

UAVs – Fields of application in protected areas

Practical examples

Corinna Hecke MSc

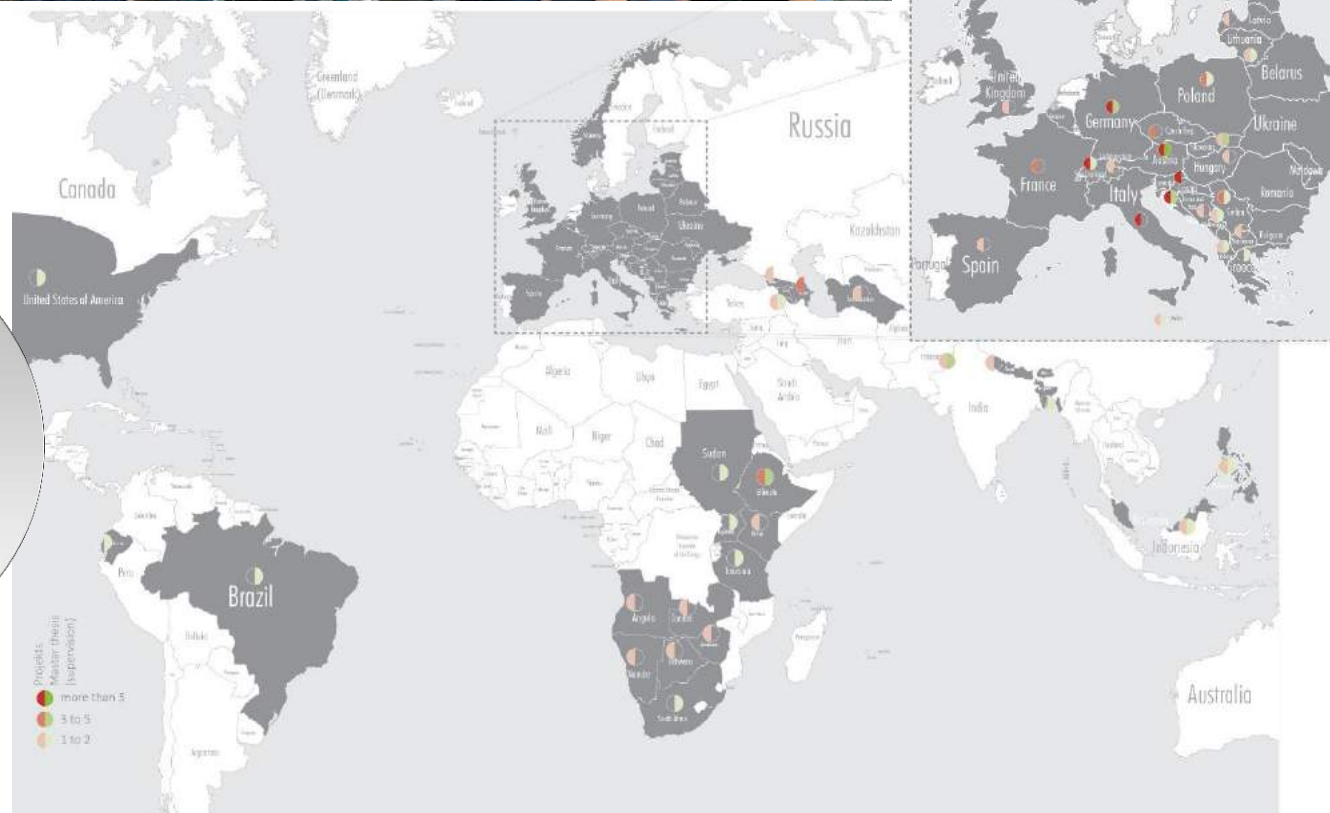
E.C.O. Institute of Ecology

ALPARC Conference, March 27th, 2018



E.C.O. Institute of Ecology

Nature
conservation in
the 21st century
- working in the
most beautiful
areas worldwide.



