

Jane Cunningham

MPP Project Officer, Chichester District Council

Solent Forum, Northwood House, Isle of Wight

13 Oct 2022



University of Brighton

Centre for Aquatic
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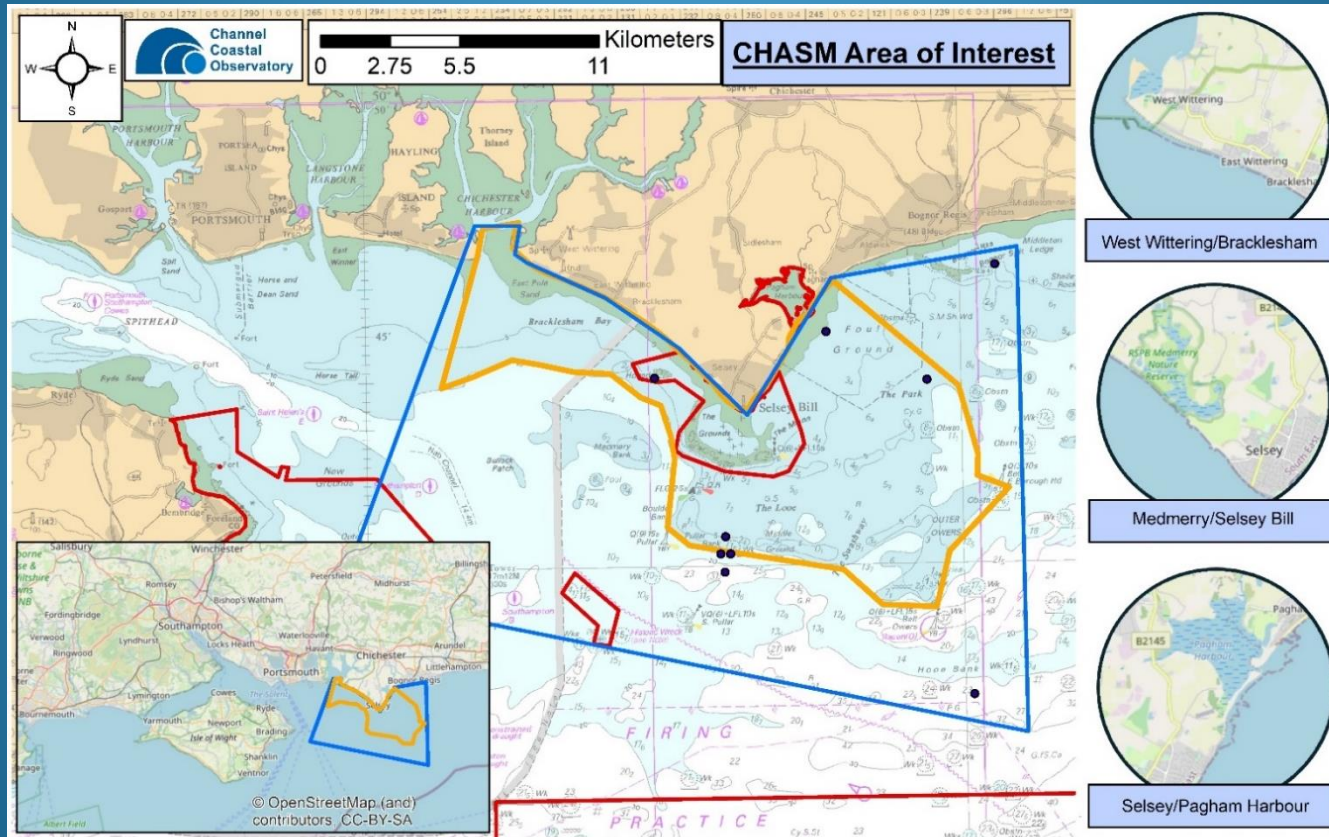
Manhood
Peninsula
Partnership



CHASM: Crustaceans, Habitat And Sediment Movement

What is CHASM?

