How to use data in the classroom in inquiry lessons

Long-term Sampling of Narragansett Bay

References

Graduate School of Oceanography (GSO) Fish Trawl web site
http://www.gso.uri.edu/fishtrawl/

Jeffries, P. 2000. Rhode Island's Ever-Changing Narragansett Bay. Maritimes 42(2): 3-6.
http://www.gso.uri.edu/maritimes/Current_Issue/00%20Winter/Text/winter_00.html

Taylor, D.L. and Collie, J.S. 2000. Sampling the Bay Over the Long Term. Maritimes 42(2): 7-9. http://www.gso.uri.edu/maritimes/Current_Issue/00%20Winter/Text/winter_00.html

University of Rhode Island Department of Communications/News Bureau. December 13, 2002. URI Biological Oceanographers Study the Predator-Prey Relationship between Sand Shrimp and Flounder.
http://www.uri.edu/news/releases/html/02-1213.html

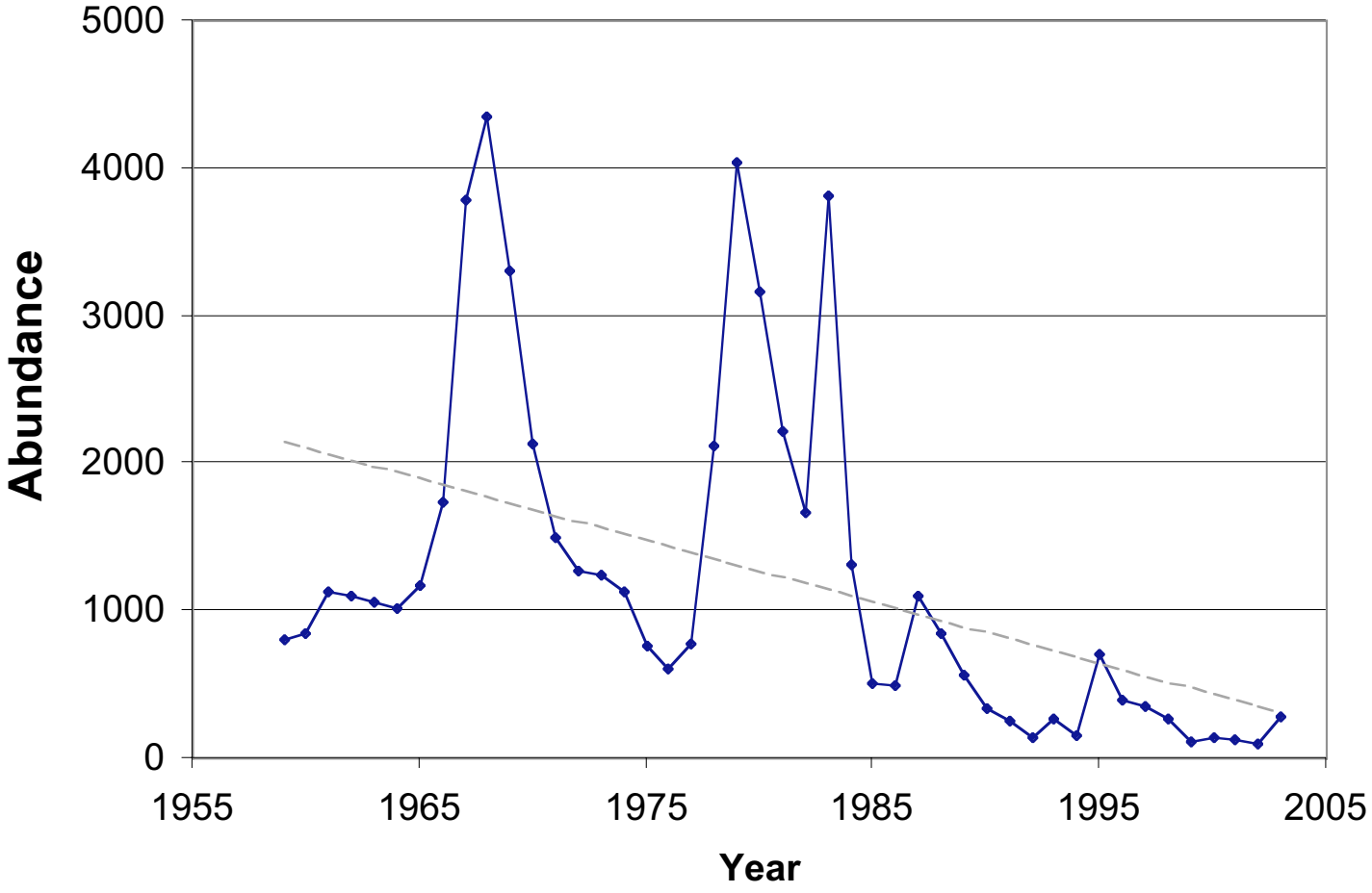
University of Rhode Island Department of Communications/News Bureau. February 17, 2004. Increased water temperature may prevent winter flounder from rebounding in east coast estuaries.
http://www.uri.edu/news/releases/index.php?id=2488

