



# Wave overwash on a rock platform: remote sensing and pressure sensor observations

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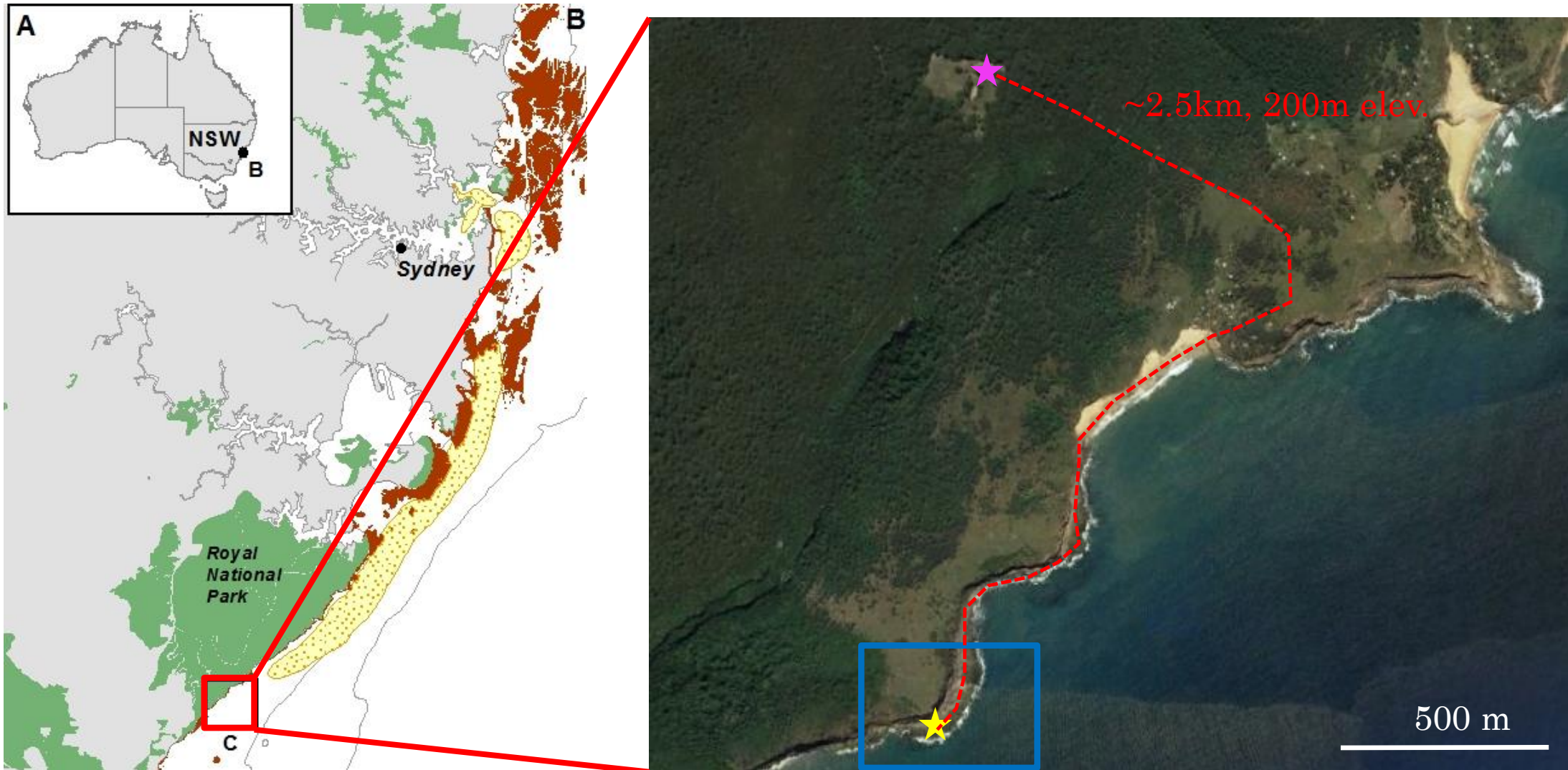


# Wave overwash on rock platforms

- Open ocean rocky shore platforms are typically exposed to high wave energy
- They are often the location of recreational activities from sightseeing and walking to fishing
- Typically a high level of risk for those who use the rock platform
- In Australia, 19% of coastal fatalities occur on rock coasts
  - Microtidal semi-horizontal platforms
- Hazard management approaches differ from sandy beaches due to typically remote sites