An informal partnership of fishermen, local organisations and universities working to examine issues raised by the fishermen of Selsey Bill



The fishermen's questions

- Why are there so few crabs and lobsters?
- Why is there so much sediment?

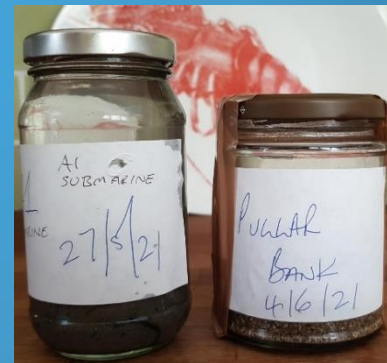
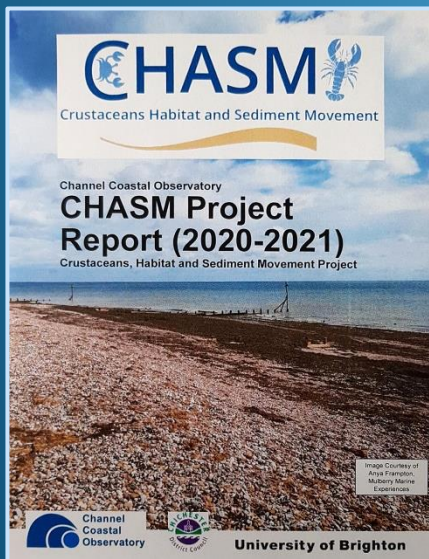
CHASM: Crustaceans, Habitat And Sediment Movement

When did CHASM begin?

CHASM began in 2020 – year of covid lockdown

Delivered or in progress:

- CCO and Brighton University: CHASM Report 2021: evaluation of past events, sediment analysis
- Cefas: crab analysis – paramoebiasis
- Environment Agency Sonde: Temperature, Conductivity, Dissolved Oxygen, Turbidity and Chlorophyll
- Engagement: Logo competition; Mulberry-ME – local schools

