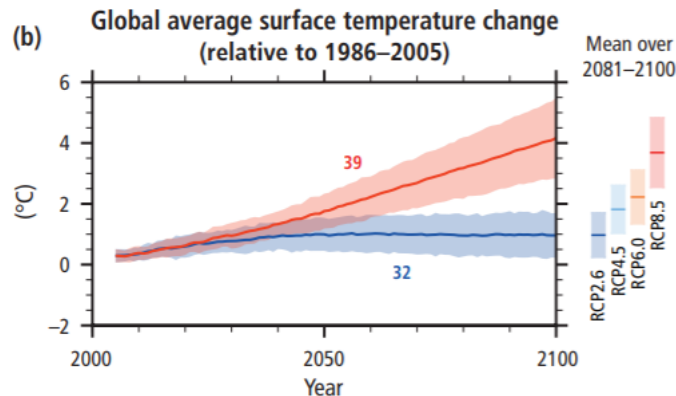


Dreamland and Reality

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Dedicate to all who works hard for the future environment.

Science figure (from IPCC report)



Forward

In recent years, as greenhouse emission increase, the environmental problems are becoming more serious. The graph above shows the prediction of the global average surface temperature change from 2006 to 2100, relative to 1986-2005, by IPCC. The global average surface temperature will rise quickly under higher greenhouse gas emissions. Relative to 1850–1900, global surface temperature change for the end of the 21st century (2081–2100) is projected to likely to exceed 2°C for RCP8.5 with high confidence, but unlikely to exceed 2°C for RCP2.6 with medium confidence. Future climate will depend more on the future anthropogenic emissions and natural climate variability.

The global average surface temperature rises will cause the frequency of extreme heat events will increase and the heatwave will last longer, which is harmful for human health. Also, the warm temperature will cause the ice sheet and glacial melts and result in the sea level rise.

The two stories are told from the first-person perspective of a nineteen-year-old girl Alice and they are grounded in current climate science projections. Alice lives in a coastal city in America, she is a student in a university and major in environmental

science. Both stories will happen in 2500 and show the two different lifestyles of people under two different scenarios by describing Alice's daily life. The first story is under the RCP2.6 scenario, every people try their best to reduce the emission, so their living condition is comfortable; the second story is under the RCP8.5 scenario, the emission is still high so the environmental problems are more serious. More coastal cities will submerge as the sea level rise, and the population in the world is increasing, so some people will live in the city above the sea. I want to reflect on the importance of protecting the environment by comparing these two stories.

Background: *In 2100, a worldwide heatwave made people realized the seriousness of environmental problems. Since then, people began to protect their homeland. This story is happening in 400 years later, in a coastal city in America...*

I opened my eyes and an indescribable feeling made me very uncomfortable. I rolled over and wrapped the covers tight, thinking I was hallucinating. There was a noise outside the room, the clatter made me think of the sea. I shivered, ready to go back to sleep, but in the dim, I heard my mom call me up for breakfast.

I had to sit up with sleepy eyes, groped into the slippers, and stood up slowly. When I take the first step, the feeling of weightlessness made me afraid and I was instantly awake. There seems to be a magical force to pull me up and let me float in the air.

This feeling... reminds me of the first time I went swimming with my dad when I was young. Dad tied a buoy to my body to keep me from sinking, so I can float on the water. I don't like that feeling, I don't like water and I would cry every time when I go swimming. After a few days, dad decided to give up my swimming lesson. I haven't been to the beach for a long time, but...now my body reminds me of the feeling of floating on the sea.

The sound of the door and my mom's voice interrupted my memories. "What are you doing? We are waiting for you for breakfast!" She didn't notice my anomaly.

I tried to get the balance and took a tentative step, but my body swayed uncontrollably. I had to lean against the wall and slowly moved into the living room to sit at the dining table.

