Recommended UAV Flight and Photography Methods for Using Our Software

1. Introduction

We are pleased that you have chosen to use our products, such as DF LAT and DF Scanner. This document outlines important considerations for drone measurements, and we kindly ask that you carefully read through them.

2. Timing for Drone Measurements

The AI species identification model used in the DF Scanner is specifically designed for times when trees have fully developed their green leaves. Thus, we recommend conducting measurements during times when the foliage is green and before it changes to autumn colors or drops.

Note that the identification model for tree species outside of Japan is not included by default. If you wish to identify tree species in areas outside of Japan, it is necessary to conduct local surveys and create the model yourselves.

3. Time of Day and Weather Conditions for Photography

We recommend taking photographs on overcast days, or if it is clear, aiming for the time between 10:00 and 14:00 when shadows are minimal.

4. Multicopter Drone Measurement Specifications

Recommended Measurement Specifications	
Ground Speed	5m/s*1
Ground Resolution	2～3 ㎝
Ground Altitude	Corresponding to ground resolution*2
Front Overlap	85％ recommended
Sidelap	75％ recommended
Point Density*3	more than 100 points/m²
Scanning Modes*3	non-repetitive scanning mode*4
Maximum Returns*3	maximum possible setting*4

*1 Recommended speed when the ground altitude is set to 100m.

*2 We recommend drones capable of maintaining a constant altitude relative to the ground, enabling terrain-following flight.

*3 Set for LiDAR drones.

*4 This is the setting for DJI Zenmuse L1/L2. The maximum number of returns is triple (3) for the L1 and penta (5) for the L2.

5. Fixed-wing Drone Measurement Spesifications

It is basically the same as a multicopter drone. Please set the ground altitude and speed according to the ground resolution, overlap, and sidelap.

6. SfM Process

To conduct the analysis, it is necessary to perform SfM (Structure from Motion) processing, therefore, one of the following software packages is required.

- Metashape
- DF BIRD