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Illuminate

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Light Pollution And How We Are Trying To Fix It

Today we look up in our sky and we do not see any stars, in most places at least you will not see what some of our older ancestors used to see. Even when the sky is clear, the sky is just dark and boring, but why is that and how does it work? This concept is called light pollution, it is something that is not widely talked about even though it has more environmental effects than just no stars in the sky. Even without an environmental outlook, the past has shown stars to be used for great things, such as travelling the oceans and when Harriet Tubman saved slaves from the South during the Civil War. The problem is how do we fix this issue, and how can we make it simple for everyone to understand and do their part.

Light pollution in itself can be put simply but is also complicated when you get to the science behind it. Essentially it is the light that we have created as humans shine up in the sky and makes it to where our eyes are not able to see the stars above, that is why when you're in urban areas you see fewer stars than in rural areas. The actual definition according to the IDA is that artificial light that we add unnaturally into the environment. When you get into the science there are many ways to combat light pollution, a big one is simply the type of light bulb you use and where it is on the kelvin heat scale for light.

Whenever you look at light bulbs and where they stand on the kelvin scale it is not too hard to understand, the brighter/whiter light is higher on the kelvin scale, and the more orange/red it is, the lower. In our interest, it is better to be on the lower side of the scale, simply because you are adding less blue/artificial light into the atmosphere. There are also ways to be

able to keep light out of the sky from things like lamps and from your own lights at your home, even indoors. Indoors you can, of course, use different light, but for lamps outdoors there are ways to have light strictly go down and still cover the same amount of area a light going everywhere would. Outdoor is the same thing, LED lights are powerful, but when you consider the fact the biggest difference is color and LED last longer there is no need to kill the environment, as LEDs are more expensive than bulbs around 3000 Kelvin.

Let's get into why combatting light pollution is a good idea for everyone, even though looking up into the sky is not everyone's thing. Clearly, the aesthetic of the stars in the sky is nice, but that isn't what stars are up there for. Even today animals use the stars to either move north or south when they need to or find their way to the ocean. With the stars gone, they get confused and today are consistently going off course to where they need to go. Also having light pollution harms the vision of our telescopes, which to some may seem irrelevant like, yes space scientists can not see up in space, so? Though this is actually a really bad thing, as an exploration in space is vital, we do not truly know what is out there. Yes aliens seem far-fetched but we really do not know, but when they look into space they see many things such as space debris falling from the atmosphere or incoming meteors that could hit our planet. As light pollution grows it gets harder to see these things sooner, which could lead to us being slow and unable to stop it.

As said before there are many ways to combat this, but in class, our teams came up with each of our own goals, and I would like to go over my team's goals and how they help. As we were a science team we were to go into the science behind light pollution and the things that contribute to it. As a team, we wanted to be able to make a presentation making this easy for everyone to understand, to explain the different light temperatures and the general concept of

light pollution. We also wanted to go over how light pollution and be able to get some measurements in the Kirksville area. We were able to do these things, and they were both a resounding success, as we all have a good understanding and know-how to fix things in the future. Sadly though we were not able to get to our last goal in examining, understanding, and being able to explain the IDSC guidelines to being a dark sky community.

Overall I think the course was a success, we all learned a lot about what light pollution is and what to do about it as stated before. The class itself was not difficult at all, even though the concept itself can get very complicated. We will all walk away with the general concept of light pollution and be able to advocate for it in the future. The class was a fun experience to learn and grow my knowledge of things I have always wanted to understand but have not. I can now leave knowing what I need to do in the future to hope in my lifetime to be able to look up and see the universe from our own little planet.

Artifact Below

Bad
Decent
Good

