

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

Geography

Paper 1: Physical Geography

Monday 18 May 2020 – Morning

Resource Book

Do not return this Resource Book with the Question Paper.

INFORMATION

This Resource Book contains graphs, maps, photographs and diagrams needed for use with the Paper 1: Physical Geography.

This Resource Book is for use with both Foundation and Higher tiers.

Contents

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.

Page

SECTION A

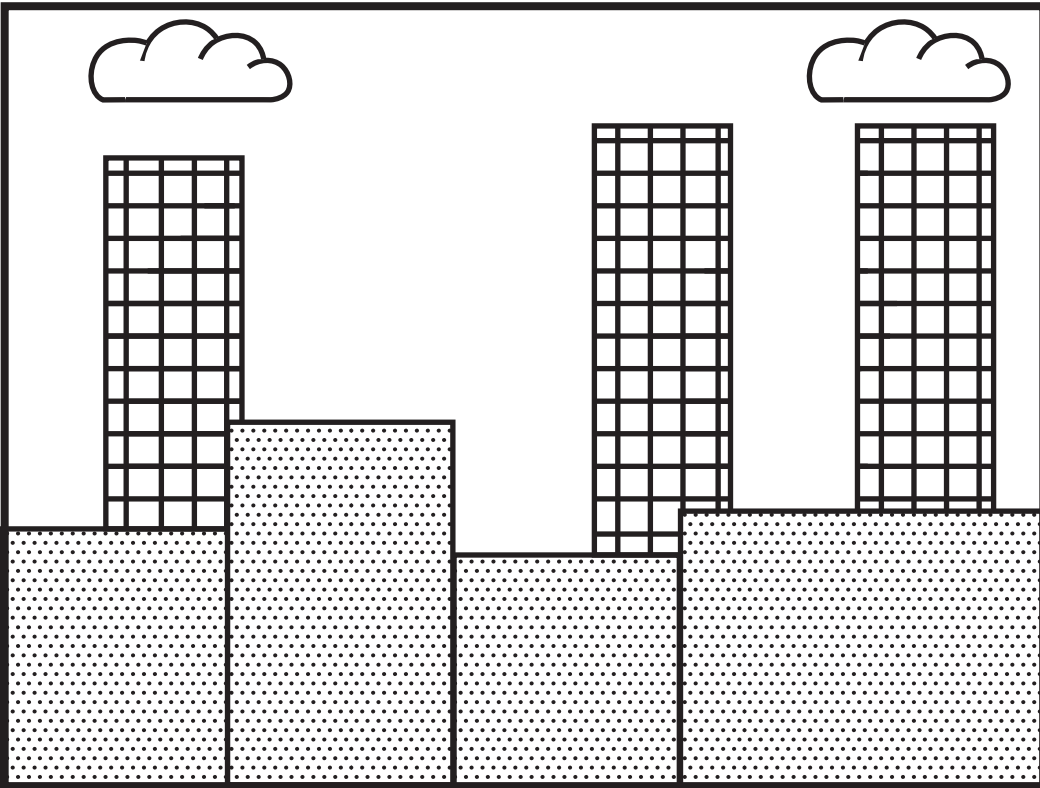
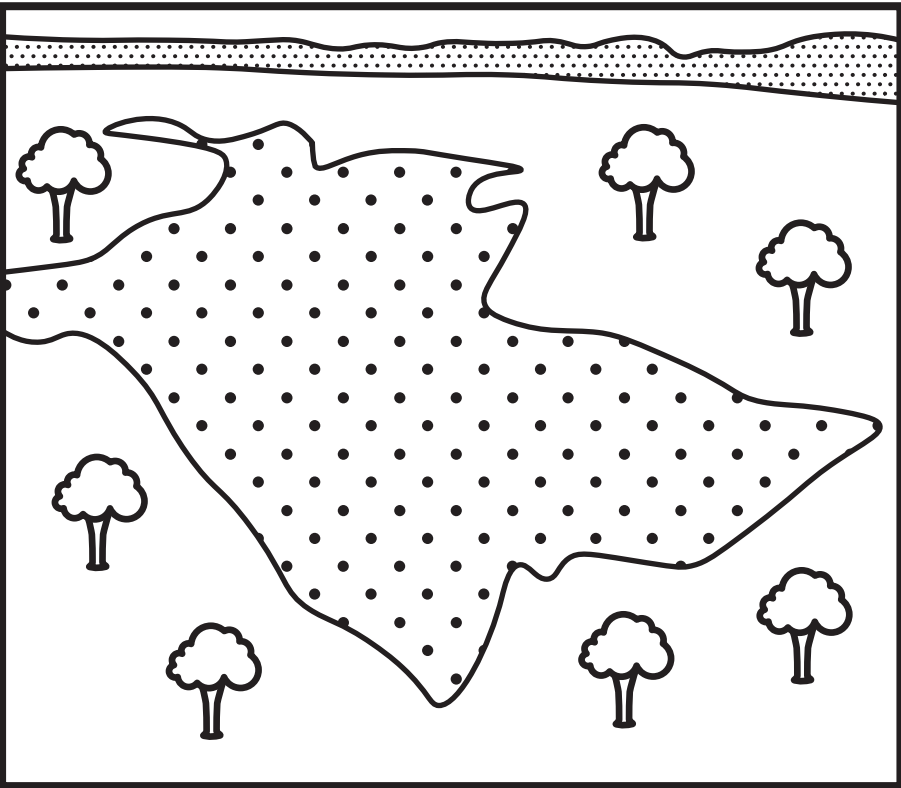
| | |
|----|-----------------------------|
| 4 | Figure 1a |
| 5 | Figure 1b |
| 6 | Figure 1c – Colour |
| 7 | Figure 1c – Black and White |
| 8 | Figure 1c – Information |
| 9 | Figure 2a |
| 10 | Figure 2b |
| 11 | Figure 2c |
| 12 | Figure 3a |
| 13 | Figure 3b |
| 14 | Figure 3c |

SECTION B

| | |
|----|-----------|
| 15 | Figure 4a |
| 16 | Figure 5a |
| 17 | Figure 6a |

Figure 1a

Factors impacting the hydrological cycle



Key:

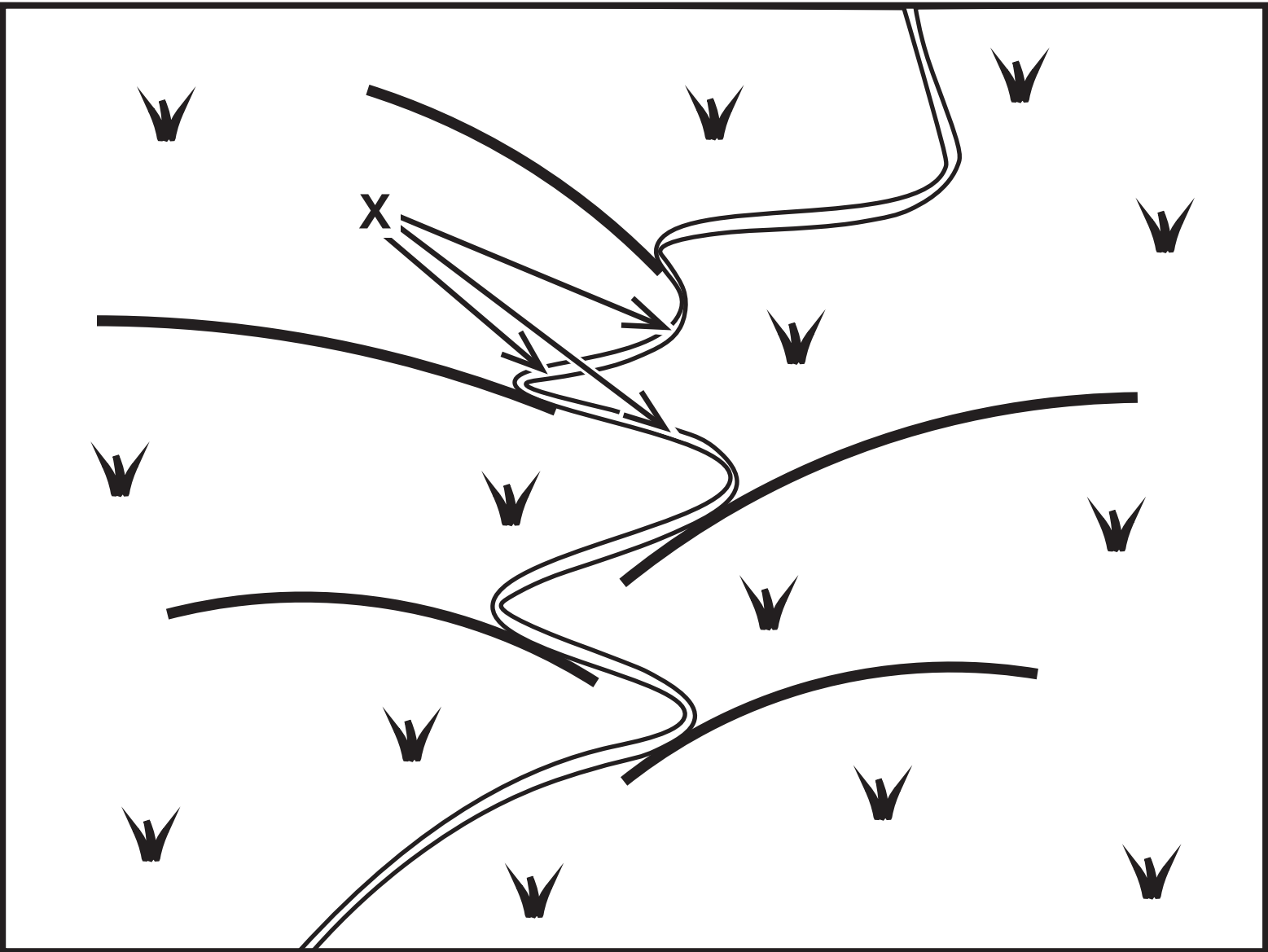
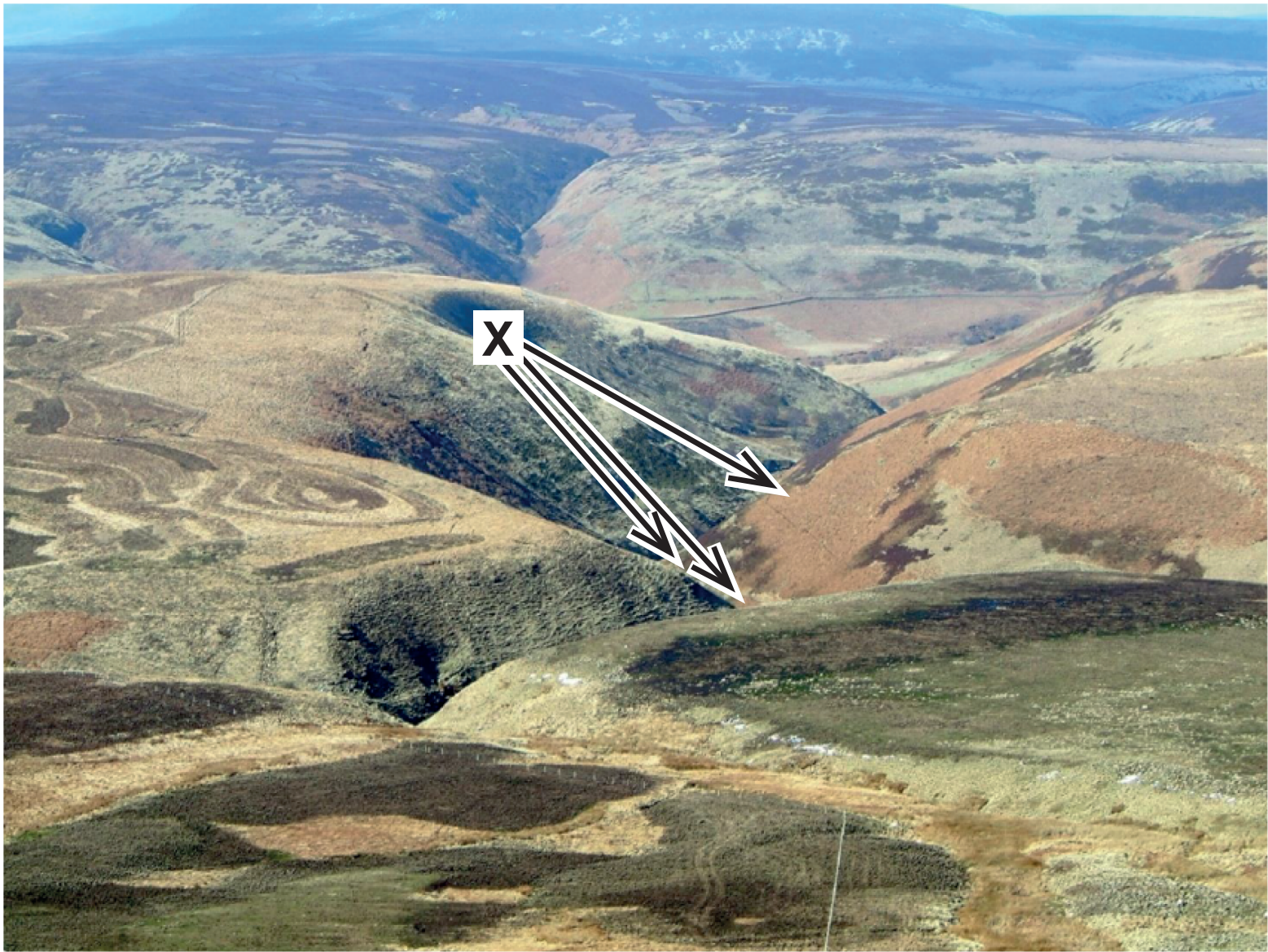
- Wooded Area
- Cleared area
- Hills

