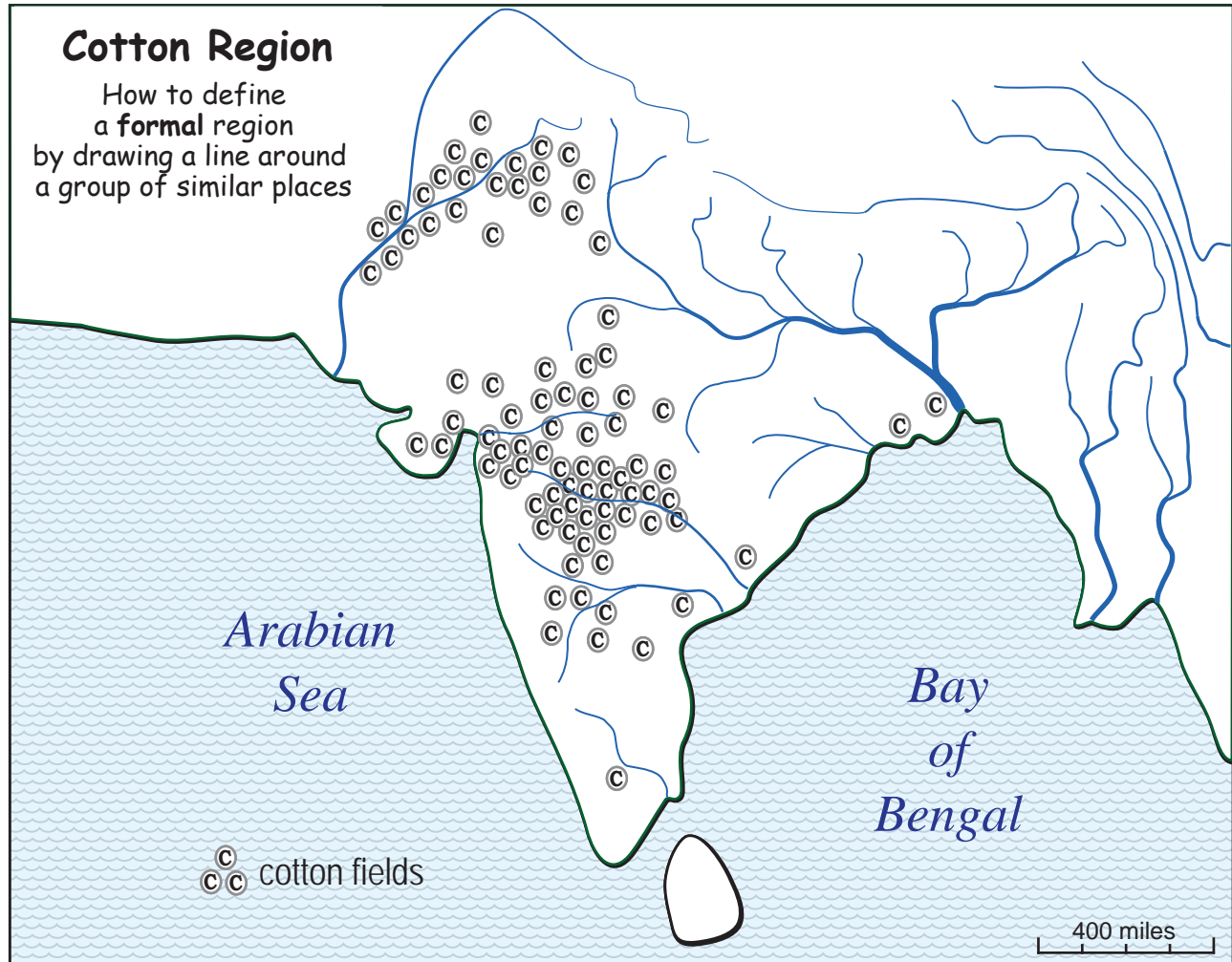


## Cotton Region

How to define a **formal** region by drawing a line around a group of similar places



On this map, you will identify and draw lines around two cotton-growing **regions** in South Asia.

Definition: A **formal region** is a group of places that are close to each other and have something in common. For example, the Corn Belt is a group of places where most farmers grow corn.

This task illustrates the main problem with making a regional map - how close together and how similar should places be in order to be included in a region? In the United States, some people outside the Corn Belt grow corn, and some people inside the Corn Belt do not,

In short, the real world seldom has neat dividing lines between regions.

