

THE 'QUIET CHERNOBYL': THE ARAL SEA

Prior to the 1960s, the Aral Sea was the world's fourth largest lake and approximately the size of Ireland. Fed by both the Amu Darya and Syr Darya rivers carrying snowmelt from the mountains to the southeast, the Aral Sea moderated the climate and provided a robust fishing industry that straddled the present-day border between Kazakhstan and Uzbekistan. For the map savvy, that Aral Sea would be almost unrecognizable—it has long appeared as two basins known as the North and the South Aral Sea since the rivers were diverted for crops, leading

to the Aral Sea's alarming shrinkage. Recent NASA [satellite imagery](#) shows the decline that the Aral Sea has undergone since 2000, leaving the South Aral Sea completely dried up in 2014.

Kazakhstan and Uzbekistan are two of the Soviet Union's former states within central Asia, and it was under Soviet direction that the rivers were canaled into the desert for agriculture. Decried as one of the worst manmade ecological disasters, the removal of the Aral Sea was no accident. The Soviets believed the water would better serve in the production of cotton (to export) and grains. What began as Soviet meddling is continued by independent states that rely heavily on agriculture even as it destroys ecosystems, jobs, health and villages. Since 2000, the changes to the Aral Sea have been especially dramatic, partly due to drought, and what once was an oasis in one of earth's driest deserts is now less than 10% of its original size. In 2005, the Kokaral Dike was built to isolate the North Aral Sea from the South Aral Sea to prevent the loss of the north basin. The North Aral Sea has since stabilized, but at the cost of sacrificing the

South Aral Sea.

With the river's snowmelt diverted, the Aral Sea began to recede and its salinity levels began to rise, hurting the flora and fauna that previously thrived there. Fertilizers and chemical runoff contaminated the waters while hot temperatures led to greater evaporation, drying the sea up more quickly. Empty fishing villages, once home to 60,000 fishermen, now sit miles from what was once the coastline. As the lakebed became exposed, fierce winds blew the contaminated soil into villages and the surrounding croplands, increasing the amount of water needed for crops. Lacking the technology of automated farm equipment, farmers continue to have large families to work the fields, putting further strain on water resources. As the South Aral Sea dried up there was less evaporation and less rainfall to replenish the snowcaps on mountain peaks, further disrupting the water cycle.

The Aral Sea had a moderating effect on the weather, keeping it from getting too hot or cold, and protected the region from the fierce winds that now blow dust without respite. Health in general has declined for the region's populace, but respiratory problems and cancer in particular have been on the rise as an oasis has become a noxious desert.

The Aral Sea catastrophe highlights the connections between the ecosystem and humanity's ability to thrive. The situation was avoidable but the warnings were ignored. A compromise might have been struck between agriculture and the ecosystem by diverting some of the water instead of all of it for crops. As we consider the drought in California or the Ogallala Aquifer in Nebraska, we can see the Aral Sea as a cautionary tale for how we deal with our own water problems.

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Disappearing Sea



[continued >](#)

QUESTIONS:

1. Follow the NASA link and look at the satellite imagery from 2000 through 2014. What years were worse than others?
2. What problems has diverting the rivers from the Aral Sea caused?
3. What do you think should be done now?

SOURCES:

- <http://www.cnn.com/2014/09/30/world/asia/aral-sea-drying/>
- <http://newswatch.nationalgeographic.com/2014/10/14/what-the-disappearing-aral-sea-tells-us-about-the-value-of-water/>
- http://earthobservatory.nasa.gov/Features/WorldOfChange/aral_sea.php
- <http://www.washingtonpost.com/blogs/capital-weather-gang/wp/2014/09/30/the-aral-sea-was-once-the-fourth-largest-lake-in-the-world-watch-it-dry-up/>
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