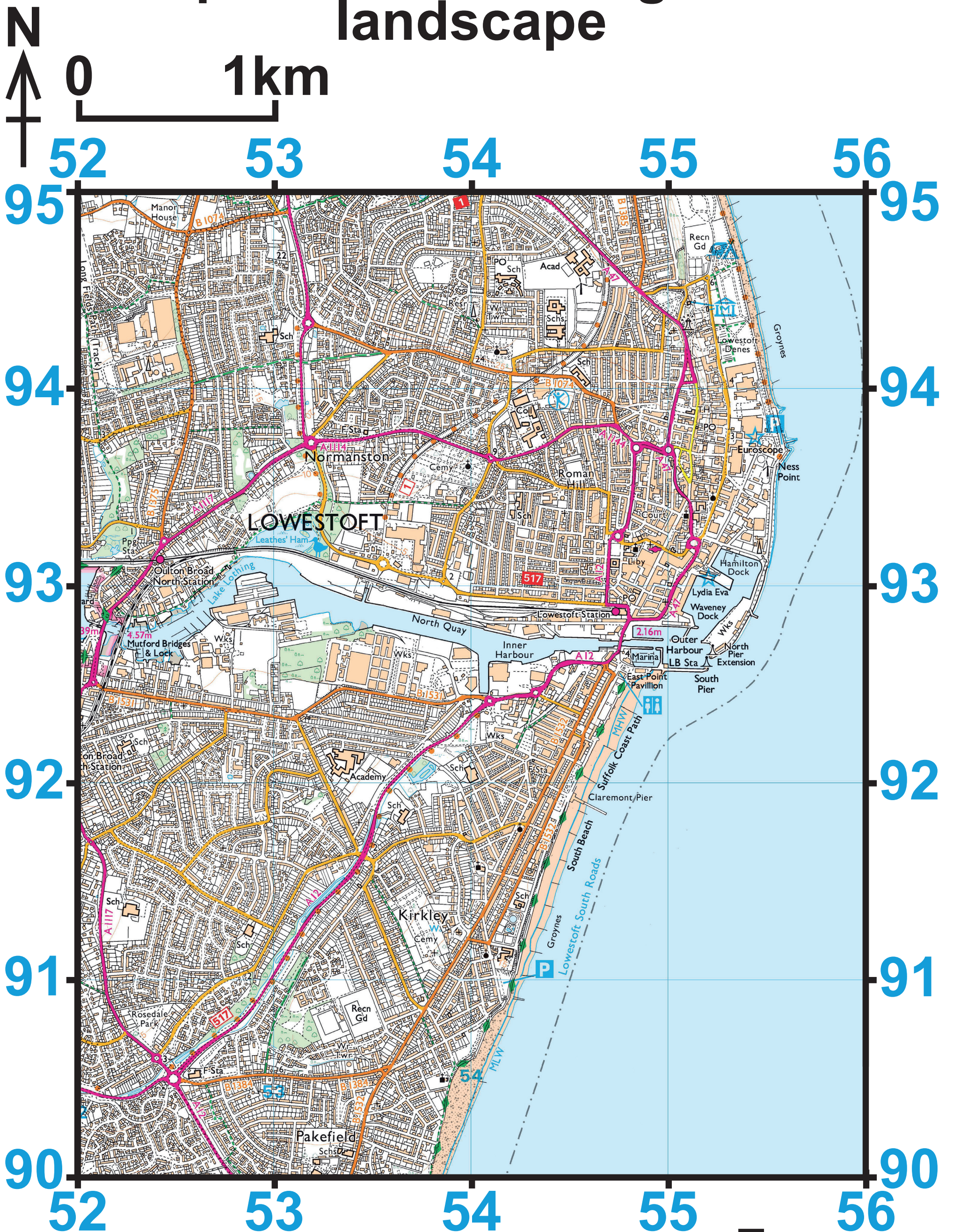
KEY		Camp site or Caravan site	Sch	School
			+	Place of worship
		Parking / Park and ride, all year / seasonal		Current or former place of worship
		Recreational route		– with tower
				– with spire, minaret or dome
		Water; mud		Beacon

Figure 2a – Diagram Page 21 (Colour)

OS map extract showing a coastal landscape



Turn over

Figure 2a – Key (Black and White)

OS map extract showing a coastal landscape

KEY

- A Inner Harbour
- B East Point Pavillion
- C Marina
- D Outer Harbour
- E North Pier Extension
- F South Pier
- G Lowestoft Station
- H Suffolk Coast Path
- I Claremont Pier
- J South Beach

