GENERAL DATASET DESCRIPTION

LGSR Technical Series

Unmanned Aerial Vehicle (UAV) data acquired over a subtropical forest area of the UFSM campus Frederico Westphalen, at July 11, 2017, Rio Grande do Sul, Brazil

JUL., 11 2017

LGSR/UFSM campus Frederico Westphalen

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Title:

Unmanned Aerial Vehicle (UAV) data acquired over a subtropical forest area of the UFSM campus Frederico Westphalen, at July 11, 2017, Rio Grande do Sul, Brazil

Data description:

The data were acquired from an aerial survey conducted with an Unmanned Aerial Vehicle (UAV, also *Drone*) covering an forest area of the Federal University of Santa Maria – UFSM in the municipality of Frederico Westphalen, in the Rio Grande do Sul, Brazil (Figure 1). The climate of the region is subtropical (Cfa in the Köppen-Geiger classification) with an average annual temperature of 18 °C and annual precipitation of 1919 mm (Alvares et al., 2013). The rainfall is well distributed throughout the year.

Figure 1. Location of the site of data acquisition. Based on Google Earth Pro scenes. The KML and KMZ are appended to the files.

UAV and camera settings for the acquisition (Specifications Table):

Parameters	Specification/value
Date (YYYYMMDD):	20170711
Time of day (BRT = -3)	10h a.m.
UAV – Drone - Camera	Phantom 4.
Fly high (meters above ground)	250 m
View angle	90° automatic mode.
Sky conditions	(x) Clear sky ( ) Low cloud coverage (some clouds) ( ) Completely cloudy
Wind condition	(x) no wind ( ) Low speed ( ) High speed wind
Approximate data acquisition duration	16 minutes
Total of photographs acquired	143
Across track coverage	80%
Cross-track coverage	80%
Fly planning software	Pix4D Capture

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An example of the mosaic is showed (Figure 2), referring to a screen capture of Agisoft Metashape (Agisoft LLC, 11 Degtyarniy per., St. Petersburg, Russia, 191144) and, the workflow adopted.