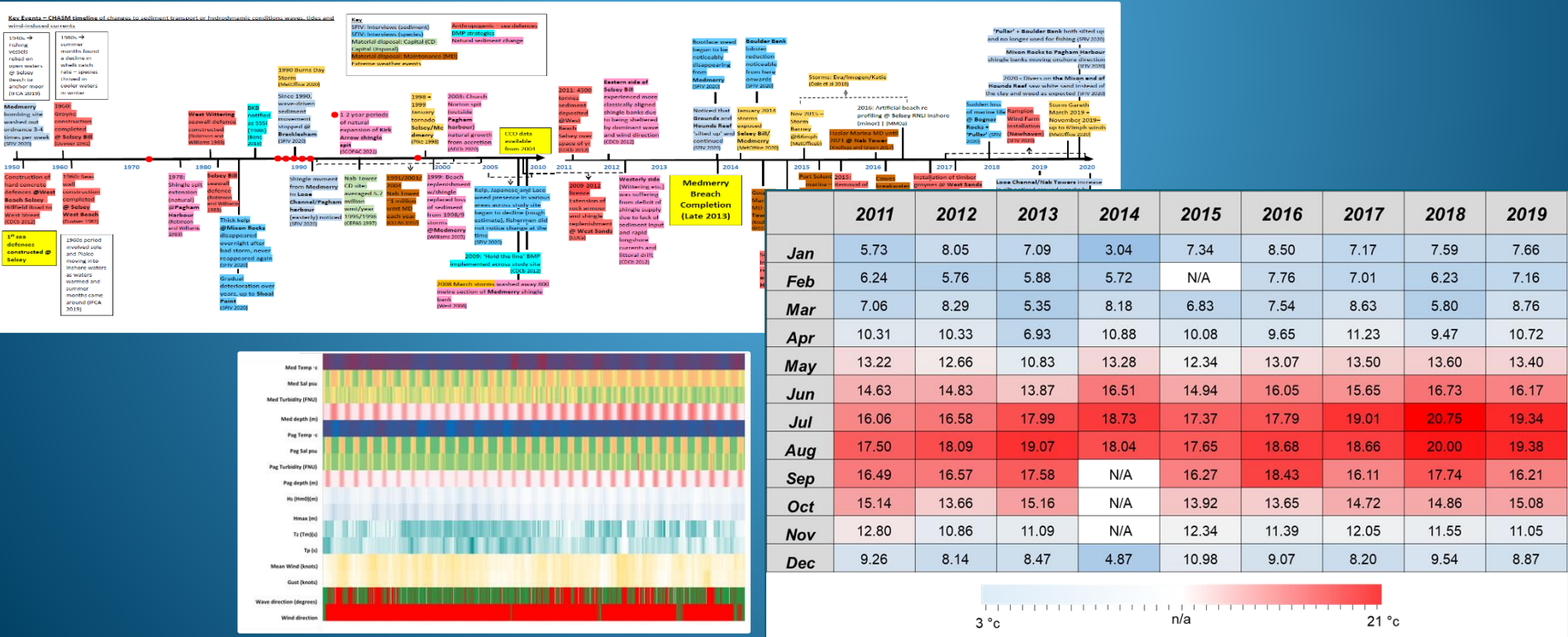


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CHASM Report – Yr 1

Main Aims:

1. Determine a local change narrative based on key user groups and recorded events that may relate to coastal change (Aim 1)
2. Establish the extent to which changes in sedimentation have been observed across the area of interest (A1, A2)
3. Assess regional trends of coastal change, from existing evidence-based datasets.



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CHASM Event 14 June 2022

University of Southampton Faculty of Environment & Life Science (FELS)

Selsey Town Hall:



- 55 people from 36 organisations
- Speakers from: Channel Coastal Observatory; Universities of Southampton, Brighton and Portsmouth; Southsea SAC; Environment Agency; Sussex IFCA; Seasearch SWT

Solar Boat, Chichester Harbour Conservancy:



**Smoking Guns:
the story so far...**

New paramoeba - *Janickina feisti* n. sp.

