



The **Water Management** Consultants.



MohidJet: Eulerian Coupling for Modeling Freshwater and Saline Plumes in Coastal System

hidromod.com



Overview

1	Hidromod integration in ABL Group
2	MOHIDJet
3	Near and far field coupling: eulerian
4	Saline plume
5	Freshwater plume - Katembe\Mozambique
6	How to? Near and far field coupling: eulerian

Global Partner. Local Expert.



43
Countries

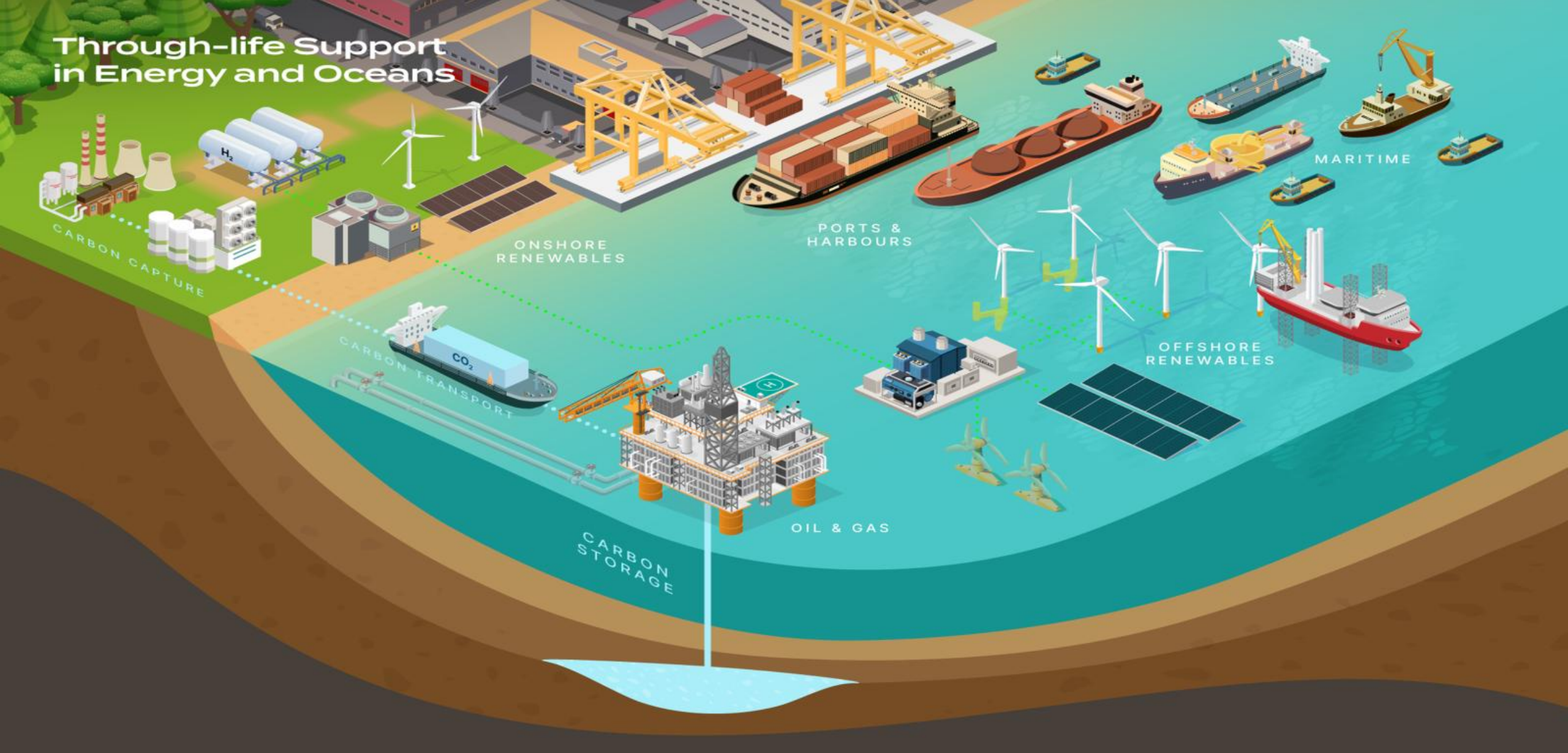


77
Offices



>1800
People

Through-life Support in Energy and Oceans



ABLGroup

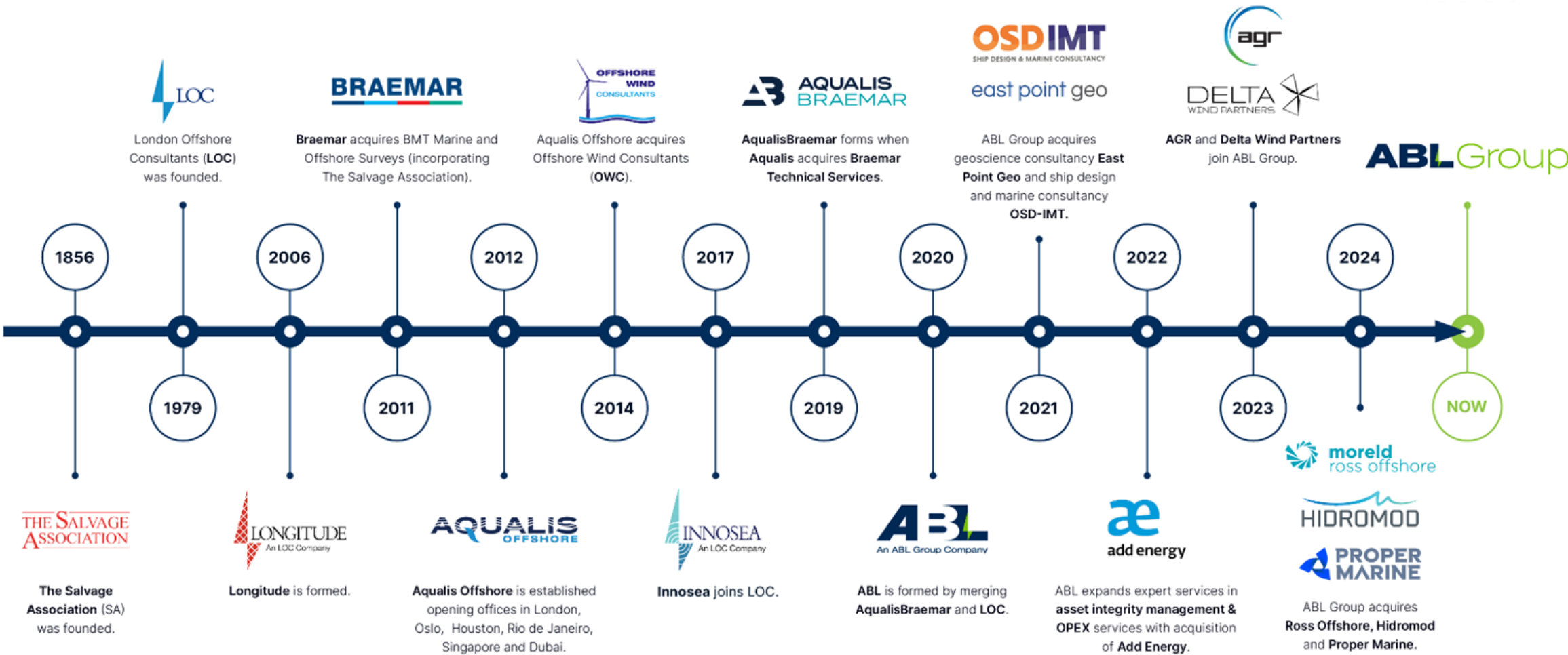
ABL
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OWC
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LONGITUDE
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Our history

