

THE EFFECT OF ICE ON GAS TRANSFER SEEN THROUGH AN INFRARED LENS

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This experiment looks at how ice affects air-sea gas exchange. The ocean is a large sink of important green house gases such as CO₂ and O₂. Therefore it is important to know how ice coverage changes the rate of gas transfer. Especially today, when scientists are predicting the loss of ice in the future due to warming, knowing what to expect can help us prepare for what will come. This experiment was conducted in a laboratory, in which a tank of water was placed in a freezer with a controlled temperature. In order to study the nucleation and growth of ice, the freezing process was videotaped with an infrared camera. The process was conducted with both fresh water and salt water. We found that the freezing process was very different for fresh water and salt water. This in turn, changed the way gas was transferred during the freezing process for the two types of water.