

## Nikon D90 – Raw Data Metadata Notes

The following document outlines the naming convention and general field protocol used for the Nikon D90 digital hemispherical photographs that were taken during the TLSIIG field campaign at Brisbane 26/7 – 02/08/2013.

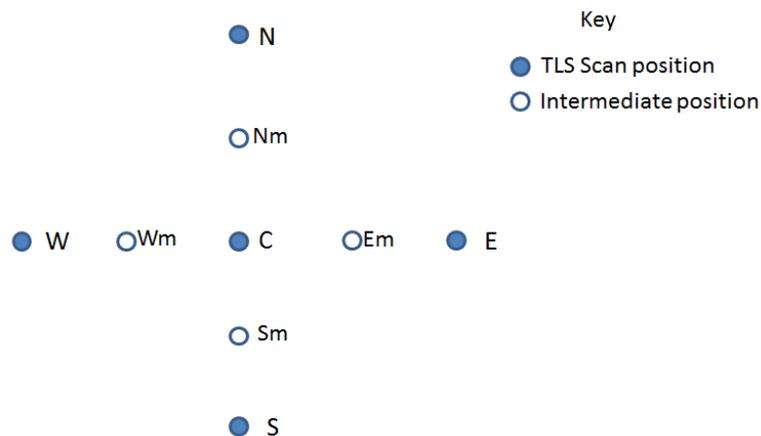
- Naming convention: Raw file name\_within plot location.JPG

e.g. DSC\_0219\_S.JPG

e.g. DSC\_0219\_Sm.JPG

The green highlighted field is the within plot location. Single letters (i.e. N, S, E, W, C) represent the scan positions, dual letters (i.e. Nm, Sm, Em, Wm) represent the intermediate or ‘middle’ of the four cardinal directions from the centre of the plot (figure 1).

- Protocol: in general, the sampling protocol displayed in the diagram below was followed.



**Figure 1 - DHP sampling strategy**

For TRAC transects. Photos were captured every 10m, starting at 0m and finishing at 100m.

## Other information

- Photograph height: All of the photos were taken at approximately the same height as the TLS sensors being used. This corresponded to around 1.20 m at the lens of the camera.
- Where possible all photographs were taken under diffuse lighting conditions.
- The exposure technique used follows that of Leblanc (2005)<sup>1</sup> in section 2.7.
- Bracketing was turned on which meant that three images were captured at each location. One with the manual exposure and the other two were +/- 1.3 f-stops where the shutter speed was changing automatically
- Image selection for analysis: the folder 'selected\_for\_analysis' contains a single image from each location which was visually determined to be the best for supervised classification.
- The 'all\_exposures' folder does not have a naming convention applied. Refer to master excel spreadsheet
- Levelling: a camera tripod was used for image acquisition and a triple axis level bubble used for levelling the camera at each point
- Lens: a Sigma EX 4.5mm lens was used
- Camera and lens calibration: the camera and lens has been calibrated for lens centre and projection function (lens distortion parameters)

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<sup>1</sup> Leblanc, S. G., et al. (2005). "Methodology comparison for canopy structure parameters extraction from digital hemispherical photography in boreal forests." Agricultural and Forest Meteorology **129**(3-4): 187-207.