Where Water Went

Use sources to investigate geographic change.

MWH.P.2.3.A "Actively engage in asking and answering geographic questions by acquiring, organizing, and analyzing multiple sources of data and information about the world's past and present."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each source the researcher could use and what it could reveal. Circle dates and places, then number two statements that explain a source's limits.

Investigating the Aral Sea

1. Imagine standing at a former fishing dock in Muynak, Uzbekistan. The Aral Sea once reached this town, but the shore is now far away. What changed the geography around the dock? A researcher could begin with a Soviet-era survey showing the shoreline near Muynak in the 1960s. A recent satellite image would locate the present shoreline. These sources show where water retreated, but neither, by itself, explains why. Their dates matter: a comparison across decades can reveal change that a single snapshot cannot. The researcher must also ask whether the old survey and the image use the same scale.

2. To investigate causes, the researcher could acquire records of irrigation projects along the Amu Darya and Syr Darya, the rivers that fed the sea. Beginning in the Soviet period, large amounts of river water were diverted to irrigate crops, especially cotton. Organizing the project dates beside shoreline observations could show whether the diversions came before major water loss. River-flow measurements would provide another check: less water reaching the sea fits the diversion explanation. Still, a match in timing alone does not prove that every change in the shoreline came from irrigation. Evaporation and rainfall also affect water levels.

3. A third source could be an interview with a former fisher in Muynak. The fisher might describe abandoned boats and lost work, showing how the retreat affected people. Memory can reveal experiences that a satellite cannot, but a personal account cannot measure the entire sea. The researcher should note the interview date, the fisher's location, and which years the person recalls. Later evidence adds a complication: a dam completed in 2005 helped the North Aral Sea in Kazakhstan recover some water, while much of the southern sea remained greatly reduced. A careful answer distinguishes these places instead of saying the whole sea followed one path.

2 ANSWER WITH EVIDENCE

Use the passage

1. What could the older survey and recent satellite image establish together, and what could they not explain by themselves?

2. How would you use irrigation project dates and river-flow measurements to test an explanation for the sea's retreat?

3. What could an interview with a former fisher add to the investigation, and what is one limit of that source?

4. Why would the claim “the entire Aral Sea kept shrinking after 2005” misrepresent the passage's evidence?

3 YOUR TURN

Your own words

Choose a place other than the Aral Sea and write a geographic question about how it has changed over time. In one paragraph, name at least two different kinds of sources you would acquire, explain how you would organize and compare their evidence, and identify one limit of your investigation.

ANSWER KEY

Where Water Went

HIGH SCHOOL · MWH.P.2.3.A

PART 1 · READ AND MARK

Underline each source the researcher could use and what it could reveal. Circle dates and places, then number two statements that explain a source's limits. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What could the older survey and recent satellite image establish together, and what could they not explain by themselves?	**They could show how the shoreline near Muynak changed between the 1960s and the present, but not why it changed.**
2	How would you use irrigation project dates and river-flow measurements to test an explanation for the sea's retreat?	**Check whether water diversions began before major shoreline retreat and whether river flow into the sea decreased. Both findings would support the explanation, though timing alone would not prove it.**
3	What could an interview with a former fisher add to the investigation, and what is one limit of that source?	**It could describe effects on people, such as lost work. One person's memories cannot measure changes across the entire sea.**
4	Why would the claim "the entire Aral Sea kept shrinking after 2005" misrepresent the passage's evidence?	**The North Aral Sea recovered some water after a dam was completed in 2005, while much of the southern sea remained greatly reduced.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Why has the coastline near Grand Isle, Louisiana, changed since 1950? I would acquire dated coastal surveys, recent satellite images, and local records of storms. I would organize each source by year and by the same stretch of coast, then compare shore positions before and after major storms. If surveys and images agreed that land retreated, storm records could help test one possible cause. Storms alone would not explain every change, since changes to sediment supply may matter too.

Accept other accurate source combinations if students explain what each source can show and how comparing them helps answer the question. Look for a specific place, a time frame, and a meaningful source limit.