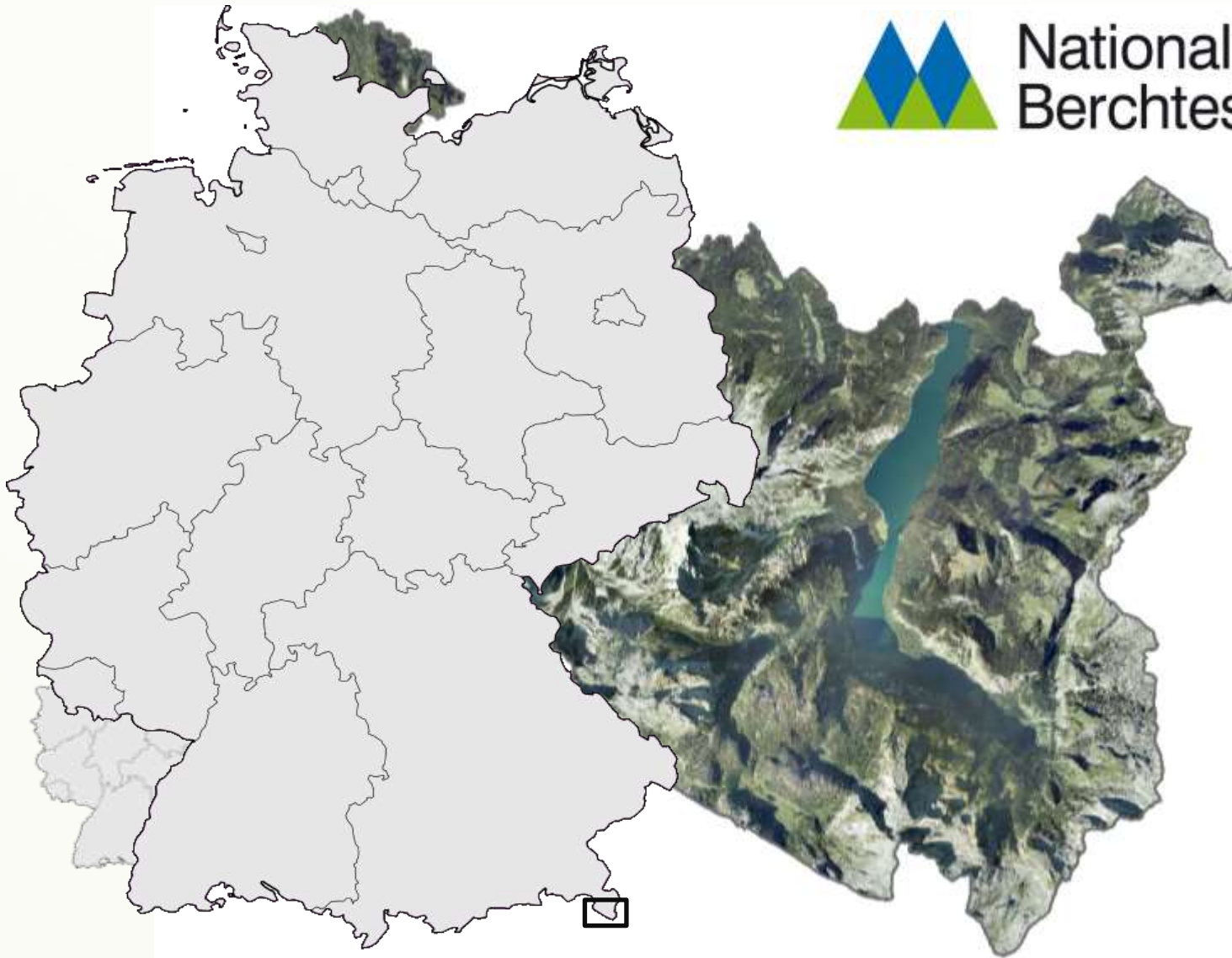


Unmanned Aerial Vehicles in Berchtesgaden National Park – Application Range and Experiences