Key:

- Skyscrapers
- Buildings
- Clouds

Figure 1b

River landforms in the south west of the UK



Key:  Grassy hills  Hill ridges

The River Thames Scheme (Datchet to Teddington)

Total length of flood channel in 3 parts is 17 km

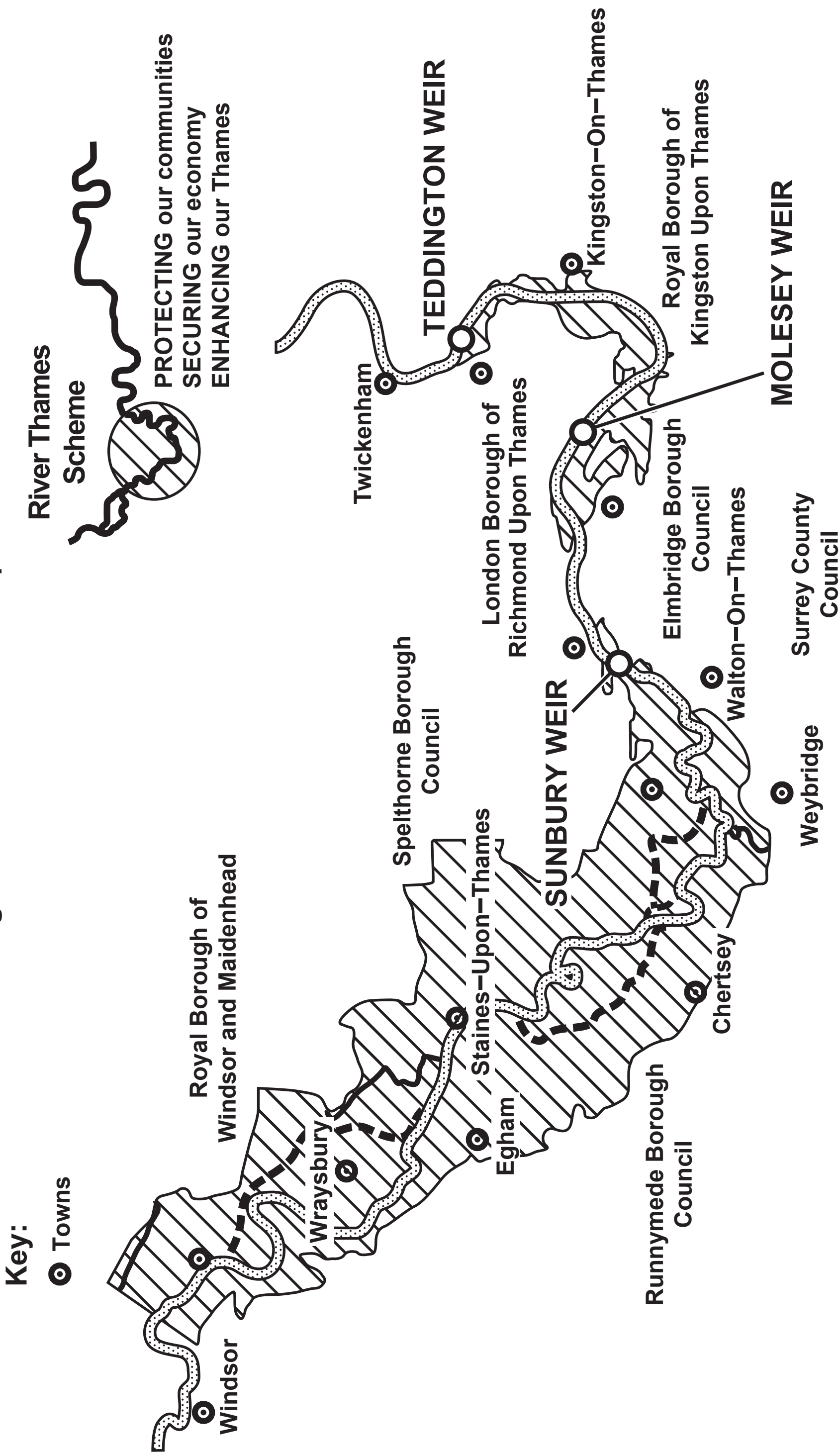


Figure 1c – Information

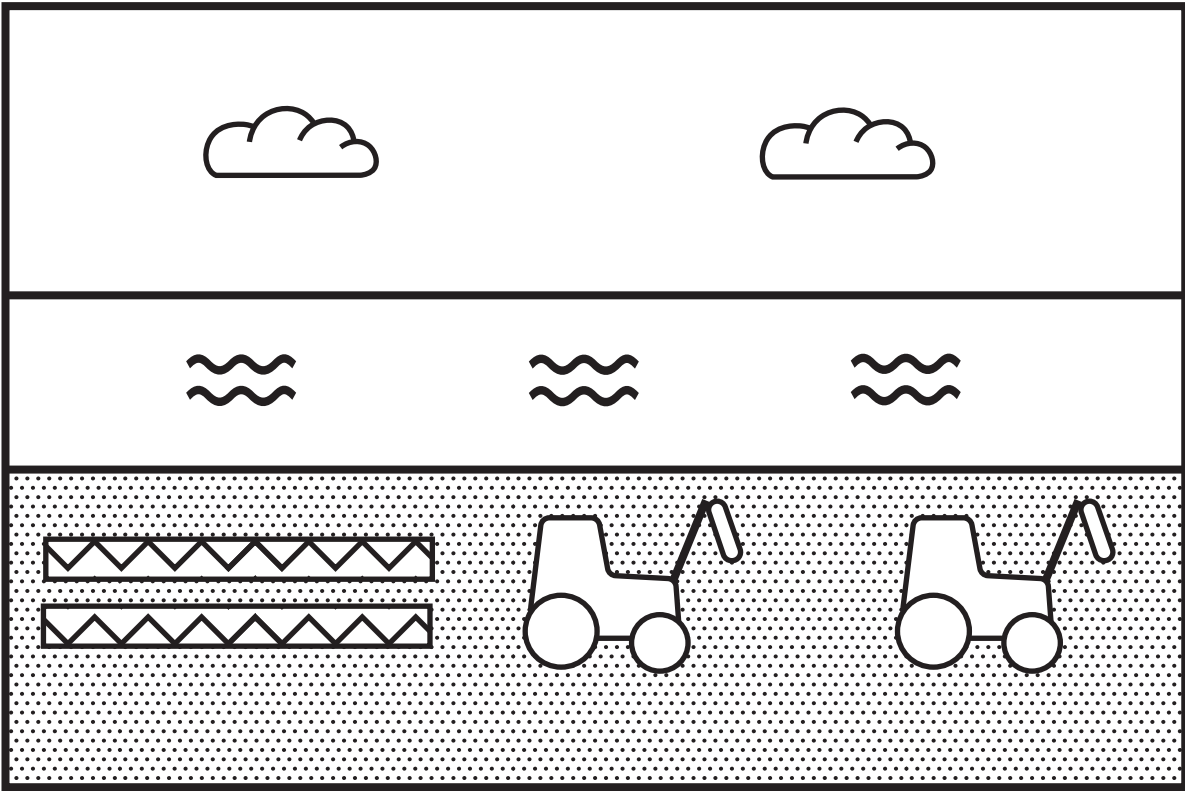
Information on flood impact costs and benefits from the River Thames Scheme

| Flood impact costs and benefits |
|--|
| 3 Weirs upgraded |
| 800 Responses received to the 2009 strategy consultation |
| 17 km Total length of flood channel, in 3 parts |
| £850 million Estimated damages from a major flood |
| 40 Hectares of habitat created |
