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Biology 110
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Scientific Communication Assignment

Linked Disturbances: Cyclones and Wildfires

As we begin to see more and more clear signs of climate change, one that is increasingly noticeable is the intensity and frequency of natural disasters, including in places that historically do not see them. This intensity is also magnified by the combination of storm events, which is referred to as co-occurring disturbances or linked disturbances. A recent study has delved into this connection between various forms of natural disasters, revealing that areas effected by one type, cyclones, are more prone to the impacts of another type, wildfires. Cyclones are formed when intense winds rotate around a low-pressure core (Britannica). Tropical cyclones typically originate in warmer waters, which are at temperatures of at leat 80 degrees Fahrenheit. The rising condensation cools as it rises, releasing heat that warms the air and causes winds, which may develop into a cyclone (JetStream). Once formed, these cyclones are able to move to land, where they can cause damage to wooded areas that don't normally see the effects of non-tropical cyclones, which typically form in plains and other flat, treeless areas. Wildfires, on the other hand, are typically caused by lightning strikes but can occur for a variety of reasons, including ones that are human-caused. They can be controlled or mitigated but often cause widespread damage to regions, especially areas that are already feeling the effects of other climate-related problems (Bellingham, Ibanez, and Platt, et. al.).

The researchers of this recent study set out to test their hypothesis that tropical cyclones have a greater impact on wildfires due to the intensity of fires in tropical regions that often experience that type of storm. Damage that tropical cyclones cause can have several impacts on

vegetation of the area, often damaging tree cover which leaves forests barren and allows fire to spread more rapidly. These cyclones also increase susceptibility to fires through generation of fuel, by knocking flammable branches and leaves onto the ground. In addition, tropical cyclones case indirect damage to the forest, when humans use slash-and-burn techniques on the damaged growth. The cyclones do some of the grunt work for humans by destroying parts of the forest, opening up more possibility for farmland, and for fires. This can also ~~go the other way around~~: damage caused by wildfires can leave more open area for cyclones to form, thus causing those cyclones to further damage an already weak ecosystem (Bellingham, Ibanez, and Platt, et. al.).

Throughout the paper, the authors intersperse the maps and graphs they created, displaying the locations of cyclones as well as the burn area of wildfires, and demonstrating the links between them.

Although the researchers of the study at hand found cyclones to be a cause of increased damage, cyclones are not the only factors exposing land to be susceptible to wildfire damage. Humans, through overuse of land, also wear down landscapes, which exposes once-wooded areas to fire. This is most commonly done through agriculture, which covers wide swaths of land and therefore causes this change intensely.

These findings are important, ~~in their revealing of~~ the ways multiple factors of climate change interact and create intense damage. The ramifications ~~of this~~ are long-lasting, these destroyed ecosystems ~~facing~~ loss of biodiversity, susceptibility to invasive species, and more. Cyclones are only predicted to increase as climate change worsens, indicating that the effects of wildfires, which we are also seeing more frequently, will also ~~be worse~~. This new research highlights the need for increased environmental protection, especially in relation to natural disasters and the damage they can cause when they coexist.

but also
occur in the opposite direction
not really a proper analysis
be more explicit about what links you are referencing
as they reveal
in which
increasingly
face
become
be more damaging
consider talking more about potential solutions.

Overall: diction could be improved in some areas but good thourough explanations of the definitions + well structured.