

The background of the slide features abstract, overlapping wavy shapes in various shades of blue, creating a sense of movement and depth. The top section has a lighter blue wave, while the bottom section has darker, more complex blue waves.

Impacts of Climate change on Biodiversity Ecosystems and Ecosystem services

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Impact of climate change on biodiversity and Ecosystem are:

- Climate change is the shift abnormal change in climate patterns. As the planet warms quickly, mostly due to human activity, climate patterns in regions around the world will fluctuate.
- Ecosystems and Biodiversity will be forced to fluctuate along with the regional climate, and that could harm many species.



➤ Climate is an important environmental influence on ecosystems. Changing climate affects ecosystems in a variety of ways.

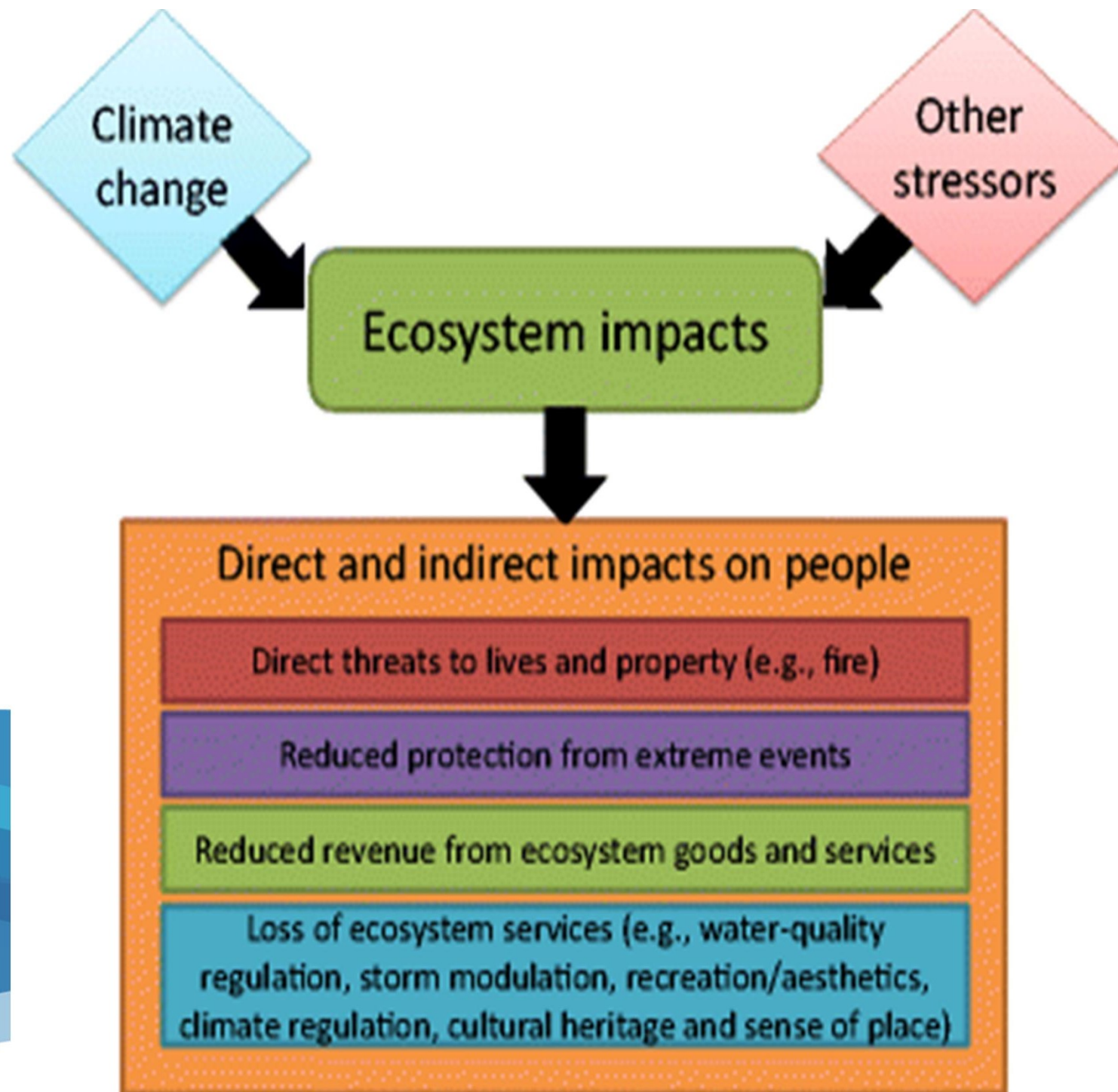
➤ Climate change not only affects ecosystems and species directly, it also interacts with other human stressors such as development.