The breakfast food also makes me feel very strange. I don't like seafood, so my family seldom eat them. I usually eat oat milk, salad, and some fruits, but today's salad is full

of seaweed, shrimps, and tuna shards instead of ham and bacon. I eat a little then put down my fork.

“What’s the matter with you, Alice? You don’t look well. I know you don’t like these, but you have to accept these foods because they are the main food resources in the future.”

Why? Nobody tells me that before. I’m getting confused. I slowly move back into my room, pick up the bag, and ready to go to school.

I found myself getting used to walking in the weightlessness. When I reached for the door, mom stopped me. “Did you forget your diving suit? How do you go out without it?” When I’m no reaction come over, she helped me wear something and opened the door.

I saw the colorful coral and swarms of fish, the world that was supposed to be under the sea now is fulling of small submarines and people. I was stunned. A feeling of suffocation came upon me.

I wake up and I sit on my bed. I have a cold sweat because of the terrible dream. I hurried to the window and rub my eyes. The familiar street and the city make me feel at ease.

I drink the milk as usual and ready to go to school. Opening the door, a breeze swept across my cheek. White clouds are floating in the sky. I gaze upward, enjoying the quiet morning. I walk under the shade of the tree, the sunshine through the gaps in the leaves to form spots on the ground. The world is quiet, only the birds are twittering.

As I get closer to the school, the people around me are getting more. The beep of the

cars, the whisperings of people... the city becomes vigorous.

“More than four hundred years ago, the world has experienced a devastating heatwave. The heatwave affected people all over the world, the death rate far exceeds the coronavirus-19 in 2020.” This is the voice of my environmental science professor. Today’s lecture is about the history of the world environment. I like his class very much.

No one in the world doesn’t know that heatwave in 2100. At that time, people were afraid to leave the air conditioner; they were at risk of the heatstroke once they go out. Some areas were up to 45 degrees Celsius. The government provided free air conditioning in large libraries and shopping malls but there were still many people affected by the heatwave. The hot temperature results in a decline in the yields of the crops, so many people don’t have enough food; there were mountain fire and wildfire in the dry place. The world fell into disorder. Fortunately, I’m not born at that time.

“Global warming has finally affected people’s life. This unprecedented disaster makes people realized the seriousness of environmental problems. Since then, all the people in the world tried their best to reduce the emission. People take the public transportation instead of the private car, they planted many trees instead of constructing of the new building, the industry uses the wind energy and other clean energy instead of the coal fuel, they ate more vegetables and fruits instead of the beef and cheese. The greenhouse emission decreases drastically. Now people keep the habit of reducing the carbon footprint, the global average surface temperature is decreasing...”

The bell rang and the class over.

I go home and make a cup of coffee, turn on my computer, and open the notebook. The notebook includes my research notes. I create a new document and type the information I need for my final project. The project is about climate change brought

changes to people's life. Unlike the historical papers, my research focuses on the benefits of environmental change for people, because the environment is getting better now.

-May 15th, 2500: a fisherman said the population of salmon in the river increase rather than the last two years.

-May 18th, 2500: I heard the news from the U.S. Environmental News, the scientists are working hard to find the feasible method to make the water cycle reaches the optimal state.

-May 24th, 2500: all the coal industry in the world closed, and renewable energy becomes the main resource to make power.

-May 30th, 2500...

The time passes quickly, when I finished the information collection, the coffee is cold. I get up to pour it in the kitchen.

Dad is resting on the sofa. My father works in a merchant shipping company. Marine transportation becomes the most important way for international trade now because the ship can transport a large quantity of the good at once with low emission. In the last two years, he's starting to feel a little tired after work.

I have an older brother. He is an architect. I heard he recently helped design a submarine. The submarine will become to a travel project in the future, people can live in the submarine and experience a different life in the sea.

"Alice, help me put the dishes on the table!" Mom shouts at me in the kitchen.

Today's dinner is a feast with salad, the cream of mushroom soup, the pasta with bacon,

and some chocolate cake.