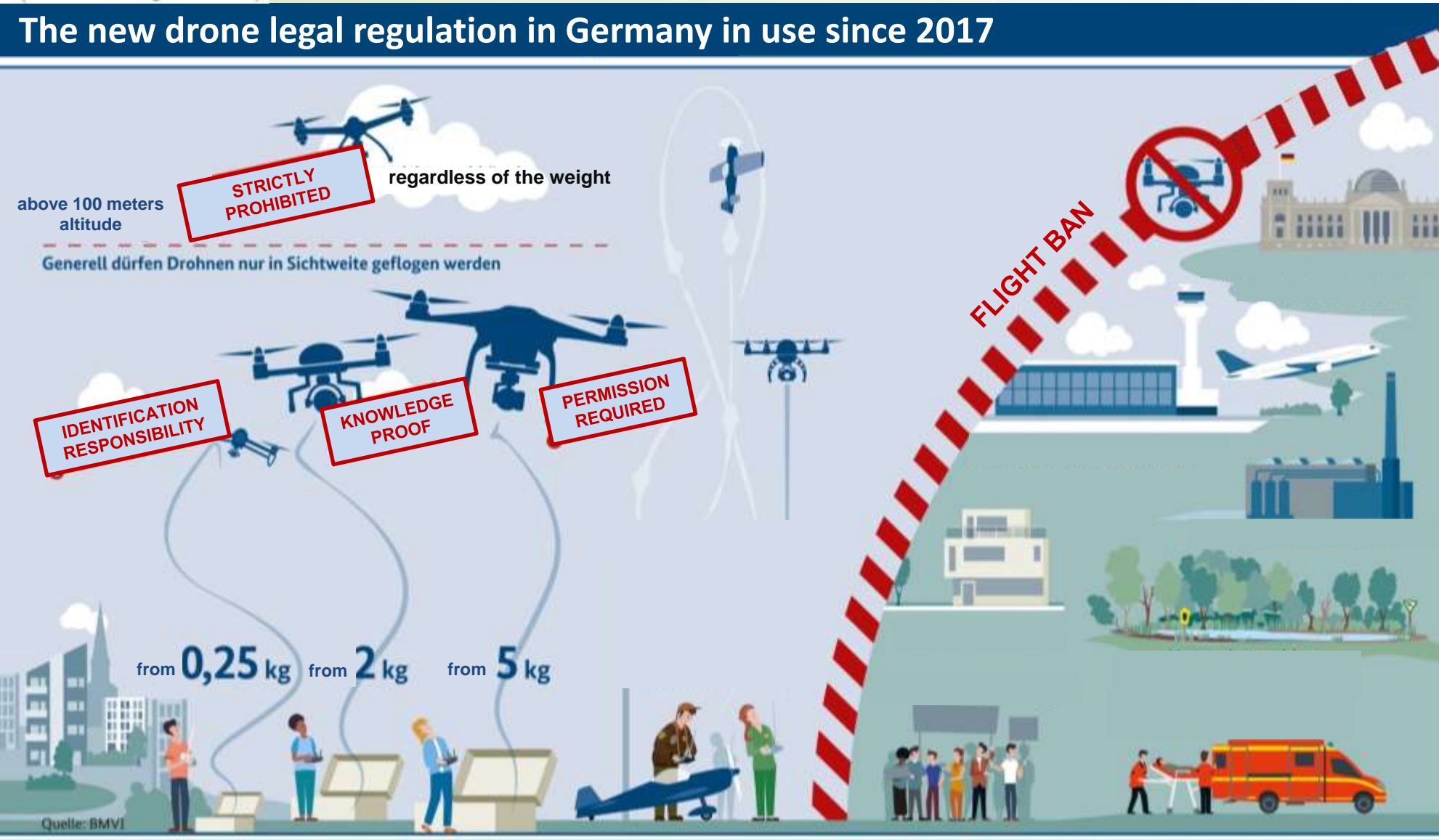
Andrej Oravec

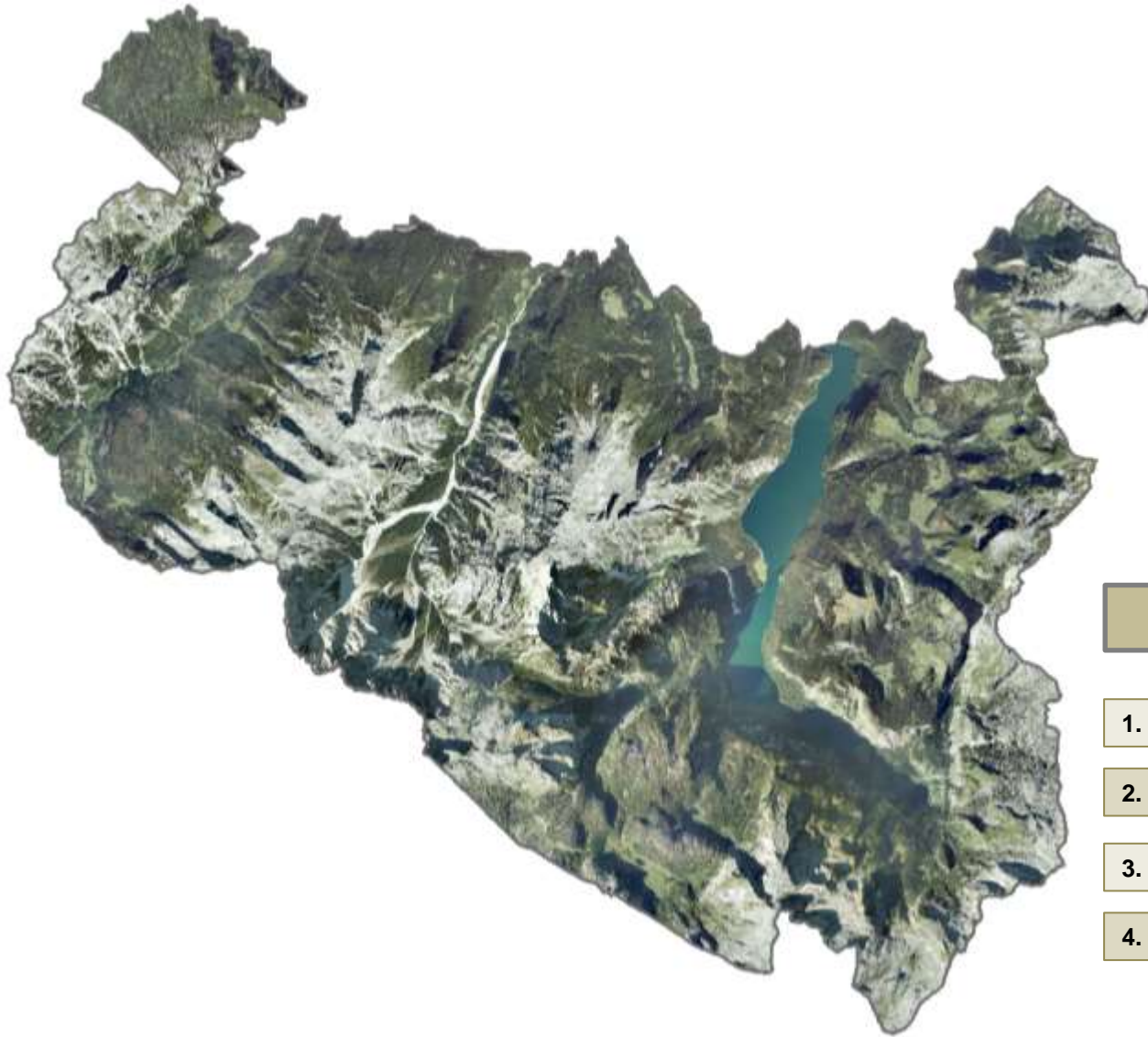


Nationalpark
Berchtesgaden



The new drone legal regulation in Germany in use since 2017





Affected departments

1. Department of Communication
2. Department of Park Management
3. Department of Conservation and Planning
4. Department of Research and information systems