◆◆◆ Recreational route

== Main roads

----- Side roads



Sand

Buildings
and houses



Water



School



Parking



Place of worship

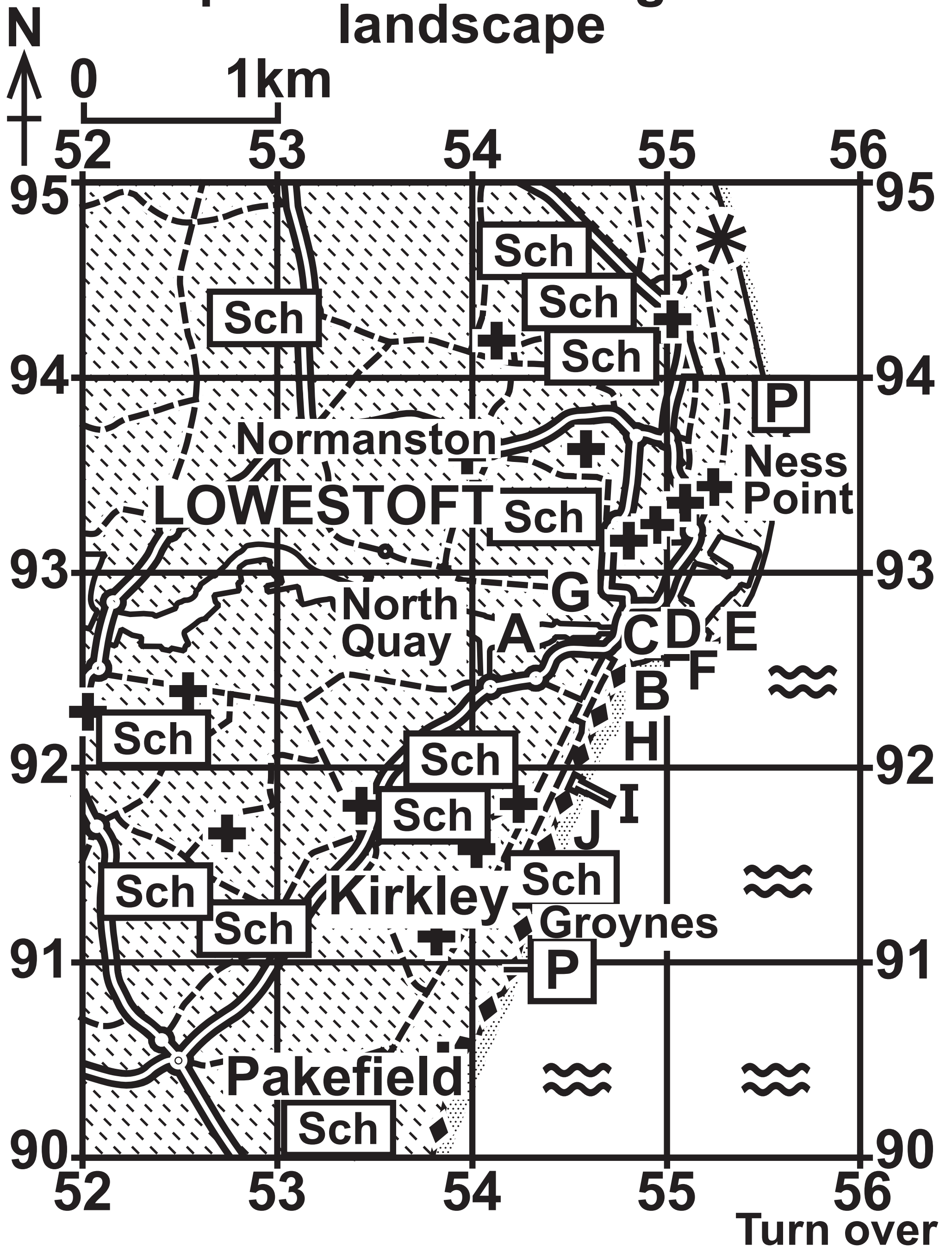


Camp site or Caravan site

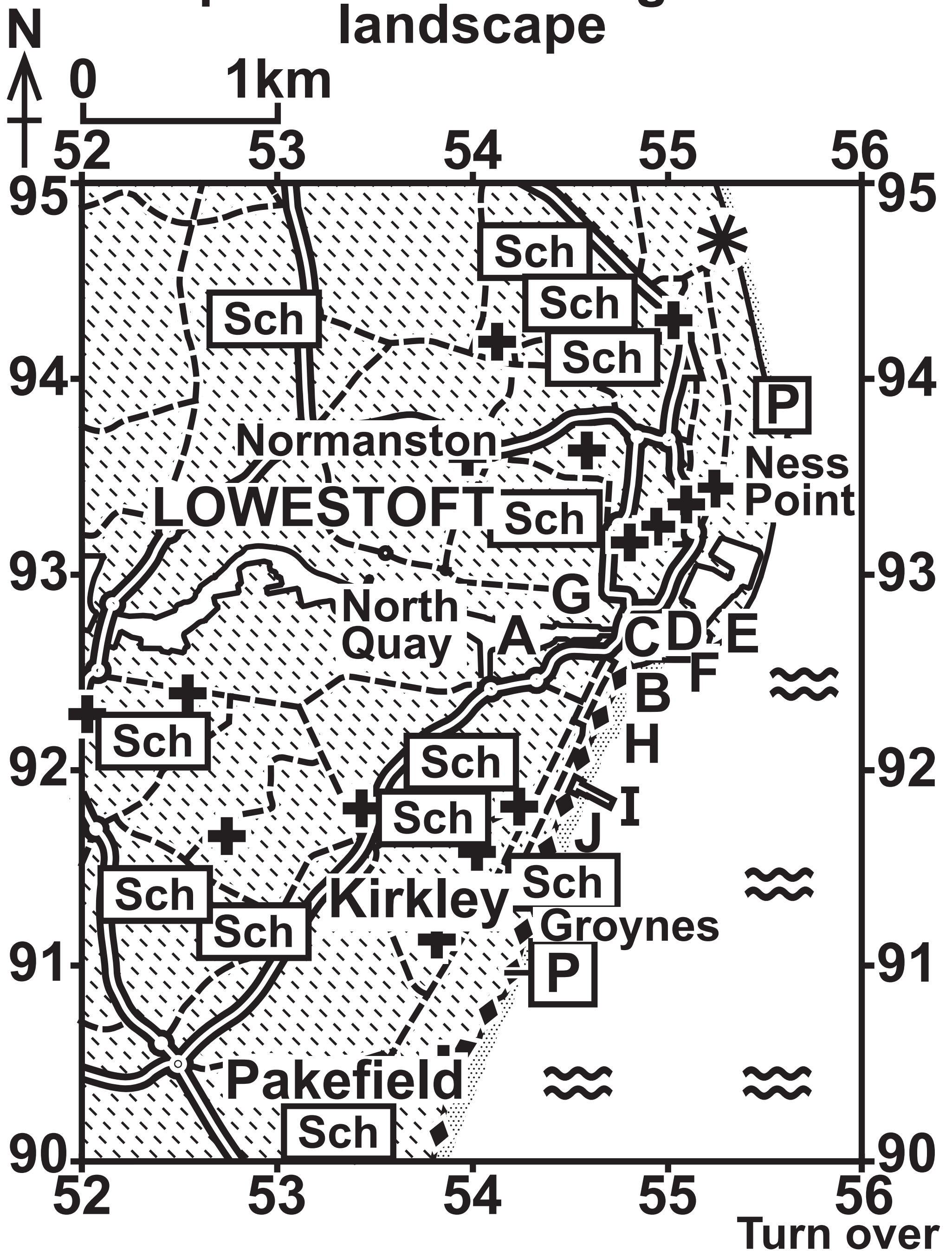
Turn over

Figure 2a – Diagram Page 23 (Black and White) – Part 1

