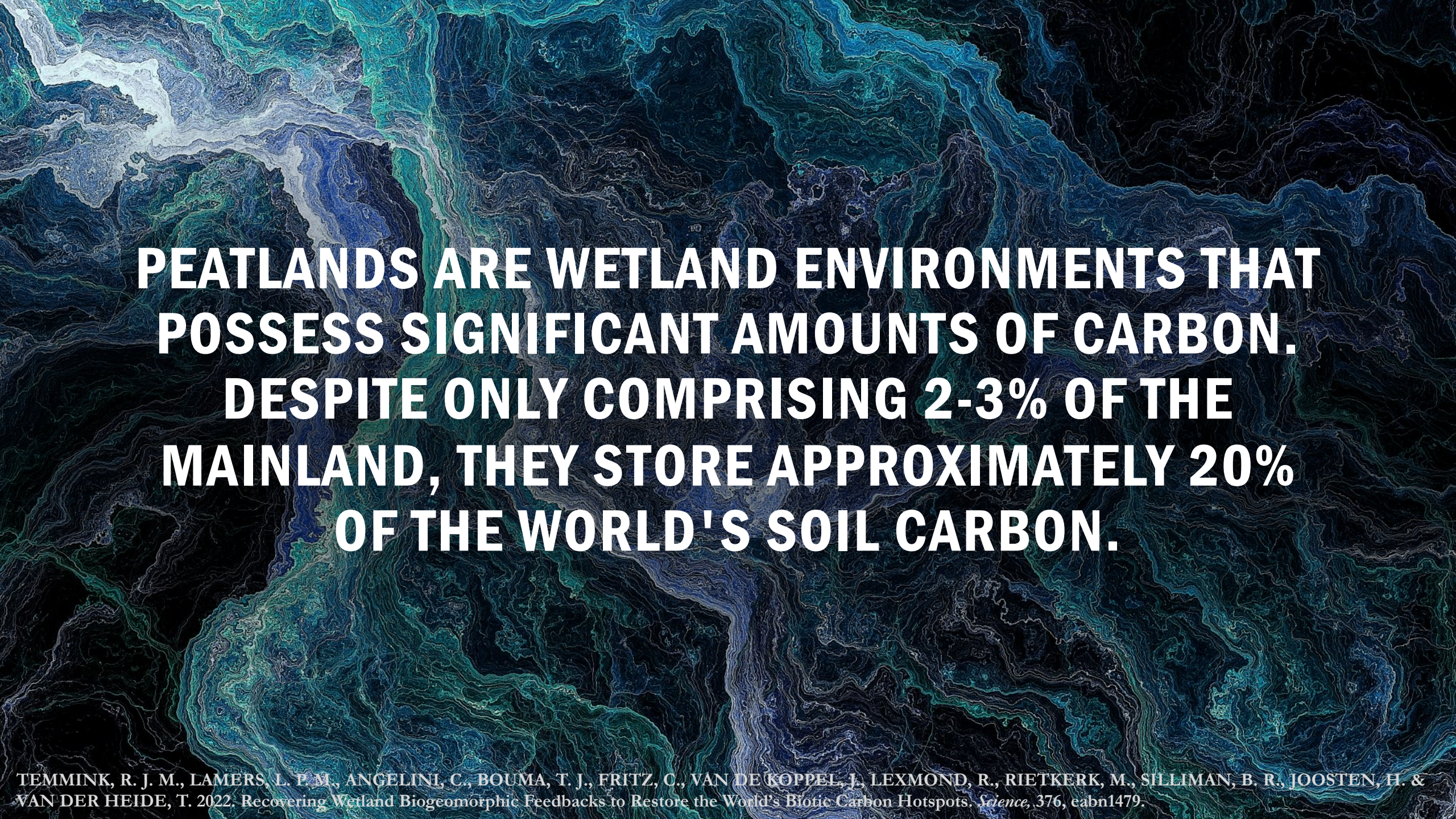


PEATLAND SUBSIDENCE DETECTION BY UTILIZING INTERFEROMETRIC SYNTHETIC APERTURE RADAR

**MEHMET ALI TEMUR
ESA NOR ID: 36266B**



PEATLANDS ARE WETLAND ENVIRONMENTS THAT POSSESS SIGNIFICANT AMOUNTS OF CARBON. DESPITE ONLY COMPRISING 2-3% OF THE MAINLAND, THEY STORE APPROXIMATELY 20% OF THE WORLD'S SOIL CARBON.