# Figure Eight Pools Rock Platform





# Figure Eight Rock Pool





# Figure Eight Rock Pool







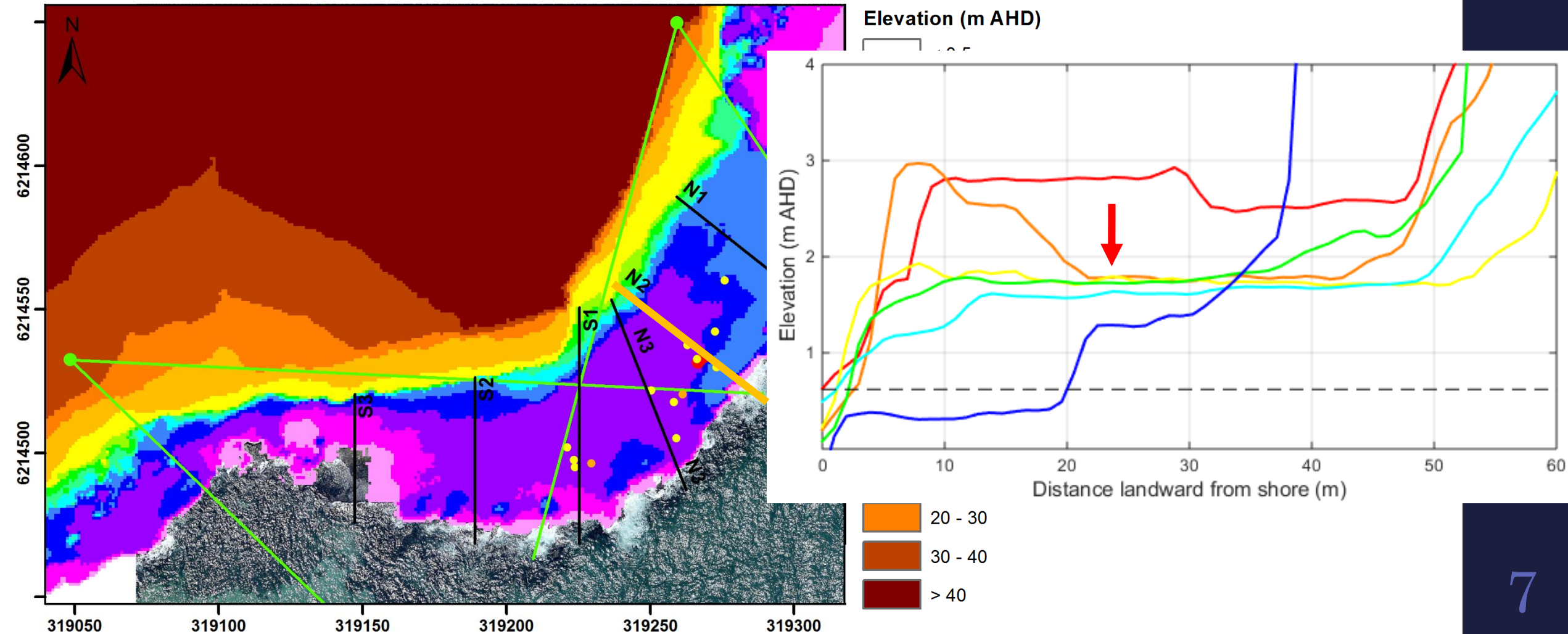
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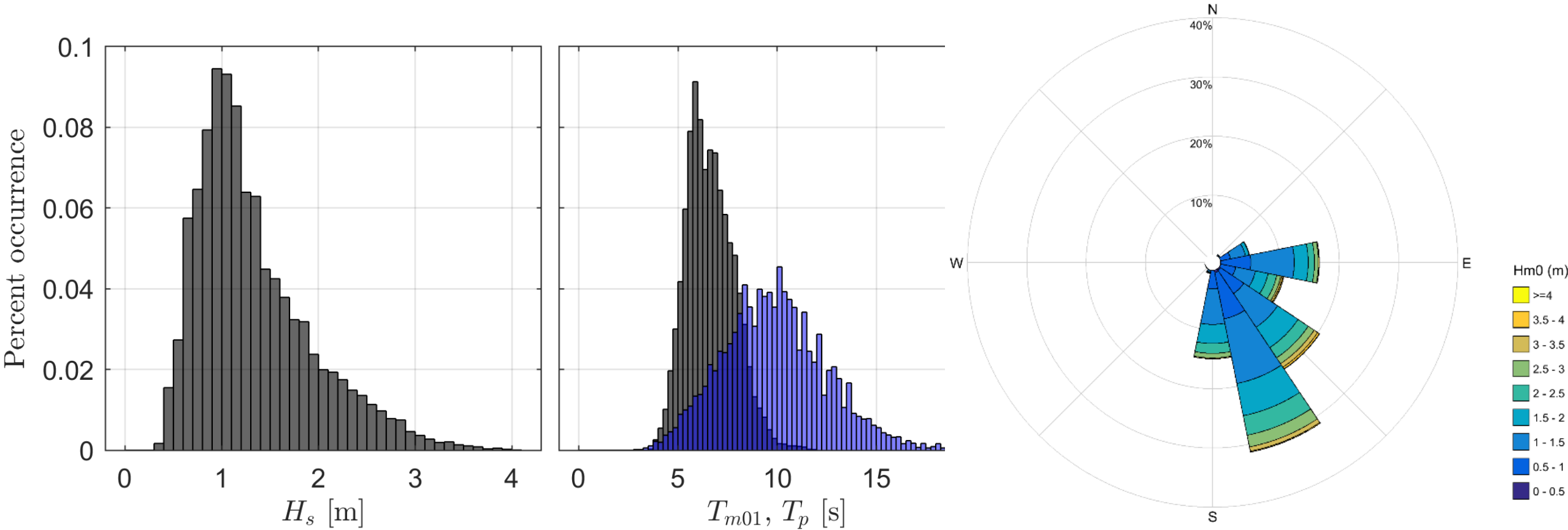
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# Platform morphology