Vol. 150: 1–16, 2022
<https://doi.org/10.3354/dao03668>

DISEASES OF AQUATIC ORGANISMS
 Dis Aquat Org

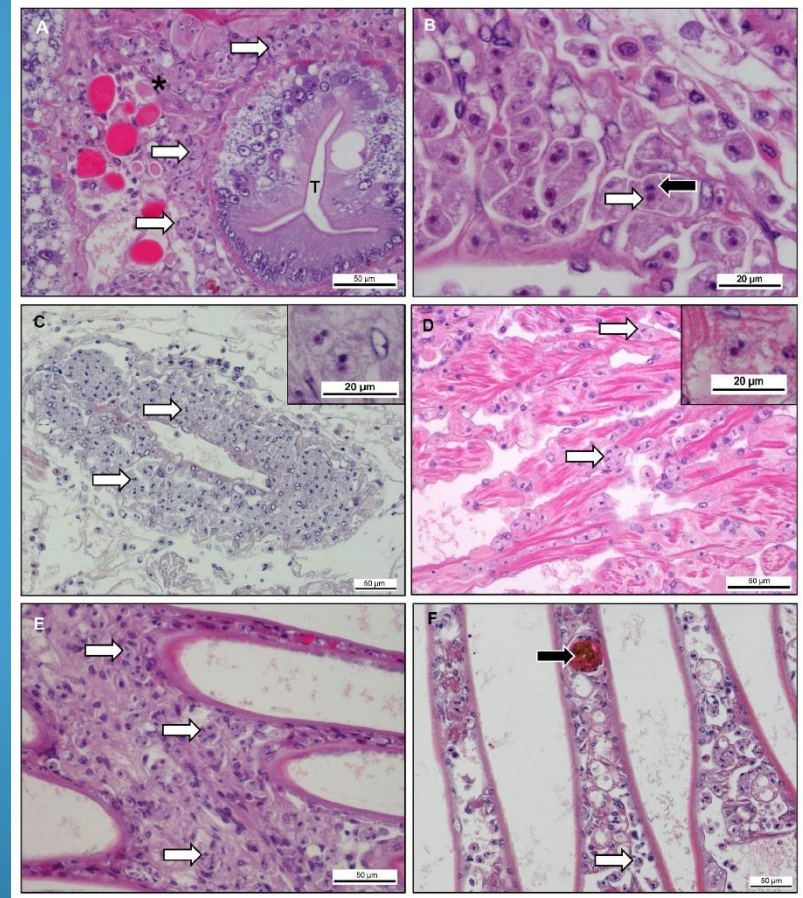
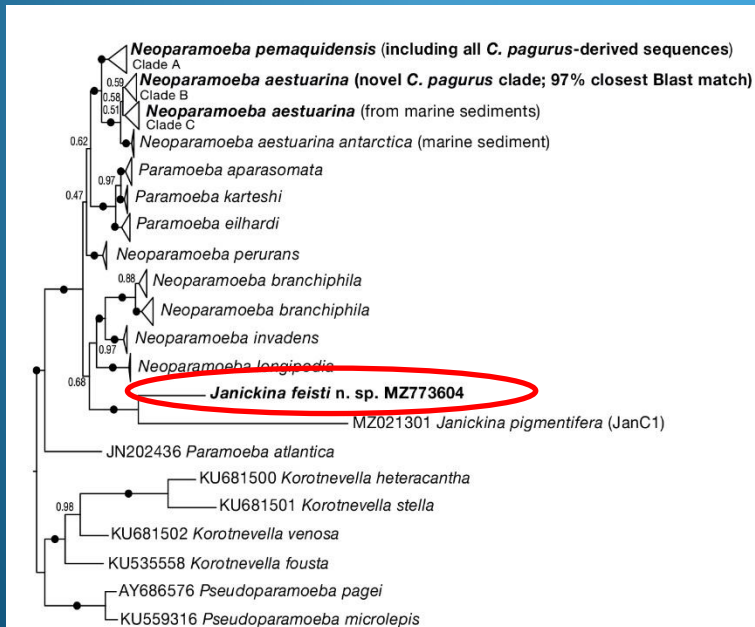
Published online July 7[§]

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Amoebic crab disease (ACD) in edible crab *Cancer pagurus* from the English Channel, UK

K. S. Bateman^{1,2,*}, G. D. Stentiford^{1,2}, R. Kerr^{1,2}, C. Hooper^{1,2}, P. White¹,
 M. Edwards¹, S. Ross¹, R. Hazelgrove¹, C. Daumich¹, M. J. Green¹,
 D. Ivory¹, C. Evans¹, D. Bass^{1,2,3}

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²Sustainable Aquaculture Futures, Biosciences, College of Life and Environmental Sciences, University of Exeter, Stocker Road, Exeter EX4 4QD, UK
³Department of Life Sciences, The Natural History Museum, Cromwell Road, London SW7 5BD, UK