| 15000 Properties at risk from a 1 in 100 flood (1% chance in any given year) |
| Improved Recreation facilities |
| 1400 People who attended public exhibitions and meetings in 2009 |
| 930+ Properties flooded in 2014 |

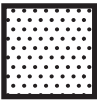




| Resident views |
|---|
| The scheme has cost lots of money and the floods don't affect me. |
| The scheme is taking too long to complete. |
| The work is disrupting traffic and causing chaos. |
| Other services such as schools are not being invested in. |

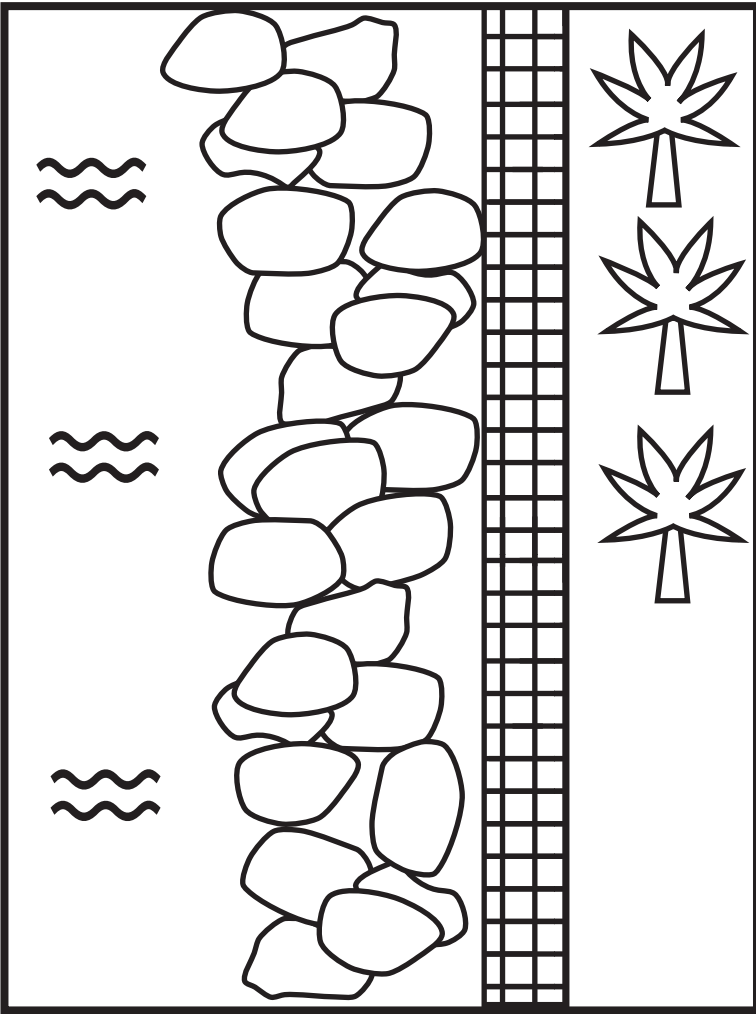
Figure 2a

Coastal management approaches



Key:

| | | | |
|---|--------|---|-----------------------|
|  | Sand |  | Construction vehicles |
|  | Sea |  | Pipes |
|  | Clouds | | |