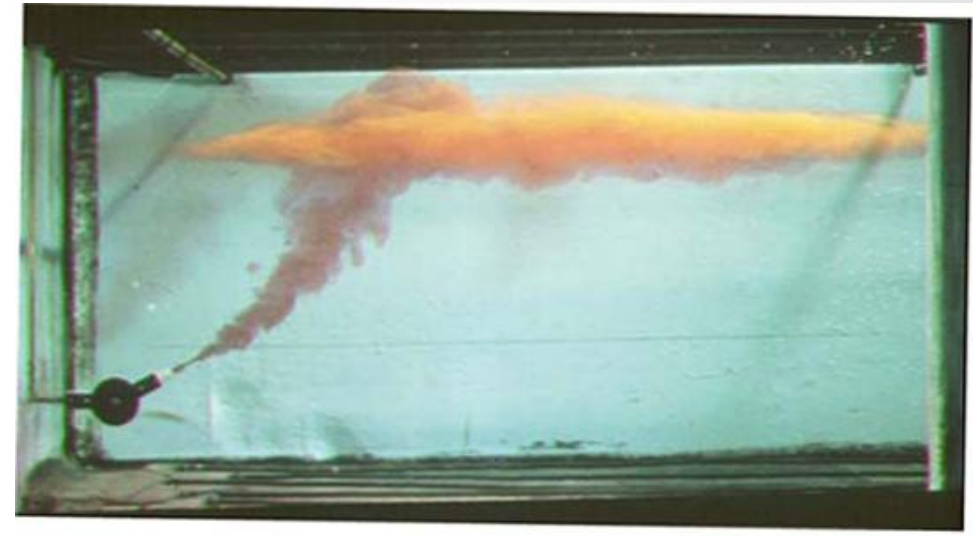
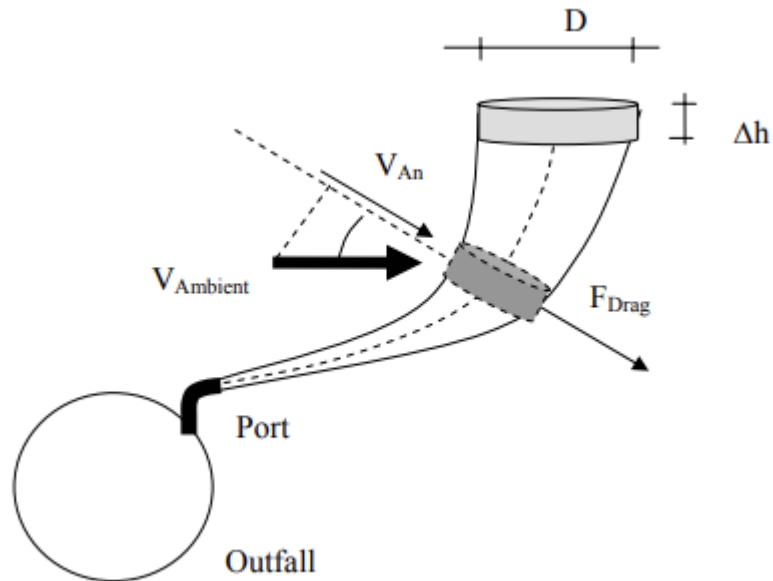


Hidromod new team



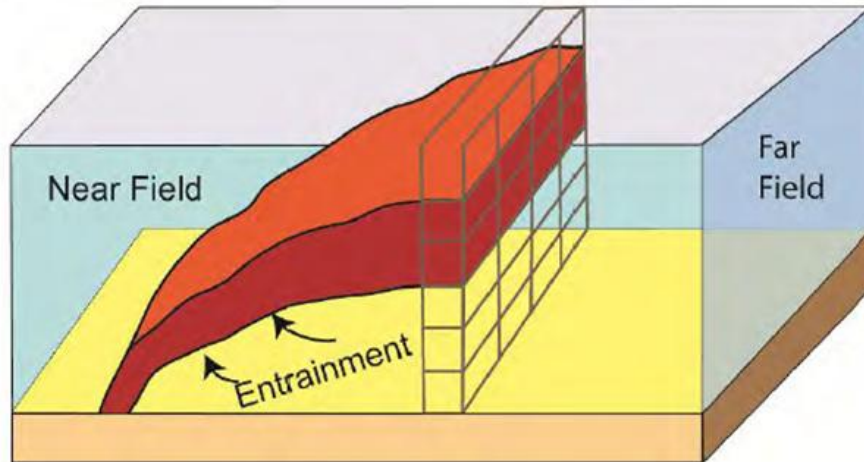
MOHIDJet

- MOHIDJet $\approx$ CORJET (integral buoyant plume model of the Cormix modelling system)

