



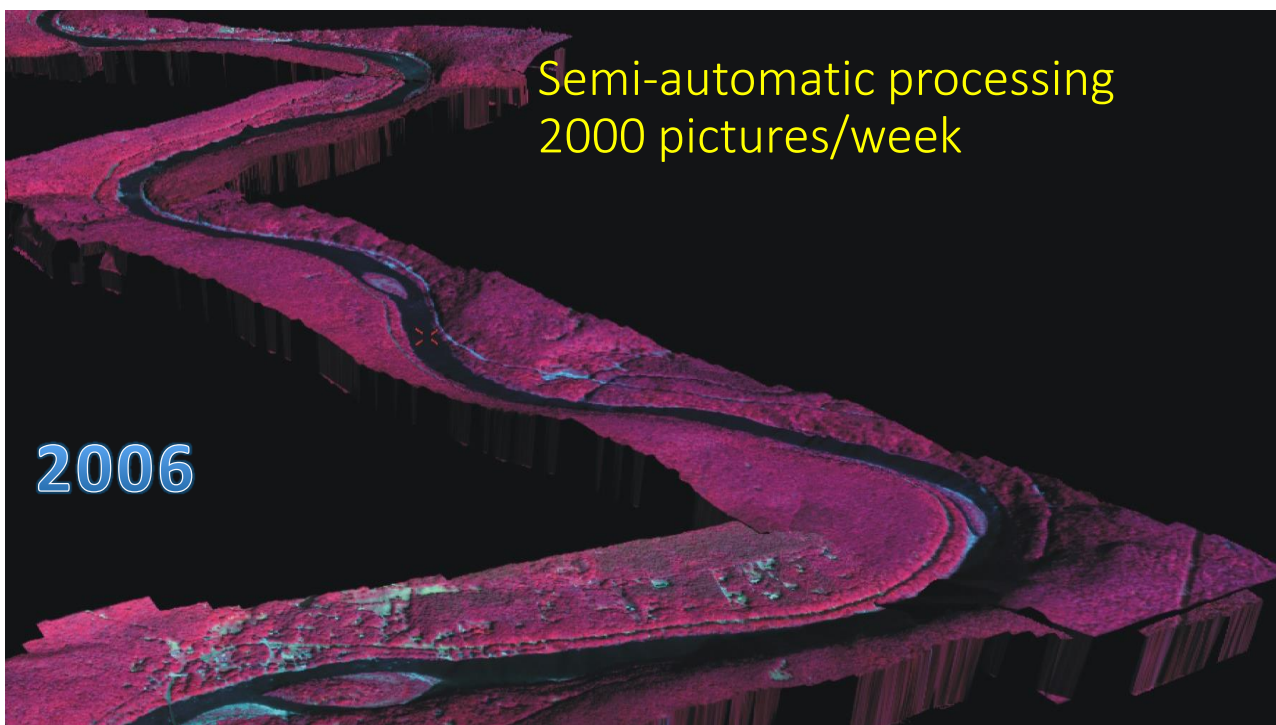
Seminar on measurement and data processing techniques for hydro-morphological assessment of regulated rivers, lakes and reservoirs



# Drone supported habitat mapping in large rivers

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Semi-automatic processing  
2000 pictures/week

2006



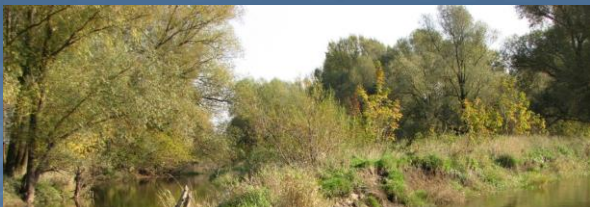
Middle course of Odra River from Panono (360°),  
 captured by P. Parasiewicz SSIFI.

[Panono.com](http://Panono.com)





## From a boat ...



Middle course of Odra River, photo by P. Parasiewicz SSIFI.

PANONO PRODUCT FEATURES B2B JOBS DOWNLOADS SHOP SUPPORT



Jense device, phot. K. Celejewska.

Hydraulic survey using Side scan sonar, Accoustic Doppler Profiler, Android T-map software and spherical camera, phot. P. Parasiewicz SSIFI.