Departments

- Parks
- Nature
- Communication
- Sustainability

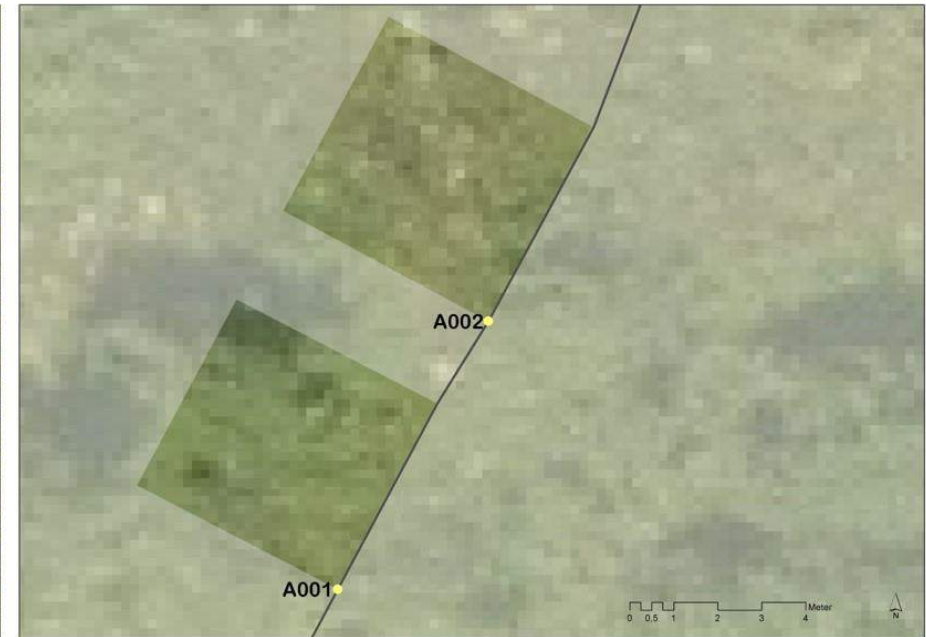
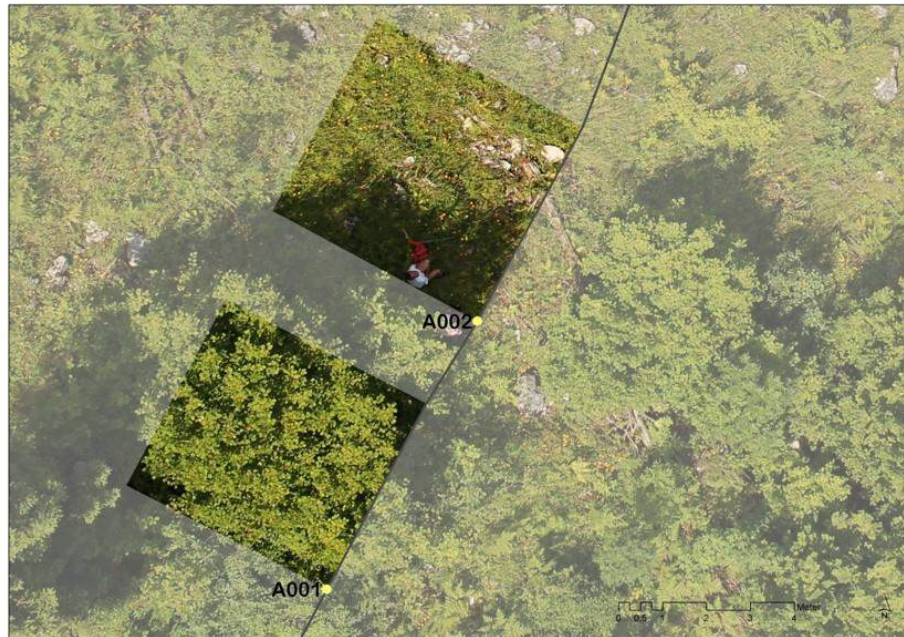


E.C.O.ptyryx & Co

- cheap and safe new method
- new quality of aerial photographs (high resolution)
- new pictures available at all times
- easy controlling of the vehicle
- exact pre-flight planning and autonomous flight
- independet usage



