Supplementary Materials: Regional Scale Rain-Forest Height Mapping Using Regression-Kriging of Spaceborne and Airborne LiDAR Data: Application on French Guiana. *Remote Sensing* 2016, *8*, manuscript ID

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Table S1. Non-exhaustive summary of studies using radar data to estimate canopy heights with PolInSAR (polarimetric interferometric SAR) and tomography techniques.

Technique	Accuracy	Limitations	References
PolInSAR (Spaceborne data)	Errors of 8 and 12.8 m were observed for residual relative and absolute height respectively	Data affected by high sources of errors.	[1]
P-band PolInSAR (Airborne)	2 m RMSE on the canopy height estimates for 2 to 25 m tall stands	Viable for small areas.	[2]
L-band PolInSAR (Airborne)	3 m RMSE 2 m RMSE on the canopy height estimates for 35 m stands	Viable for small areas. Saturation at higher stand heights	[3]
P-band SAR tomography (Airborne)	7.7 m RMSE on the canopy height estimation	Low estimation accuracy	[4]
L-band SAR tomography (Airborne)	10% relative error on canopy height estimates in comparison to LiDAR esimtaes	Viable for small areas. Low estimation accuracy	[5]

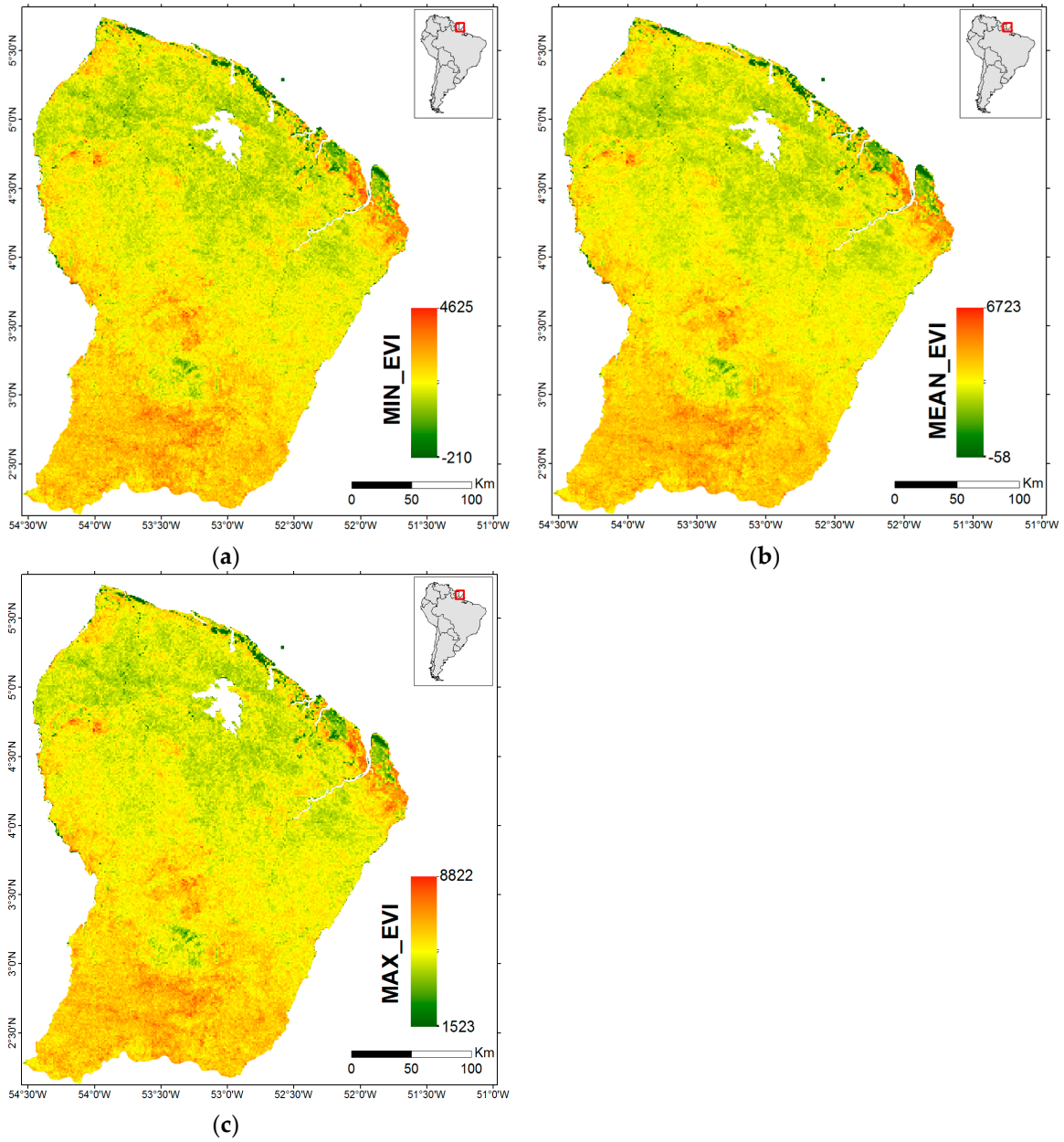

Figure S1. Minimum (**a**); mean (**b**); and maximum (**c**) values of the EVI time series data.