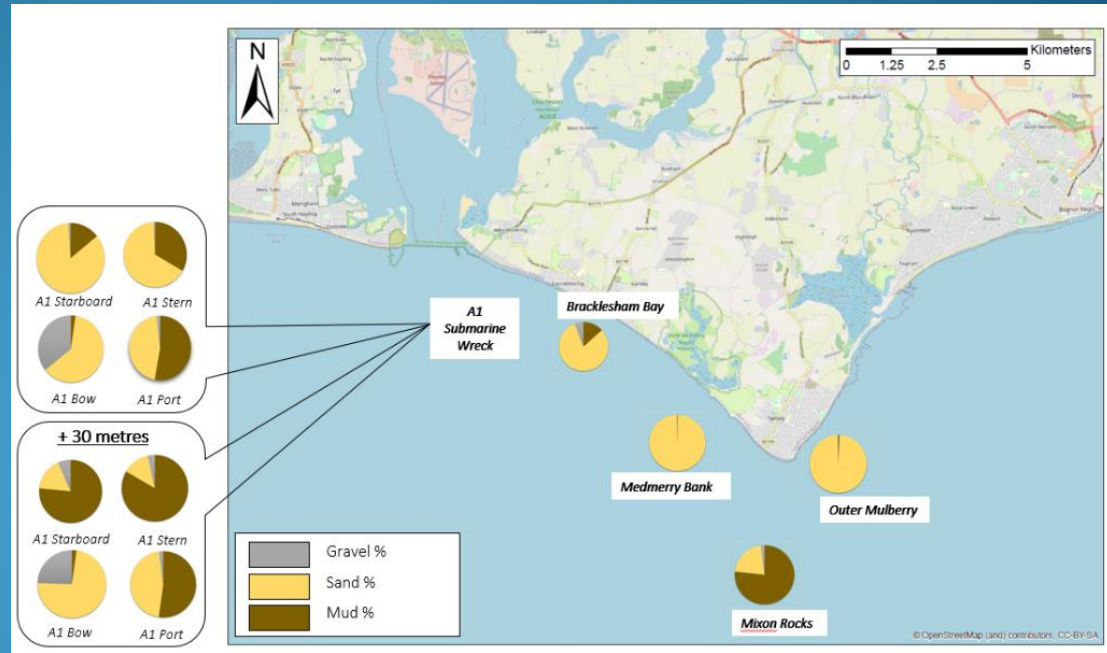


Source: Bateman, Cefas, (2022)
 Diseases of Aquatic Organisms

Changes in seabed sediment coarseness

Bracklesham Bay and Selsey 2020

Source: Searles. (2021)

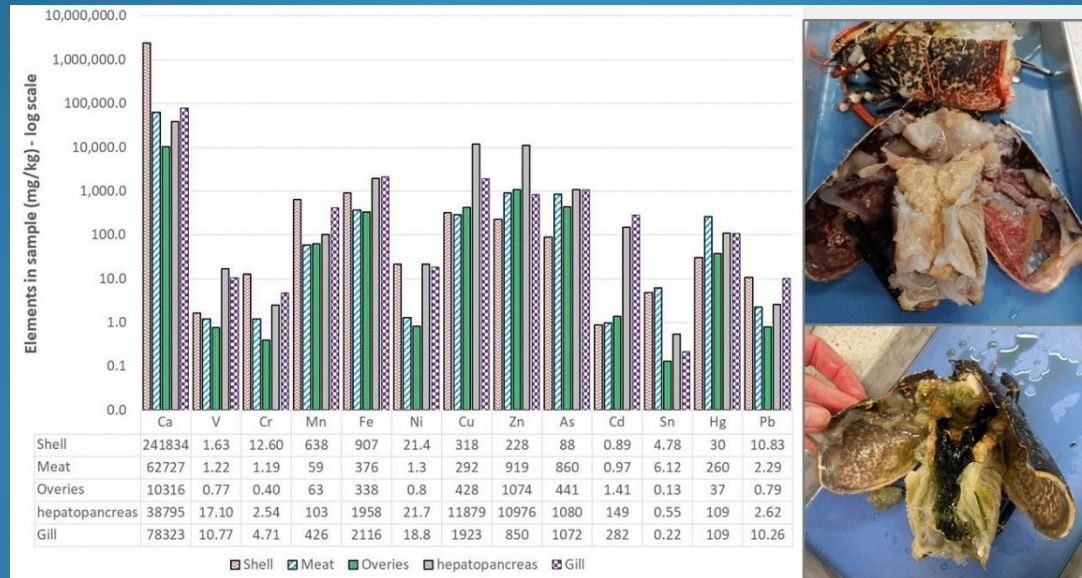


A1 Submarine, Bracklesham Bay 2009-2020

Sources: Sullivan. (2009).
Searles. (2021)