# Wave climate



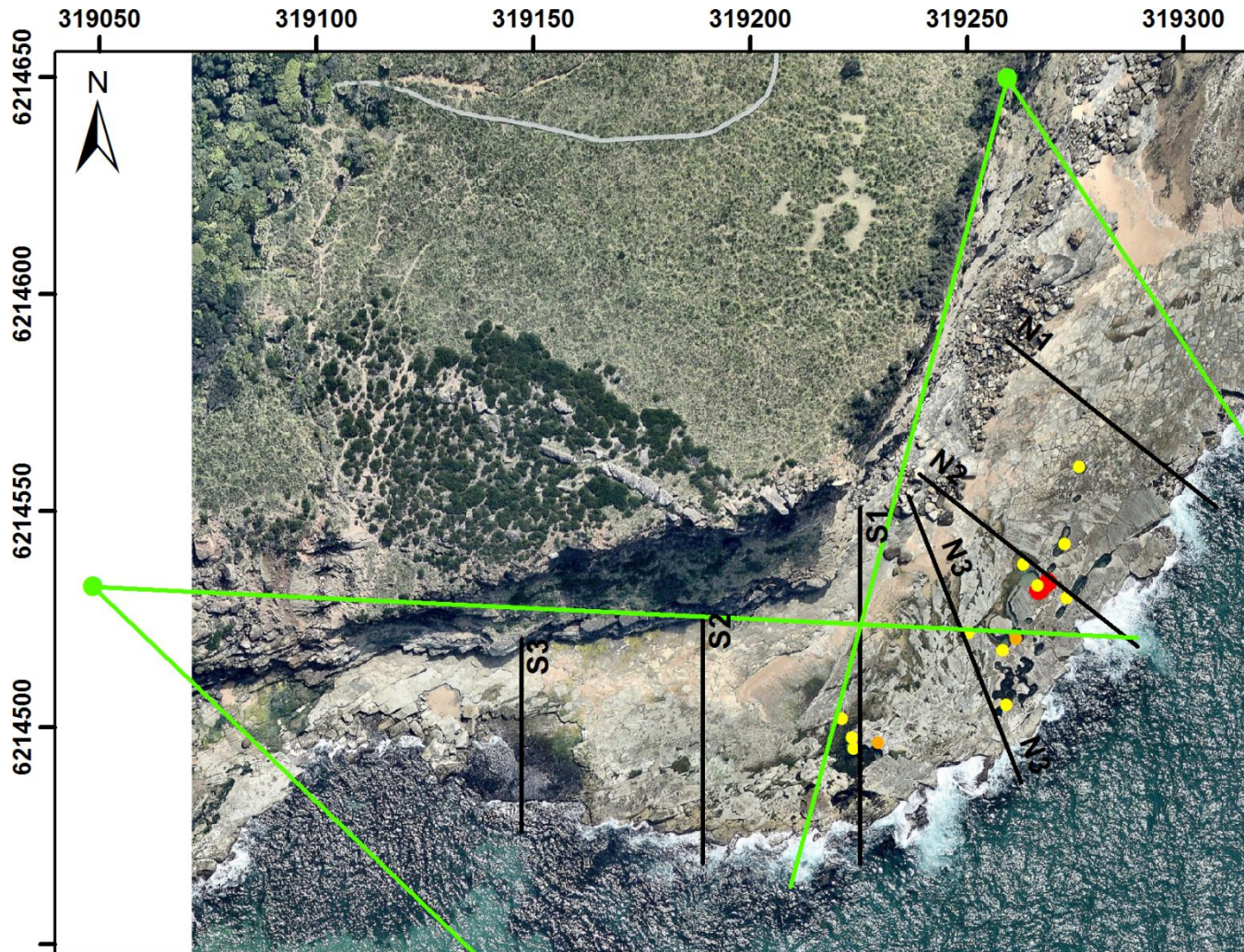


# Low-cost camera system





# Camera locations and FOV





# South camera



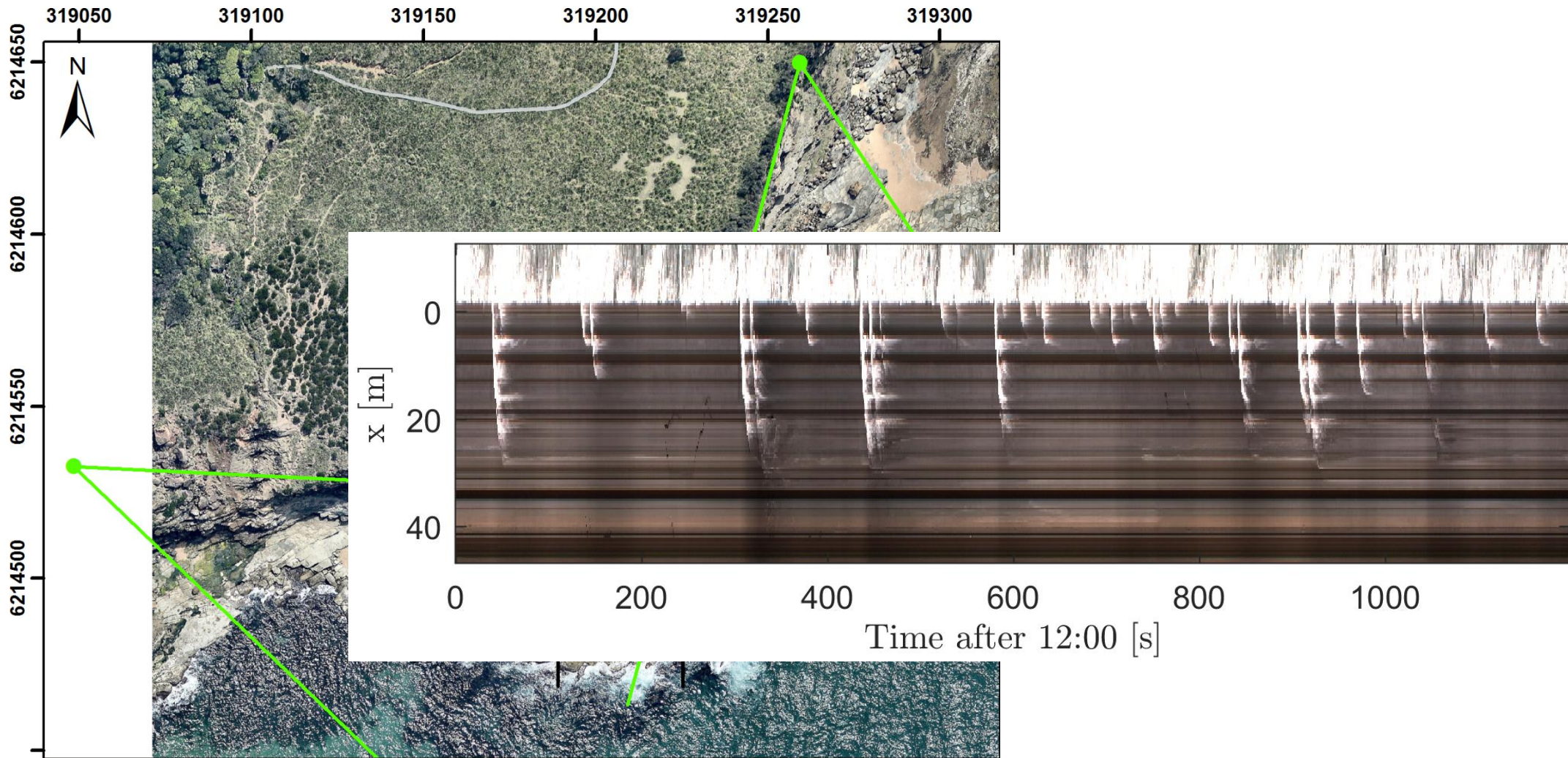


