

Telkom University due to resource constraints, limiting the spatial coverage of the dataset. Additionally, the overall dataset size remains relatively small, which may impact the generalizability of the model to other regions with different environmental conditions. Future work should aim to expand the dataset to include more diverse imagery from various regions, improving model robustness and performance across different landscapes.

REFERENCES

- [1] Y. Wang, M. E. L. Borja, Z. Sun, and P. Pereira, Forest Management for Climate Change Mitigation: Recent Innovations and Research Needs, vol. 132. in *The Handbook of Environmental Chemistry*, vol. 132. Springer, 2023. doi: 10.1007/978-3-031-62802-3.
- [2] U. Mahdiyah, A. A. Akbar, and R. Romiyanto, "Efektivitas Ruang Terbuka Hijau (RTH) sebagai Daerah Resapan Air dan Penyimpanan Karbon di Kota Pontianak," *Jurnal Ilmu Lingkungan*, vol. 21, no. 3, pp. 553–564, 2023, doi: 10.14710/jil.21.3.553-564.
- [3] P. Smith et al., "Global Change Pressures on Soils from Land Use and Management," *Glob Chang Biol*, vol. 22, pp. 1008–1028, Mar. 2016, doi: 10.1111/gcb.13068.
- [4] B. Liu, W. Bu, and R. Zang, "Improved allometric models to estimate the aboveground biomass of younger secondary tropical forests," *Glob Ecol Conserv*, vol. 41, p. e02359, 2023, doi: <https://doi.org/10.1016/j.gecco.2022.e02359>.
- [5] C. HUANG, W. GONG, and Y. PANG, "Remote Sensing and Forest Carbon Monitoring—a Review of Recent Progress, Challenges and Opportunities," *Journal of Geodesy and Geoinformation Science*, vol. 5, no. 2, pp. 124–147, 2022, doi: 10.11947/j.JGGS.2022.0212.
- [6] T. H. Booth, "Species distribution modelling tools and databases to assist managing forests under climate change," *For Ecol Manage*, vol. 430, pp. 196–203, 2018, doi: <https://doi.org/10.1016/j.foreco.2018.08.019>.
- [7] F. Chianucci and others, "UAVs for forest carbon stock estimation using LiDAR and photogrammetry," *For Ecol Manage*, vol. 430, pp. 49–58, 2018, doi: 10.1016/j.foreco.2018.08.019.
- [8] Z. Wu et al., "Urban carbon stock estimation based on deep learning and UAV remote sensing: a case study in Southern China," *All Earth*, vol. 35, no. 1, pp. 272–286, 2023, doi: 10.1080/27669645.2023.2249645.
- [9] F. Cheng, G. Ou, M. Wang, and C. Liu, "Remote Sensing Estimation of Forest Carbon Stock Based on Machine Learning Algorithms," *Forests*, vol. 15, no. 4, Apr. 2024, doi: 10.3390/f15040681.
- [10] P. O. Pinheiro and others, "Learning to estimate depth from single monocular images," in *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2016, pp. 3482–3490. doi: 10.1109/CVPR.2016.377.
- [11] V. Badrinarayanan and others, "Depth estimation using deep learning," *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, vol. 39, no. 9, pp. 1769–1780, 2017, doi: 10.1109/TPAMI.2016.2580959.
- [12] D. Murakami, M. Kajita, and S. Kajita, Spatial regression-based transfer learning for prediction problems. 2022. doi: 10.48550/arXiv.2211.10693.
- [13] F. Chollet, "Xception: Deep Learning with Depthwise Separable Convolutions," in *2017 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017, pp. 1800–1807. doi: 10.1109/CVPR.2017.195.
- [14] K. He, X. Zhang, S. Ren, and J. Sun, "Deep Residual Learning for Image Recognition." [Online]. Available: <http://image-net.org/challenges/LSVRC/2015/>
- [15] "Pengukuran dan penghitungan cadangan karbon-Pengukuran lapangan untuk penaksiran cadangan karbon berbasis lahan (land-based carbon accounting)," 2019. [Online]. Available: www.bsn.go.id
- [16] I. Goodfellow, Y. Bengio, and A. Courville, *Deep Learning*. MIT Press, 2016.
- [17] O. Ronneberger, P. Fischer, and T. Brox, "U-net: Convolutional networks for biomedical image segmentation," in *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, Springer Verlag, 2015, pp. 234–241. doi: 10.1007/978-3-319-24574-4_28.
- [18] K. Simonyan and A. Zisserman, "Very Deep Convolutional Networks for Large-Scale Image Recognition," in *Proceedings of the International Conference on Learning Representations (ICLR)*, 2015.
- [19] C. Szegedy and others, "Going Deeper with Convolutions," in *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2015, pp. 1–9. doi: 10.1109/CVPR.2015.7298594.
- [20] J. Yosinski and others, "How Transferable Are Features in Deep Neural Networks?," in *Advances in Neural Information Processing Systems (NeurIPS)*, 2014, pp. 3320–3328.
- [21] D. Hodson and E. Smith, "Evaluation of RMSE and MAE in Model Performance: Choosing the Right Metric for the Right Data," *Geosci Model Dev*, vol. 15, pp. 5481–5495, 2022, doi: 10.5194/gmd-15-5481-2022.
- [22] X. Hao, L. Liu, R. Yang, L. Yin, L. Zhang, and X. li, "A Review of Data Augmentation Methods of Remote Sensing Image Target Recognition," *Remote Sens (Basel)*, vol. 15, p. 827, Dec. 2023, doi: 10.3390/rs15030827.