

## REFERENCES

- Barlow, J., Gardner, T. A., Araujo, I. S., vila-Pires, T.C.A., Bonaldo, A. B., Costa, J. E., Esposito, M. C., Ferreira, L. V., Hawes, J., Hernandez, M. I. M, Hoogmoed, M. S., Leite, R. N., Lo-Man-Hung, N. F., Malcolm, J. R., Martins, M. B., Mestre, L. A. M., Miranda-Santos, R., Nunes-Gutjahr, A. L., Overal, W. L., Parry, L., Peters, S. L., Ribeiro-Junior, M. A., da Silva, M. N. F., C. da Silva Motta and Peres, C. A. 2007. *Quantifying the biodiversity value of tropical primary, secondary, and plantation forests*. Proceeding of the National Academy Science of the United State of America 104 (47):18555–18560.
- Buba, T. 2012. *Prediction Equations for Estimating Tree Height, Crown Diameter, Crown Height and CrownRatio of Parkia biglobosa in The Nigerian Guinea Savanna*. African Journal of Agricultural Research Vol.7 No.49, Hal.6541-6543, 27 Desember 2012.
- Chazdon, R.L., C.A. Peres., D. Dent., D. Sheil., A.E. Lugo., D. Lamd., N.E. Stork., and S.E. Miller. 2009. *The potential for species conservation in tropical secondary forests*. Conservation Biology 23 (6): 1406–1417.
- Dent, D.H., and S.J. Wright. 2009. *The future of tropical species in secondary forests: A quantitative review*. Biological Conservation 142: 2833-2843.
- Eskelson, B.N.I., Madsen, L., Hagar, J.C. and Temesgen, H. 2011 *Estimating riparian understorey vegetation cover with beta regression and copula models*. For. Sci. 57 (3), 212–221.
- Ewusie, J. Y. 1990. Pengantar Ekologi Tropis. ITB, Bandung.
- Fadillah, Rifki. 2009. *Perbandingan Tingkat Kesuburan Tanah Lapisan Atas (Top Soil) Pada Berbagai Toposekuen Hutan Pendidikan Dan Penelitian Biologi (HPPB)* Universitas Andalas. Universitas Andalas Press. Padang
- Frazer, G.W., Trofymow, J.A. & Lertzman, K.P. 1997. *A method for estimating canopy openness, effective leaf area index, and photo synthetically active photon flux density using hemispherical photography and computerized image analysis techniques*. Canadian Forest Service, Pacific Forestry Centre, Information Report BC-X-373.
- Frazer, G.W., Fournier, R.A., Trofymow, J. & Hall, R.J. 2001. *A comparison of digital and film fisheye photography for analysis of forest canopy structure and gap light transmission*. Agricultural and Forest Meteorology 109: 249–263.

- Gonsamo, A., Walter, J.M.N. & Pellikka, P. 2011. CIMES: a package of programs for determining canopy geometry and solar radiation regimes through hemispherical photographs. Computers and Electronics in Agriculture 79: 207–215.
- Gonsamo, A., D'Odorico, P. & Pellikka, P. 2013. Measuring fractional canopy element cover and openness – definitions and methodologies revisited. Oikos 122: 1283–1291.
- Jennings, S.B., Brown, N.D. and Sheil, D. 1999. Assessing forest canopies and understorey illumination: canopy closure, canopy cover and other measures. Forestry 72 (1), 59–73.
- Juminarti, L. 2011. *Keanekaragaman Jenis Jamur Kayu Makroskopis dalam kawasan Hutan Adat Pengajit Desa Sahan Kecamatan Seluas Kabupaten Bengkayang*. Fakultas Kehutanan, Universitas Tanjungpura, Pontianak.
- Kementerian Lingkungan Hidup dan Kehutanan. 2015. *Statistik Kementerian Lingkungan Hidup dan Kehutanan 2014*.
- Korhonen, L., Korhonen, K.T., Rautiainen, M. & Stenberg, P. 2006. *Estimation of Forest Canopy Cover: a Comparison of Field Measurement Techniques*. Silva Fennica 40: 577–588.
- Laurance, W.F., J. Sayer and K.G. Cassman. 2014. *Agricultural expansion and its impacts on tropical nature*. Trends in Ecology and Evolution 29 (2):107-116.
- Macfarlane C. 2011. *Classification method of mixed does not affect canopy metrics from digital images of the forest overstorey*. Agricultural and Forest meteorology 151: 833-840 doi : 10.1016/j.agrformet.2006.10.013.
- Margono, B.A., P.V. Potapov., S. Turubanova, F. Stolle and M.C. Hansen. 2014. *Primary forest cover loss in Indonesia over 2000-2012*. Nature Climate Change 4 (8):730-735.
- Mukhtar, E., M, Rahman., Mizunaga., and T.Yoneda. 2004. *Sturcture And Composition Of Secondary Forest Tree In Limau Manis*. Tropic. Unsubmited. Padang.
- Panta, M., Kim, K. and Joshi, C., 2008, *Temporal mapping of deforestation and forest degradation in Nepal: applications to forest conservation*. Forest Ecology and Management, 256, pp. 1587–1595.
- Permana, G. 2017. *Kondisi Hutan Konservasi Pt. Kencana Sawit Indonesia (Ksi) Dengan Menggunakan Aplikasi Gap Light Analysis Mobile App (Glama)*. Skripsi. Faculty of math and natural sains. Andaas Universisty. Padang.

- Pryde, E.C., G.J. Holland, S.J. Watson, S.M. Turton and D.G. Nimmo. 2015. *Conservation of tropical forest tree species in a native timber plantation landscape*. Forest Ecology and Management 339: 96-104.
- Rizaldi.,et al.2018. *An Introduction To The Biological Education Research Forest Of Andalas University*.Faculty Mathematics and sains.Andalas University.Padang
- Sonmez, T. 2009. *Diameter at Breast Height – Crown Diameter Prediction Models for Picea orientalis*. African Journal of Agricultural Research Vol.4 No.3, Hal.215-219, March 2009.
- Sumarna, Y. 2008. *Pengaruh diameter dan luas tajuk pohon induk terhadap potensi permudaan alam tingkat semai tumbuhan penghasil gaharu jeni karas (Aquilaria malaccensis Lamk)*. Jurnal Penelitian Hutan dan Konservasi Alam Vol.V No.1 Hal.21-27, 2008. Bogor.
- Tichy,L. 2016. *Field test of canopy cover estimation by hemispherical photographs taken with a smartphone*. Journal of Vegetation Science 27 427–435. Department of Botany and Zoology,Masaryk. University, Kotl\_a\_rsk\_a 2,CZ-611 37 Brno,Czech Republic.
- Wahyuni,N.I., and Kafiar, YermiasVol.4 No.1 Tahun 2017:27-36. *Komposisi Jenis dan Struktur Hutan Sekunder di Nunukan*. Jurnal WASIAN.
- Wilson, B.J.2012. *Species presence/absence sometimes represents a plant community as well as species abundances do, or better*. Journal of vegetation science 23:1013-1023.