# North camera



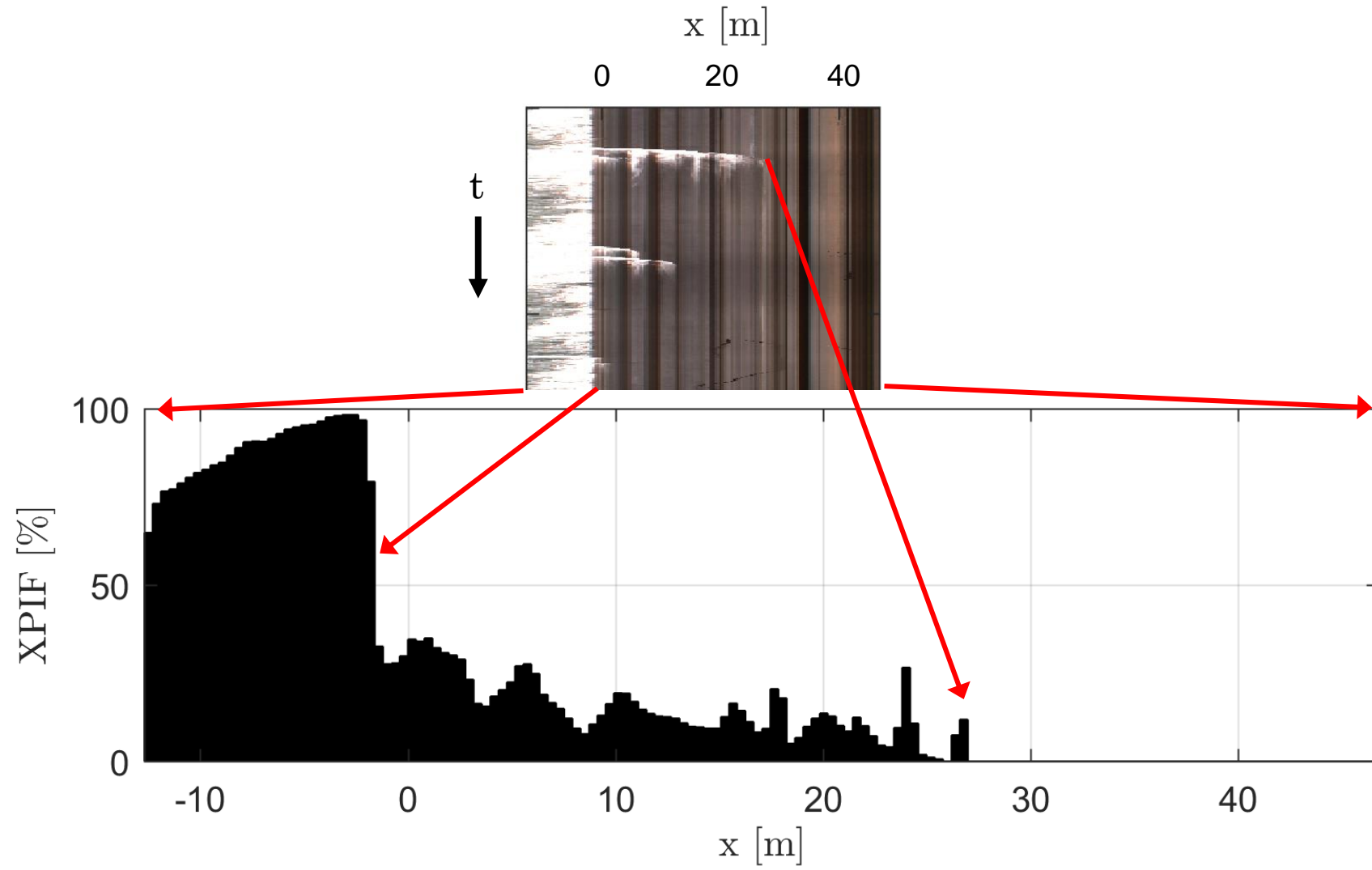


# Wave overwash and inundation



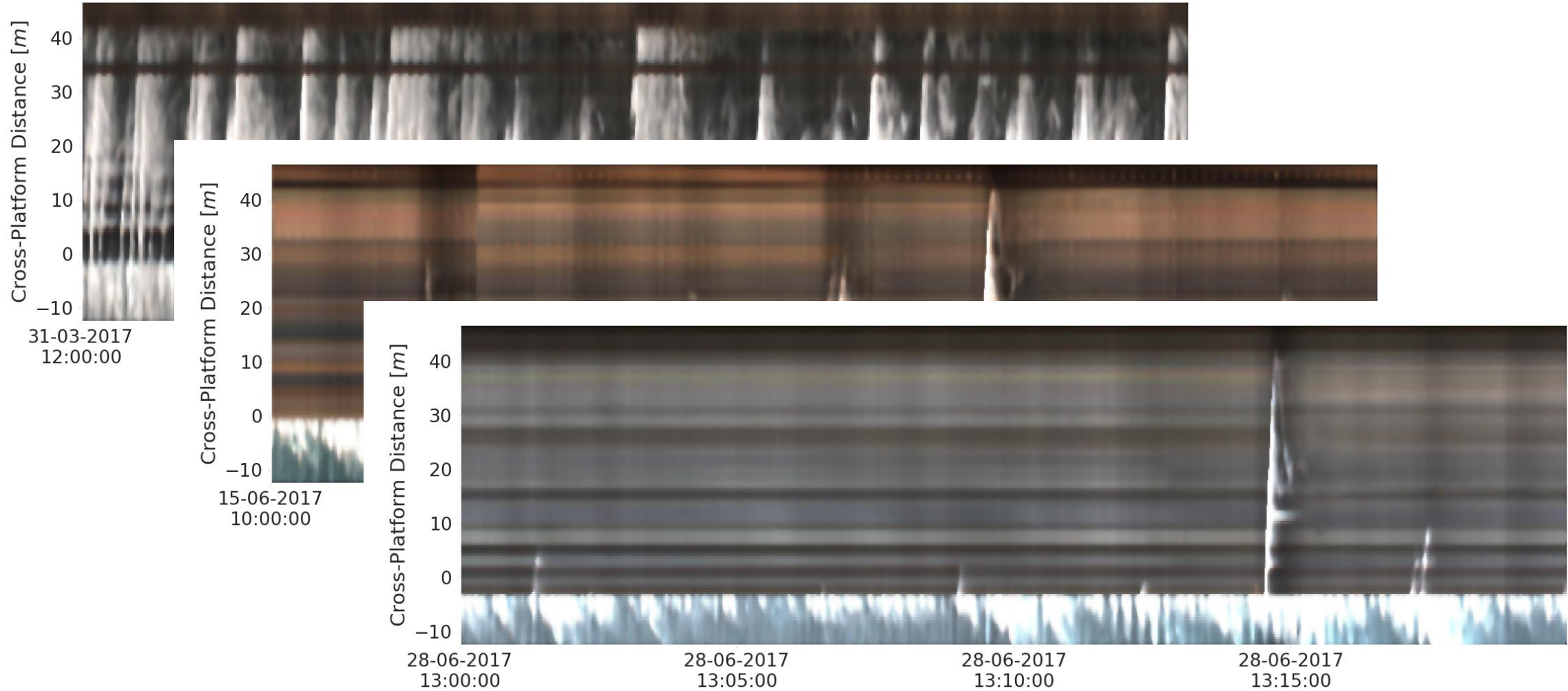


# Quantifying inundation frequency



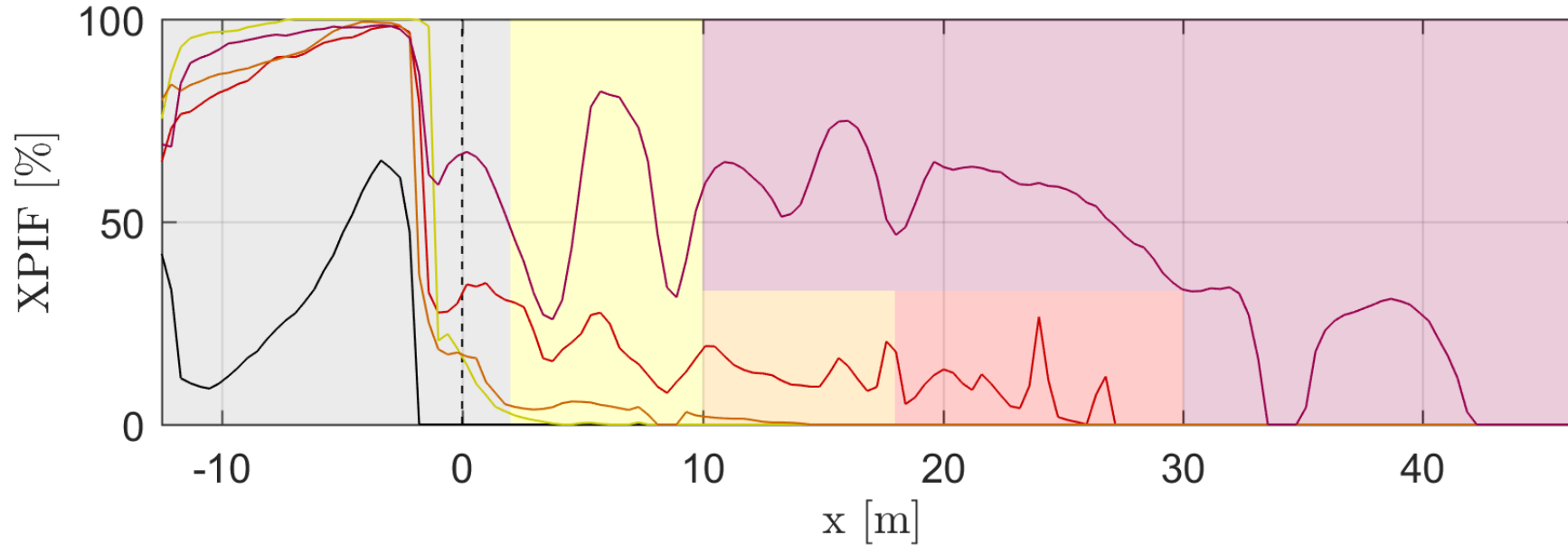