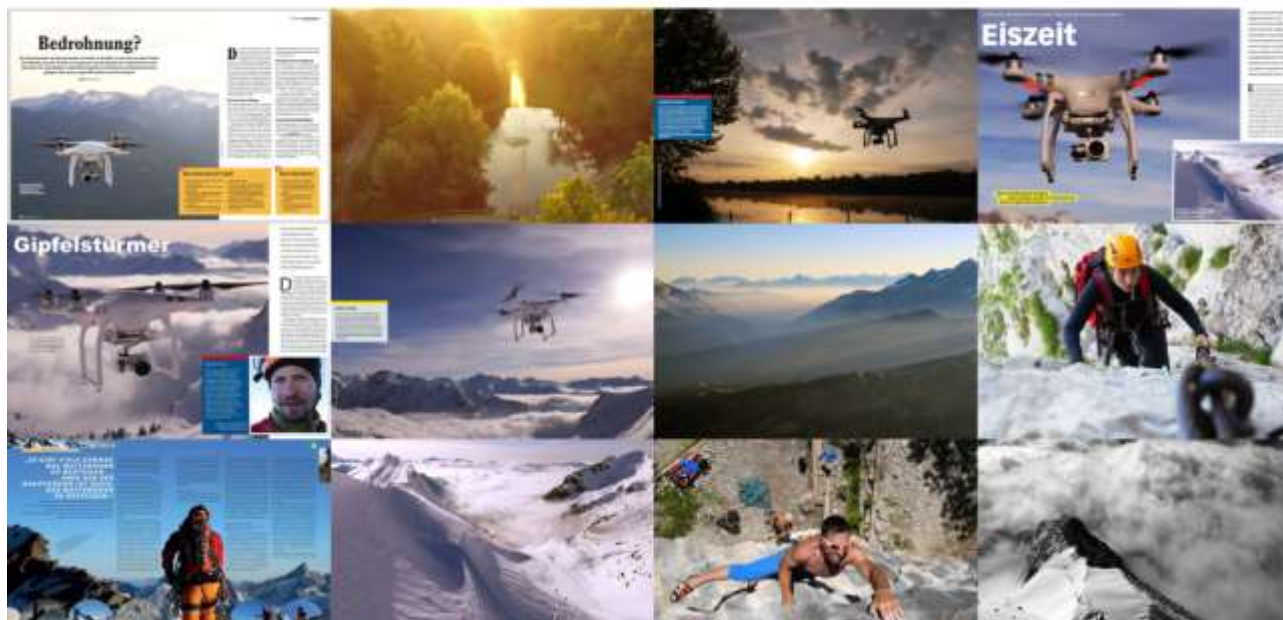
1. Department of Communication

45 / year – requests for
premission to use UAV

many illegal footages and
pictures on social networks

many illegal footages and
pictures on social networks

**Pictures and video recordings
with UAV are not permitted**



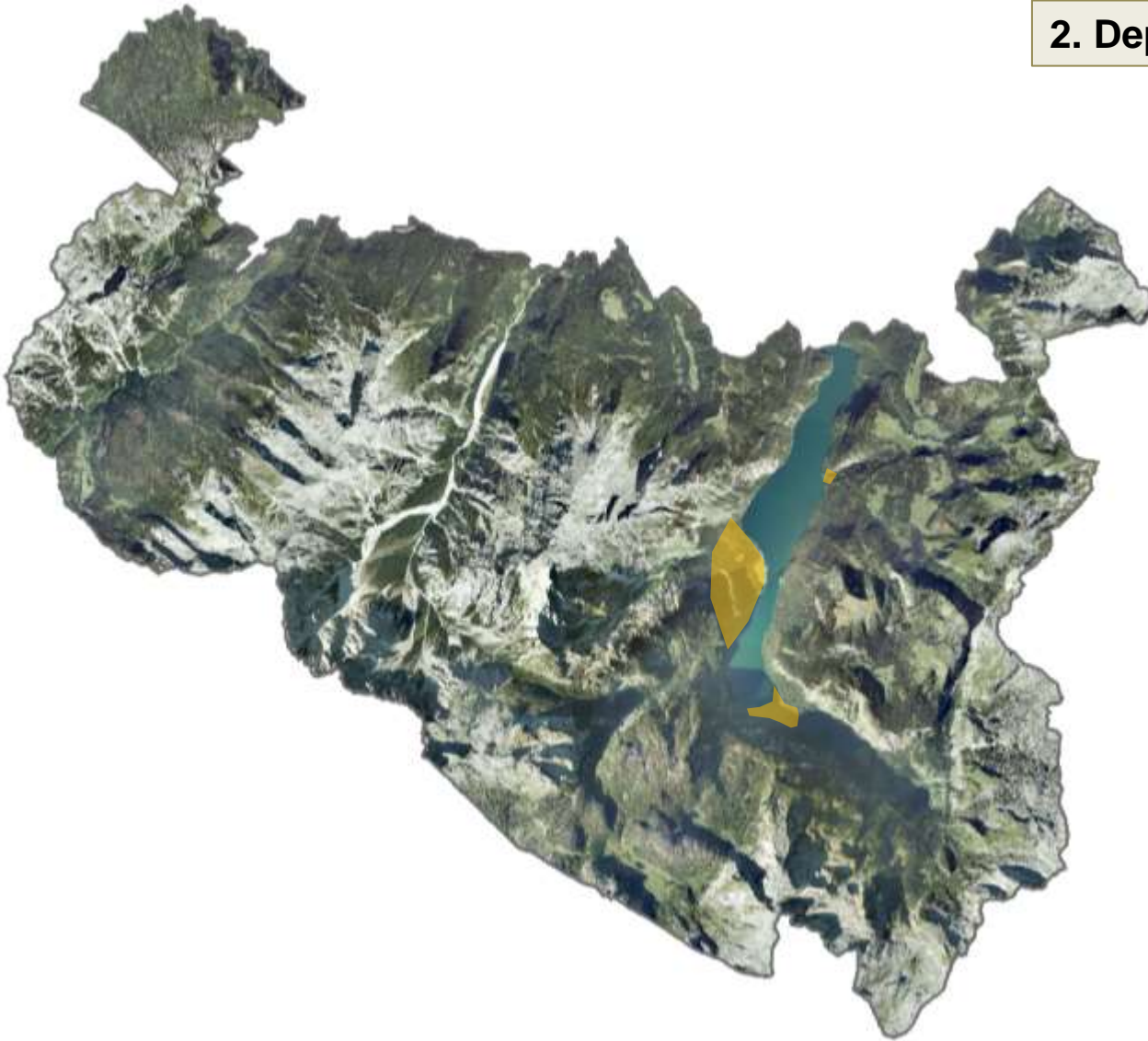
2. Department of Park Management

In the summer months, 3 violations per week against the laws and national park regulations are registered

Mainly Königssee area:
Bartholomä, Kessel, Salet