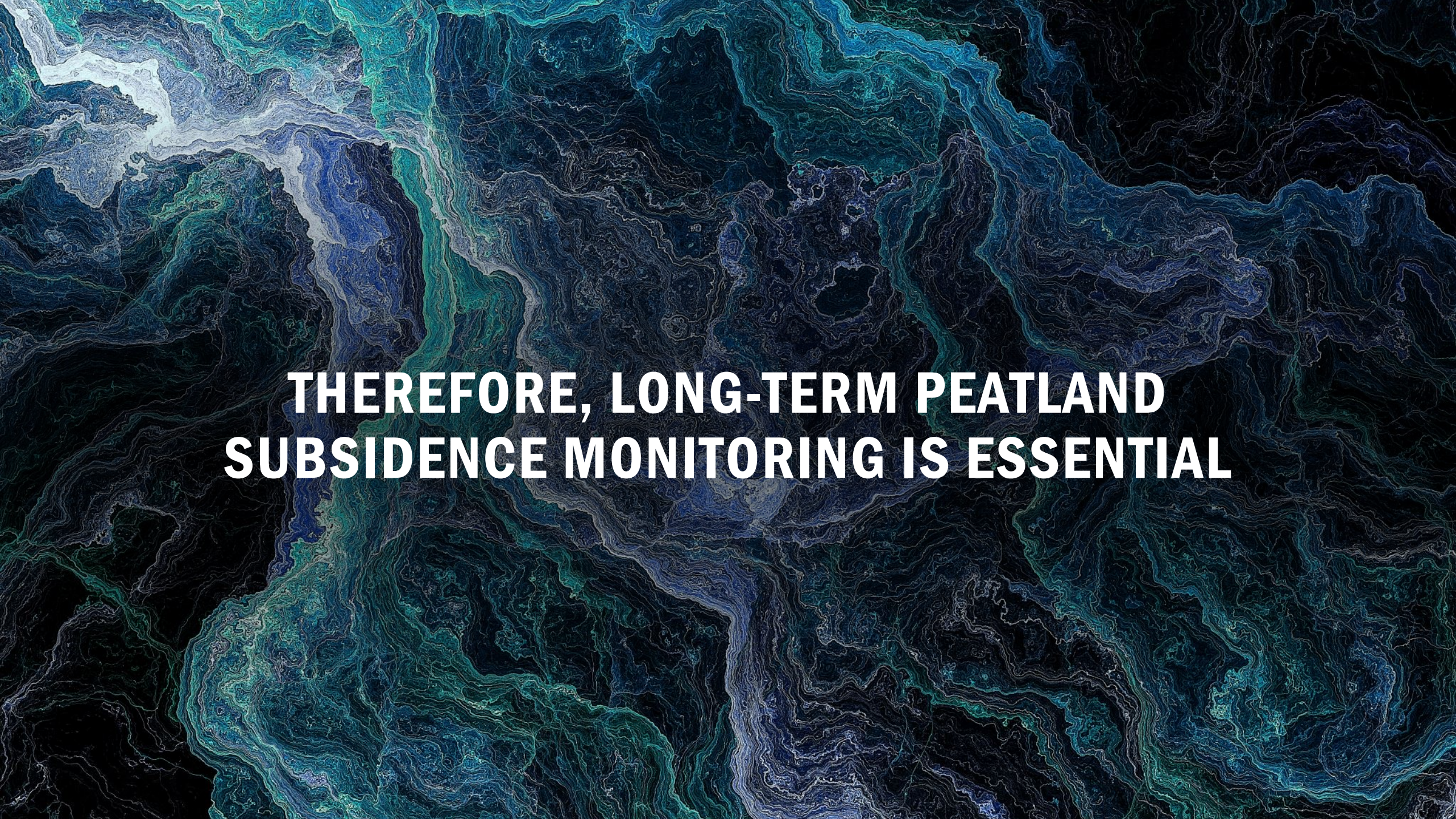
**APART FROM THIS STORAGE ABILITY,
PEATLANDS HAVE THE POTENTIAL TO EMIT
SIGNIFICANT AMOUNTS OF CO₂ IF THEY BECOME
DEGRADED DUE TO SEVERAL FACTORS.**



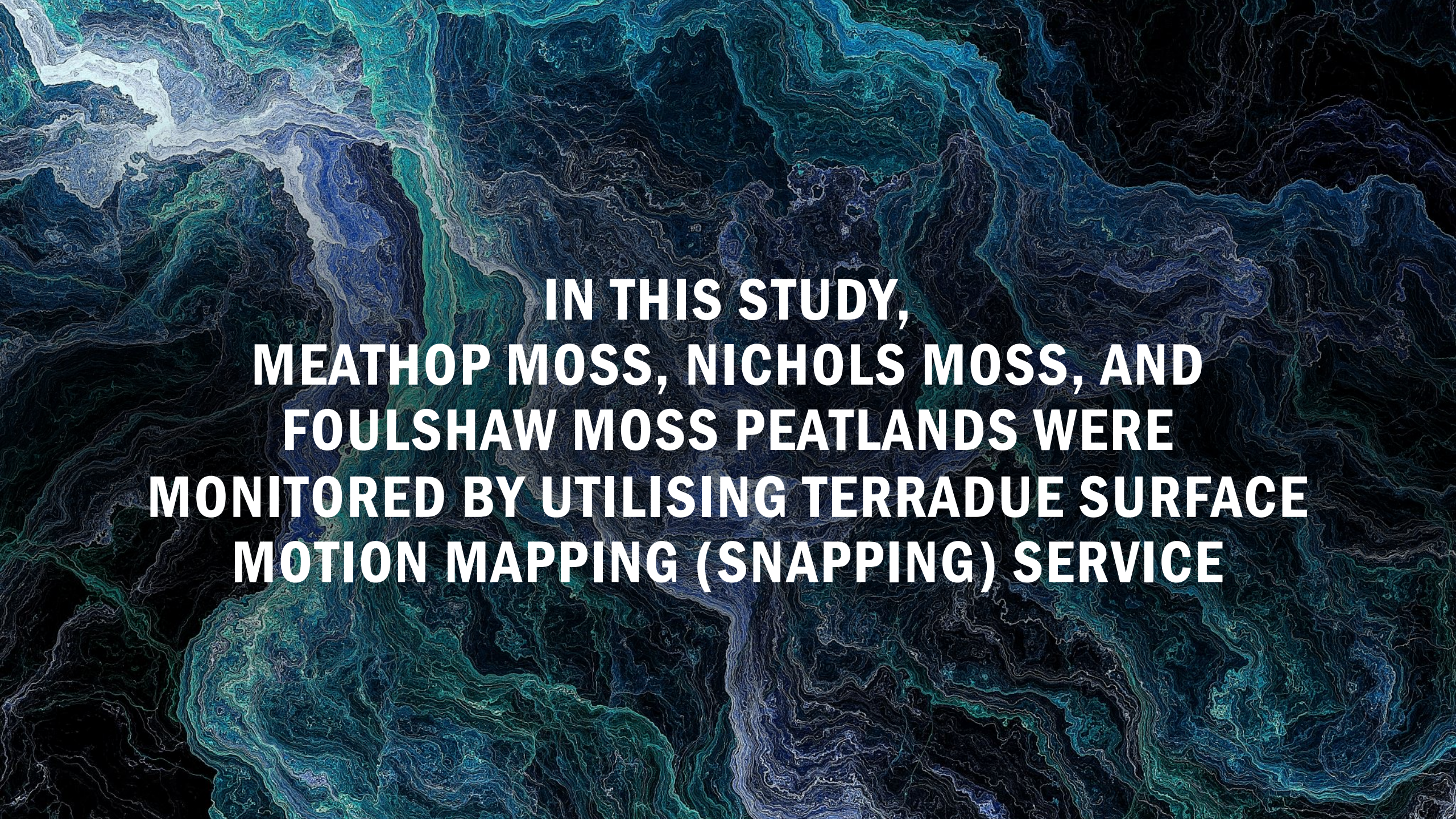
**ANNUAL CO₂ EMISSIONS FROM DEGRADED
PEATLANDS ARE ESTIMATED AT 4% OF ALL
ANTHROPOGENIC GREENHOUSE GAS EMISSIONS**