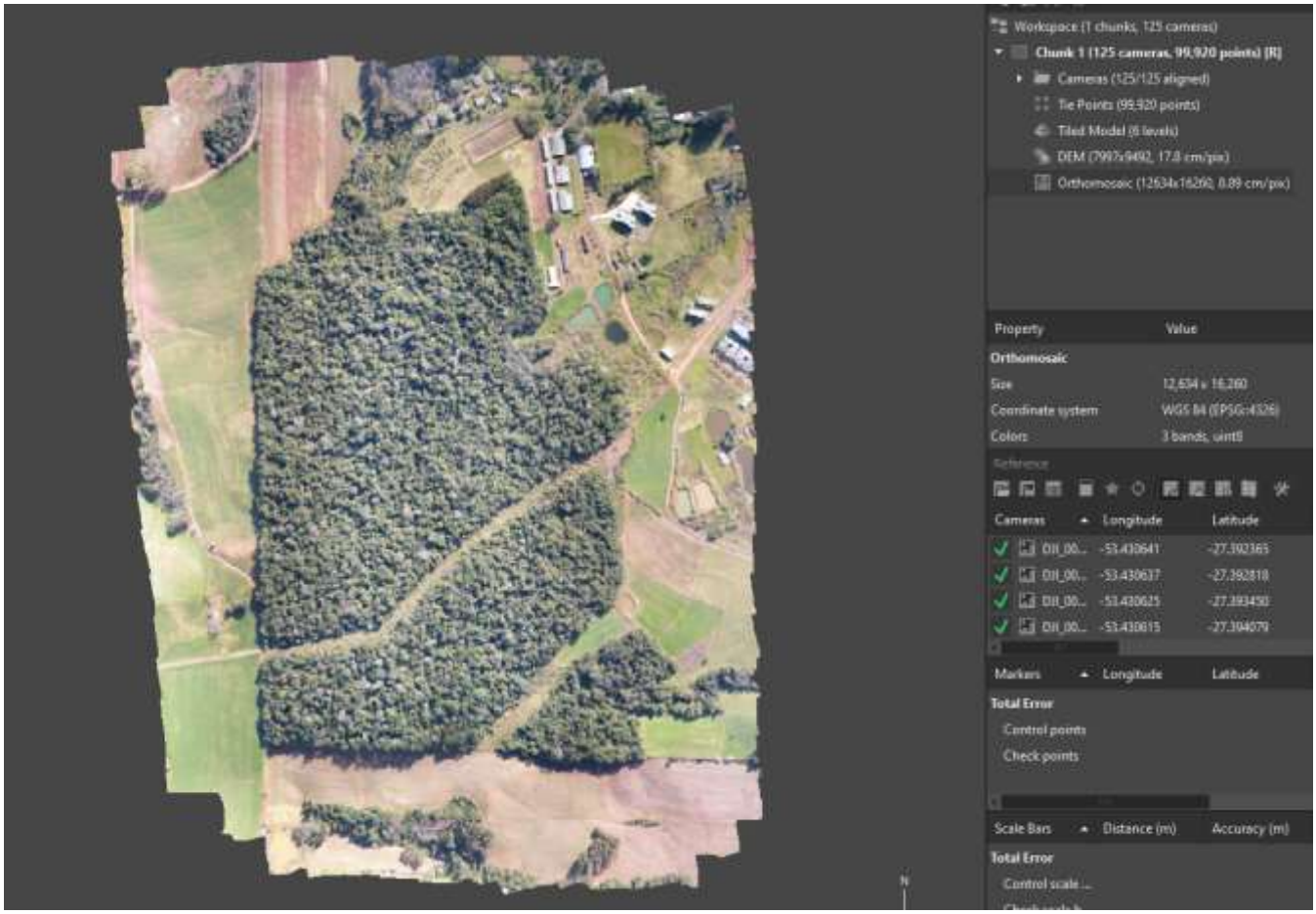

Figure 2. The capture of an orthomosaic and processing workflow

References to the main project/publications:

Breunig, Fabio Marcelo. CONESAT – Monitoring the CONESUL using remote sensing data. Project. Federal University of Santa Maria, Campus of Frederico Westphalen. Brazil. Available at: <https://www.researchgate.net/project/CONESAT-Monitoring-the-CONESUL-using-remote-sensing-data>.

Breunig, Fabio Marcelo. Integration of multiscale remote sensing data in the precision agriculture and silviculture (in Portuguese: Integração de dados multiescala de sensoriamento remoto na agricultura e silvicultura de precisão). Project. National Council for Scientific and Technological Development (CNPq). Grant 113769/2018-0

Breunig, Fabio Marcelo. Combination of UAV, PlanetScope, Landsat and Sentinel-2 images to precision silviculture and agriculture in a subtropical region (in Portuguese: Combinação de imagens de VANT, PlanetScope, Landsat e Sentinal-2 para a silvicultura e agricultura de precisão em uma região subtropical). Project of the National Council for Scientific and Technological Development (CNPq). Grant 305084/2020-8

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Other considerations

PS. A pdf file is also attached with this description

Declaration of Competing Interest

The author declares that he has no competing interests or personal relationships that have or could be perceived to have influenced the work reported in this report.

References associated:

Breunig, Fábio Marcelo (2017, July 7). Unmanned Aerial Vehicle (UAV) data acquired over a subtropical forest area of the UFSM campus Frederico Westphalen, at July 7, 2017, Rio Grande do Sul, Brazil. **Zenodo.** http://doi.org/10.5281/zenodo.4327943

Alvares, Clayton Alcarde, José Luiz Stape, Paulo Cesar Sentelhas, José Leonardo De Moraes Gonçalves, and Gerd Sparovek, 'Köppen's Climate Classification Map for Brazil', ***Meteorologische Zeitschrift***, 22 (2013), 711–28 <https://doi.org/10.1127/0941-2948/2013/0507>

Breunig, Fábio Marcelo (2019): UAV images acquired over the UFSM campus in Frederico Westphalen, RS, Brazil. Universidade Federal de Santa Maria, ***PANGAEA***, https://doi.org/10.1594/PANGAEA.897548

Breunig, Fábio Marcelo (2019): UAV derived orthomosaic over the "prainha" in the municipality of Iraí, Rio Grande do Sul, Brazil. Universidade Federal de Santa Maria, ***PANGAEA***, https://doi.org/10.1594/PANGAEA.897909

Sestari, Geovane (2019): RPAS orthomosaic over the remnant of rainforest on UFSM/IFFar campus in the municipality of Frederico Westphalen, Rio Grande do Sul, Brazil. ***PANGAEA***, https://doi.org/10.1594/PANGAEA.910114