National park service
cooperates with shipping
Königssee and huts owners

**Pictures and video recordings
with UAV are not permitted**



3. Department of Conservation and Planning

Approval of UAV flights for geo risk detection. For example, the modal shift in the Wimbachtal water protection area.



Kilian Scharrer

ic consulenten | a member of ic group

3. Department of Research and information systems

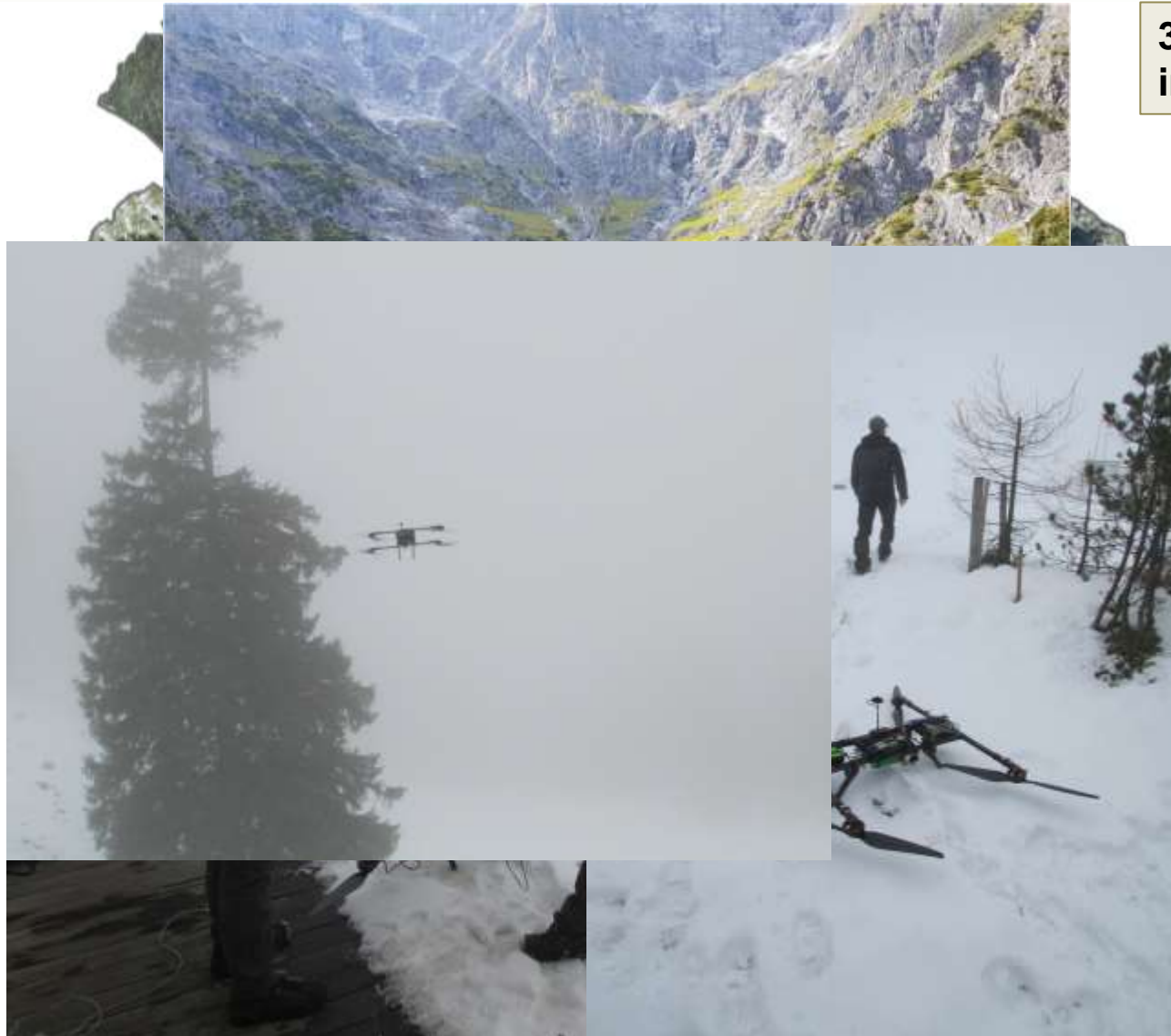
Approval of UAV flights for for research purposes.