What are ecosystem services?

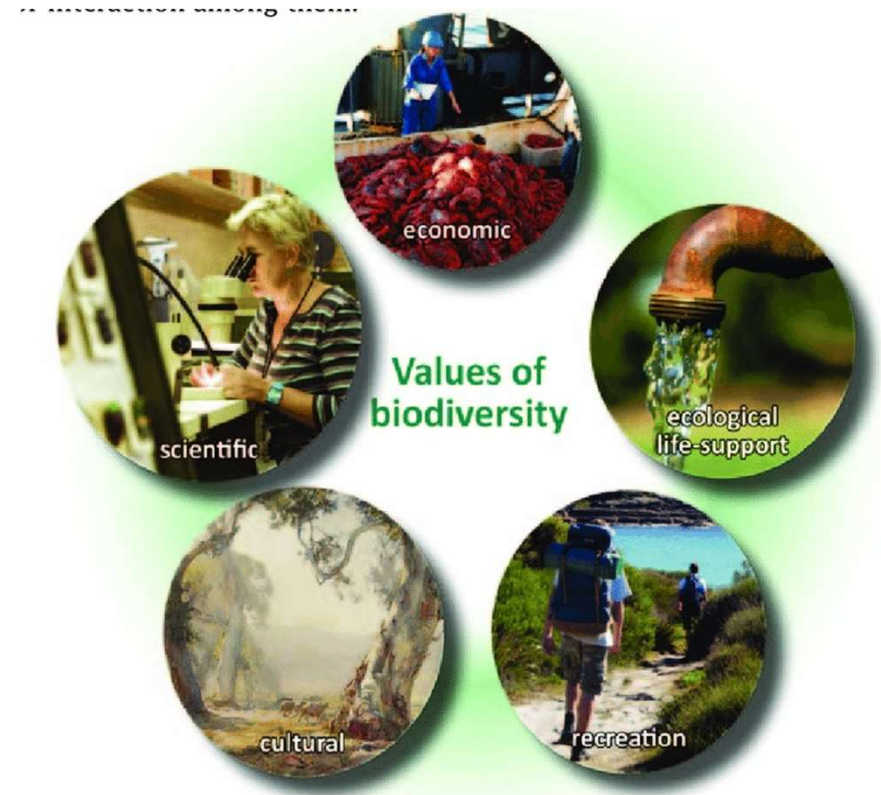
- Ecosystem services are the direct and indirect contributions of ecosystems to human well-being .
- They support directly or indirectly our survival and quality of life. Provisioning services are the products obtained from ecosystems such as food, fresh water, wood, fiber, genetic resources and medicines.





Values of Biodiversity:

- Environmental Value
- Social value
- Ethical and Moral Value
- Ecosystem Services



Impacts:

- Rising Temperature
- Melting Ice
- Ocean Acidification
- Forest Fires


Human Impact

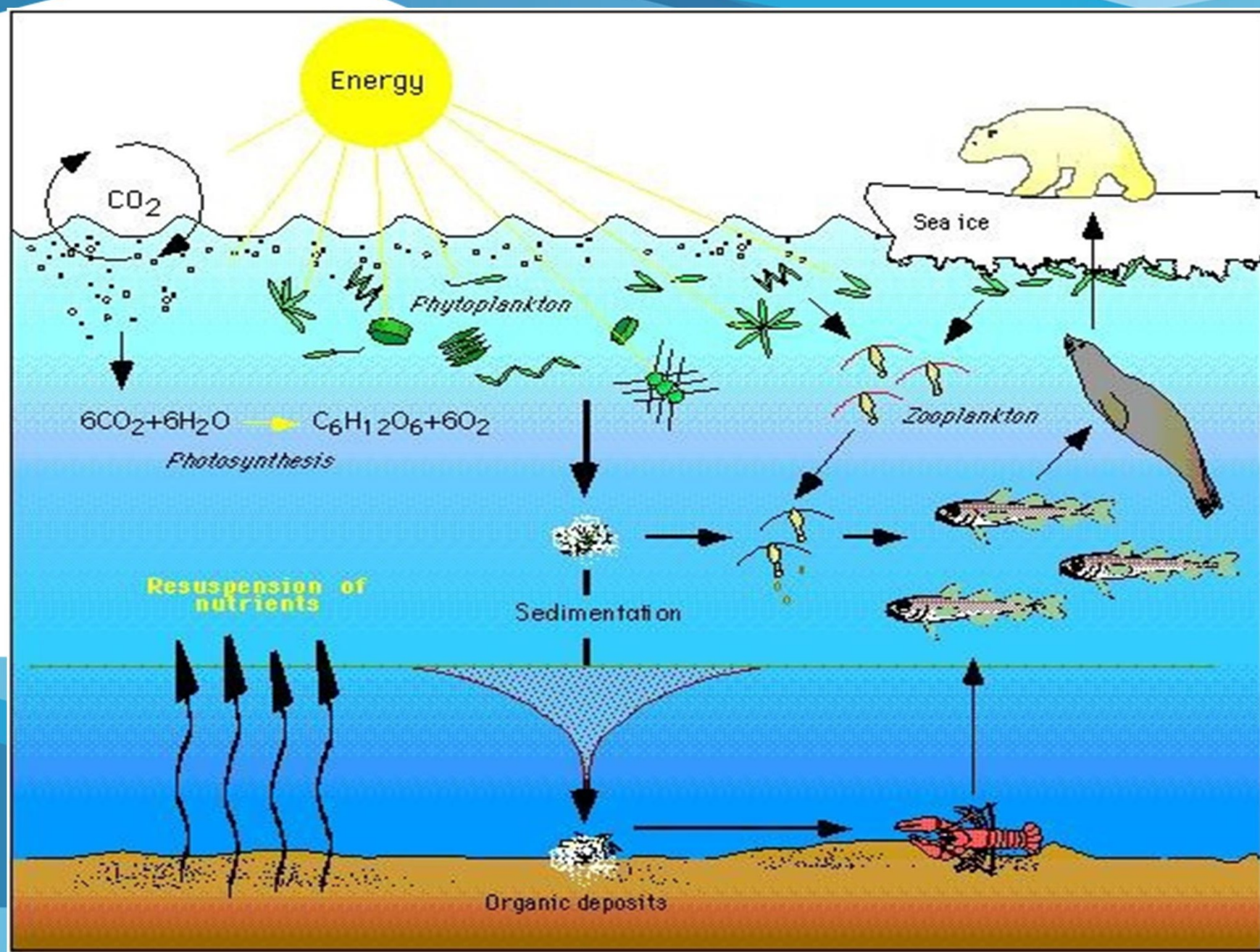


Changes in climate that effects our Ecosystem & Ecosystem services are:

Range Shifts : As temperatures increase, the habitat ranges of many North American species are moving north and to higher elevations.


Food Web Disruptions : The impact of climate change on a particular species can ripple through a food web and affect a wide range of other organisms the figure below shows the complex nature of the food web for polar bears.






Buffer and Threshold Effects : Ecosystems can serve as natural buffers from extreme events such as wildfires, flooding, and drought.

Pathogens, Parasites, and Disease : Climate change and shifts in ecological conditions could support the spread of pathogens, parasites, and diseases, with potentially serious effects on human health, agriculture, and fisheries. For example, the oyster parasite, *Perkinsus marinus*, is capable of causing large oyster die-offs



Why do we need to protect biodiversity and Ecosystem ?