OS map extract showing a coastal landscape



OS map extract showing a coastal landscape



**Figure 2a – Diagram Page 25
(Black and White) – Part 3**

**OS map extract showing a coastal
landscape**

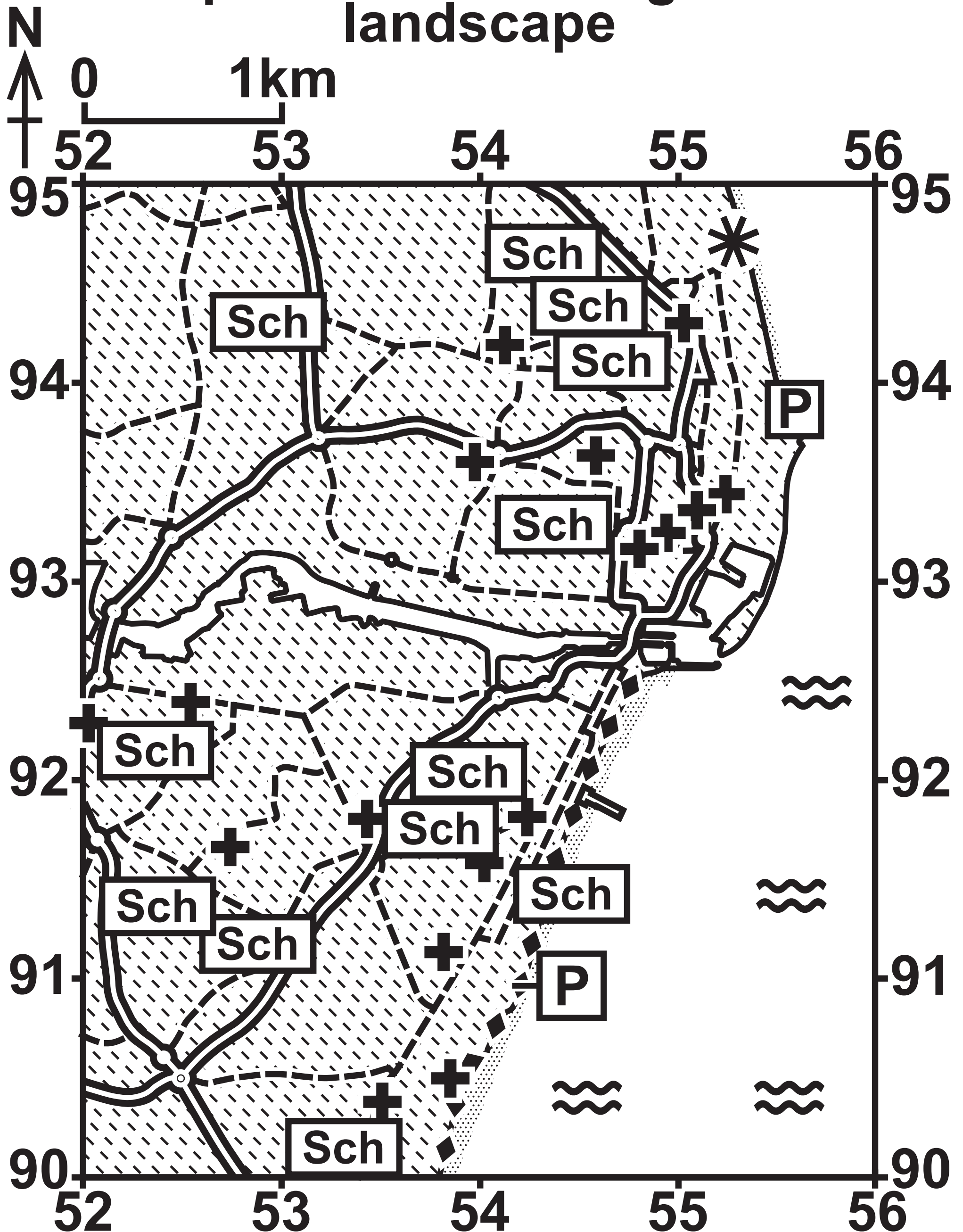
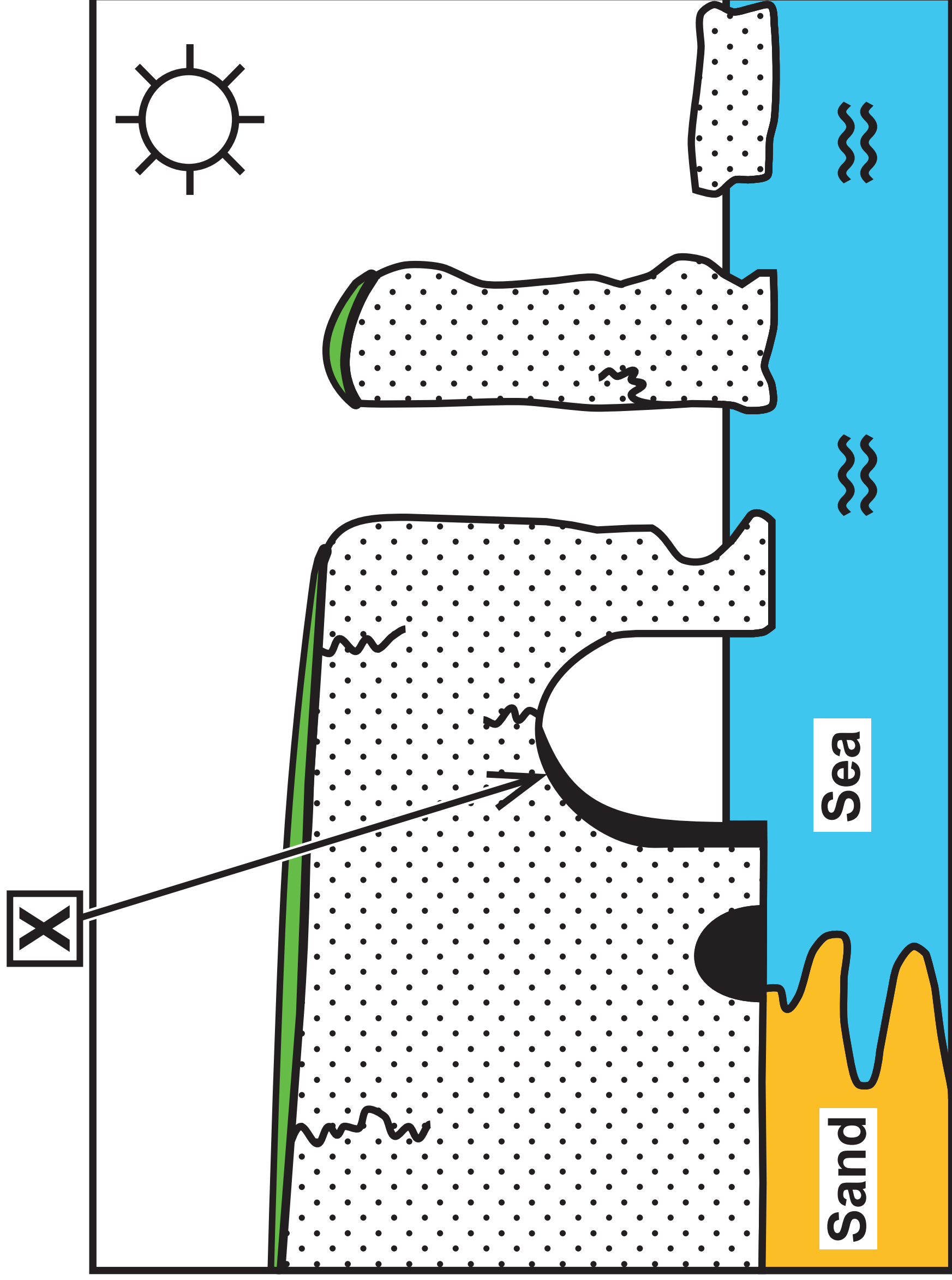