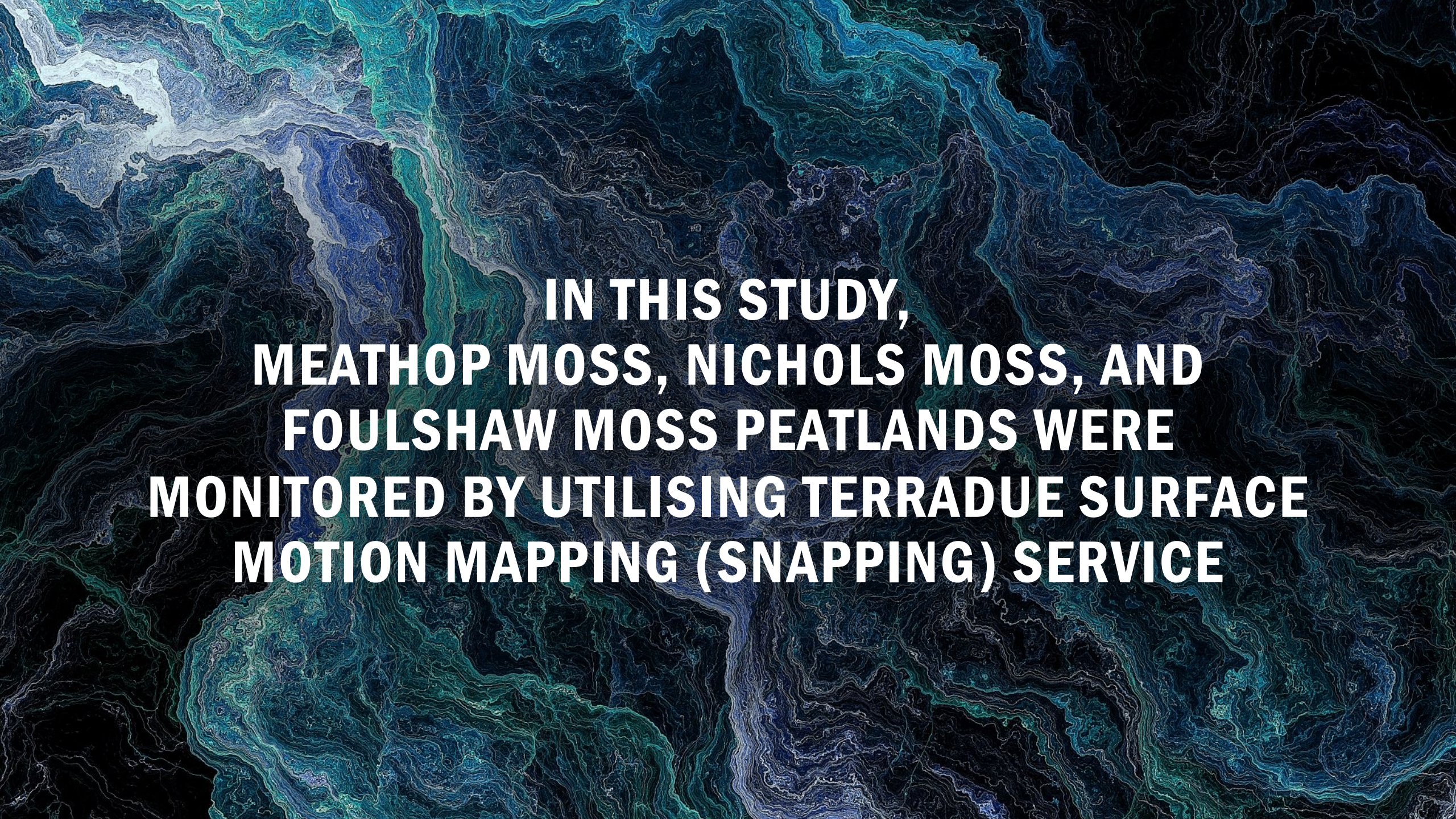
**LONG-TERM SUBSIDISATION ALLOWS THE
CARBON CONTENT OF THE PEATLANDS TO BE
OXIDISED AND EMITTED INTO THE ATMOSPHERE
AS CO²**

An aerial photograph of a peatland landscape, showing intricate, winding patterns of water and peat. The colors range from deep blues and purples to bright greens and whites, indicating different water levels and peat types. The text is centered over the image.