“We want to climb the mountain and see the sunrise this weekend? Do you want to join us, Alice?” Mom asked.

“Of course!” I answered.

Climbing mountain and hiking are our family’s favorite exercise. In my memories, we have surveyed the whole city, we have seen sunsets at the top of the mountains, and we have seen the stars and aurora at night. Mountain climbing always carries our fond memories.

The image of sunrise comes to my mind. When it was dark, we snuggled up to each at the top of the hill, waiting for the sunrise. A few minutes later, the sun rises from the horizon, the sky was reflected with red, likes a fire lit the world. There were dewdrops from last night on the grass, and the birds begin to chirp....

“Remember to bring a warm coat, it’s cold in the morning.” Mom’s word interrupts my thinking.

“And don’t forget the camera!” My brother said.

“I remembered last winter we climbed the mountain in a snowy day, and your hair full of the snow, like the white hair. I have the photos Hahaha...!”

A wave of happiness flooded me.

May 31st, 2500. It’s a sunny day. I wrote the last line of my journal and draw a little sun at the end. This is my ordinary but happy day. I turn off the light and close my eyes. I

hope I don't dream like yesterday.

Nowadays people no longer worry about the environment because everyone in the world protects our homeland. If people hundreds of years ago don't reduce the emission, what will our lives like? As the global temperature increase and the sea level rise, will my dream last night come true? I cannot imagine it. I hope the dream never becomes a reality.

Background: *As the greenhouse gas emission increase and the global temperature increases, the environmental problems become serious. However, people didn't reduce the emission, they develop many new technologies to adapt the climate change. As the sea level rise, people began to live above the sea. This story is happening in 2500, a marine city in America.*

"As the climate changes, the global average surface temperature on the Earth's surface is rising, and the excessive carbon dioxide emissions is putting the planet at unprecedented risk. As climate deteriorates and the population increases, there is less space for people to live. Scientists are working on a large new submarine to explore the possibilities of future underwater life. Now scientists have developed Submarine FIRST and will do underwater experiments in a week. If successful, humans will all live underwater in 100 years."

A robot voice echoed around me, water... living in the water... I awoke from the dream, sit on the bed, and rub my eyes. But the voice does not disappear.

"The full length of the submarine is 1.5km and 25 floors high, which can support 5,000 people live. The submarine FIRST includes basic recreational facilities and study areas such as shopping malls and school... the future service facilities will be more comprehensive. However, scientists are still looking for food people can eat underwater. The energy supply for submarines is also a serious problem. According to the research, living in the deep ocean is not a viable and sustainable way in the future because the increase of the global surface temperature will also cause the warming of the ocean. Where can people live in the future?"

Along with the buzz of the television, I realized that it was not a dream, but a real event that would happen in decades.

As the sea level rises and the land area for people to live on becomes smaller and smaller, scientists have been planning to build maritime cities hundreds of years ago, and now half of the world's people live above the sea. My father was an employee of a merchant company, and for his work, I lived at sea since I was born.

The city of the sea, in fact, is a huge boat floating in the sea, each boat forms a city, a ship can carry about 100,000 people. The ship has eight months of sailing at sea in a year, and the rest of the time is docked by the mainland, and people can choose to travel on land. People's lives have not changed as their living environment changing. The only thing that has changed is the transportation and food, but these seem to be insignificant.

“Gosh, I don’t want to live in a big submarine.” Mom and Dad seem to be discussing the news just now.

I go out of the bedroom and sit down at the dining table. There are shrimps and eels on the plate, with some seaweed. Since people live above the sea, seafood gradually becomes the main food for people. The fishes, lobsters, shrimps, crabs, and much expensive seafood in the past, now is very cheap. People can artificially feed them in the sea and people can catch them everywhere.

However, the plants that need to grow in the land, and the animals that need to feed in the land now are scarce. Beef, pork, and some fruits are luxury, only rich people can afford them. Scientists developed the soilless vegetables and the meat is brought from the land every month to meet the demands of people.