Figure 2b (Colour)
Coastal landforms



Coastal landforms

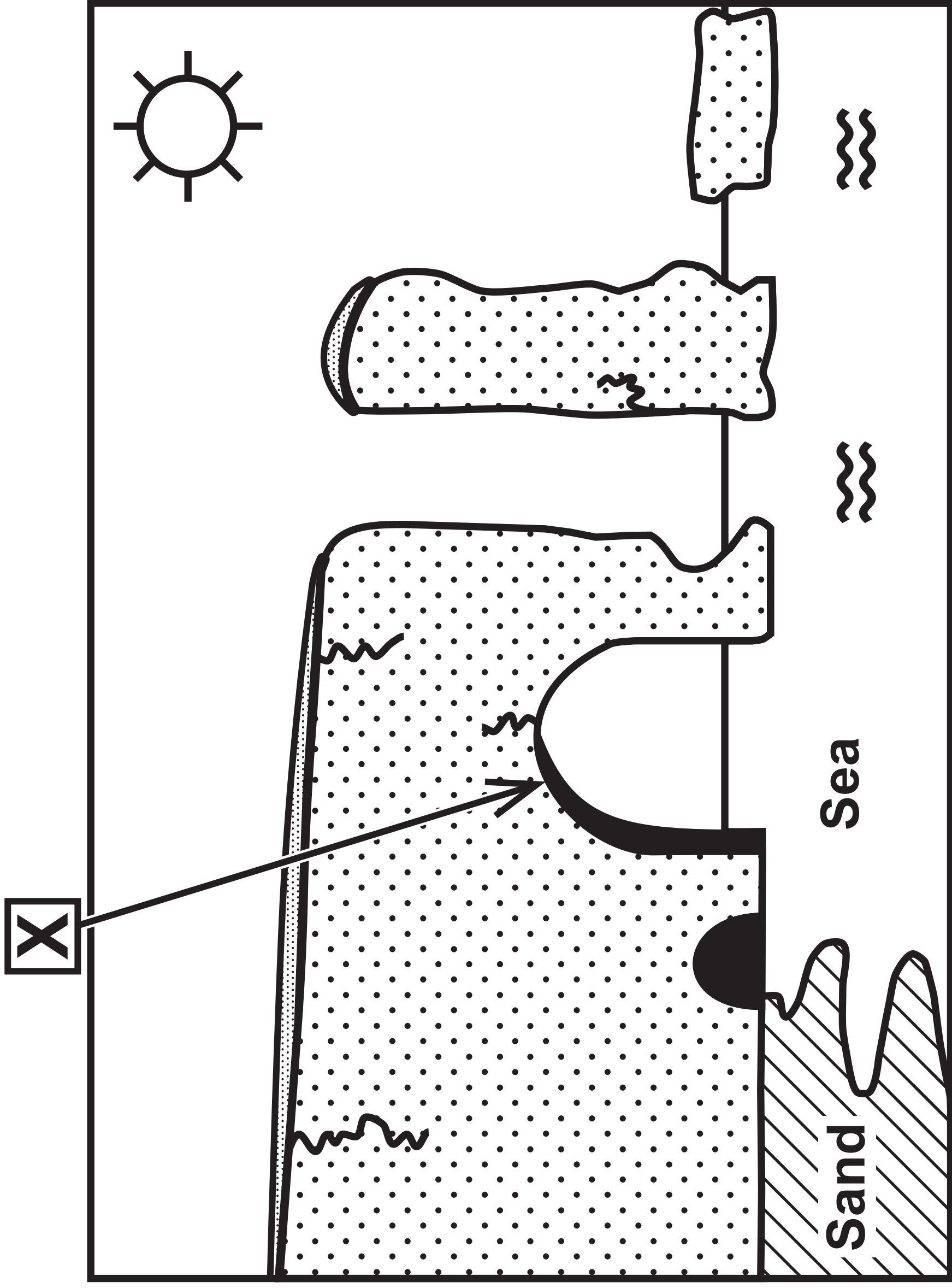


Figure 2c – Information

Countries with a large population living in low-lying coastal areas and selected data

USA

**Total number of people living in low-lying
coastal areas: 34 million**

**Percentage of total urban population
living in low-lying urban areas: 61·4%**

**Recorded storm surges in 21st century:
21**

(continued on the next page)

Turn over

Figure 2c – Information continued.

China

Total number of people living in low-lying coastal areas: 204 million

Percentage of total urban population living in low-lying urban areas: 18·1%

Recorded storm surges in 21st century: 392

Philippines

Total number of people living in low-lying coastal areas: 23·8 million

Percentage of total urban population living in low-lying urban areas: 11·9%

Recorded storm surges in 21st century: 154

Turn over

Figure 2c – Key (Colour)

Countries with a large population living in low-lying coastal areas and selected data


KEY  **Countries with large populations living in low-lying coastal areas**

Figure 2c – Diagram (Colour)
Countries with a large population living in low-lying coastal areas and selected data

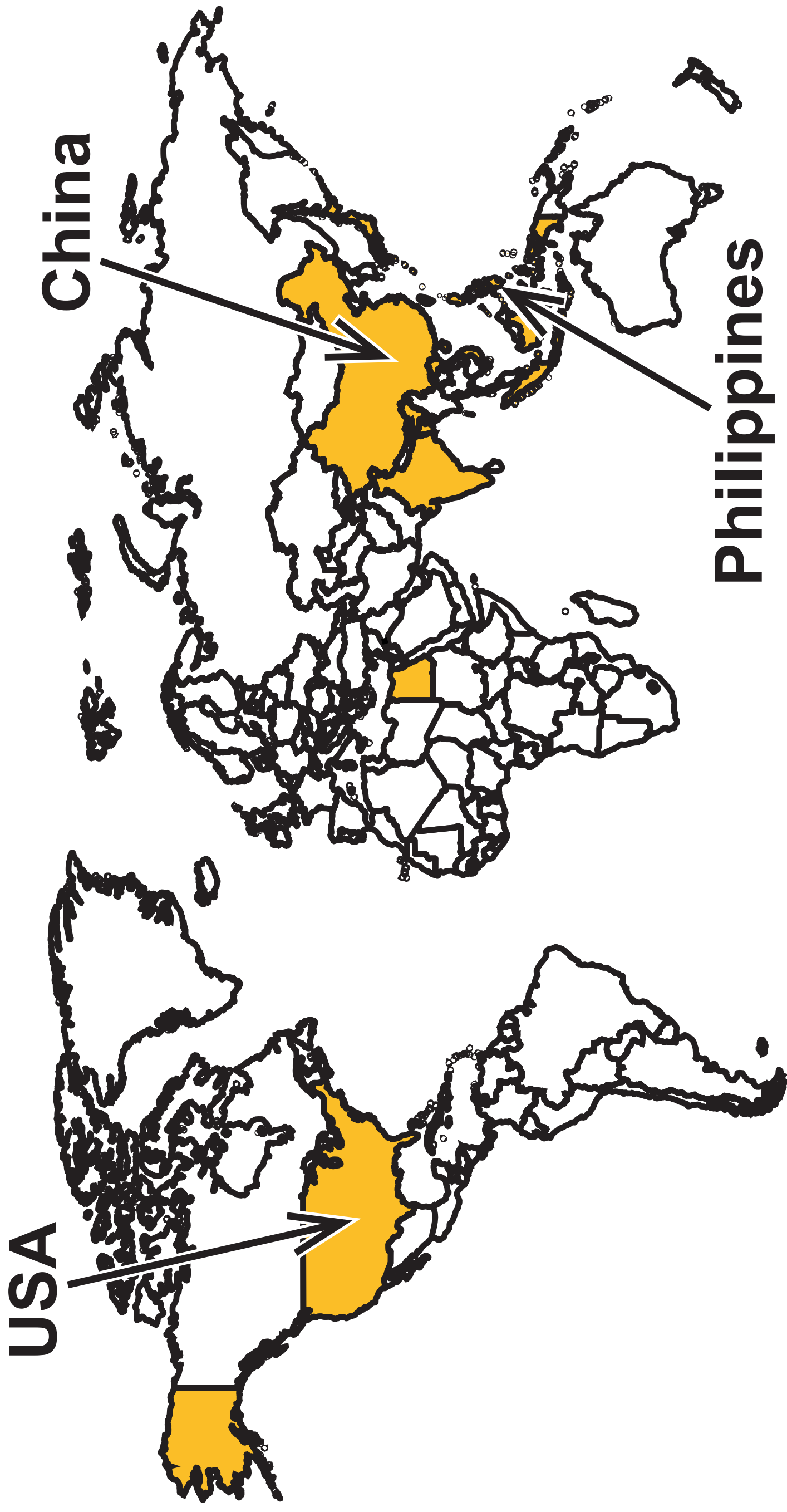


Figure 2c – Key (Black and White)

Countries with a large population living in low-lying coastal areas and selected data

KEY  Countries with large populations living in low-lying coastal areas

Figure 2c – Diagram (Black and White)
Countries with a large population living in
low-lying coastal areas and selected data