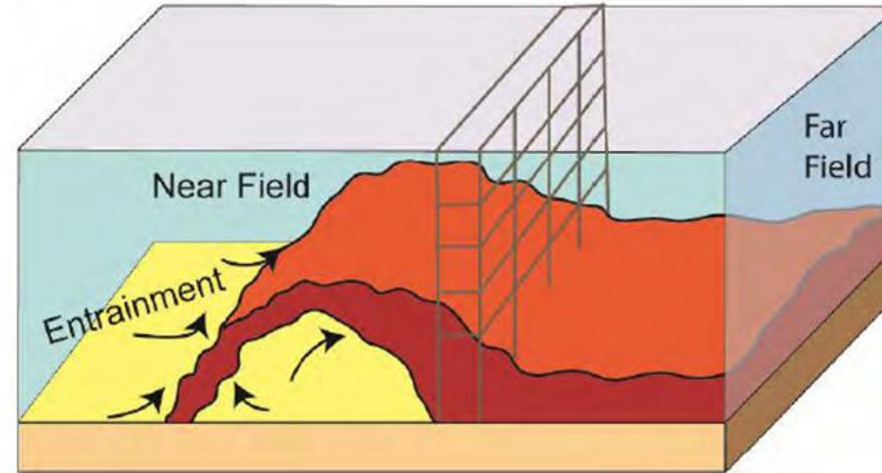


Near and far field coupling

Freshwater plume

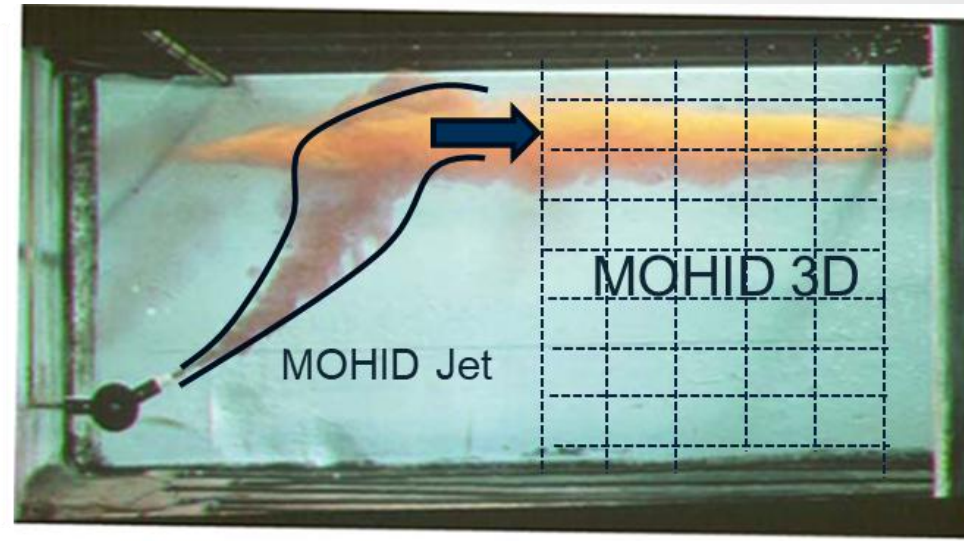
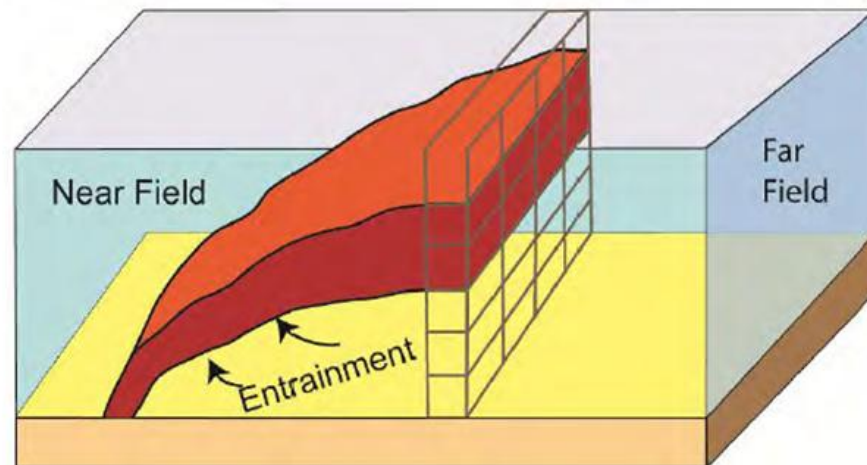