		A1 Bow	A1 Starboard	A1 Port
2009	Silt and Clay Percentage (<63 microns)	57%	47%	60%
	Sand and Gravel Percentage (>63 microns)	43%	53%	40%
2020	Silt and Clay Percentage (<63 microns)	10.6%	1.1%	4%
	Sand and Gravel Percentage (>63 microns)	89.4%	98.9%	96%

Lobster Analysis for Heavy metals



As seen in other studies levels of heavy metals vary in different body parts of a lobster with higher concentrations being found in the gills and hepatopancreas

Levels of some heavy metals such as As, Hg and Pb are higher in the lobsters than the sediment suggesting bio-accumulation

A1 Submarine, Historic Wreck, Bracklesham Bay

Historic England License Holder, Martin Davies, Southsea SAC

A1 Bow, May 2016

Carrot Sponge (*Amphilectus*), Hornwrack (*Flusyra foliacea*)



A1 Bow, Sept 2018



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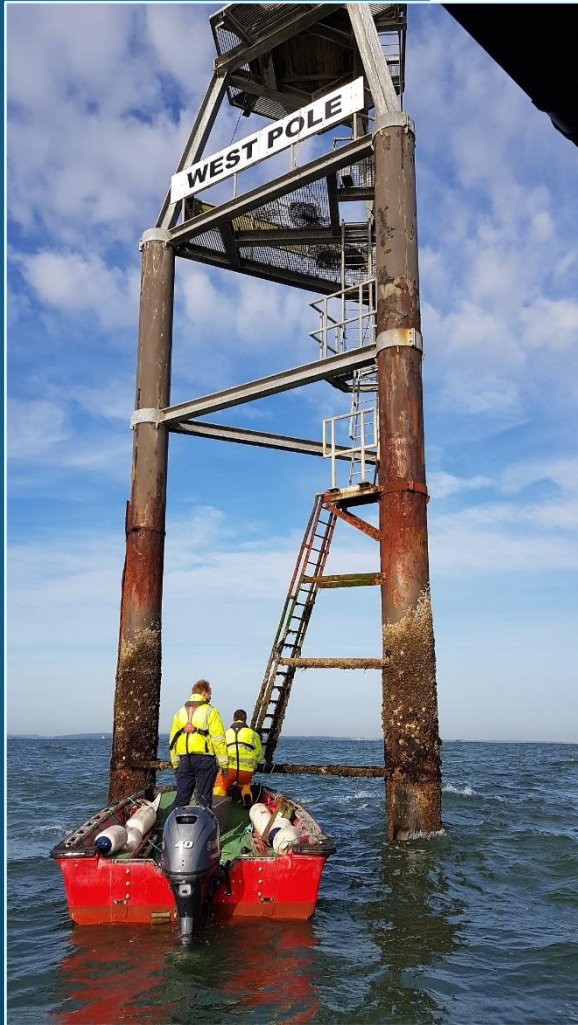
A1 Bow, April 2022

Sea grapes (*Molgula*)

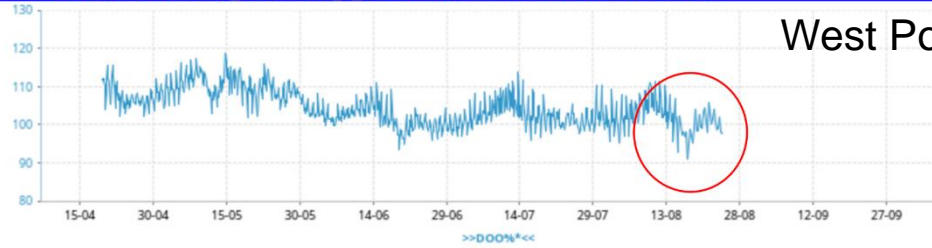


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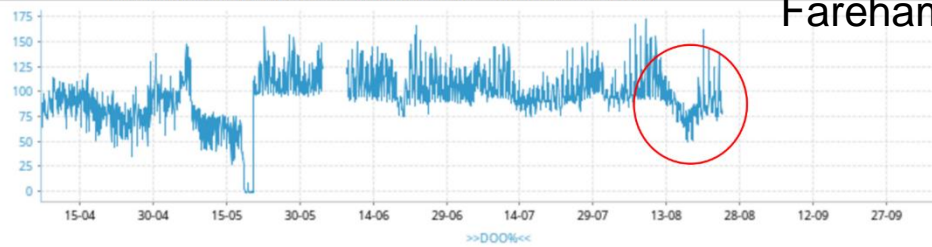
West Pole Sonde