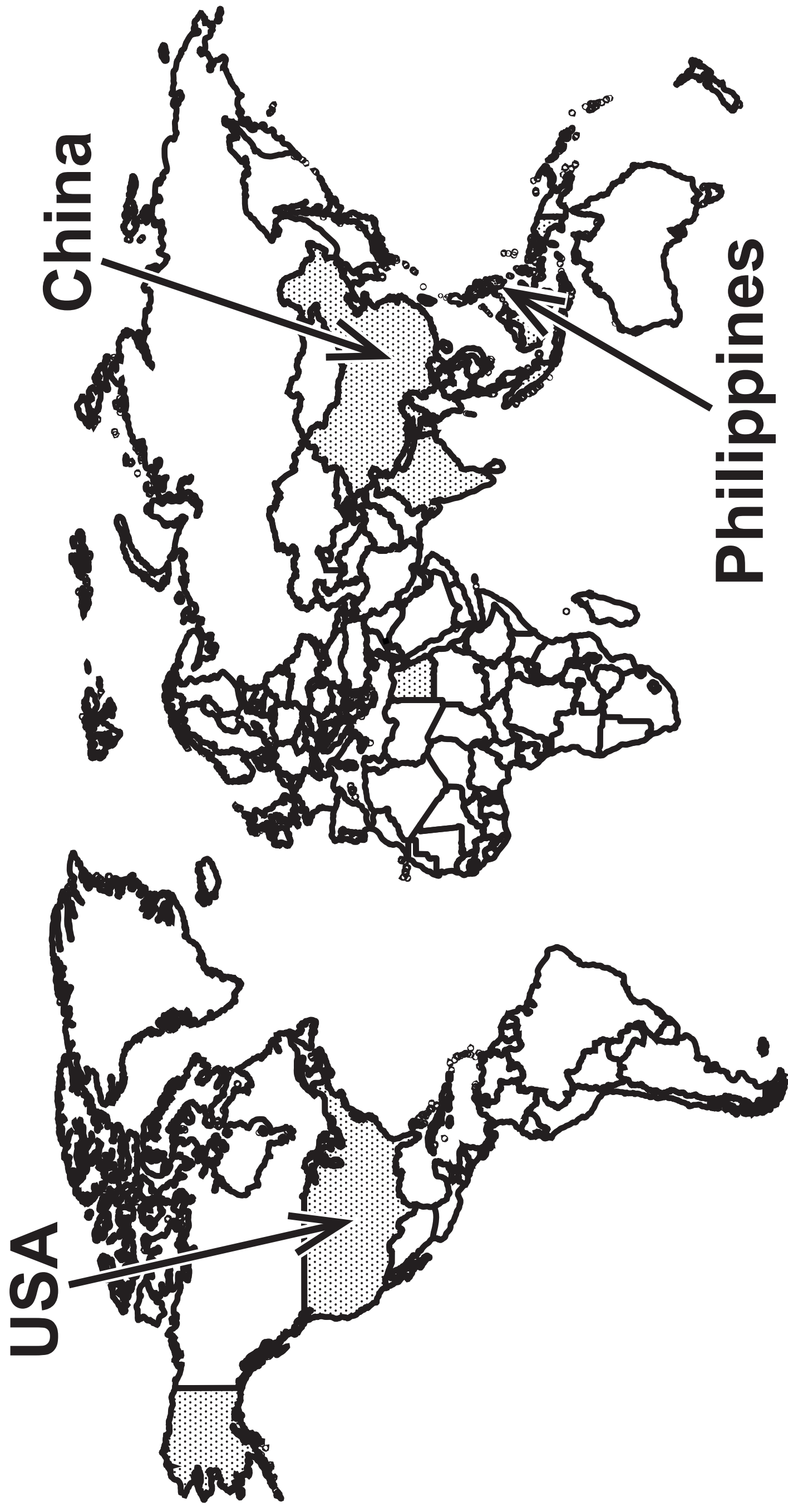
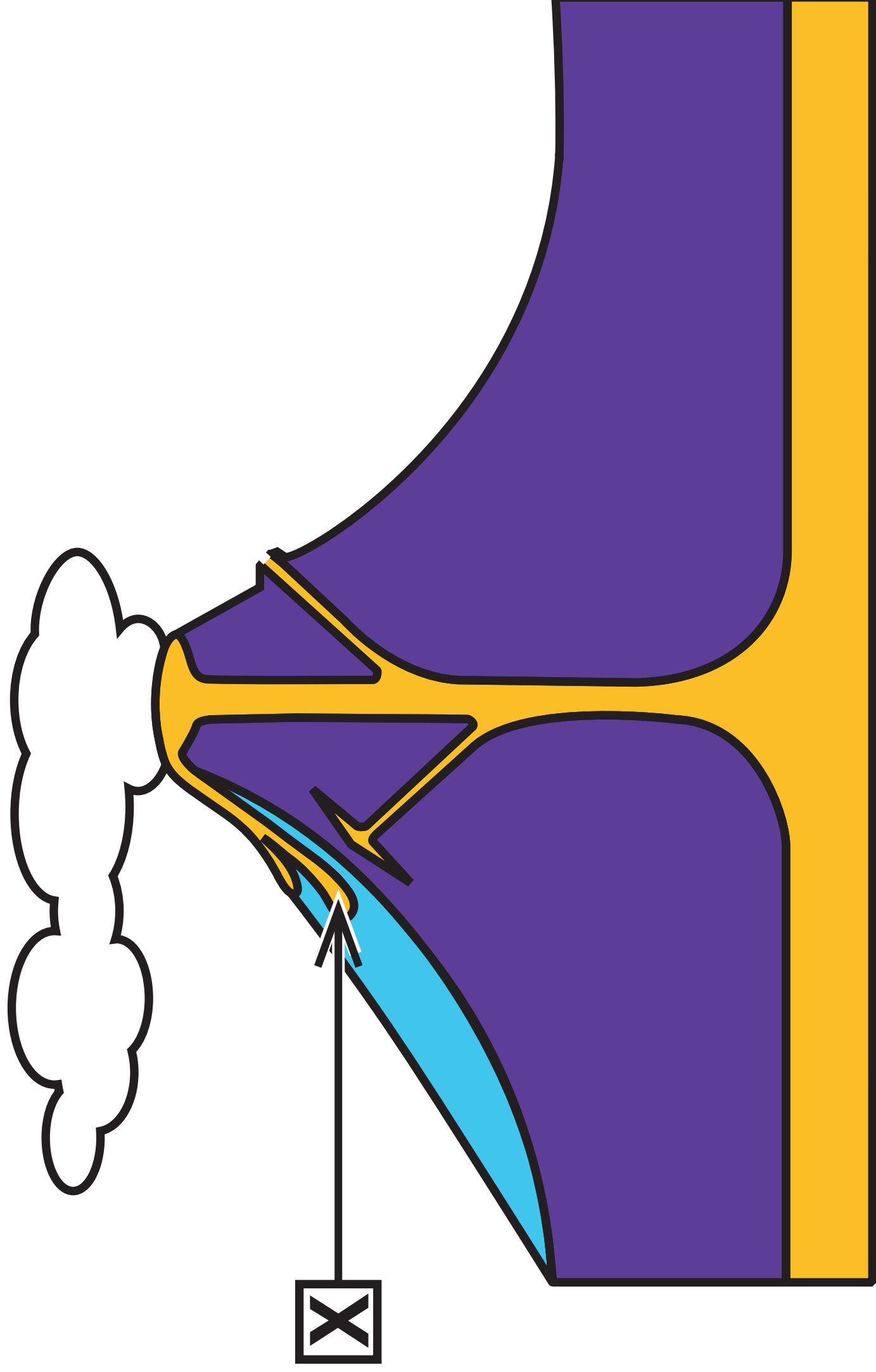


Figure 3a (Colour)

Features of a volcanic eruption



Turn over

Figure 3a (Black and White)