I finish breakfast quickly and ready to go to school. I study in an Ocean University, which is on the ship next to me. I wear the life vest and pick up my bag, take the elevator to the first floor of the ship. There are many speedboats, people rely on these speedboats to go to other ships, just like the cars in the past.

A speedboat is waiting for me, I tell the boat driver the destination. As the speedboat increasing, there are traffic jams in the sea. It takes me twenty minutes to go to school. I'm going to be late, so I run to the classroom.

I'm major in environmental science and today's lecture is about the environment history. I quickly find a seat and sit down. The class is beginning. "In 2100, the world has experienced a devastating heatwave, which brought huge loss to the people. In the following hundreds of years, the frequency of the heatwave is increasing, and the global average surface temperature is rising year by year, far exceed the projection in 2000."

The professor shows us many pictures in the past centuries, many things I have never seen before. I cannot imagine people's lives in the land. I never saw the snow and ice, and I never saw the forest and I never took the cars... I really want to experience life on land.

"The heatwave rarely happened before, but as the greenhouse gas emission increasing, the heatwave is becoming more serious. Living in the sea is an impermanent adaption for people, the most important thing is reducing the emission, solve the environmental problems fundamentally."

Reducing emission, saying is easy but doing is difficult. Since I decided to major in the environmental science, I became to a volunteer in an Environmental Protection Organization. We drew some posters and wrote many articles to let people realize the seriousness of environment problems, but these don't do anything. We can only act by ourselves, collect the rubbish in the sea, turn on the air conditioner less frequent... I hope I can do something to protect the environment.

I did a survey recently, and the results show that many people want to back to the land, but they don't want to sacrifice your life quantity to improve the environment. I have

never been to the land. This summer holiday coincides with the time when the boat is on the shore, so dad and mom promise me to travel in the land.

“It’s so hot there!” I shouted. I felt the heat as soon as I got off the boat. The muggy weather makes me uncomfortable. The temperature is 40 degrees Celsius now, about ten degrees above the temperature on the sea. How people in the past bear such hot temperatures? I wondered.

We arrive at the hotel. The staff tells us that the hotel turns on the air conditioner all the time to maintain a comfortable living environment. The cool environment in the hotel made me reluctant to go out although I am curious about the outside world.

Until the twilight, the temperature drops a little, we decide to go out. We visit the famous desert, but I hear it was an oasis 300 years ago, but the wind and the heatwave led plants died and the dust accumulate here. Then we enter a restaurant and tasted the steak and some fruit. I really like cherry, sweet, and succulent, which I never ate before.

The next day, we go to the local library and shopping mall, but I feel boring because there are similar to those buildings on the sea. But I found the interesting is every building has a cooling center for people to prevent the sunstroke. I ask some people and know that these places are opened for the people when the heatwave is coming.

I wrote the note on my laptop when I back to the hotel and my parents are watching the television.

People’s life on the land:

-all the public building turns on the air conditioner.

-people eat meat and fruits instead of seafood.

-the hot temperature makes the trees and flowers hard to live.

-more people are moving to the city above the sea

...

An alarm interrupted me. A robot voice rang all over the building. A severe heatwave is expected in the next two days. Please stay calm and don't go out recently. If your home doesn't have the air conditioner, please move to the nearest cooling center as soon as possible... The message repeated three times. I'm afraid because this is the first time I experience the heatwave, but I find other people don't flustered, the heatwave seems to be an ordinary thing in their life...

I had trouble sleeping that night. I rolled over and over, wrapped the covers tight. If the people in the five hundred years ago realized the seriousness of the environmental problems and began to reduce the emission, would the world today be different? Although the environment is worse today, if people begin to protect the environment now, would the world return to the original look? If we keep the high emission, what will people's life look like, live in the deep ocean is not a permanent method, where can people live in the future? I cannot imagine it. I hope the world can recover its original look.