ABSTRACT

The Boston Red Sox emit a great deal of carbon throughout the regular baseball season because of flights to the home fields of opponents. Knowing that air travel is one of the largest transportation-based contributor to global climate change, the Boston Red Sox (and all major league teams) should be encouraged to offset their carbon emissions from regular season travel. Using ArcGIS, we map the flight paths of the Boston Red Sox for the 2008 regular season and calculate the total number of miles traveled in the 2008 season. The price of offsetting this carbon was estimated using the calculators of carbon offset retailers, such as Native Energy, a Vermont-based retailer.

METHODS

By showing the United States on an Lambert Azimuthal Equivalent Projection, we were able to calculate the distances of the Red Sox regular season road trips (Figure 1). We also were able to show the ranges into which the short haul (less than 1000 km), medium haul (1000-2000 km), and long haul (greater than 2000 km) flights from Boston fall. A majority of the opponents (9) lie within the range of medium haul flights with the teams within a short hour and as being a long haul from Boston. Longer flights entail lower carbon dioxide equivalents per mile than the shorter flights, but still over a longer period of time. These facts were taken into consideration when determining the emissions for Red Sox travel in the 2008 season.

According to our model, the Red Sox 2008 regular season travel would contribute a total of approximately 83 tons of carbon dioxide equivalents to the atmosphere. Figure 2 shows the relative carbon emissions from travel as represented by the price to offset each road trip. It would cost the Red Sox a total of $5,378 to offset their 2008 season carbon emissions with the carbon offset retailer Native Energy (Table 1). To reach this number, we made the assumption that the Red Sox will fly directly to every opponent’s city. Even with this assumption, our model is an accurate representation of Red Sox regular season travel-related carbon emissions because it accounts for actual road trip travel and the flight distance categories. Because our model does not account for the emissions of opposed teams traveling to Boston, every MLB team should take the initiative to do similar research to reach total carbon neutrality. By being the first team to completely offset their travel-related carbon emissions, the Red Sox will be true leaders in climate change mitigation and Major League Baseball.

RESULTS AND CONCLUSIONS

The Boston Red Sox have enormous power in New England society. By purchasing carbon offsets from Native Energy, a Vermont-based retailer, the Red Sox would be supporting renewable energy projects within the heart of Red Sox Nation. If they were to attempt to reduce their contribution to climate change, Red Sox fans everywhere would gain a better understanding and appreciation for the need to change climate mitigation. As the reigning World Series Champions, the Boston Red Sox have a great opportunity to influence Red Sox Nation and beyond.

LITERATURE CITED


![Figure 1: A map representing the regular season flight paths of the Boston Red Sox. Created using ArcGIS, Lambert Azimuthal Equivalent Projection.](image)

![Figure 2: A pie chart representing the costs of offsetting carbon emissions for each of the road trips for the Boston Red Sox during the 2008 regular season (prices from NativeEnergy 2008).](image)