Features of a volcanic eruption

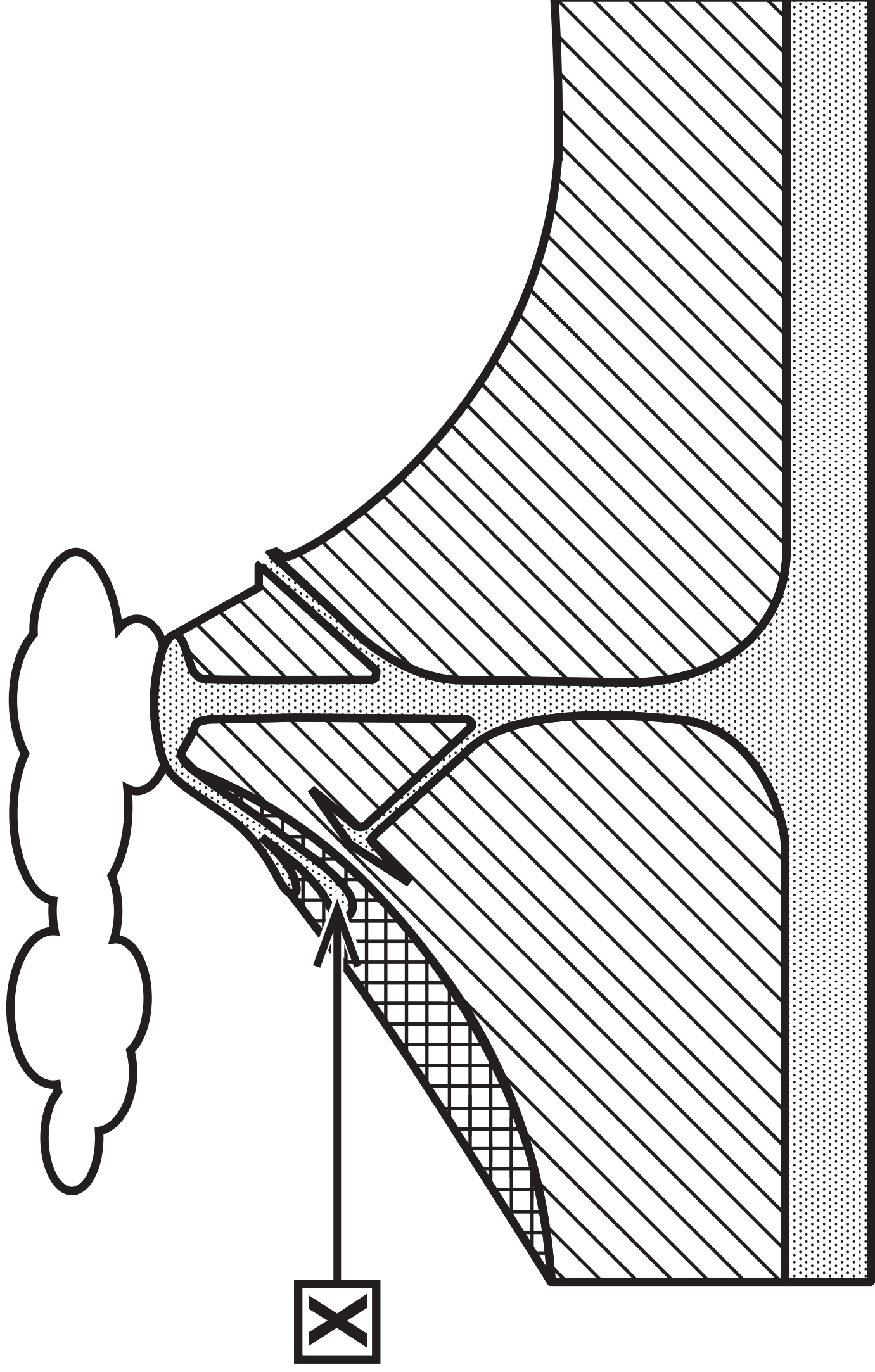


Figure 3b – Key (Colour)

Global distribution of volcanoes

KEY		Volcano
		Plate boundaries
A		Eurasian plate
B		North American plate
C		African plate
D		Pacific plate
E		Nazca plate
F		South American plate
G		Indo–Australian plate
H		Antarctic plate

Turn over

Figure 3b – Diagram (Colour)
Global distribution of volcanoes

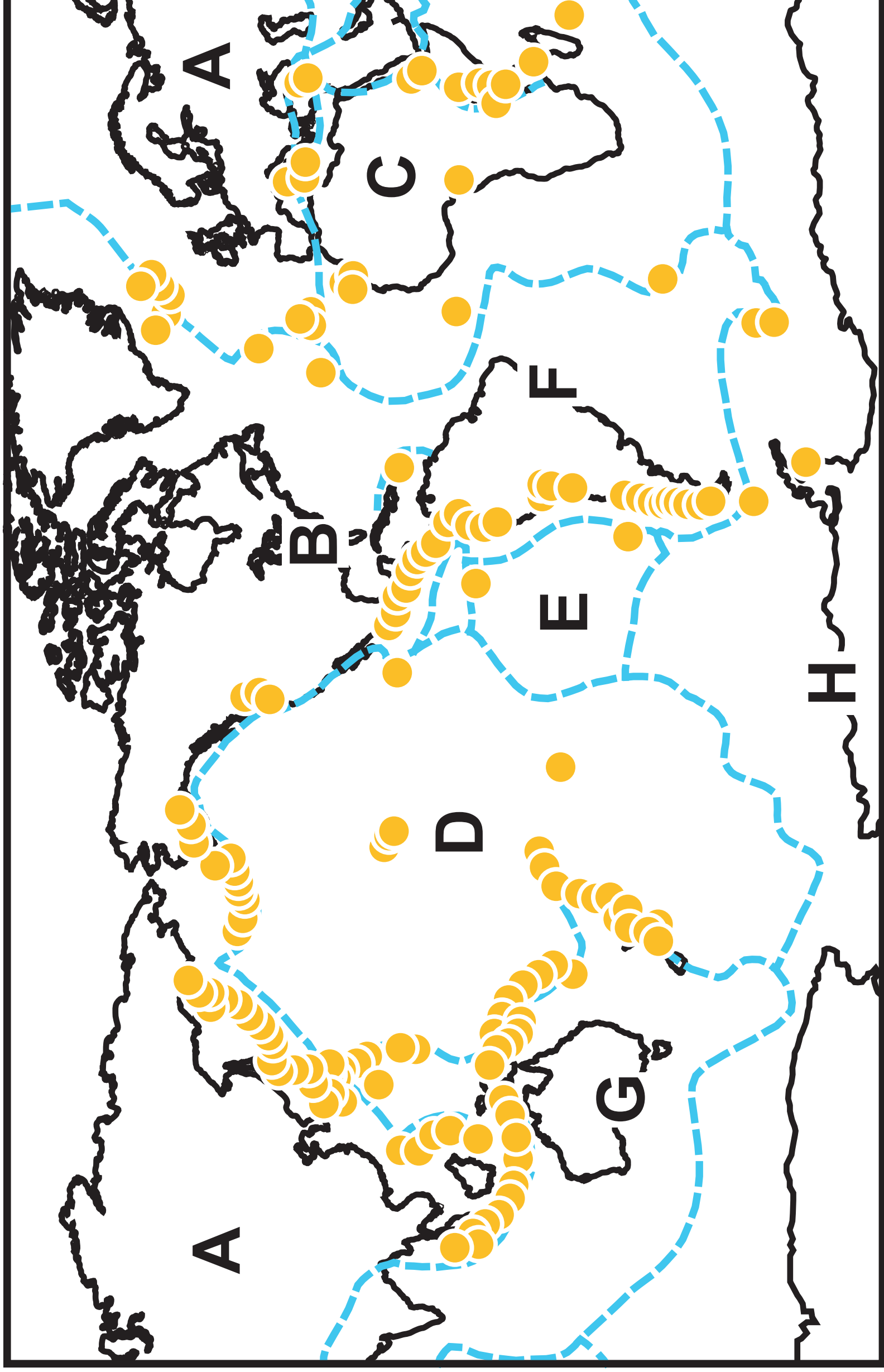


Figure 3b – Key (Black and White) Global distribution of volcanoes

- KEY**
- Volcano
 - Plate boundaries
 - A Eurasian plate
 - B North American plate
 - C African plate
 - D Pacific plate
 - E Nazca plate
 - F South American plate
 - G Indo–Australian plate
 - H Antarctic plate