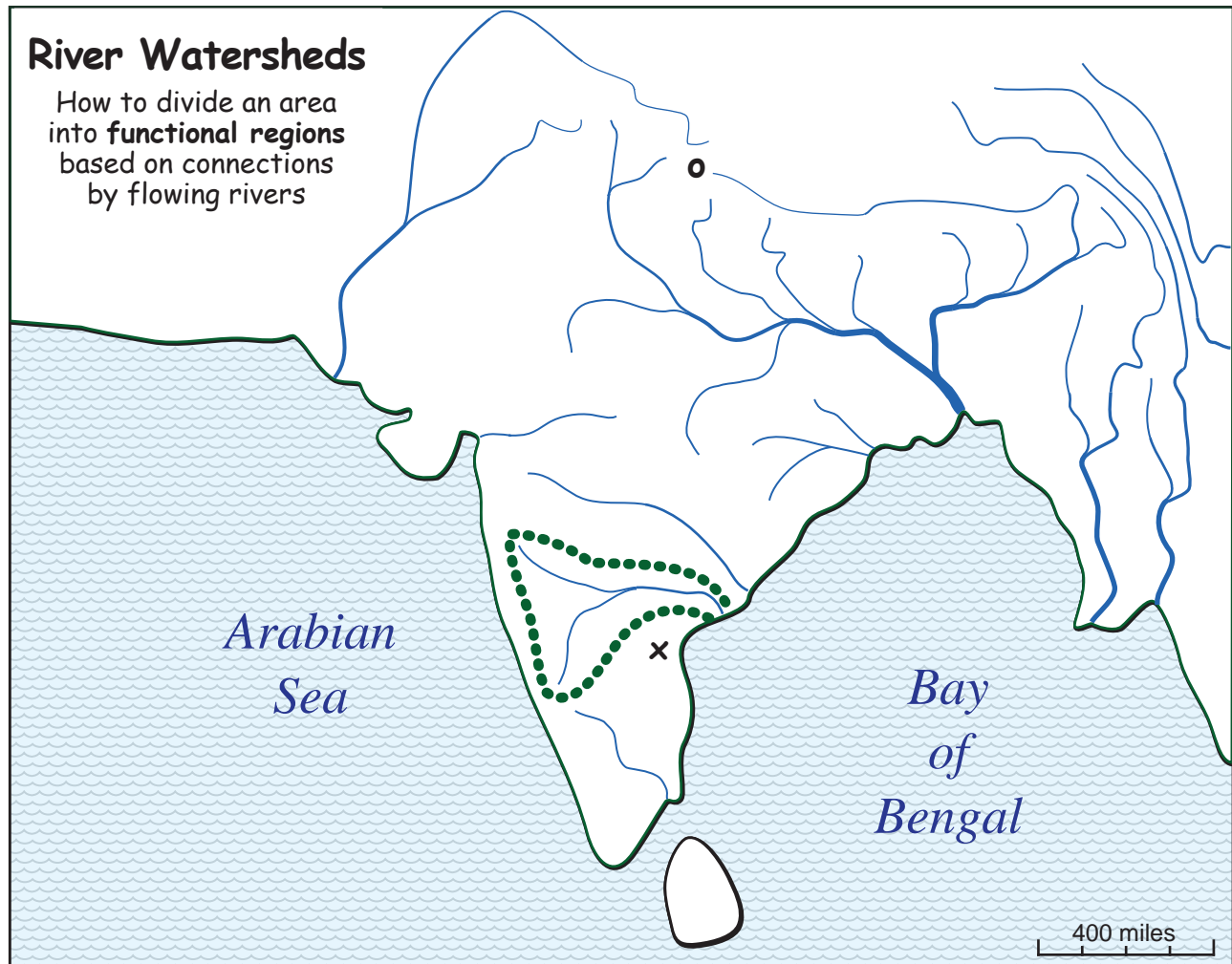
As a result, most regions have **inliers** (dissimilar places inside the region) and **outliers** (places that are like the region but are too far away to be included in the region).

1. Decide how many inliers and outliers you are willing to accept on your map.
2. Draw a dotted line around the small region of cotton production in the northern part of the map. This area is mostly on the floodplain of the Indus River in Pakistan.
3. Draw a dashed line around the larger cotton-growing region on the peninsula of India. This area is mostly on rich soils formed from fairly recent volcanoes.

If you did this for several crops, you could put them together on one map of crop regions. **MANY** maps are made in this way - as a map reader, you should know that the map maker had to make **MANY** decisions about similarity and proximity, and those decisions can have a big effect on the appearance of the final map.

## River Watersheds

How to divide an area into **functional regions** based on connections by flowing rivers



On this map, you will divide South Asia into functional regions connected by different rivers.

Definition: A **functional region** is an area that is connected by something, like flowing water, radio waves from a broadcast tower, text messages over a network, and so forth.

We have already drawn a dotted line around the watershed of the Krishna River.

Definition: A **watershed** is the area drained by a river and all the smaller rivers that flow into it.

Our main focus is on the three rivers that start in the high mountains around place O in the north-central part of the map. These three rivers were historically important.

1. Draw a solid line around the watershed of the **Indus River**. This river flows generally southward to the Arabian Sea. It was the core of the early Indus Valley civilization.
2. Then draw a dashed line around the watershed of the **Ganges River**. The tributaries of this huge river gather a lot of water from northern India. It is a sacred river for many people in South Asia. It is also the third largest river in the world by volume of water, though it is not even in the top 20 longest rivers.
3. Draw a dotted line around the watershed of the **Brahmaputra River**. This long river starts near place O and flows a long way east across the cold and dry Tibet Plateau. Then it makes a big curve and flows southwest and into the Ganges River.
4. Draw thin lines around the watersheds of the other rivers on the map. (Water from a place like X might go to the ocean in a creek that is too small to show on this map.)