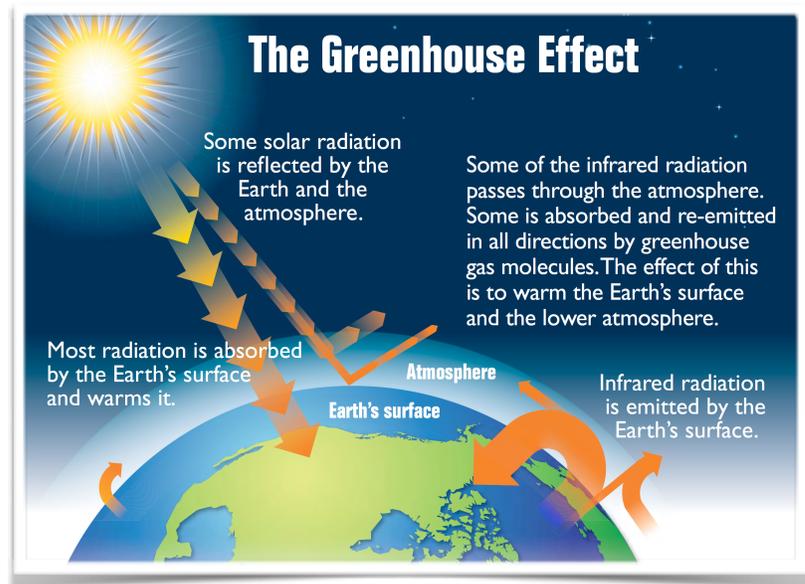


HANDOUT 5:

SEA LEVEL RISE, EXTREME WEATHER, AND MANGROVES

Did you know that many human activities have increased the Earth's temperature? When we farm, burn fossil fuels, and heat or cool buildings, we release carbon dioxide into the atmosphere. Carbon dioxide is one type of greenhouse gas. The right amount of greenhouse gases in the atmosphere keeps us warm by blocking some heat from escaping the Earth. This allows life to grow on our planet. But too much greenhouse gases keeps us too warm and can change the Earth's weather patterns and climate.



Changes in Earth's climate can impact our environment. The main impacts include extreme weather events and sea level rise. How do these two impacts affect mangroves?



Natural events, such as typhoons and floods, have always put mangroves in danger. However, changes in weather patterns result in stronger and more frequent typhoons and floods. These extreme weather events cause destruction of mangroves. Damaged mangroves mean that these areas will be less effective at filtering water that flows from the mountains to the coral reefs and sea grass beds. Damaged

mangroves are not able to protect inland ecosystems from ocean waves. As the Earth's temperature increases, sea levels rise. Sea level rise because higher air temperatures cause (1) glaciers on land to melt; and (2) ocean temperature to increase, which causes water to expand.

Sea level rise changes the conditions of mangrove swamps. More mangrove roots become covered in ocean water. Because mangroves are sensitive to levels of salt in the water, sea level rise can lead to loss of mangrove habitat. As a result, the natural protection provided by mangroves is lost. There is a higher risk of floods and erosion. Animals lose their habitat. This leads to changes in access to food and other resources.



Reference:
CERV Philippines Inc. & Meaningful Volunteers. (2009). *Protecting mangroves: Benefits for people and the environment, reforestation efforts and experience from San Agustin. An education kit.*