Turn over

Figure 3b – Diagram (Black and White)
Global distribution of volcanoes

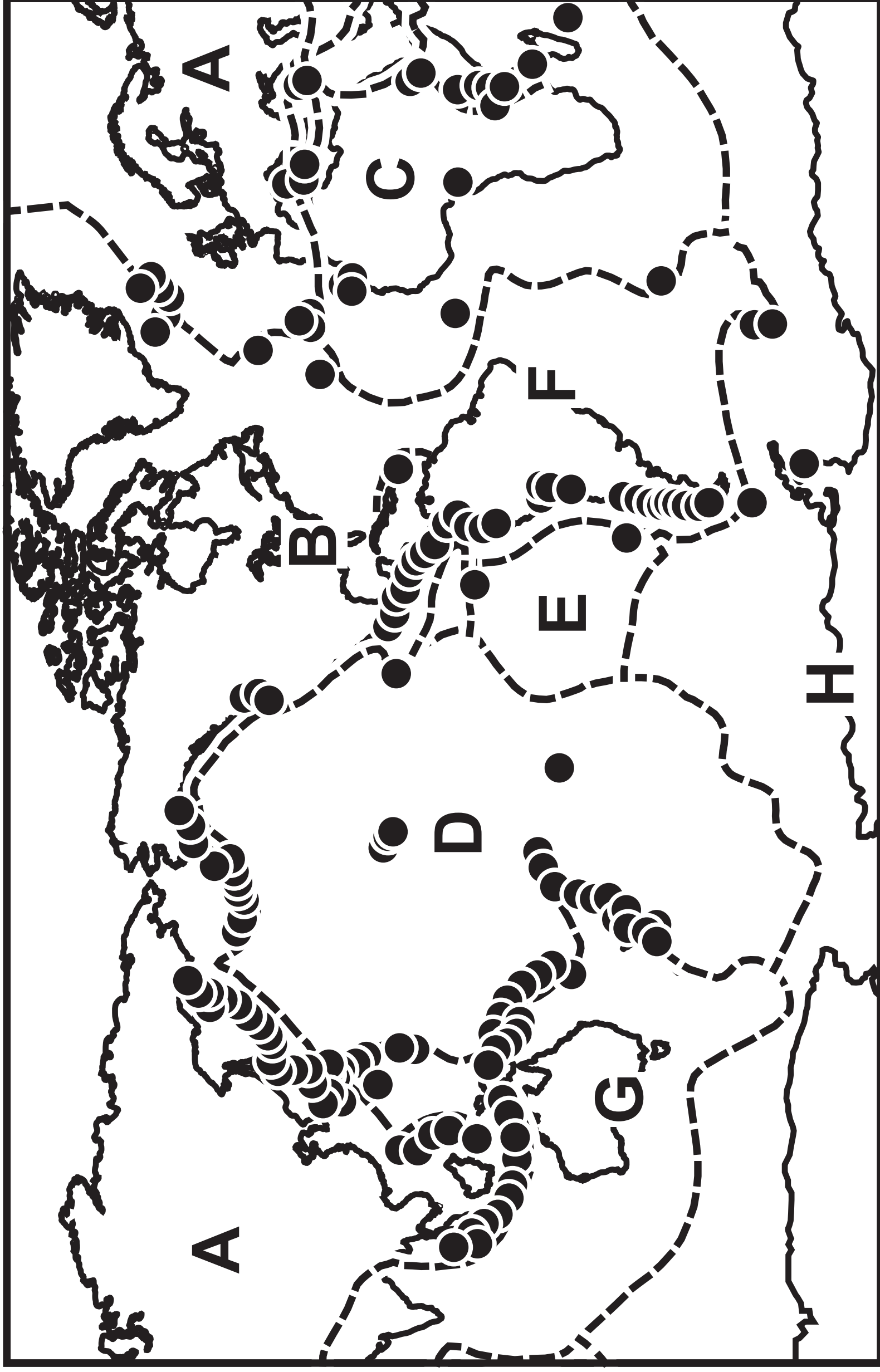


Figure 3c – Information

Selected impacts from Mount Mayon eruption, Philippines, January 2018

Water pollution at base of Mount Mayon

29 rivers around the volcano were silted with volcanic ash making the water unsafe to drink and irritating animal skin.

Farming at base of Mount Mayon

US\$3.3 million of crops were destroyed affecting 9,800 farmers and covering 7,100 hectares.

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Turn over

Figure 3c – Information continued.

Vegetation cover after eruption

**Lava flowed up to 3 km from the crater
destroying large areas of vegetation
in the National Park which has
239 vegetation species.**





Turn over

Figure 3c – Key (Colour)

Selected impacts from Mount Mayon eruption, Philippines, January 2018

Area covered by ash after the Mount Mayon eruption, Philippines, January 2018

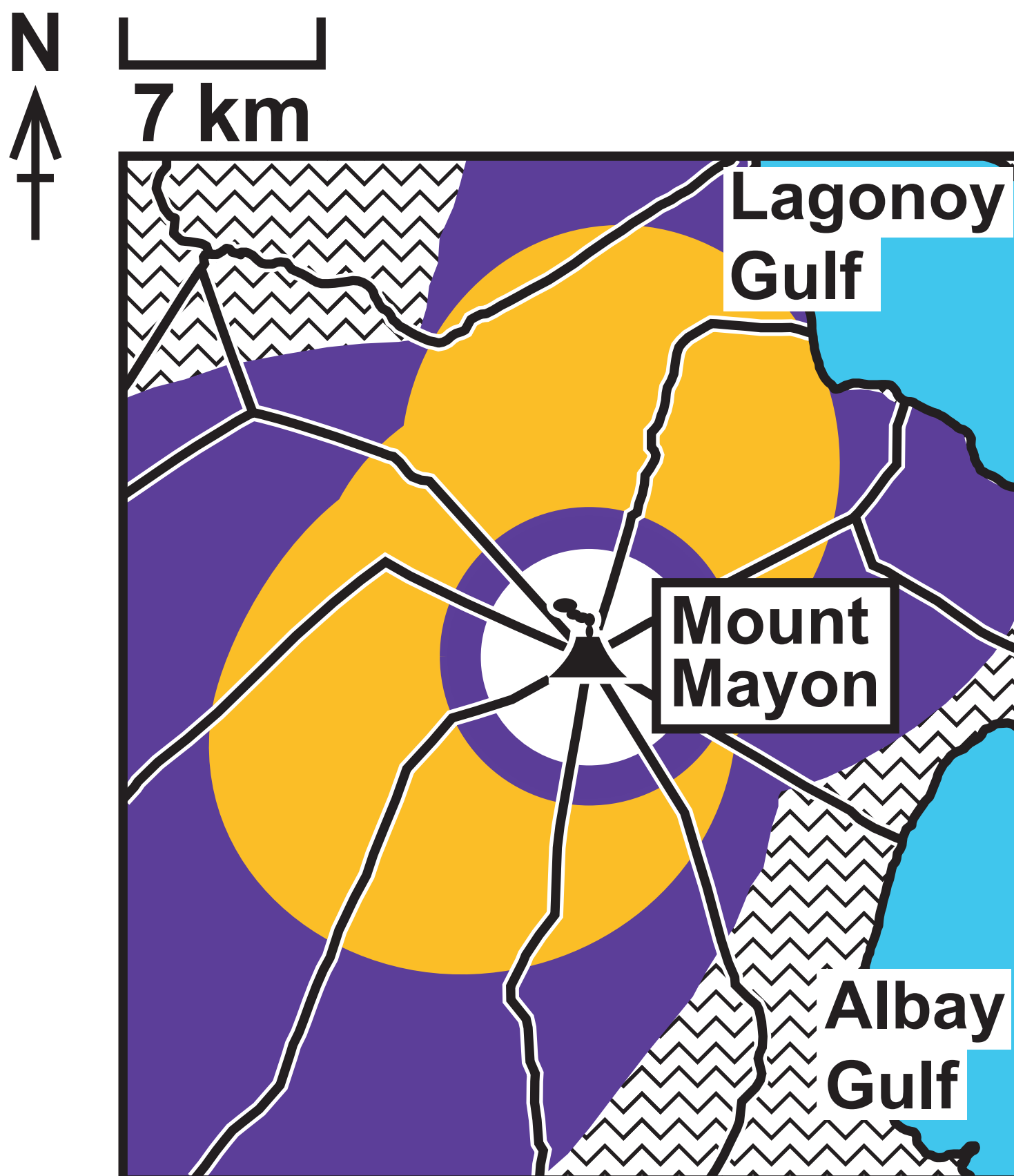
KEY

-  Highly prone to ash fall
-  Moderately prone to ash fall
-  Least prone to ash fall
-  Water