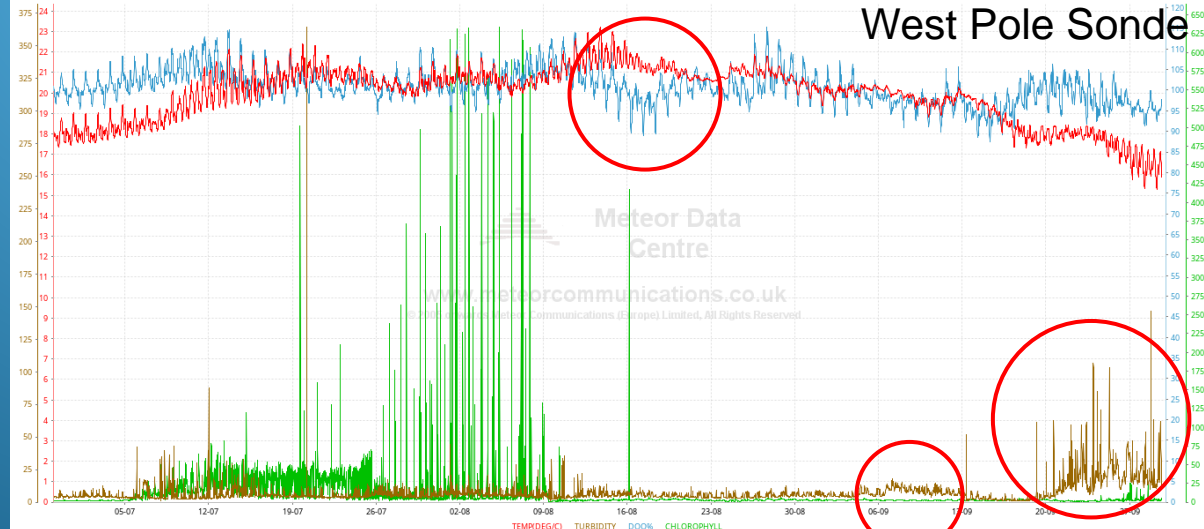
CHICHESTER HARBOUR WEST POLE E_202203 07/04/2022 00:00 - 07/10/2022 23:59 GMT



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CHICHESTER HARBOUR WEST POLE E_202203 29/06/2022 00:00 - 29/09/2022 23:59 GMT



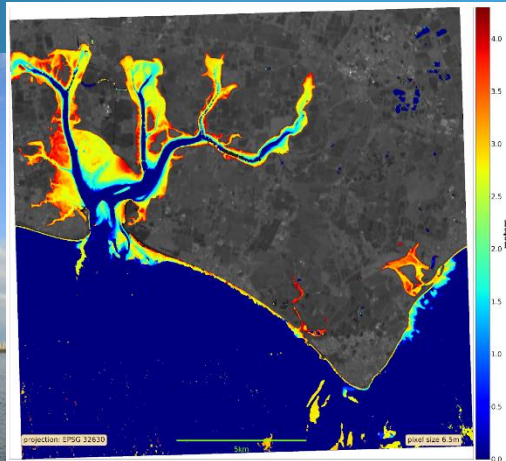
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Into the future:

- Continue to consult with the fishermen
- Universities: new MSc and BSc students autumn 2022
- Preliminary analysis of 160 pharmaceutical and pesticide compounds
- Sediment core sample and further sediment sampling / analysis 2023
- Use of satellite imagery for sediment plume monitoring 2023
- Sonde and telemetry unit on West Pole, and sonde in Chichester Harbour - ongoing