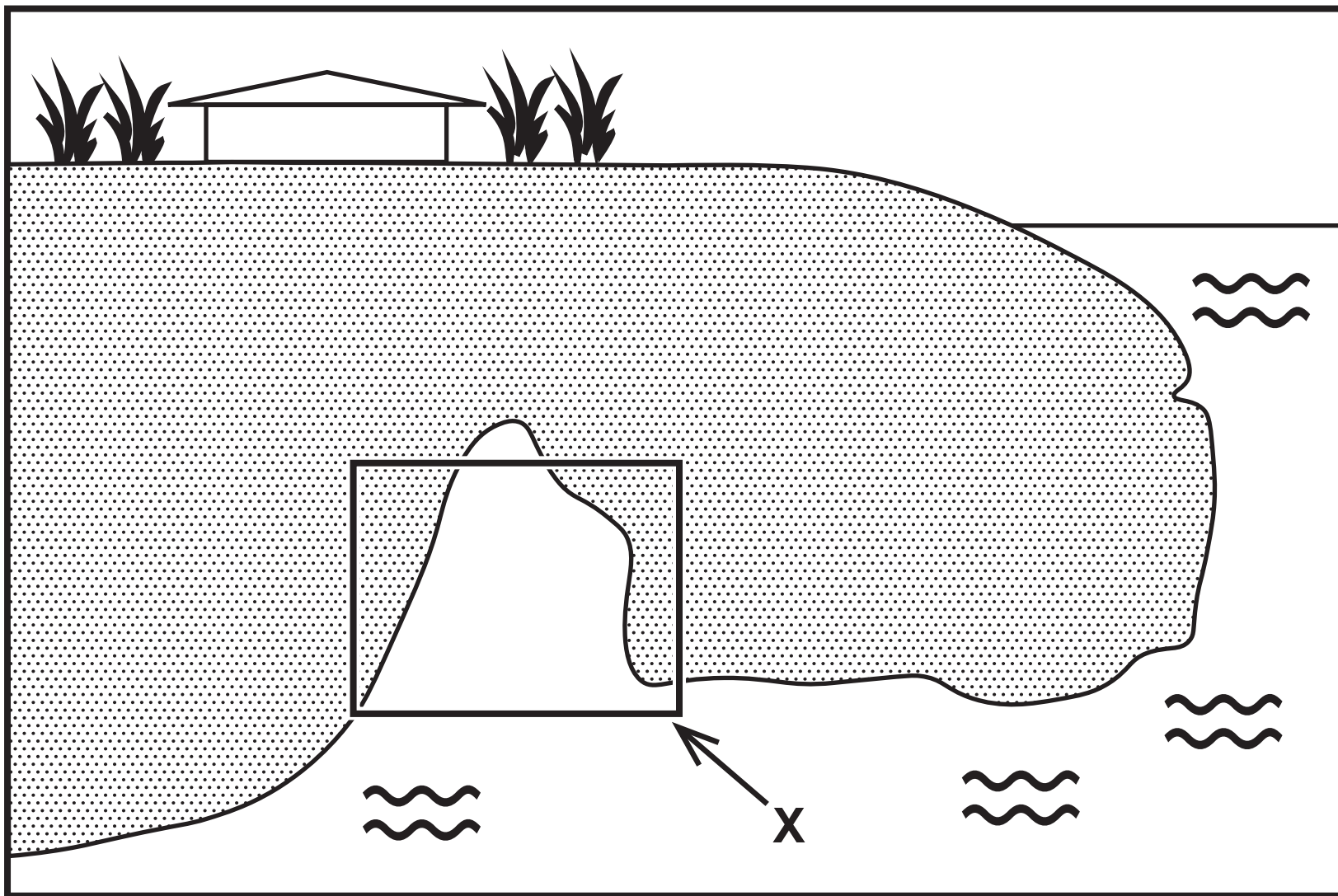
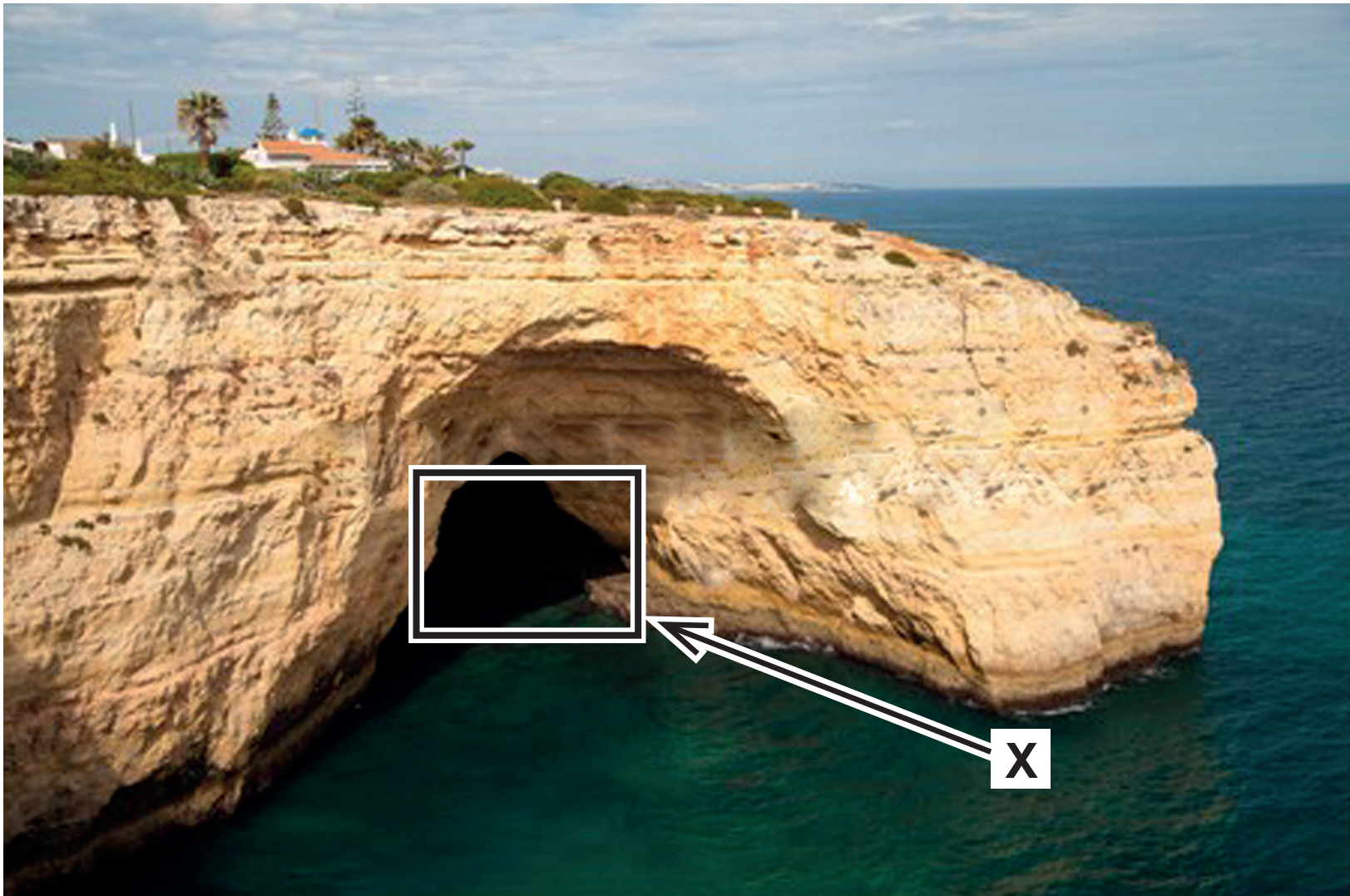