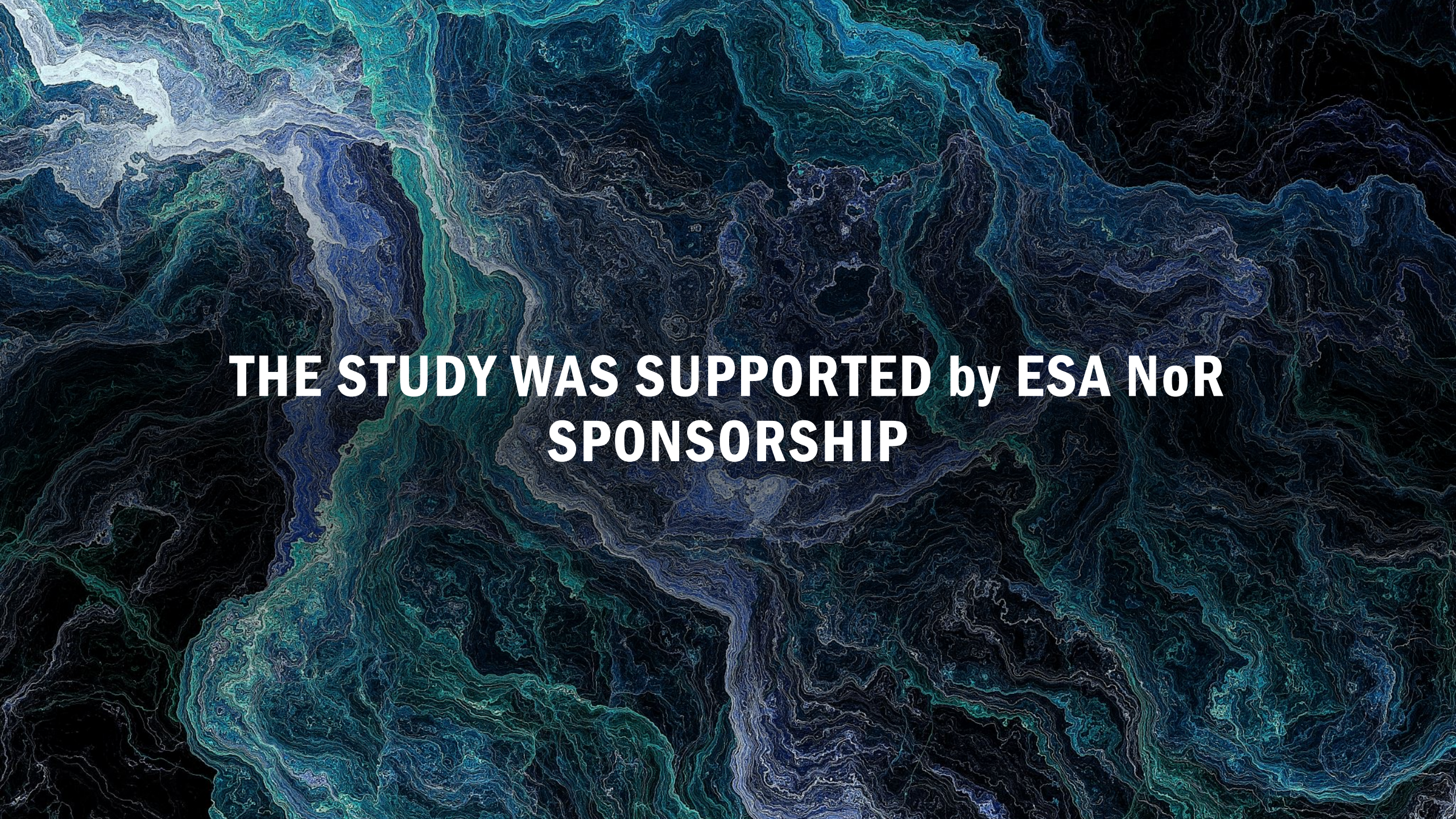
**THEREFORE, LONG-TERM PEATLAND
SUBSIDENCE MONITORING IS ESSENTIAL**



**IN THIS STUDY,
MEATHOP MOSS, NICHOLS MOSS, AND
FOULSHAW MOSS PEATLANDS WERE
MONITORED BY UTILISING TERRADUE SURFACE
MOTION MAPPING (SNAPPING) SERVICE**