# Wave overwash hazards





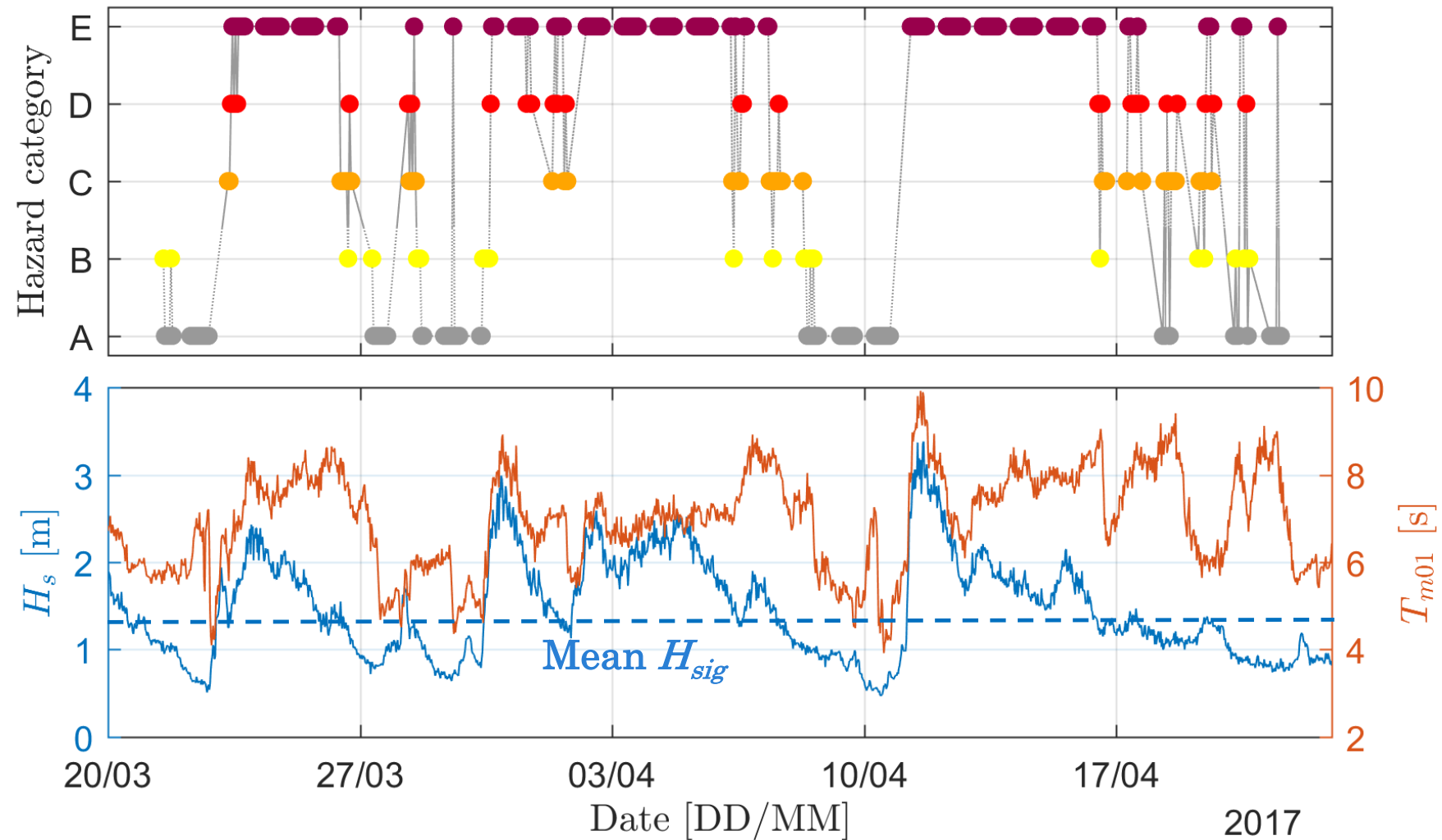
# Hazard categories



Category:	A	B	C	D	E
Hazard name:	Low	Minimal overwash	Moderate overwash	Major overwash	Extreme overwash