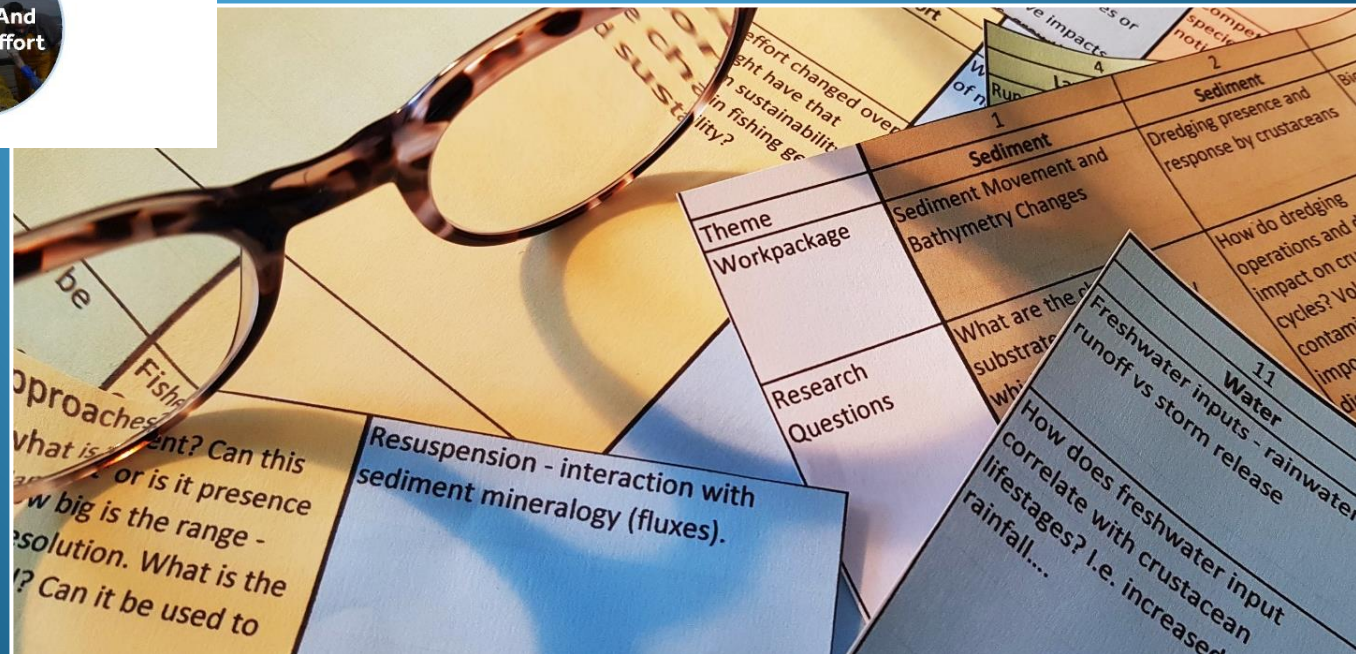
Sonde funding and support - special thanks to:

- F Glenister Woodger Trust; Chichester Harbour Conservancy – Chichester Harbour
- Sussex Kelp Restoration Project; Environment Agency – West Pole



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Next steps, mindmaps and workpackages

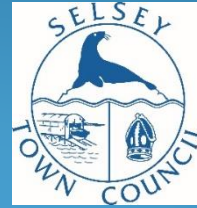


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Partnership working



BLUE MARINE
FOUNDATION



MARINE
CONSERVATION
SOCIETY



F Glenister Woodger Trust



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Letter from Sir David Attenborough



...so that protective measures can be based not on hunches – but facts



...we'll do our best!



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Contact:

Jane Cunningham

MPP Project Officer, Chichester District Council



CHASM | Manhood Peninsula Partnership

Chichester District Council hosts the Manhood Peninsula Partnership (MPP)

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