### Phantom 3 Advanced

phot. K. Suska SSIFI



### Phantom 4 Professional

(Sensors at the rear, on the left and right sight and the pair at the front)

<https://www.dji.com/phantom-4-pro>, 23.09.2017r.

## Remote access areas

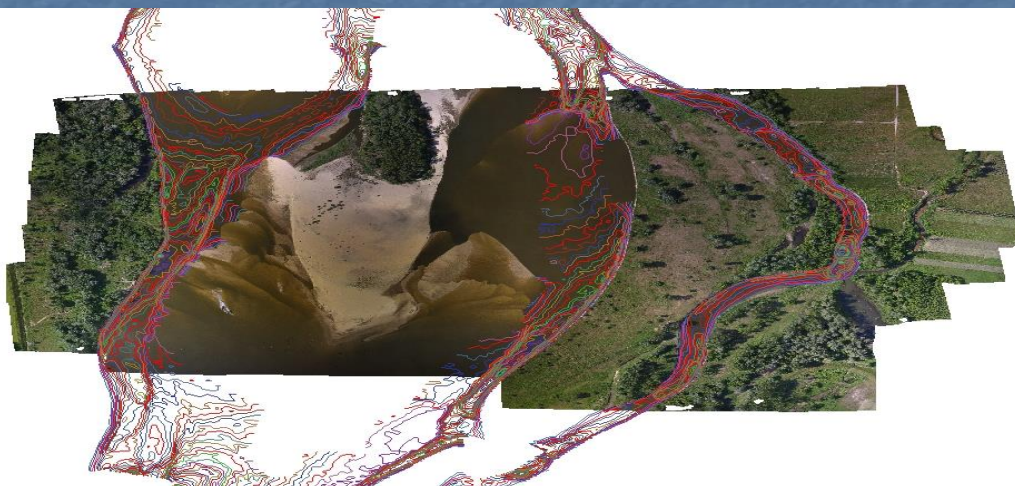




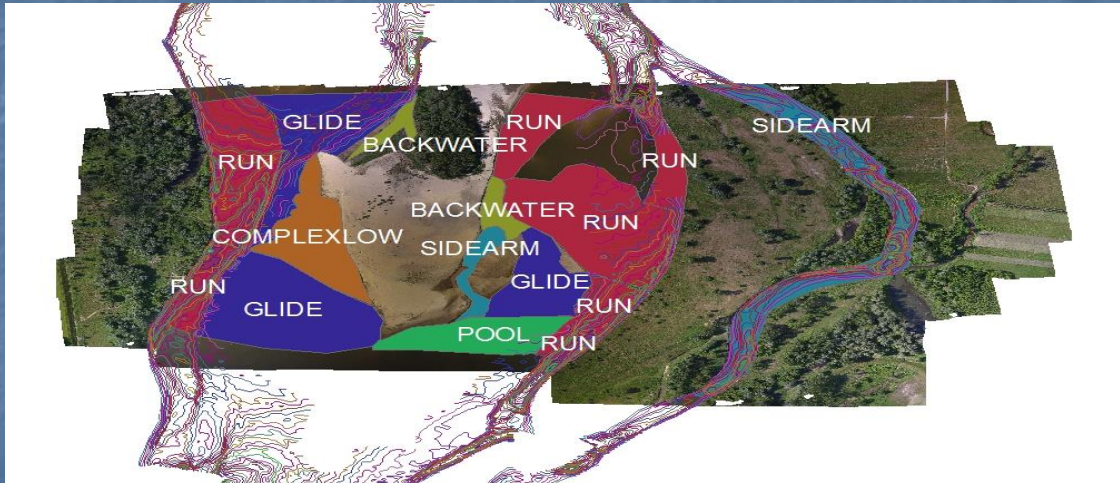
## Wisła River UAV photos



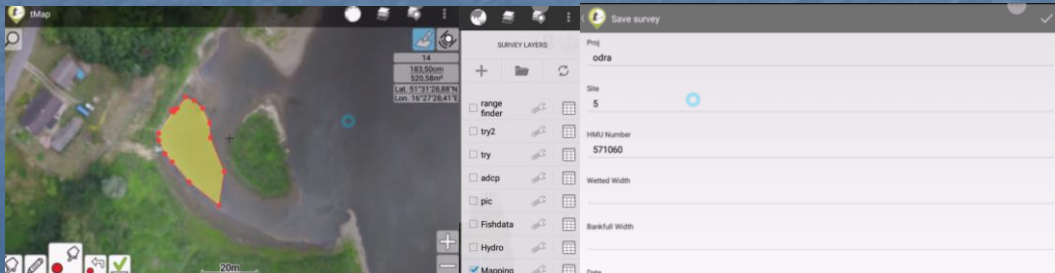
