

V. CONCLUSION

5.1. Conclusion

The results of the research and data analysis in the thesis can be concluded as follows:

1. The total estimated carbon stock obtained based on the power regression equation model is known in 2025 in Wonosalam Village, Jombang Regency, which is 102,957 tons with biomass of 205,914 tons.
2. The NDVI vegetation index processed in the Landsat 9 image is quite good for estimating biomass and carbon stocks. The results showed that there was a significant relationship using the power regression equation model $Y = 760.15x1.3036$ which resulted in a determination coefficient (R^2) of 0.8997, so that about 89% of the biomass variation can be explained by the NDVI value.
3. The values of the NDVI vegetation index regressed with the INP value did not show an association in explaining the variation of vegetation communities. The results of the study showed a linear regression equation that only produced a determination coefficient value (R^2) of 0.0144. Thus, only about 1.44% of INP variation can be explained by NDVI, the relationship between the two is classified as very weak and insignificant.

5.2. Suggestion

Further research is recommended to conduct a more detailed analysis of NDVI and carbon stocks on each type of land cover, so that the relationship between the two can be described more clearly. In addition, it is necessary to develop using high-resolution satellite imagery to increase accuracy in land cover identification. The use of other vegetation indices such as EVI, SAVI, or ARVI is also recommended to obtain more comprehensive estimation results, as well as increase the number of observation points in the field so that the results of carbon stock calculations become more accurate and representative.