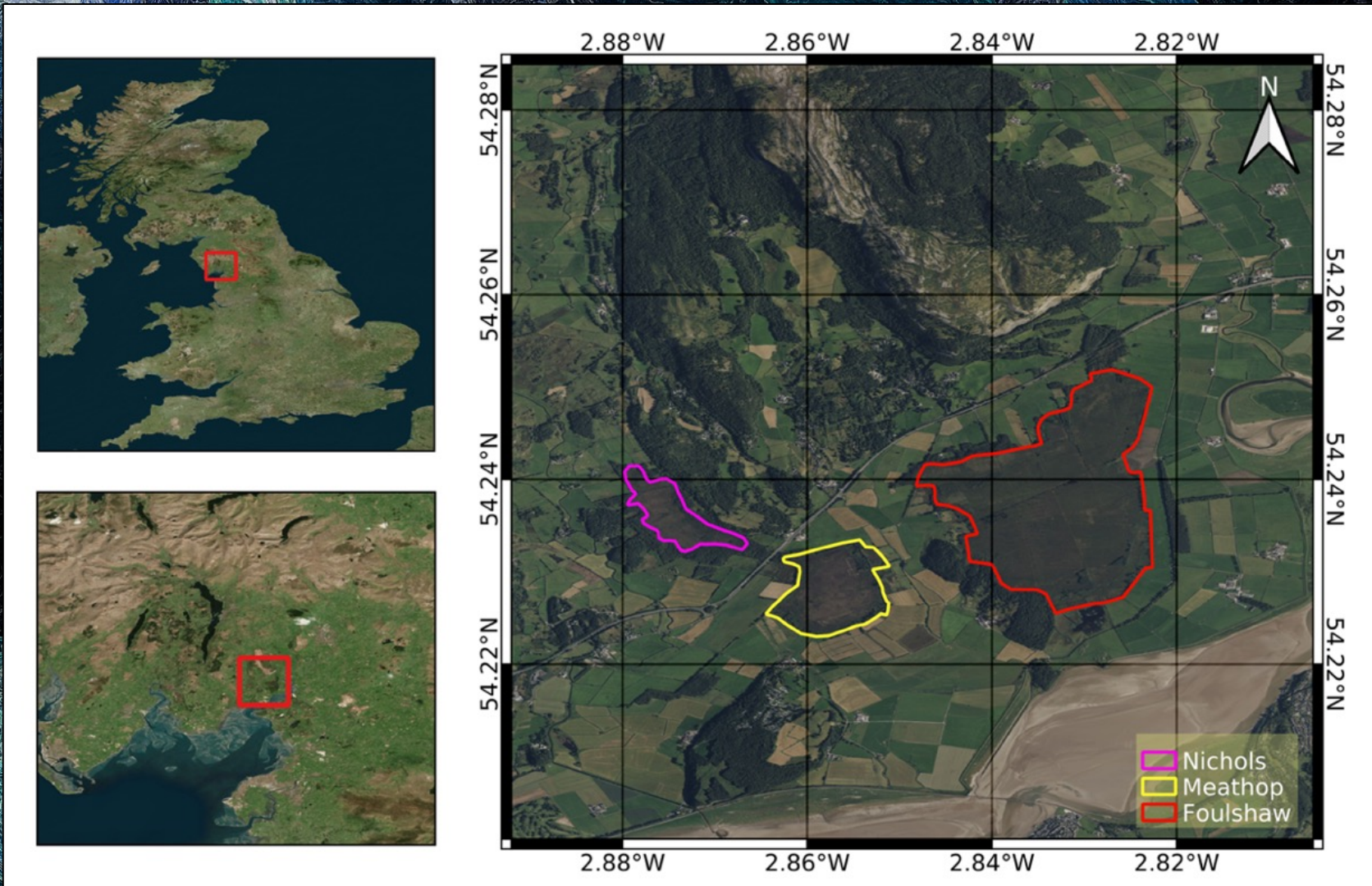


**IN THIS STUDY,
MEATHOP MOSS, NICHOLS MOSS, AND
FOULSHAW MOSS PEATLANDS WERE
MONITORED BY UTILISING TERRADUE SURFACE
MOTION MAPPING (SNAPPING) SERVICE**



