Validating Surface Currents at ORE Sites (V-SCORES)

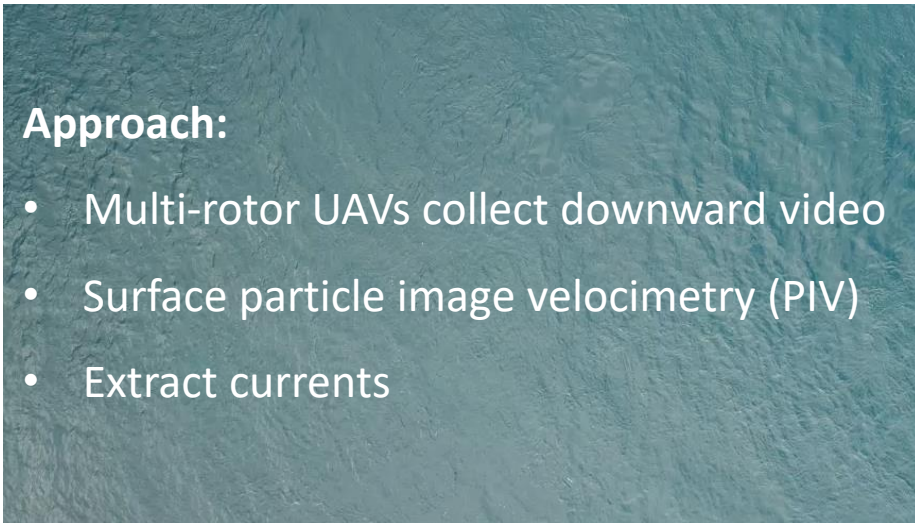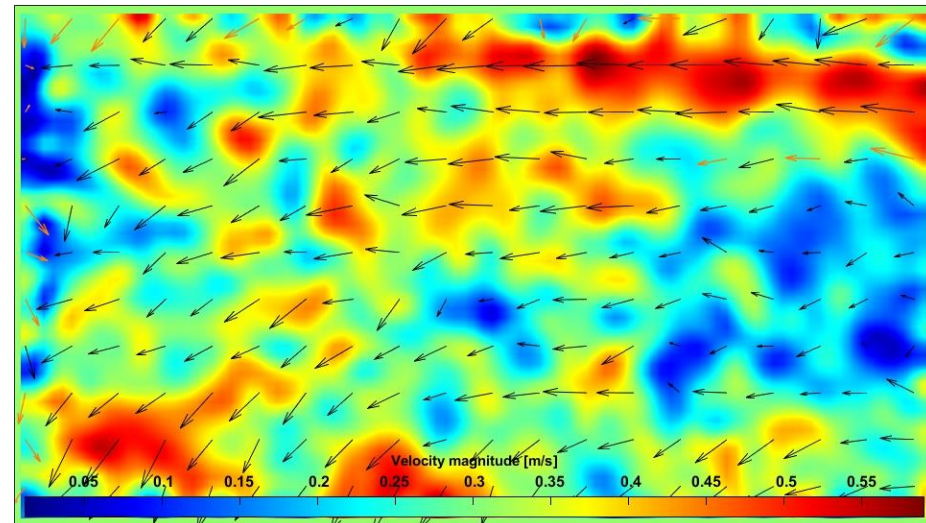**Challenge:** *low-cost, low-risk current mapping with drones*

Objectives:

- **Validation** against ADCP, ADV, drifters ...

- **Suitability** of different drones

- **Demonstration** at contrasting sites

- **Translation** of surface to water-column currents
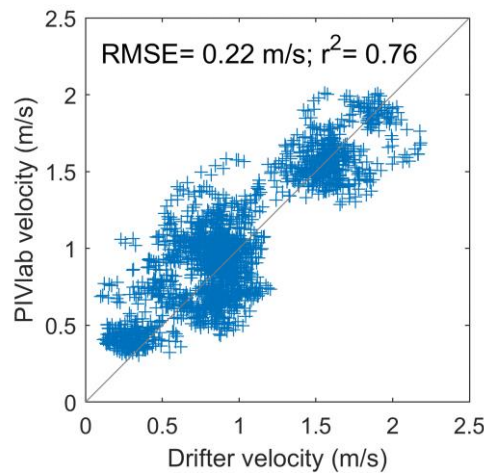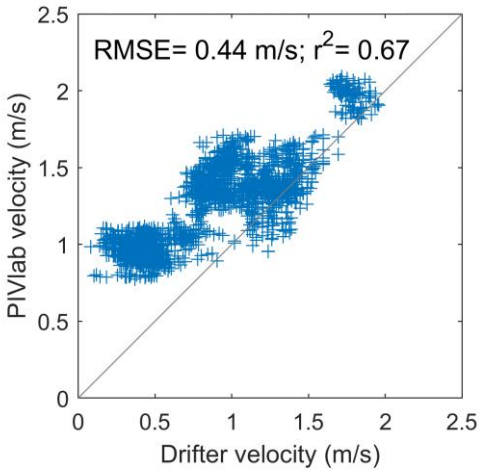
Approach:

- Multi-rotor UAVs collect downward video

- Surface particle image velocimetry (PIV)
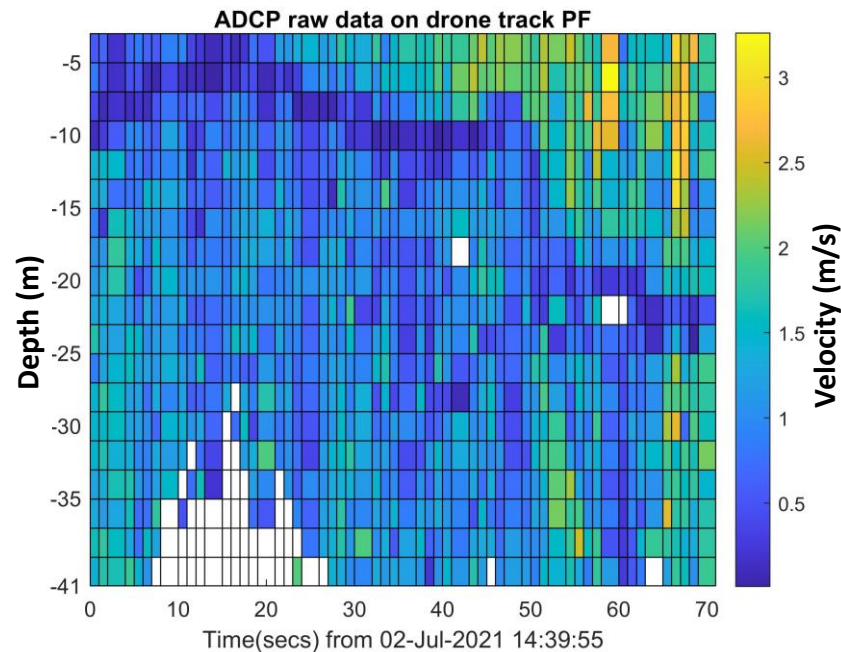
- Extract currents

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High Wind

RMSE= 0.44 m/s; r^2= 0.67

Low Wind

RMSE= 0.22 m/s; r^2= 0.76

○ Drone Measure #1
○ Drone Measure #2
— ADCP

Mean and SD over 70 s

ADCP raw data on drone track PF

Time(secs) from 02-Jul-2021 14:39:55