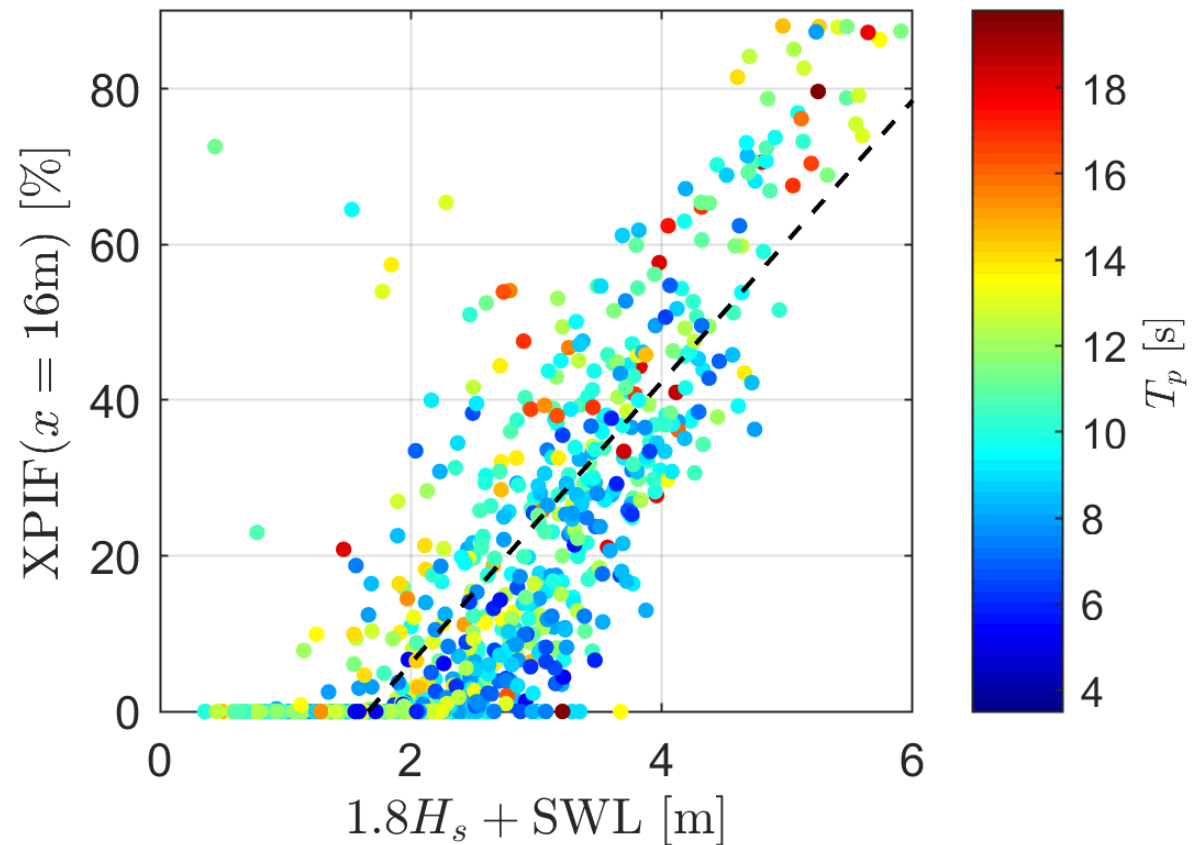
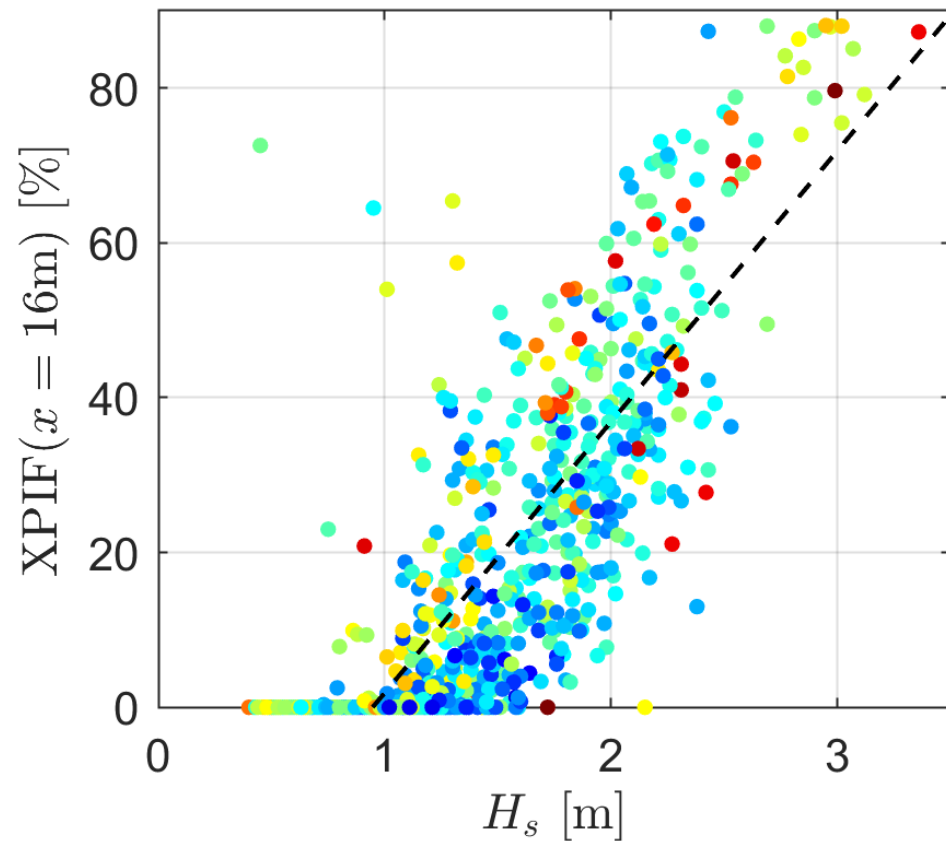