**THE STUDY WAS SUPPORTED by ESA NoR
SPONSORSHIP**

STUDY AREA

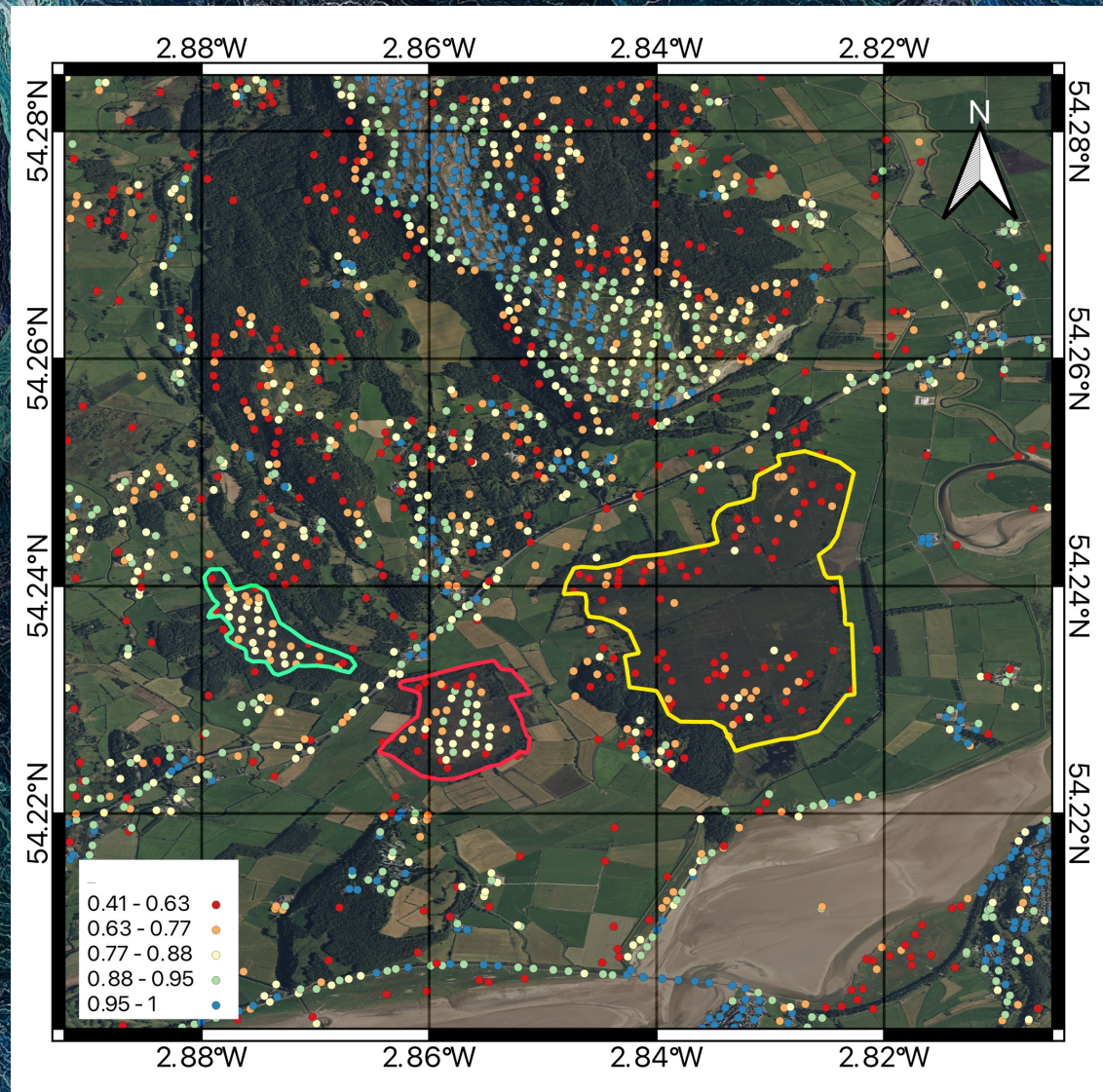




**66 SENTINEL-1 IMAGES WERE UTILISED
COVERING THE PERIOD 10/2016-12/2018**

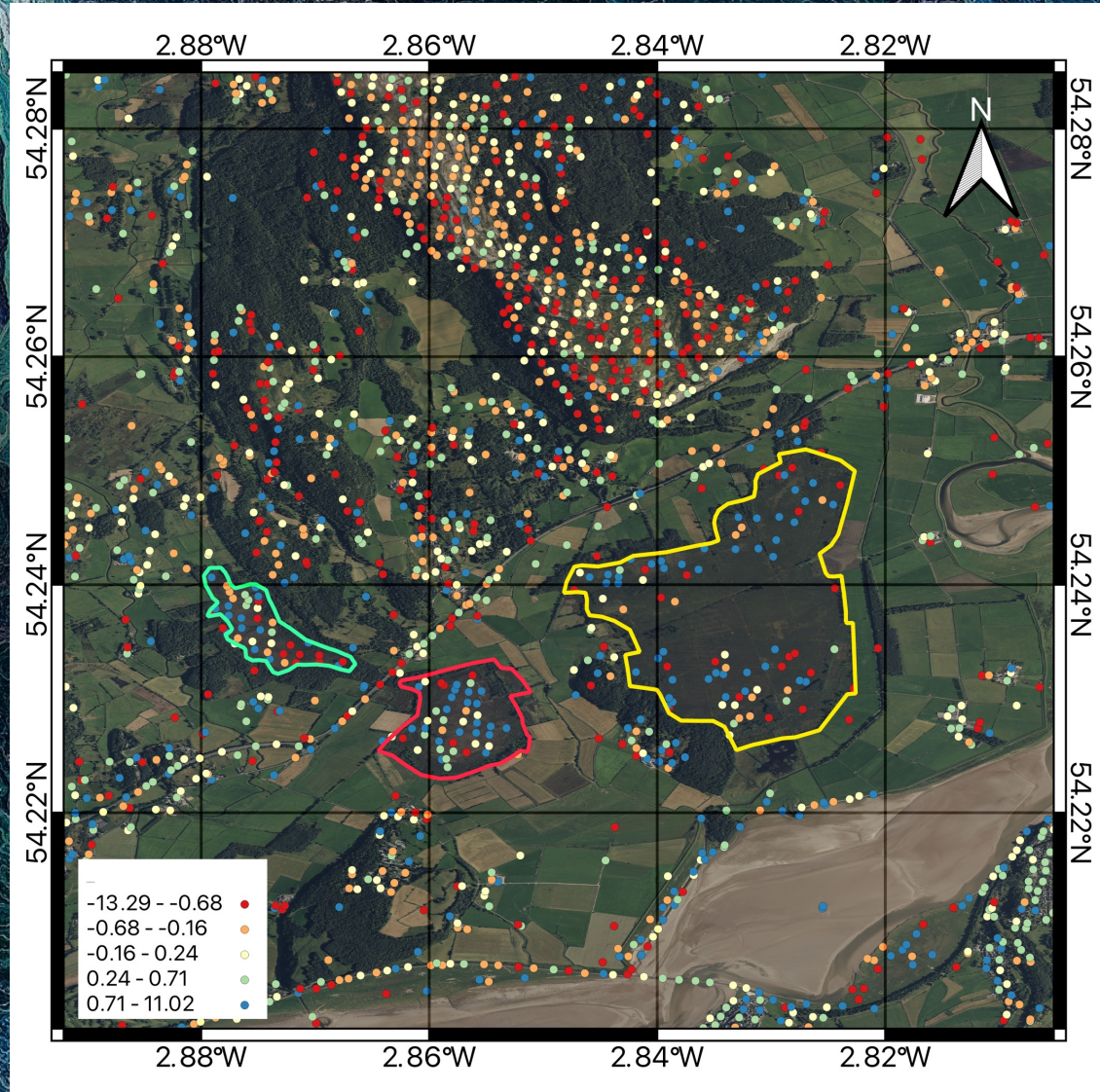