Additional Resources

Discovery of Estuarine Environments web site. 2001. Global Environmental Changes - Winter Flounder Case Study.
http://omp.gso.uri.edu/doee/science/global/case1.htm

Keller, A.A. and Klein-MacPhee, G. 2000. Impact of elevated temperature on the growth, survival, and trophic dynamics of winter flounder larvae: a mesocosm study. Canadian Journal of Fisheries and Aquatic Sciences 57: 2382-2392.
Reported by Environmental News Network, Monday, September 17, 2001. Warmer water in Narragansett Bay killing winter flounder. http://www.enn.com/news/enn-stories/2001/09/09172001/flounder_44979.asp

Graph #1 – Annual Abundance of Winter Flounder 1959-2003
(Annual abundance is the total of the twelve average monthly catches for winter flounder. Data courtesy of GSO Fish Trawl)

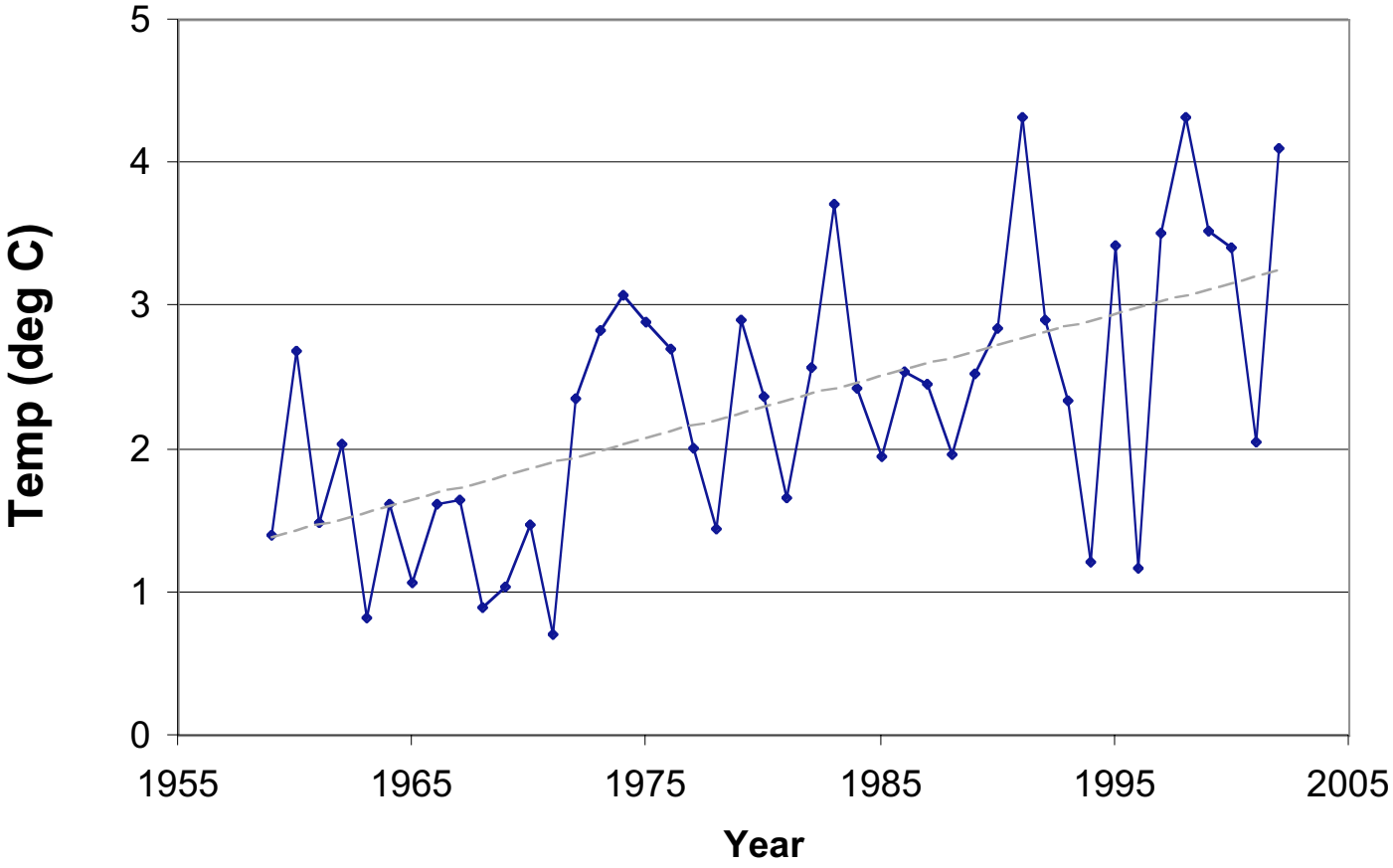


1. What does the graph indicate about winter flounder abundance over the last forty years?

2. What could cause variability in the abundance of winter flounder in Narragansett Bay?

3. What conclusions can you draw from the data?

Graph #2 –Temperature in Narragansett Bay 1959-2002
(Temperature is the average of weekly surface temperatures during winter months. Data courtesy of GSO Fish Trawl)



1. What trends are evident in the temperature data?

2. Are there any correlations between the two sets of data?

3. What other data would be helpful in developing your conclusions?