		Means...	**Which could in turn be a sign of...**	**Could this trend be an effect of climate warming?**	**Could this trend also be contributing to more climate warming in the region?**	**Could this trend also be contributing to less climate warming in the region?**	**Other reasons for the trend?**
Higher values of...	**Euphotic depth**	clearer water	less phytoplankton	Yes. We do not know for certain but global warming could be increasing ocean surface temperatures and warmer temperatures make it more difficult for nutrients from the deeper colder ocean to rise to the surface where the phytoplankton reside. Without access to these nutrients the phytoplankton cannot survive.	Phytoplankton absorb CO2 through photosynthesis, so less phytoplankton means greater amounts of carbon from the atmosphere gets dissolved in the ocean as carbonic acid, which contributes to ocean acidification (i.e., lowering of the pH level) and to the loss of marine life that come from acidification.	No	
Lower values of...	**Euphotic depth**	murkier water	more phytoplankton	Unlikely	Unlikely	Unlikely	

		Means...	Which could in turn be a sign of...	Could this trend be an effect of climate warming?	Could this trend also be contributing to more climate warming in the region?	Could this trend also be contributing to less climate warming in the region?	Other reasons for the trend?
Higher values of...	**Euphotic depth**	clearer water	less run-off into the ocean of water containing pollutants or thick sediments	Yes, if the decrease in runoff is due to a sustained drought, and the drought is occuring over so many years that it suggests true climate change from global warming is occuring.	Unlikely	Unlikely	Successful efforts by people to restore greater vegetation to the land or natural floodplains could lead to less runoff into the ocean. Yet less runoff could also be caused by droughts that may be due to other factors besides global warming (such as poor soil management by people, or the effects of periodic shifts in winds and sea surface temperatures known as the oscillations (for example, annual El Nino and La Nina "events").
Lower values of...	**Euphotic depth**	murkier water	more run-off into the ocean of water containing pollutants or thick sediments	Indirectly. Long-term trends of increased runoff could be a sign of a wetter climate or caused by sustained melting of glaciers that feed the watershed.	Unlikely	Unlikely	Increasing runoff could be the result of humans clearing the land of vegetation, which would cause greater amounts of runoff when there is precipitation. If the vegetation is being replaced by urban development, the runoff may include increasing amounts of pollution that seeps into the runoff from cars, factories, and other human sources.

		Means...	Which could in turn be a sign of...	Could this trend be an effect of climate warming?	Could this trend also be contributing to more climate warming in the region?	Could this trend also be contributing to less climate warming in the region?	Other reasons for the trend?
Higher values of...	**Sea Surface Temperature**	warmer water at the surface		Yes. This could be a sign of warmer air in the atmosphere heating up the ocean surface.	Unlikely	Unlikely	In any particular year, annual oscillation-induced events such as El Nino or La Nina could be impacting weather patterns that influence how much precipitation is falling, how much cloud cover there is over the ocean, and how much solar radiation is hitting the surface.
Lower values of...	**Sea Surface Temperature**	colder water at the surface		Yes. If the cooling is occurring in places such as Greenland or Alaska where global warming-induced glacier-melting is transporting greater amounts of cold freshwater into the ocean.	Unlikely	Unlikely	In any particular year, annual oscillation-induced events such as El Nino or La Nina could be impacting weather patterns that influence how much precipitation is falling, how much cloud cover exists, and how much solar radiation is hitting the surface.

		Means...	Which could in turn be a sign of...	Could this trend be an effect of climate warming?	Could this trend also be contributing to more climate warming in the region?	Could this trend also be contributing to less climate warming in the region?	Other reasons for the trend?
Higher values of...	**Fraction of Sea Ice**	increased coverage of the measure d surface area by ice		Yes. In some places such as the ocean next to Antarctica, scientists are theorizing that warming air and ocean temperatures are causing greater precipitation, which usually falls there as snow. The snow blankets the ice and acts as an insulator. As such, it causes less solar radiation to reach the ice and be converted to the heat that would help melt it. Hence, the fraction of surface covered by ice increases.	Unlikely	Perhaps, but only regionally and temporarily. Increased snow and ice cover on the ocean surface will cause greater amounts of solar radiation to be reflected back into space rather than heat up the ocean. These trends could lessen temporarily the warming impacts from increasing amounts of greenhouse gases in the atmosphere.	In any particular year, annual oscillation-induced events such as El Nino or La Nina could be impacting weather patterns that influence how much precipitation is falling, how much cloud cover there is over the ocean, and how much solar radiation is hitting the ocean surface.
Lower values of...	**Fraction of Sea Ice**	decrease d coverage of the measure d surface area by ice		Yes, in ocean places drier or warmer than near Antarctica, where warmer air and ocean temperatures are not causing increases in snowfall, warmer air can be leading to more melting of ice.	Yes. Melting ice leads to less reflection of solar radiation at the surface (i.e., less albedo) and more absorption of the radiation into the ocean as heat, causing even greater ocean warming.	Unlikely	In any particular year, annual oscillation-induced events such as El Nino or La Nina could be impacting weather patterns that influence how much precipitation is falling, how much cloud cover exists, and how much solar radiation is hitting the ocean surface.