Temperature measurements with UAV in Eiskapelle, Watzmann Ostwand

Dr. Rebecca Mott-Grunewald
Institut für Meteorologie und Klimaforschung
Campus Alpin des Karlsruher Instituts für Technologie, Garmisch-Partenkirchen
82467 Garmisch-Partenkirchen
Email: rebecca.mott-grunewald@partner.kit.edu

UAV supported high-resolution surface models to derive snow depths

Christian Hohmann
Sektion 1.4
Helmholtz-Zentrum Potsdam
Deutsches GeoForschungsZentrum
Telegrafenberg · 14473 Potsdam
christian-hohmannhohmann@gfz-potsdam.de



3. Department of Research and information systems

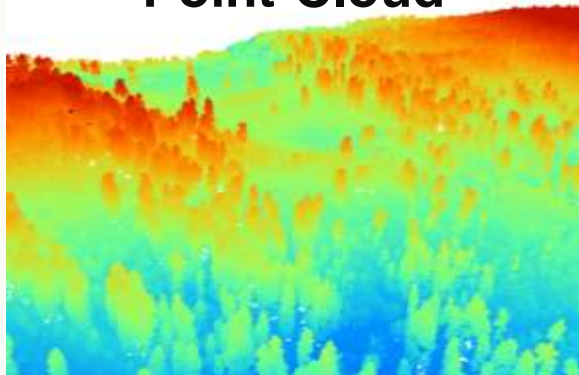
Christian Hamberger
Disturbance aspects of the
UAV on the example of farm
animals in the Berchtesgaden
National Park



Next step – how react Wildlife
on the UAV presence in the
Area?