Key:

| | | | |
|---|------|---|------------|
|  | Wall |  | Boulders |
|  | Sea |  | Palm trees |

Figure 2b

A coastal landform in the Algarve, Portugal



Key:

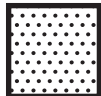




| | | | | | |
|---|------|---|------------|---|---------------------|
|  | Rock |  | Building |  | Opening in the rock |
|  | Sea |  | Vegetation | | |

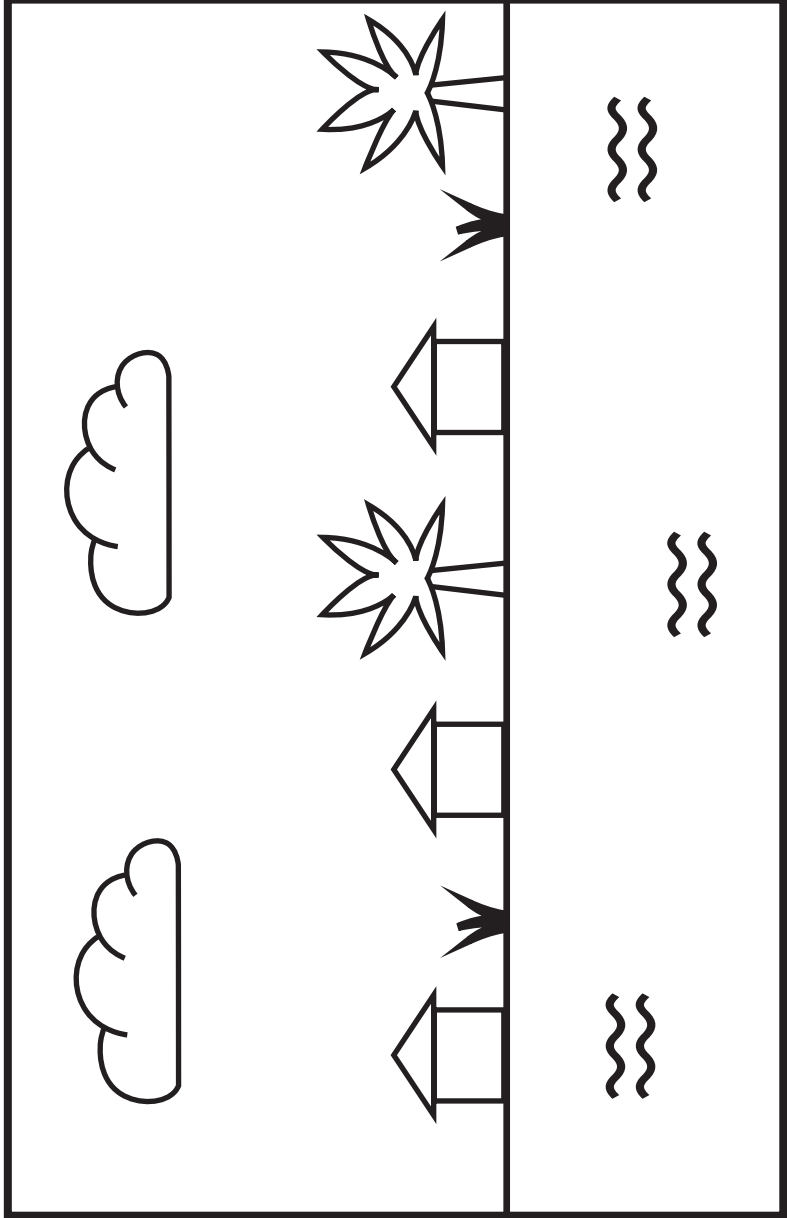
Figure 2c
Mangrove developments and risk of flooding in India



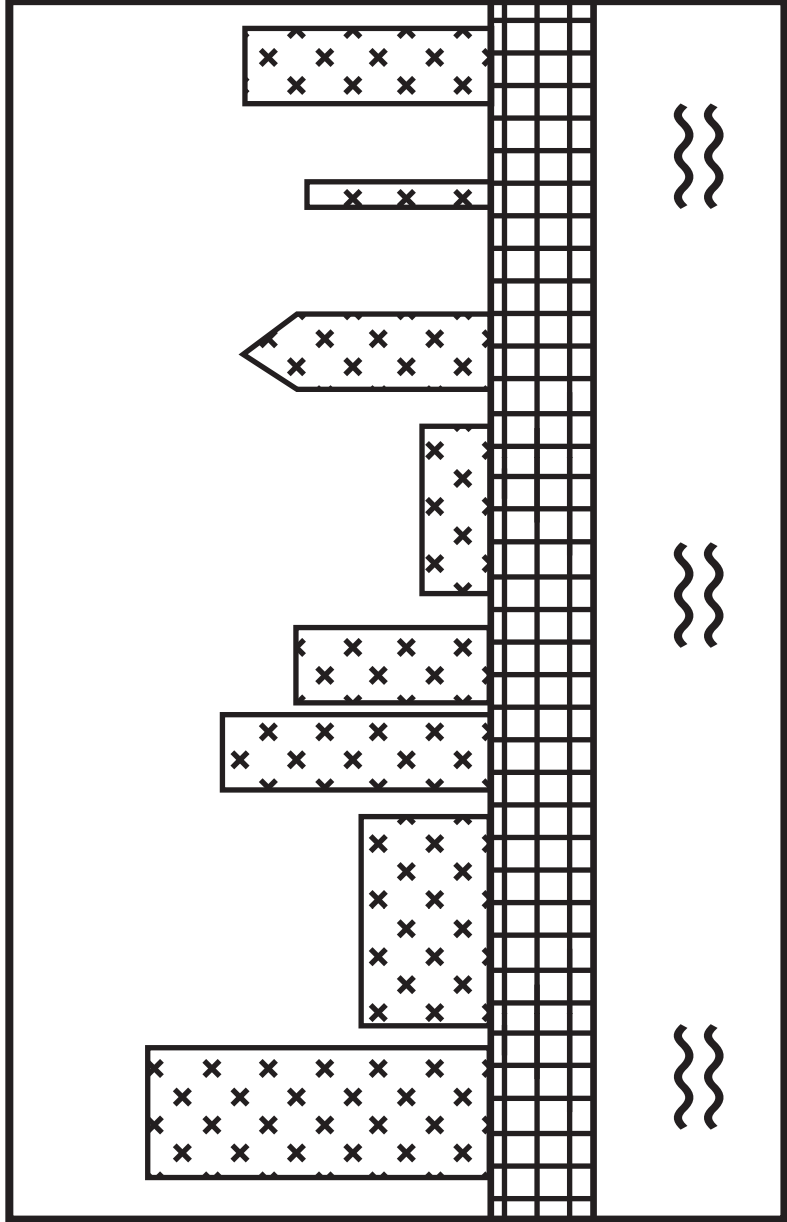
| Benefits of mangrove ecosystems in coastal areas |
|---|
| Income generation for shoreline communities |
| A varied habitat for many rare and endangered species |
| Acts as protection from storms |
| Helps water quality by filtering pollution |
| Provides timber for buildings |
| Provides fodder for animals |

| Coastal environments in India |
|--|
| 250 million people live within 50 miles of the coast |
| 3600 fishing villages provide a vital source of food |
| 12 major ports to support trade |
| Certain areas such as Goa are important for tourism |