RESULTS

1- COHERENCE



RESULTS

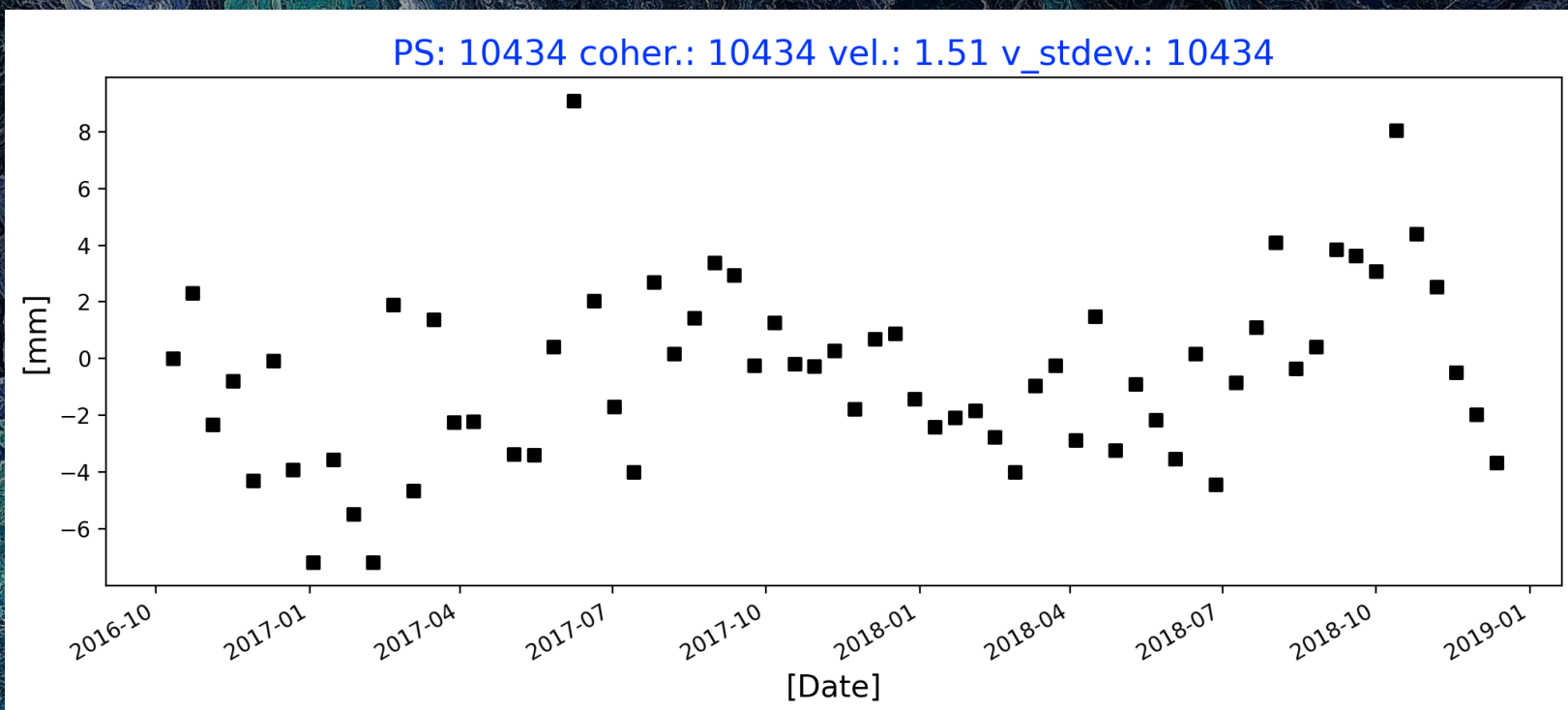
2-ANNUAL VELOCITY



RESULTS

3- DISPLACEMENT TIME SERIES

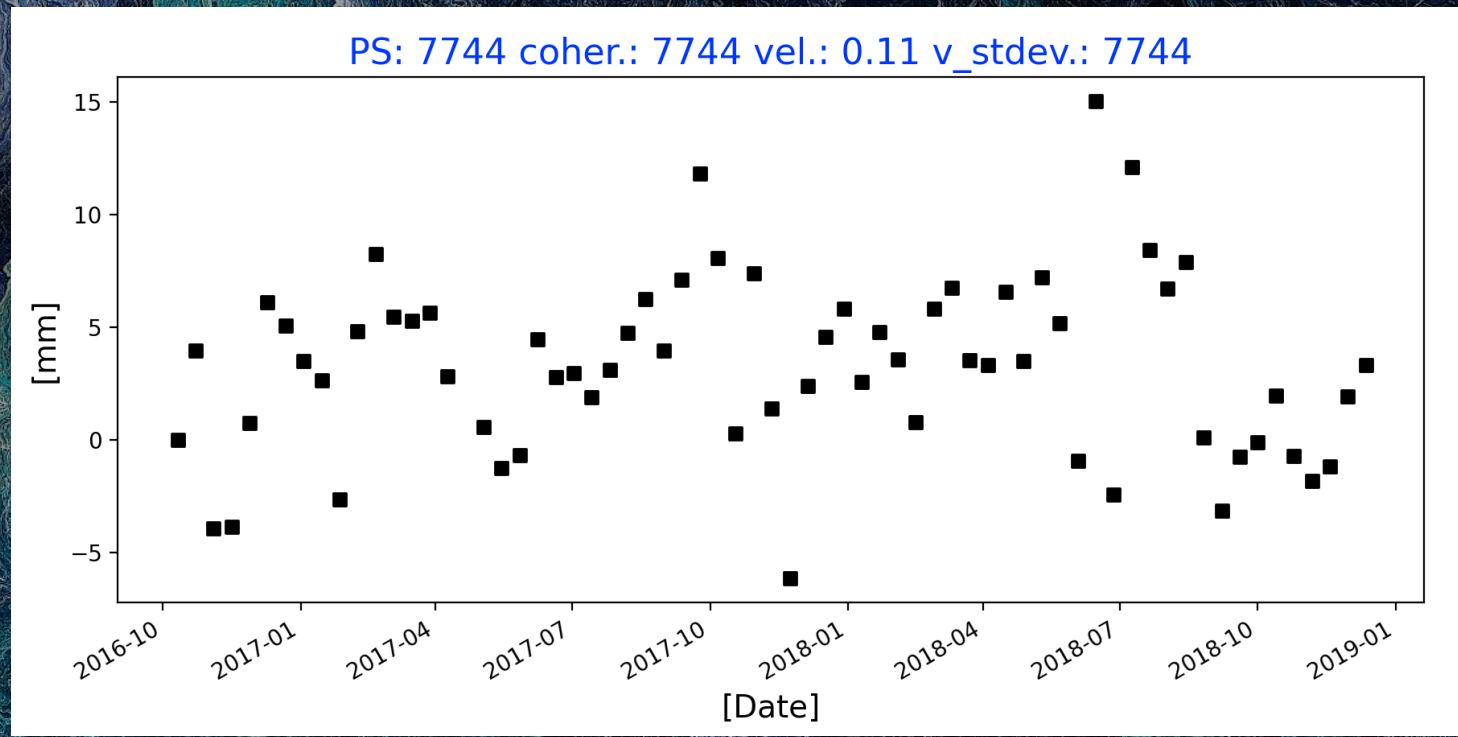
A SINGLE PS POINT FROM FOULSHAW