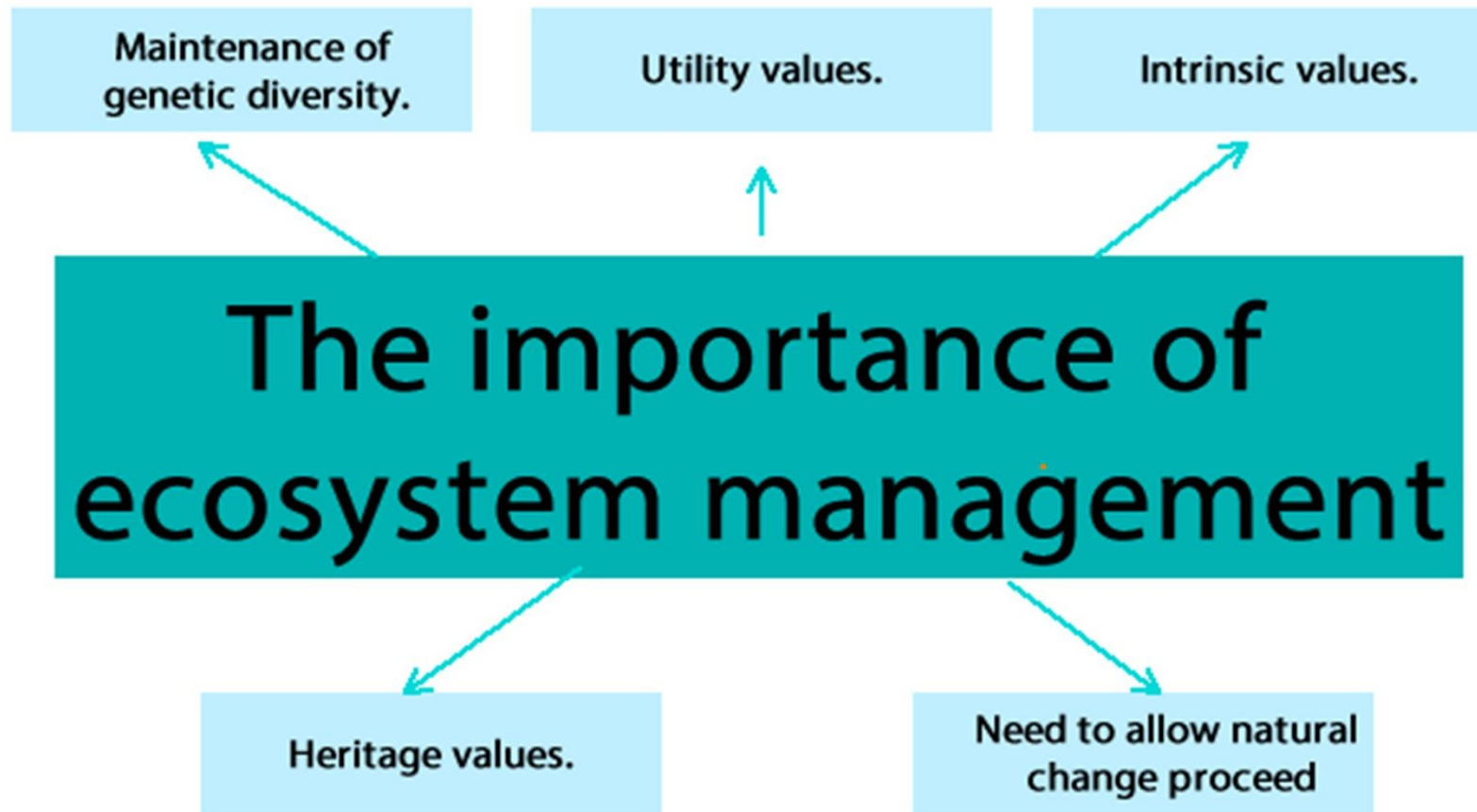
- Healthy ecosystems clean our water, purify our air, maintain our soil, regulate the climate, recycle nutrients and provide us with food.
 - They are at the foundation of all civilisation and sustain our economies. It's that simple: we could not live without these “ecosystem services”. They are what we call our natural capital.
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➤ They provide raw materials and resources for medicines and other purposes

➤ Everywhere on the planet, species live together and depend on one another. Every living thing, including man, is involved in these complex networks of interdependent relationships, which are called ecosystems.