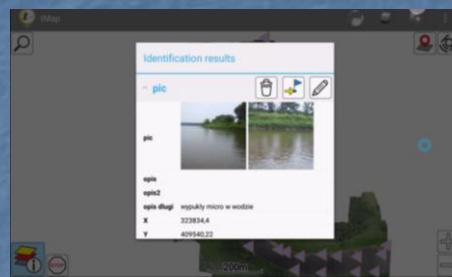
## Wisła River UAV photos + bathymetry



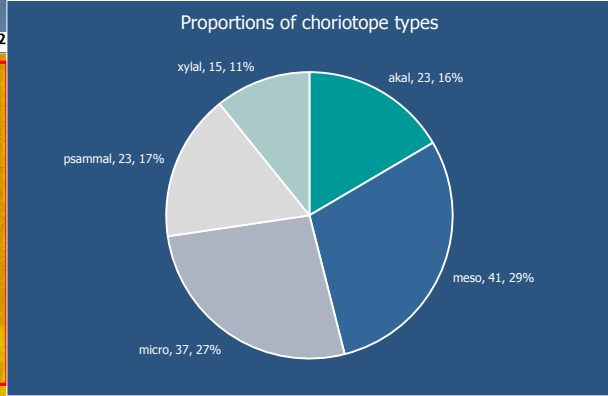
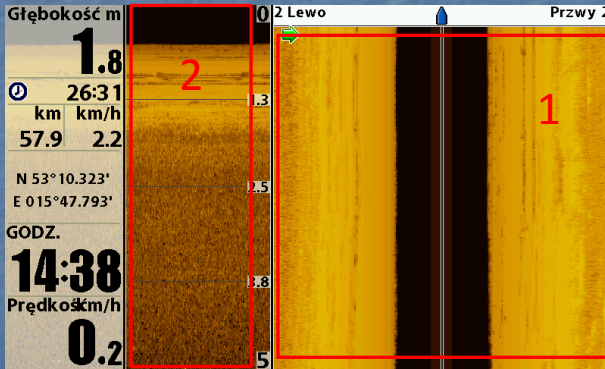
## Wisła River UAV photos + bathymetry + HMU



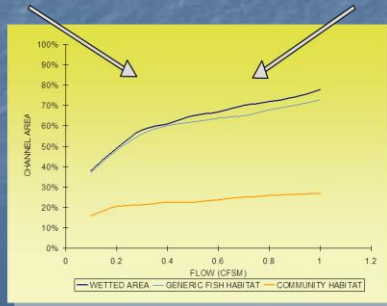
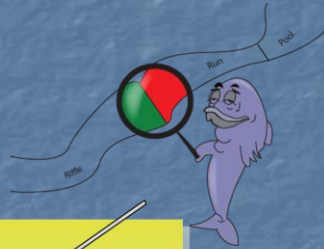
## Habitat mapping on android with TMap



