Swiss LiDAR Day

hepia
Haute école du paysage, d'ingénierie et d'architecture de Genève

Hes·so

*« **LiDAR**-derived metrics reveal links between **understory cover** and **wild boar movement** »*

Tracking Wild Boar Movement Using LiDAR-Derived Metrics

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1 Intro

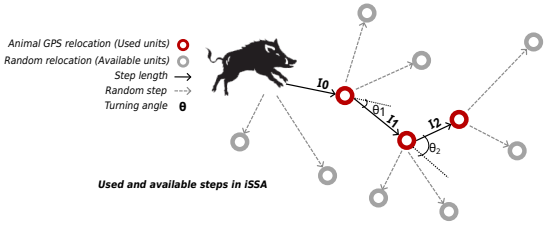
- The Question: How hunting pressure and landscape structure jointly shape the spatio-temporal dynamics of wild boar movement.
- The Study System: Seven animals monitored across contrasting landscapes.
- Contrasting Management: Comparing culling in Geneva against simple hunts in Vaud and driven hunts in France.

2 Methods

High-resolution **GPS tracking**
+
LiDAR-derived maps
↓
Integrated Step Selection Analysis (iSSA)

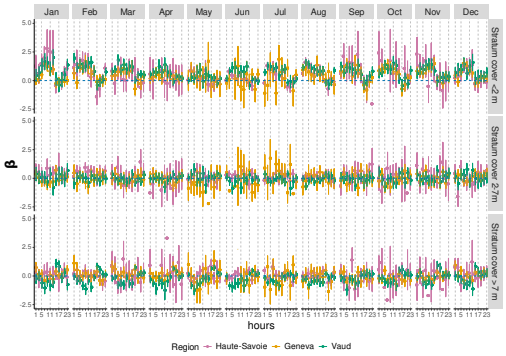
β = *Selection of each vegetation layer relative to its availability*

$\beta > 0 \rightarrow$ *Selected*
$\beta < 0 \rightarrow$ *Avoided*

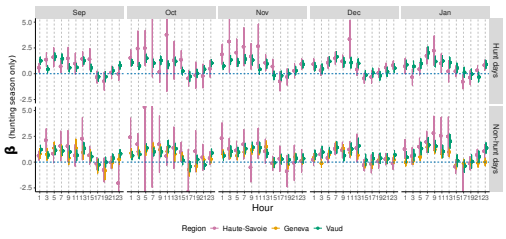


3 Results

✓ Strongest selection for understory vegetation below 2 m during the day.



✓ Stronger daytime selection for low vegetation during the hunting season, especially when animals move into France.



4 Conclusions

- Despite high uncertainty in the β coefficients, LiDAR-derived understory metrics offer promising opportunities to explore how hunting and vegetation structure jointly shape wild boar space use.

Mapping vertical vegetation structure with LiDAR

SwissSURFACE3D vegetation point cloud
↓
Height relative to ground
↓
Vertical strata
< 2 m | 2–7 m | > 7 m
↓
Stratum cover (%)
5 × 5 m resolution