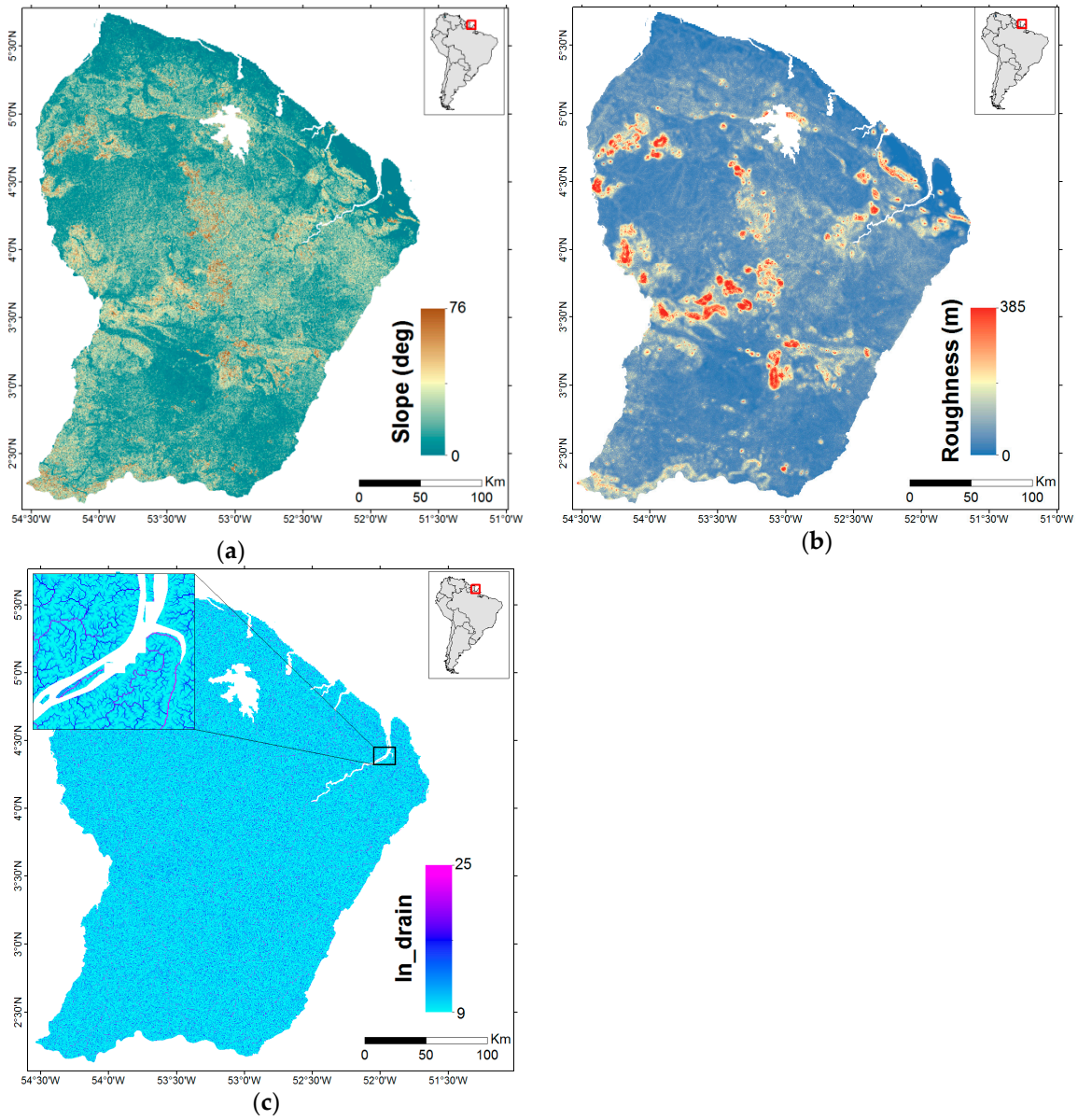

Figure S2. SRTM DEM derived maps: slope map "in degrees" (**a**); surface roughness map "in m" (**b**); and drainage surface map (**c**).