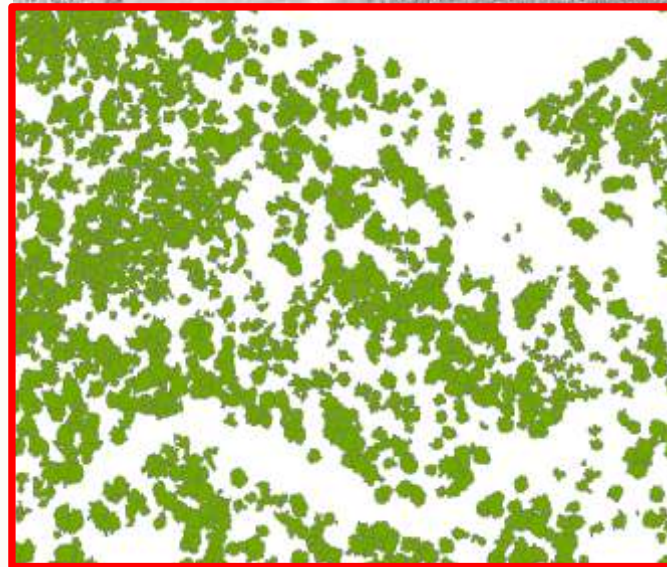


Point-Cloud



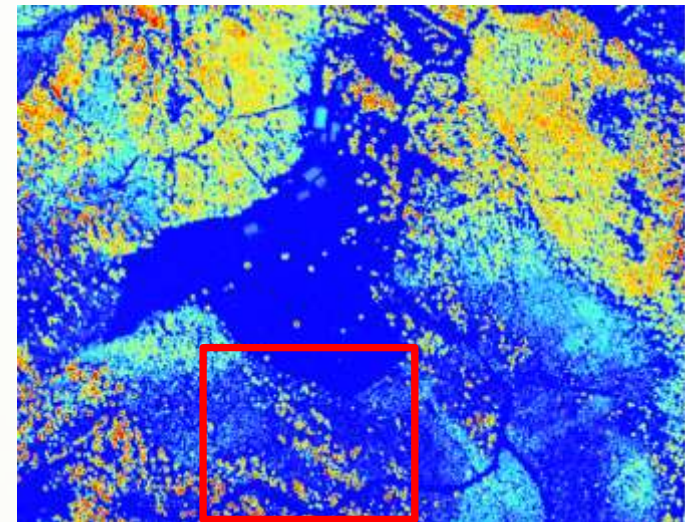
DSM

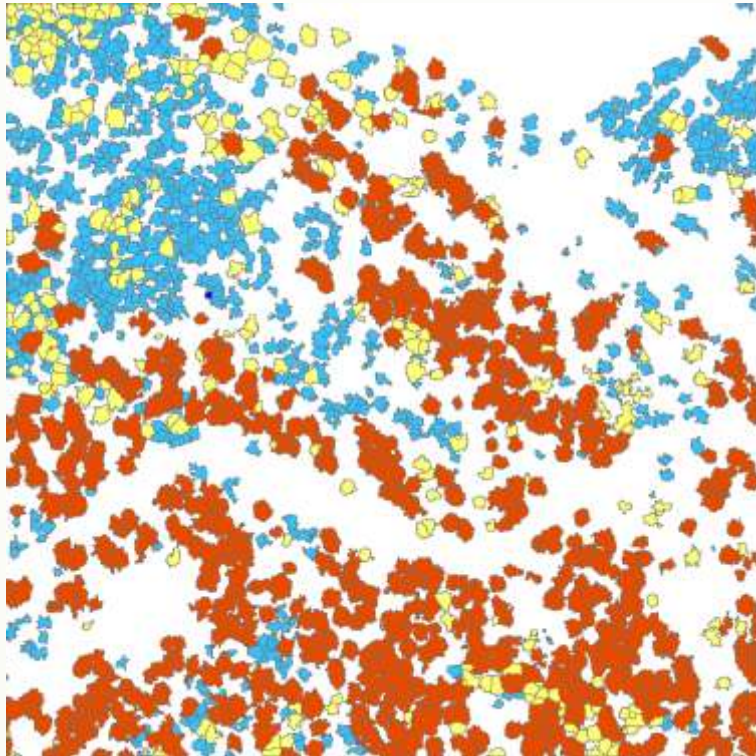
Digital Surface Modell



nDSM

normalized Digital Surface Modell





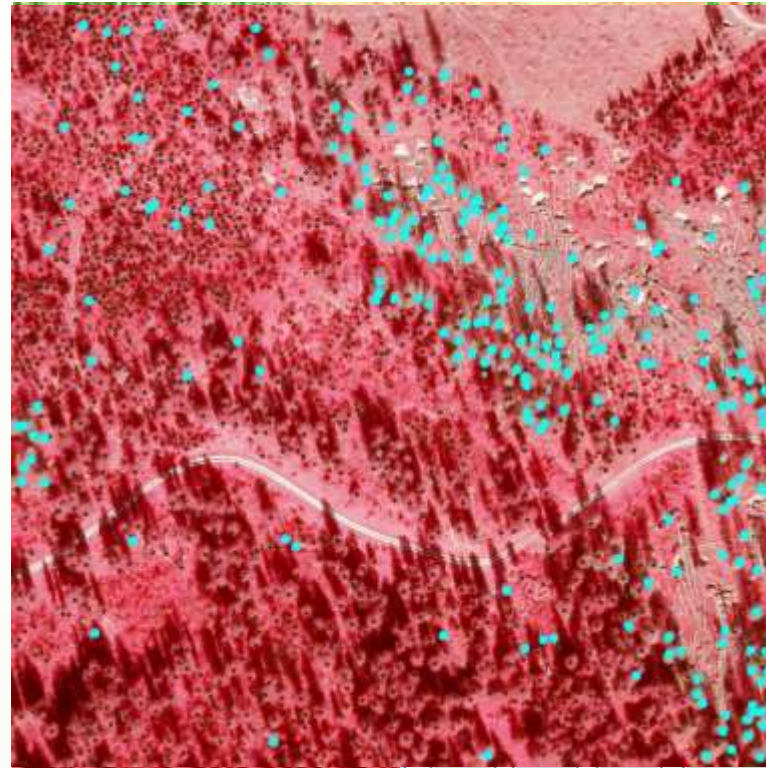
Forest development stages