Figure 3a
Living in areas prone to tropical cyclones



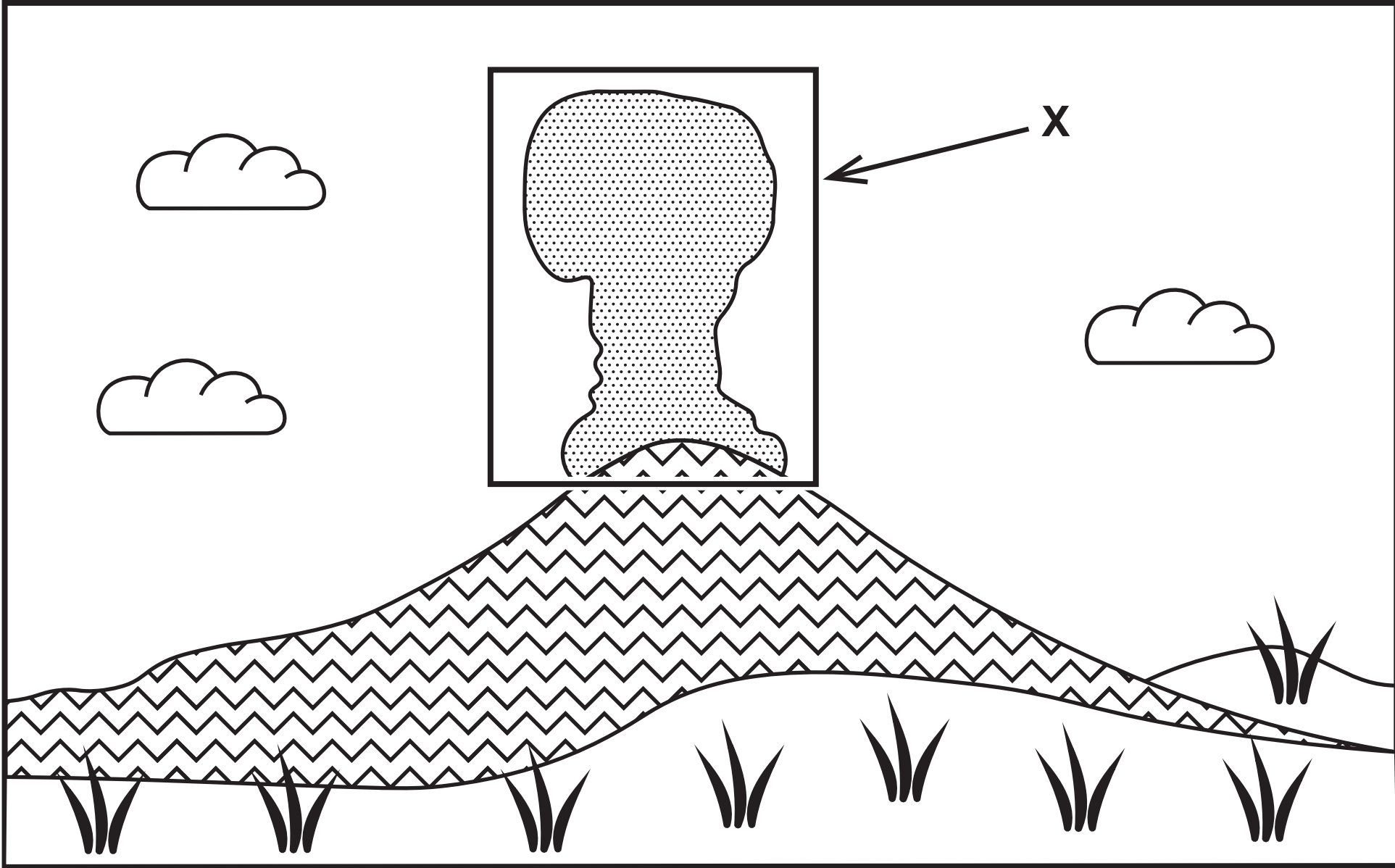
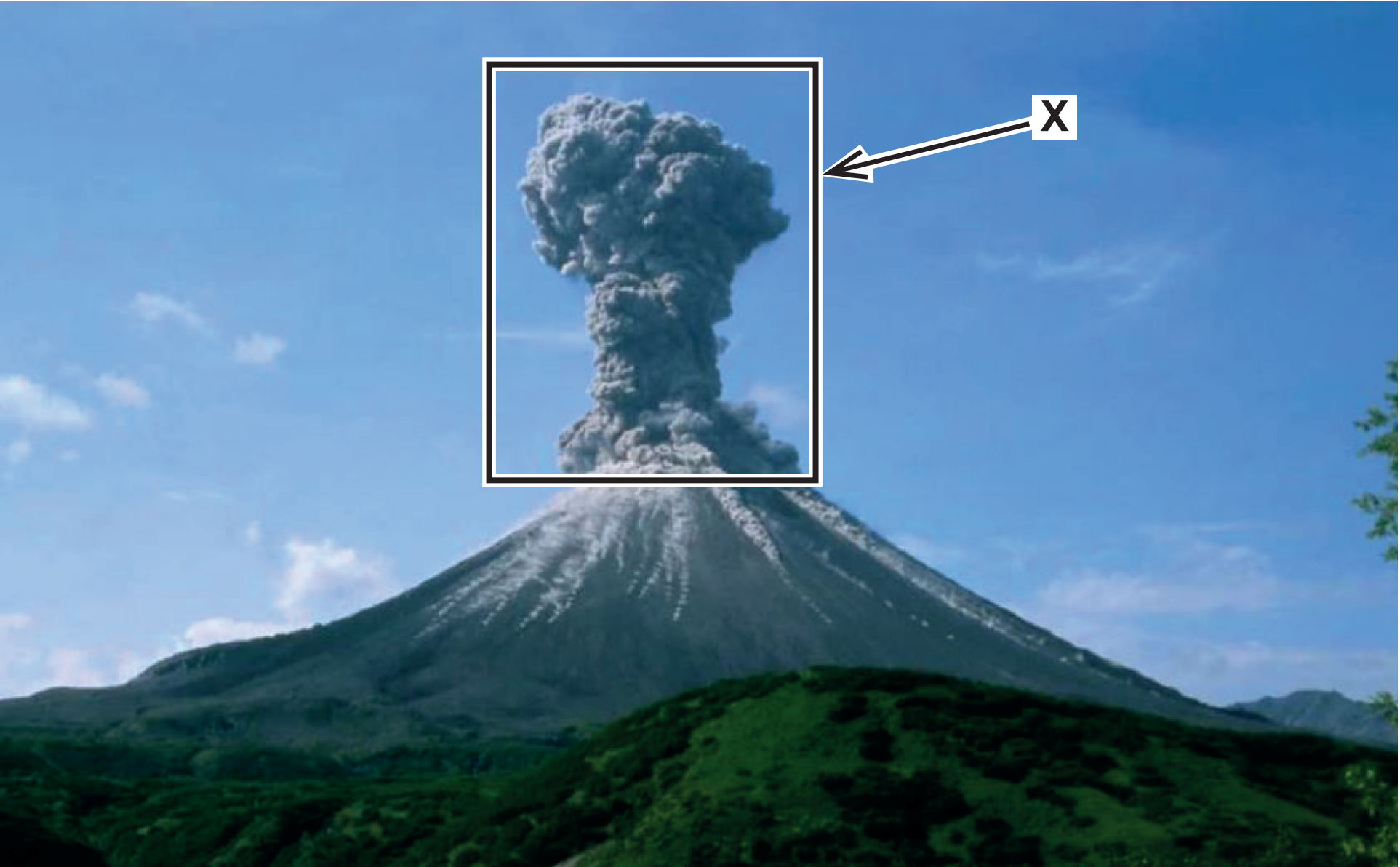
Key: Sea Clouds Palm Trees
 Vegetation Beach house