Turn over

Figure 3c – Diagram (Colour) Selected impacts from Mount Mayon eruption, Philippines, January 2018

Area covered by ash after the
Mount Mayon eruption, Philippines,
January 2018



Turn over

Figure 3c – Key (Black and White)

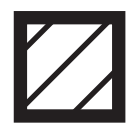
Selected impacts from Mount Mayon eruption, Philippines, January 2018

Area covered by ash after the
Mount Mayon eruption, Philippines,
January 2018

KEY



Highly prone
to ash fall



Moderately
prone to
ash fall



Least prone
to ash fall



Water

Turn over

Figure 3c – Diagram (Black and White)

Selected impacts from Mount Mayon eruption, Philippines, January 2018

Area covered by ash after the Mount Mayon eruption, Philippines, January 2018

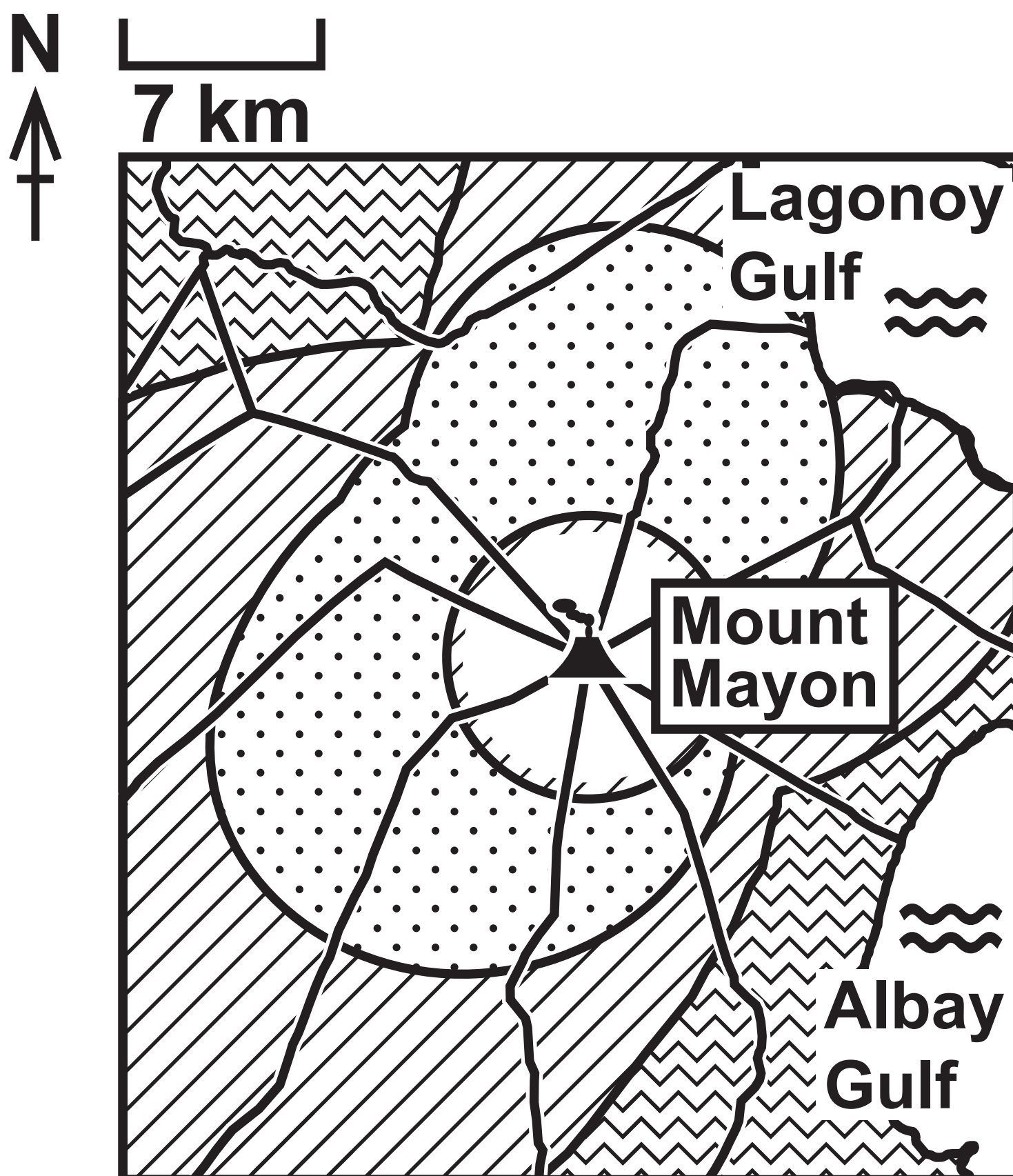


Figure 4a**Average river depth data for each site**

Site	Average river channel depth (cm)
1	12
2	5
3	14
4	23
5	41

(continued on the next page)**Turn over**

Figure 4a continued.

Site	Average river channel depth (cm)
6	36
7	47
8	51
9	50
10	63

Figure 4b**River width and average velocity
data for each site**

Site	River width (metres)	Average river velocity (m/s)
1	1	0.2
2	2	0.3
3	4	0.4
4	6	0.6
5	7	0.7

(continued on the next page)**Turn over**

Figure 4b continued.

Site	River width (metres)	Average river velocity (m/s)
6	9	0·8
7	11	0·8
8	12	1·0
9	14	1·1
10	17	1·2

Figure 5a

Pebble sizes for Site 2

Sample	Pebble length (cm)
1	6
2	11
3	16
4	9
5	15

(continued on the next page)

Turn over

Figure 5a continued.

Sample	Pebble length (cm)
6	12
7	17
8	4
9	8
10	13

Figure 5b**Average pebble length along
900 metres stretch of coastline**

Site	Distance along coast (metres)	Average pebble length (cm)
1	0	14
2	100	11
3	200	10
4	300	9
5	400	8

(continued on the next page)**Turn over**

Figure 5b continued.

Site	Distance along coast (metres)	Average pebble length (cm)
6	500	6
7	600	5
8	700	5
9	800	3
10	900	2

Figure 6a**Average temperature for each site**

Site	Average temperature (°C)
1	12
2	18
3	22
4	24
5	24

(continued on the next page)**Turn over**

Figure 6a continued.

Site	Average temperature (°C)
6	23
7	19
8	17
9	14
10	13

Figure 6b

Air pressure and precipitation for each site

Site	Air pressure (mb)	Precipitation (mm)
1	994	8
2	995	7
3	998	6
4	999	5
5	1004	4

(continued on the next page)

Turn over

Figure 6b continued.

Site	Air pressure (mb)	Precipitation (mm)
6	1008	3
7	1010	2
8	1012	2
9	1014	1
10	1018	0

Acknowledgements

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