Pioneer forest phase	5m	
Thickening phase	10m	
Final forest phase	20m	
Optimal phase	30m	

a



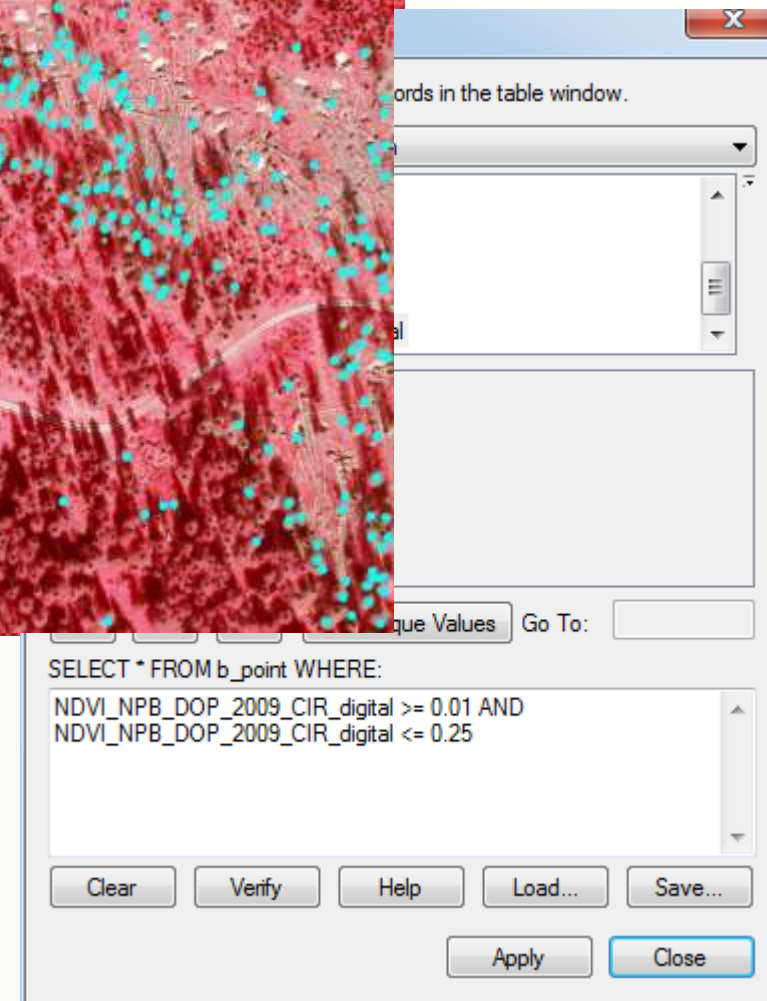
Tree crown segmenting and tree counting



Bark beetle spurge trees detection

Lying dead wood detection

Map tree shielding and forest structures



Thanks for listening