# Hazard through time



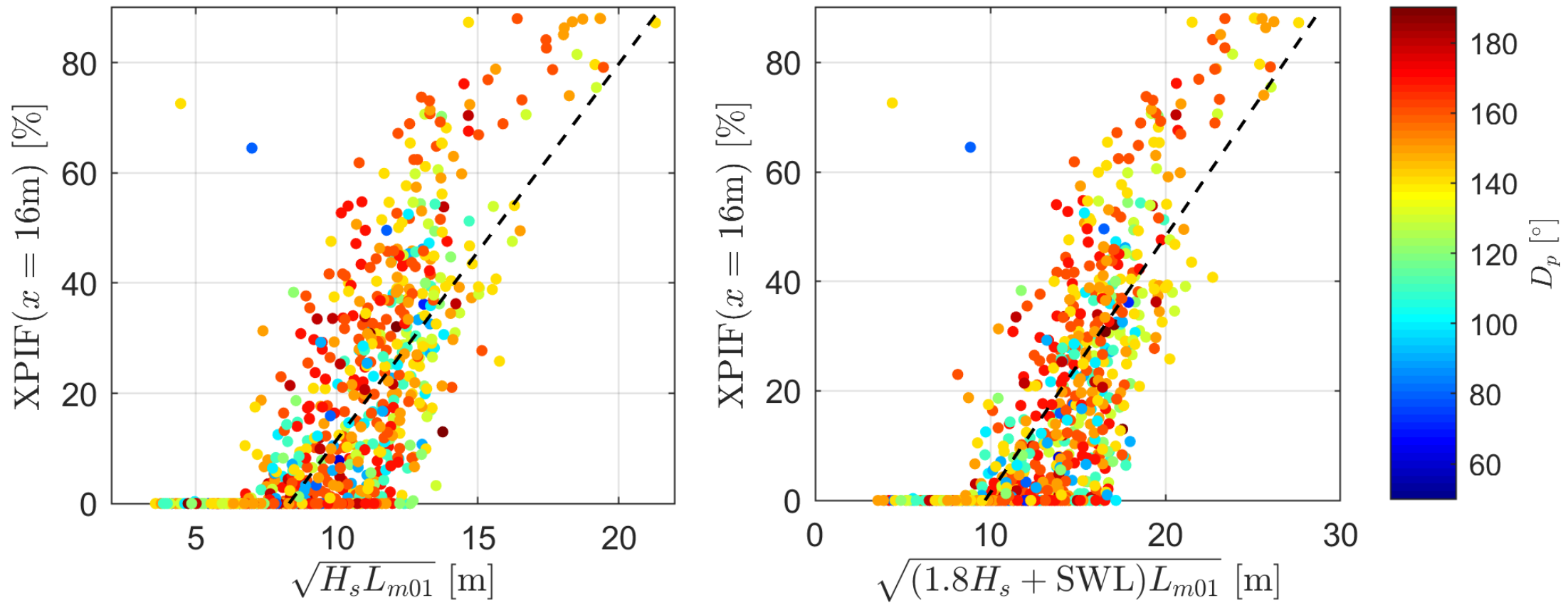


# Inundation frequencies

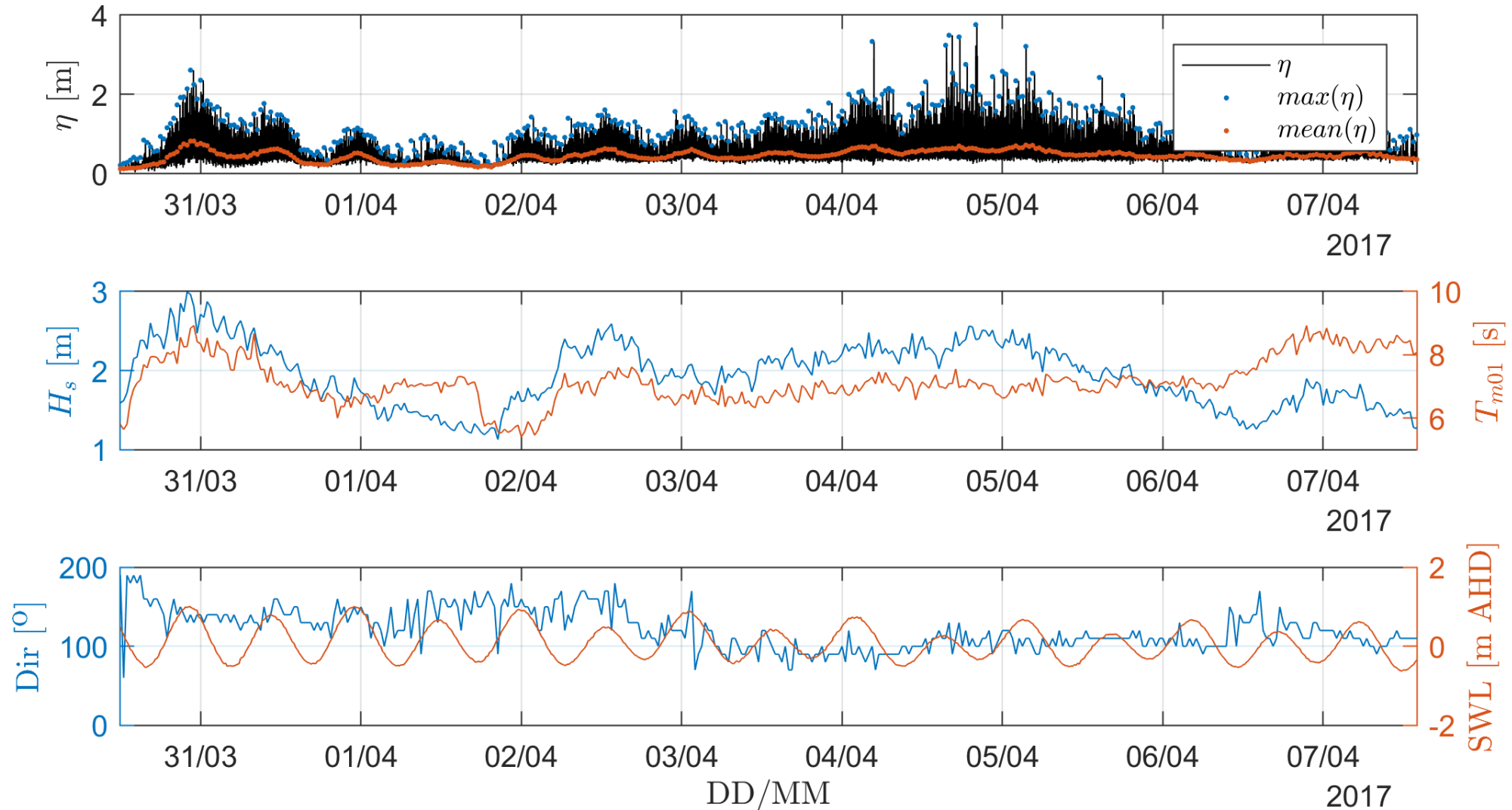




# Inundation frequencies

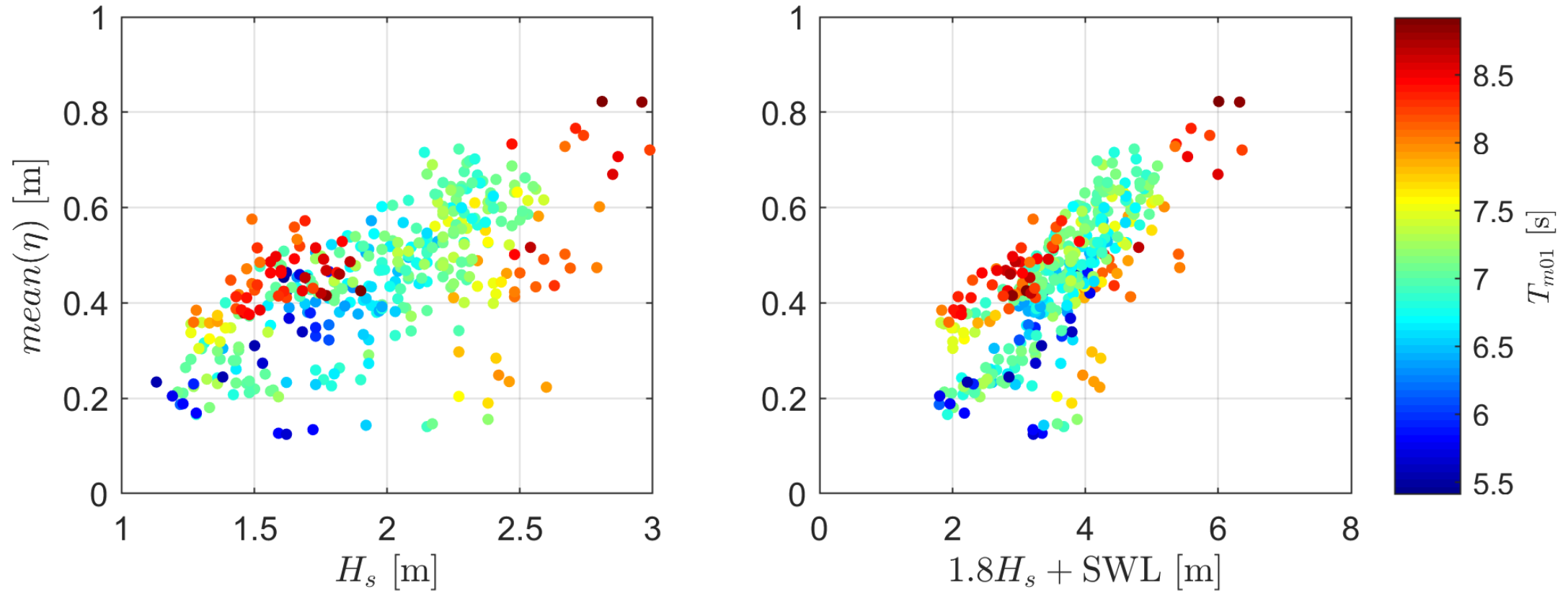


# Inundation depths

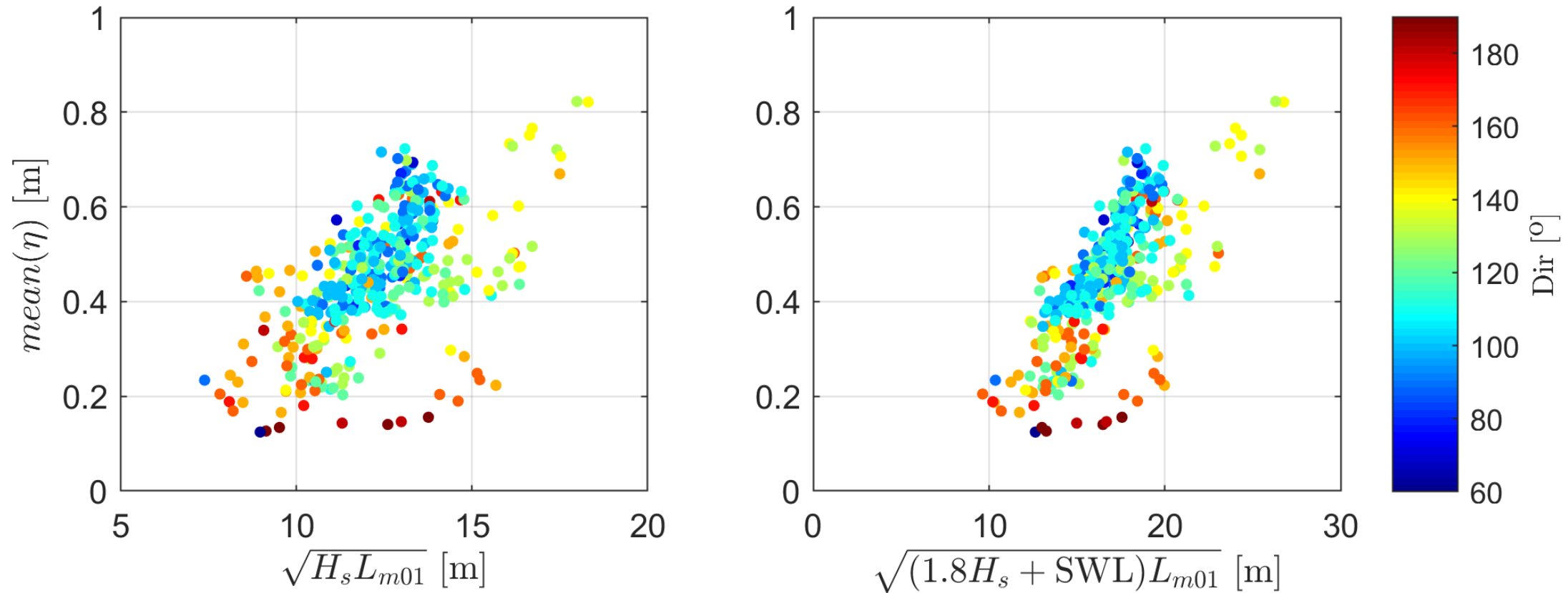




# Inundation depths



# Inundation depths





# Conclusions

- Developed an effective low-cost camera system
- Pixel data correspond well to in situ depth measurements
- Wave height is primary driver of wave overwashing on platform
  - Wave period and direction also influence overwashing
- Figure Eight Pool Platform is highly hazardous site
  - Wave overwash commences at low energy ( $H_{sig} > 1$  m)
- Further work required to predict hazard level using wave height, period, tide level



## Acknowledgements

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