Health: Heatwaves as well as a general increase in temperatures have the potential to impact human health, causing heat-related illnesses. Infrastructure: electricity and transport networks failing due to increased temperatures. Biological Ecosystems: tropical and subtropical rainforests, coastal wetlands, coral reefs, and inland ecosystems, tropical savannahs, and coastal regions are projected to experience changes in species distribution. Climates: shifting during this period of change; as temperatures rise, Australia's climate is projected to change, affecting rainfall patterns and monsoons. Australasia is a region renowned for its abundance of wildlife, beautiful coral reefs, and tropical rainforests.

Effects of Climate Change on Civilization

- Health: Heatwaves as well as a general increase in temperatures have the potential to impact human health, causing heat-related illnesses.
- Food Security: Drought not only decreases crop production but also livestock productivity.
- Biological Ecosystems: tropical and subtropical rainforests, coastal wetlands, coral reefs, and inland ecosystems, tropical savannahs, and coastal regions are projected to experience changes in species distribution.
- Infrastructure: electricity and transport networks failing.

Projected Change in Temperature from 1990-2100

- Maps show the increasing amount of days per year with a high above 40°C.
- The chart shows the proportion of species that will be affected by temperature changes.
- In 2100, nearly all of Australia is projected to reach 40°C between 130 and 192 days of the year, while in 1990 only a few regions reached 40°C.
- An increase in temperature will increase the number of deaths and other health issues among both humans and animals, hospitalizing many.
- With this increase in temperature, the way many ecosystems are structured will change greatly and many species will be threatened by this effect.

Changes in Coral Cover of the Great Barrier Reef from 1985-2012

- Graph A shows the average coral density for the Great Barrier Reef from 1998 to 2012.
- Graph B shows a shift in coral density toward the northern and southern latitudes with a decease in coral density in the center region.
- Graph B shows the annual density of coral cover in the Great Barrier Reef from 1985 to 2012.
- Graph B illustrates a downward trend in coral cover over the past 27 years.

Change in Animal Climate Regions

- Figure above shows the migration of the climatic niche of 464 bird species from 1990 - 2012.
- Arrows on the map show the direction and distance of each bird species migration.
- Climate change is causing a shift in climate regions in Australia.
- Animals with living in specific niches must migrate to follow climate regions.
- Trends show climate regions and birds migrating towards north and south poles and towards colder Australian coasts.
- Trends show deserts expanding in all directions and tropical and Mediterranean forests and grasslands shifting towards south pole and central regions.

Conclusion

The temperature has been increasing every decade and is projected to continue increasing in the future. With an increase in temperature, food security and human health are predicted to decrease. The increase in temperature will also cause water hole area to decrease, affecting habitats throughout Australasia. As solar radiation increases, the number of monsoons is projected to decrease. Due to ocean acidification and increasing temperatures, there is a decrease in the density of coral reefs. Increasing temperatures will cause animals to migrate towards the poles and the coasts, due to a migration of the animals’ climate niches. Overall, the climate in Australia is changing greatly, which is affecting not only the environment, but the animals and people too.

Bibliography

(2) Mohtadi, M., Prange, M., Steinke, S. 2016. Monsoons can be anthropogenic in its origins in that human activity has increased the effects of global warming thus increasing the radiation of sunlight on the Earth (4).
(3) Reisinger, A., R.L. Kitching, F. Chiew, L. Hughes, P.C.D. Newton, S.S. Schuster, A. Tait, and P. Whetton, 2014: Ecosystems are structured will change greatly and many species will be threatened by this effect.

Insert images and graphs here as per the instructions.