Importance of Ecosystem management and protection:



Steps to Protect and Conserve Biodiversity & Ecosystem :

- Nature preserves
 - Habitat restoration
 - Reduce climate change
 - Purchase sustainable products
 - Sustainable living
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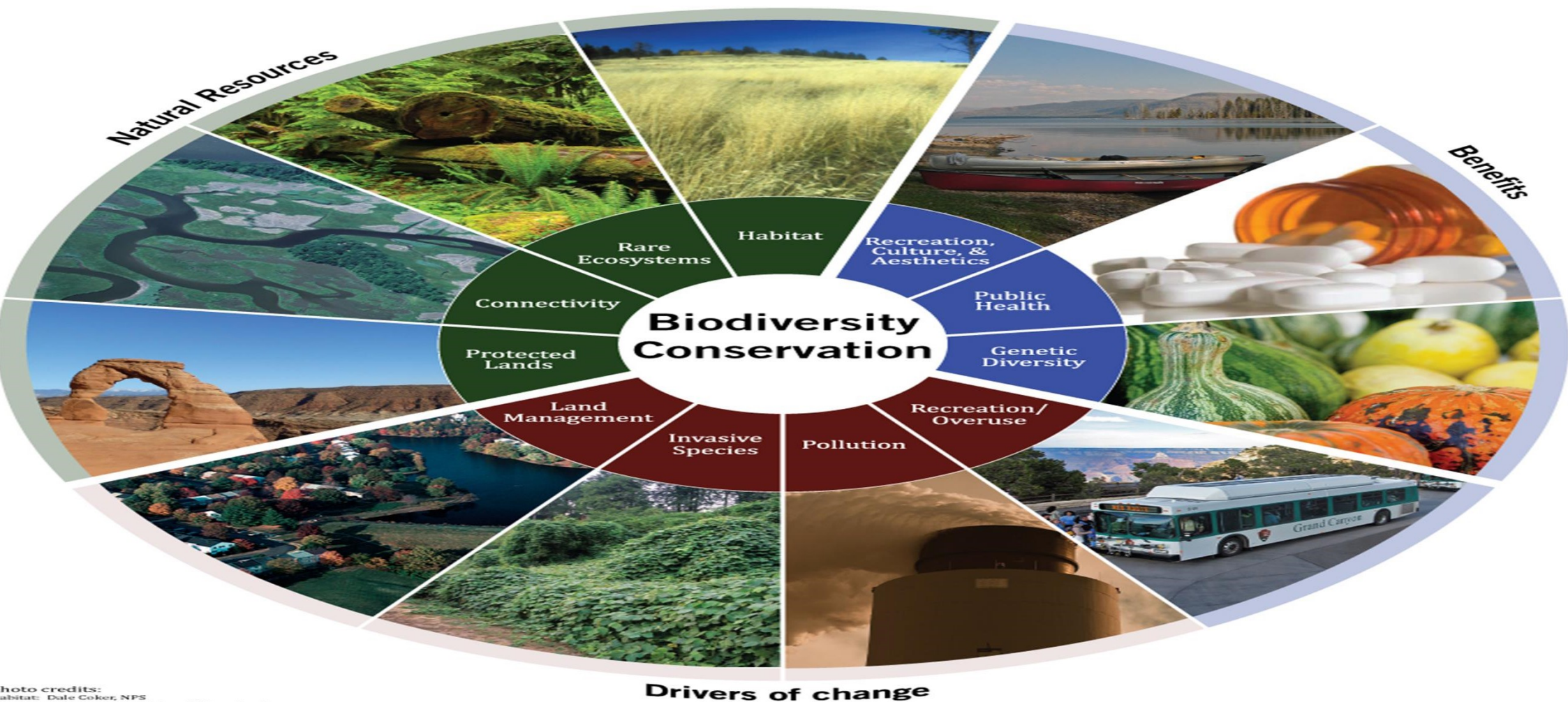


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This EnviroAtlas eco-wheel was created by Jessica Jahre, EPA contractor

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Thanks!