RESULTS

3- DISPLACEMENT TIME SERIES

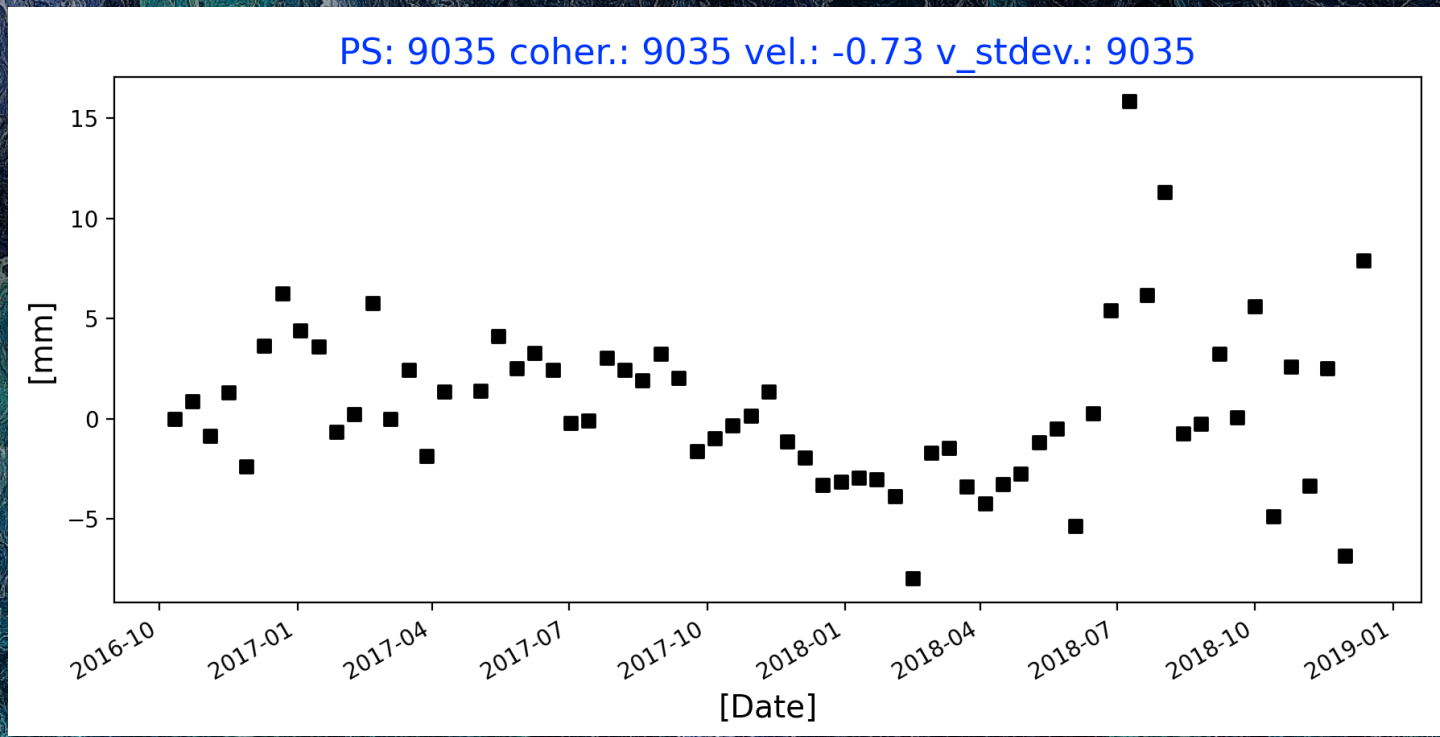
A SINGLE PS POINT FROM MEATHOP



RESULTS

3- DISPLACEMENT TIME SERIES

A SINGLE PS POINT FROM NICHOLS





THANK YOU