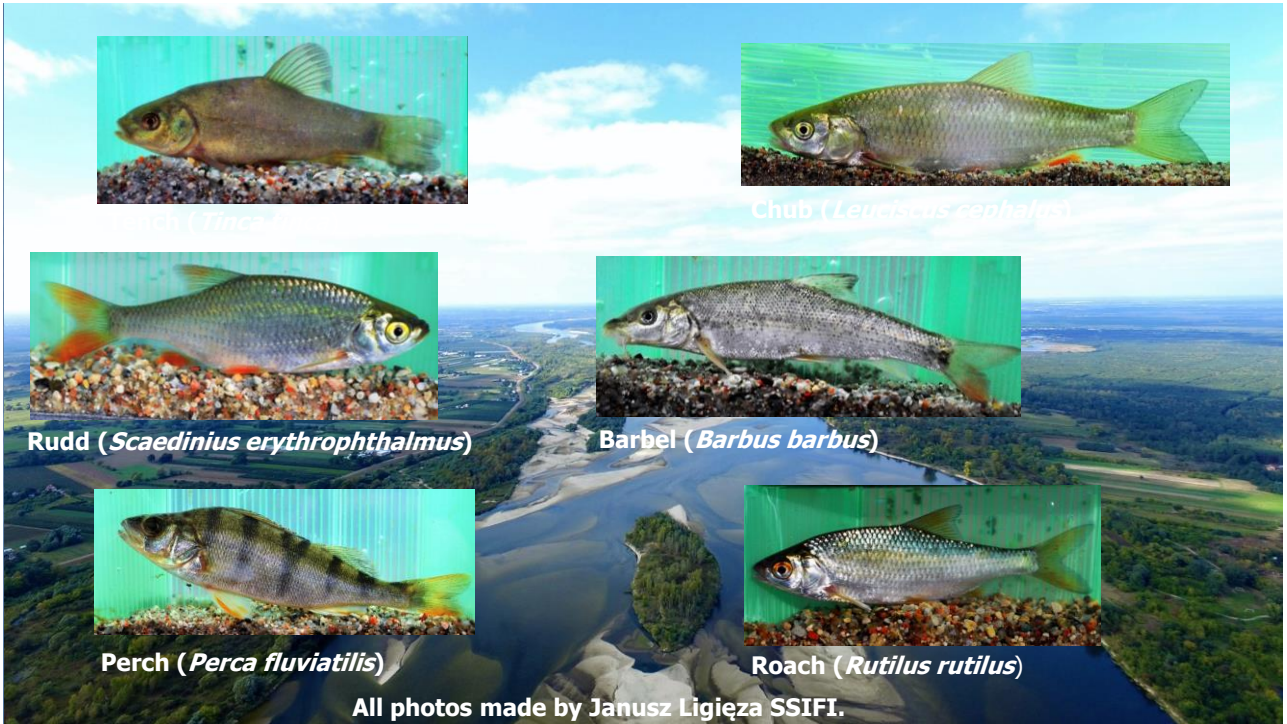
# Substrate classification from side-scan sonar



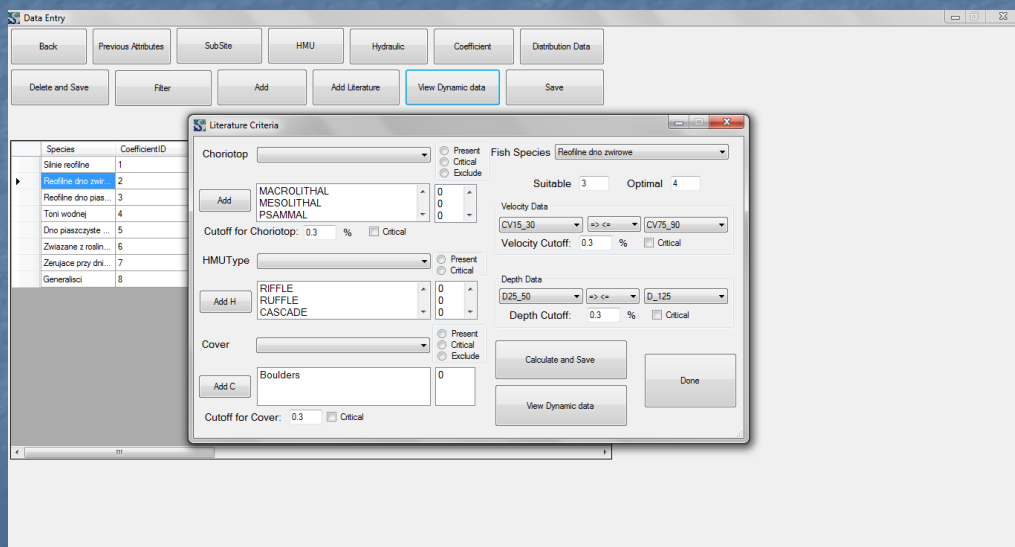
MesoHABSIM.org  
Instream Habitat Simulation at River Scale







# Conditional Habitat Selection Criteria







analyzing the habitat conditions at low flow on near-natural stretches of rivers

**We can**

- determine biological suitability
- propose the restoration measures for modified rivers.



**IRS**

**AMBER**

**Thank you for your attention !**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 101019152.