Enhance data quality



- high resolution UAV-photo
- >1,5cm/pixel
- available at all times

- standard aerial photo
- >15cm/pixel
- available every 2 – 3 years

Possible output



3D model



National Park Gesäuse (Styria)

fields of application I

Conservation (Examples No. 1 & 2):

- ecological monitoring
- documentation of inaccessible or sensitive areas such as mires, water bodies, floodplains or rock sections
- documentation of nature conservation projects
 - e.g. erosion control measures
- field mapping

Tourism (Example No. 3):

- landscape panorama views for e.g.
 - information boards for theme trails
 - brochures and other printouts
 - homepages

Example No. 1: Gesäuse National Park (Styria)

Analysis of natural processes / vegetation monitoring in an avalanche system



Example No. 1: Gesäuse National Park (Styria)

Analysis of natural processes / vegetation monitoring alongside Enns river



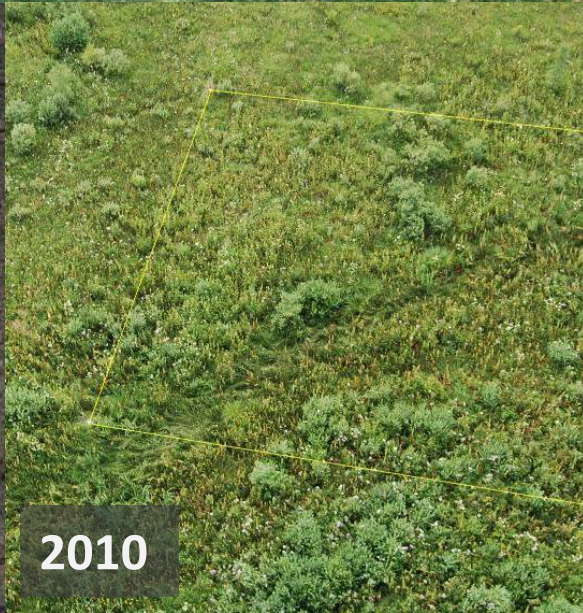


Example No. 2: Hörfeld-Moor (Styria, Carinthia)

Long-term vegetation monitoring

Example No. 2: Hörfeld-Moor (Styria, Carinthia)

Long-term vegetation monitoring



Example No. 2: Hörfeld-Moor (Styria, Carinthia)

Long-term vegetation monitoring



fields of application I

Conservation (Examples No. 1 & 2):

- ecological monitoring
- documentation of inaccessible or sensitive areas such as mires, water bodies, floodplains or rock sections
- documentation of nature conservation projects
 - e.g. erosion control measures
- field mapping

PR Material (Example No. 3):

- landscape panorama views for e.g.
 - information boards for theme trails
 - brochures and other printouts
 - homepages

Example No. 3: Attractive images from a bird's eye view (PR)



National Park Kalkalpen (Upper Austria)



Nature Park Karwendel (Tyrol)



National Park Hohe Tauern (Carinthia)



National Park Gesäuse (Styria)

fields of application II

Documentation of land (-use); (Example No. 4):

- Forestry
- Agriculture
- Documentation of windfalls and other damage events

Building projects (Example No. 5):

- Ecological construction supervision
- Documentation of roadbeds and river engineering measures
- Monitoring progress of construction work

Example No. 4: Documentation of land (-use): Windfall

National Park Kalkalpen (Upper Austria)



fields of application II

Documentation of land (-use); (Example No. 4):

- Forestry
- Agriculture
- Documentation of windfalls and other damage events

Building projects (Example No. 5):

- Ecological construction supervision
- Documentation of roadbeds and river engineering measures
- Monitoring progress of construction work

Example No. 5: Ecological construction supervision



Quarry near Villach (Carinthia)



Thank you for your
attention!

ALPARC Conference

March 2018

Corinna Hecke MSc

E.C.O. Institut für Ökologie

Lakeside B07b, 2nd floor

9020 Klagenfurt

www.e-c-o.at

+43 463 504 144-33