Key: Sea Buildings Rocks

Figure 3b

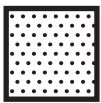
A volcanic eruption



Key:



Volcano



Eruption



Clouds



Vegetation

Figure 3c

Information about two different tropical cyclones

Yasi cyclone: The image shows a sign saying “Rainforest Walking Track”. The rainforest walking track is blocked by fallen branches from the damaged trees.

Sandy cyclone: The image shows damaged buildings, piles of rubble and debris. Some houses and pylons are still standing.



| | | |
|--------------------------|-------------|--------------|
| Name of cyclone | Yasi | Sandy |
| Country | Australia | USA |
| Date | 2011 | 2012 |
| Death toll/ injuries | 1 | 100+ |
| Wind speed max | 290 kph | 155 kph |
| Size of storm | 600 km wide | 1500 km wide |
| Level of urbanisation | Low | High |
| Cost US\$ | 3·6 billion | 70·2 billion |

Figure 4a

River data collected by a group of students




| Sampling point | Site 1 – furthest upstream | | Site 2 | | Site 3 – furthest downstream | |
|----------------|---|------------|---|------------|---|------------|
| | Channel width (cm) | Depth (cm) | Channel width (cm) | Depth (cm) | Channel width (cm) | Depth (cm) |
| 1 | 0 | 2•0 | 0 | 8•8 | 0 | 20•1 |
| 2 | 20 | 1•3 | 20 | 13•0 | 50 | 30•4 |
| 3 | 40 | 4•0 | 40 | 14•5 | 100 | 40•8 |
| 4 | 60 | 6•5 | 60 | 12•0 | 150 | 42•2 |
| 5 | 80 | 5•0 | 80 | 9•0 | 200 | 45•1 |
| 6 | 100 | 4•0 | 100 | 10•0 | 250 | 47•8 |
| 7 | 120 | 3•5 | 120 | 9•0 | 300 | 50•4 |
| 8 | 140 | 0•5 | 140 | 9•5 | 350 | 60•3 |
| Mean depth |  | 3•4 |  | ? |  | 42•1 |

Figure 5a
Coastal data collected by a group of students

| Height difference from top of groyne to surface of sand (cm) | | | | | | | | | | |
|--|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|
| Distance from cliff line (m) | Groyne 1 | | Groyne 2 | | Groyne 3 | | Groyne 4 | | Groyne 5 | |
| | North | South | North | South | North | South | North | South | North | South |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 93 | 5 | 120 | 15 | 44 | 81 | 102 | 74 | 50 | 43 |
| 20 | 94 | 1 | 111 | 10 | 40 | 70 | 80 | 45 | 80 | 40 |
| 30 | 94 | 14 | 89 | 95 | 51 | 45 | 50 | 122 | 17 | 54 |
| Mean height (cm) | 70•3 | 5•0 | 80 | 30 | ? | 49•0 | 58•0 | 60•3 | 36•8 | 34•3 |

Figure 6a
Hazardous environment data collected by a group of students

| | Temperature data (°C) | | |
|-----------------------------------|-------------------------|----------------------------------|---------------------------------|
| | Mean annual temperature | Highest temperature at each site | Lowest temperature at each site |
| Site 1 | 26•4 | 28•2 | 15•1 |
| Site 2 | 24•3 | 27•1 | 14•6 |
| Site 3 | 26•8 | 34•8 | 15 |
| Site 4 | 27•1 | 39•5 | 10 |
| Site 5 | 26•3 | 26•8 | 13•1 |
| Mean temperature across all sites | 26•2 | ? | 13•6 |

Figure 1a (Source: © Tahreer Photography/Getty Images)

Figure 1c (Source: © Crown Copyright)

Figure 2a (Source Image 1: © Ashish_wassup6730/Shutterstock, Source Image 2: https://www.flickr.com/people/geography_southwest/)

Figure 2b (Source: © Costa Rodrigues/Shutterstock)

Figure 2c (Adapted from: <http://www.geol-amu.org/notes/be1a-3-8.htm>)

Figure 3a (Source Image 1: © EQRoy/Shutterstock, Source Image 2: https://www.flickr.com/people/geography_southwest/)

Figure 3b (Source: © LukaKikina. Shutterstock/PAL)

Figure 3c (Source Image 1: © Johan Larson/Shutterstock, Source Image 2: Leonard Zhukovsky)