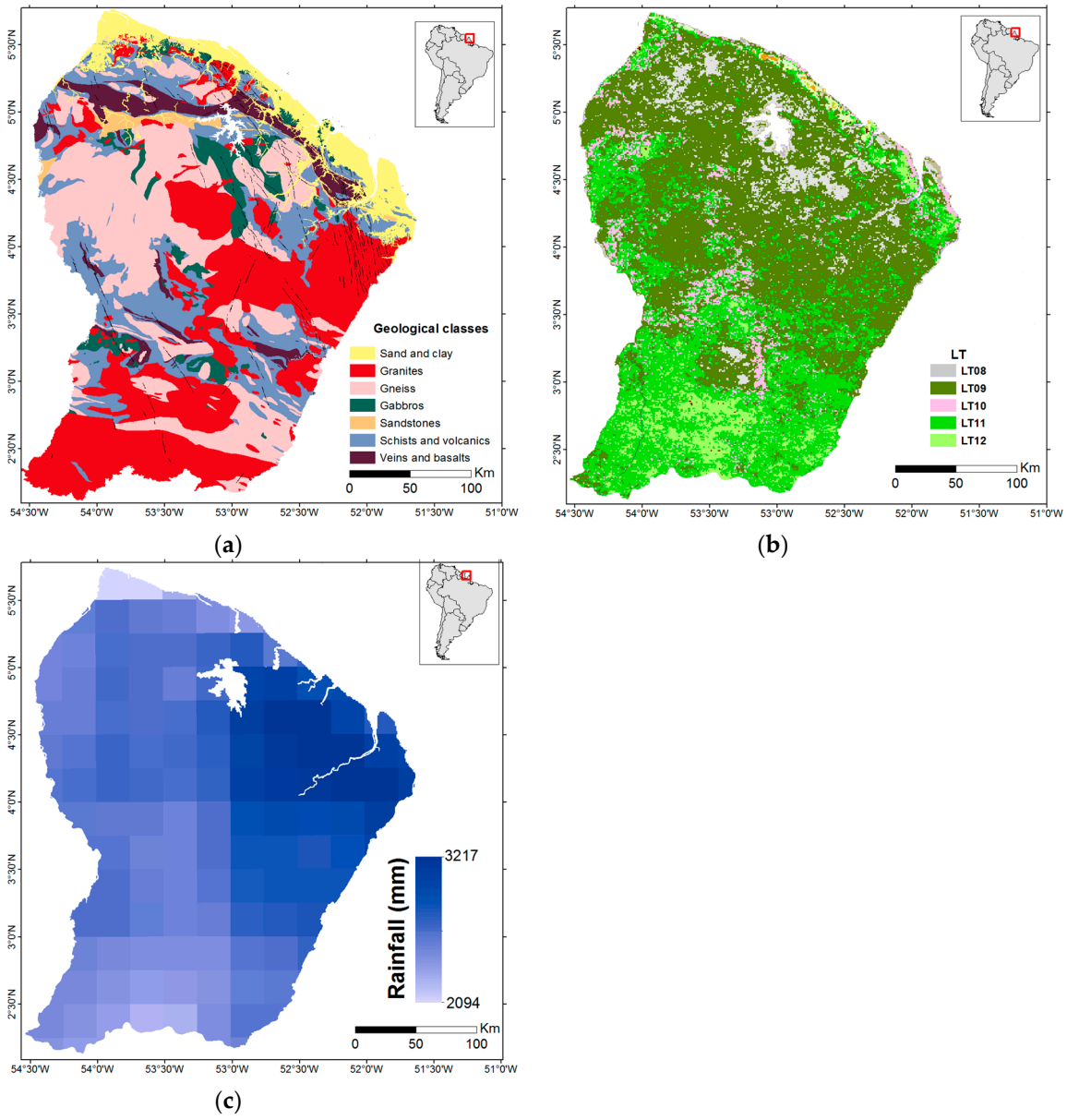

Figure S3. Geological map (**a**); Forest landscape types map (**b**); and Average rainfall map (**c**).

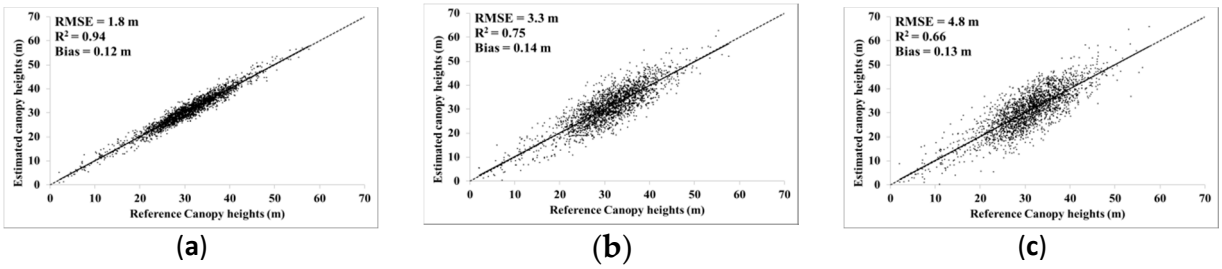

Figure S4. Comparison between reference canopy heights of the validation datasets (LD_val and HD) and canopy height estimates using Random Forest regressions and residual-kriging for (**a**) LD_5; (**b**) LD_20; (**c**) LD_50.

References

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