Saline plume

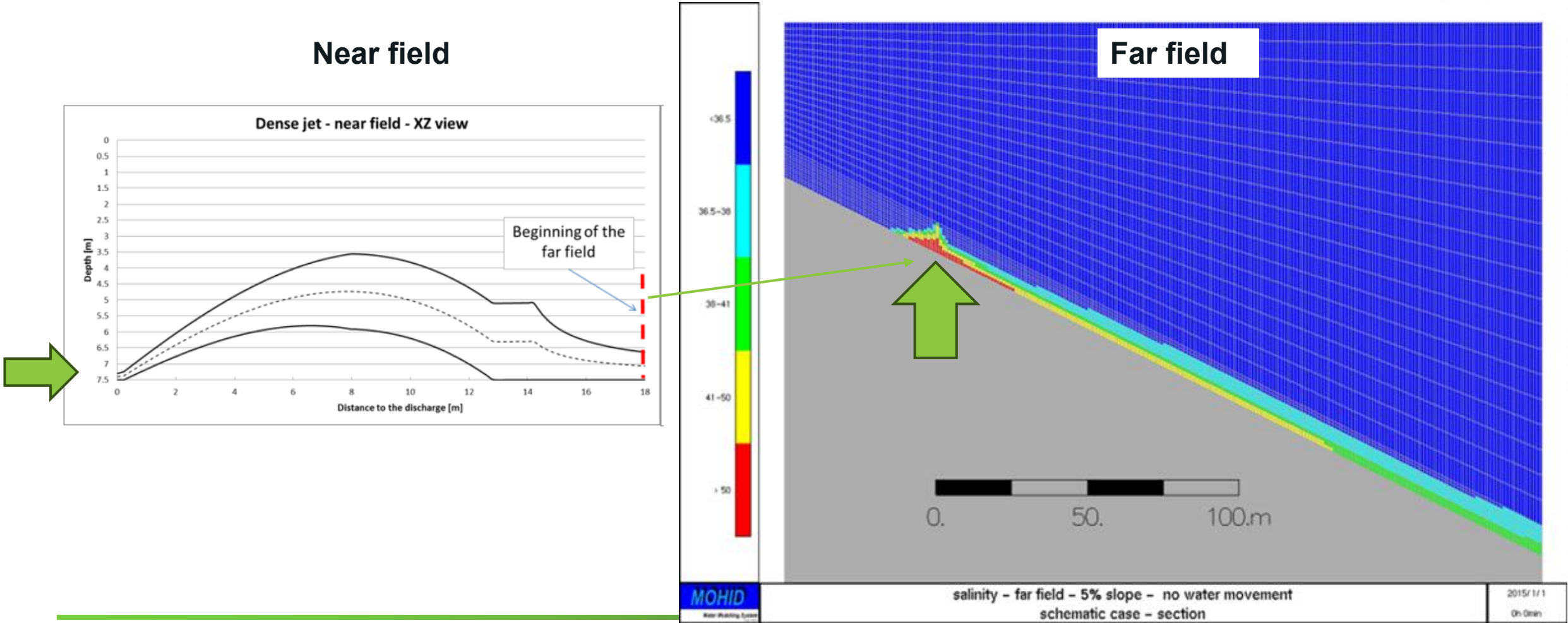


If near field dilution is not accounted for, predicted far field dilutions will be much too low, leading to considerable overestimates of environmental impacts (Jenkins et al., 2012)

Near and far field coupling: eulerian

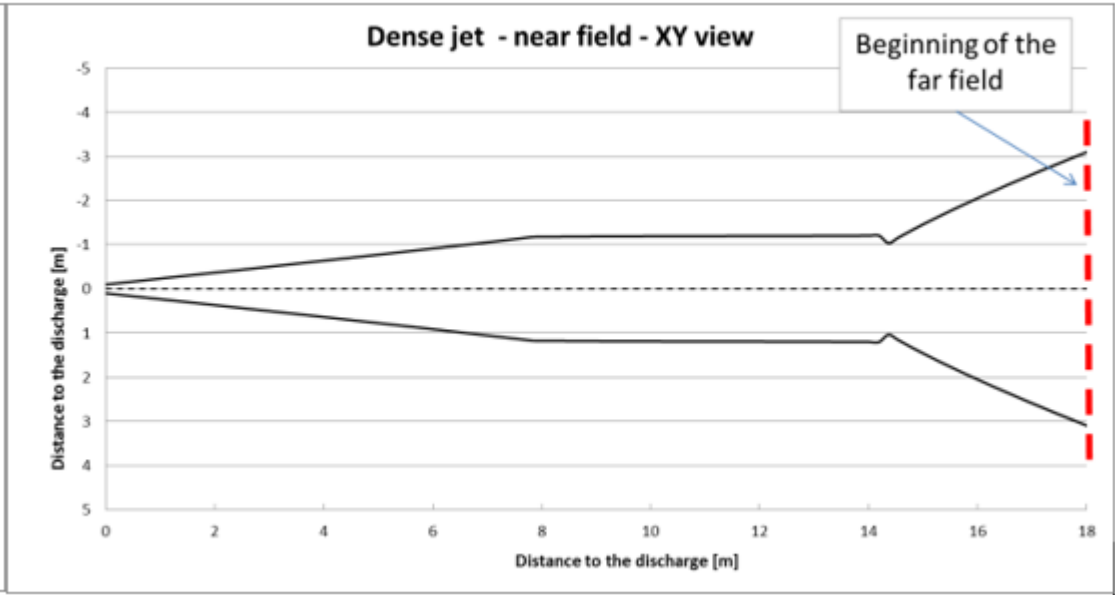


Saline plume – lateral view

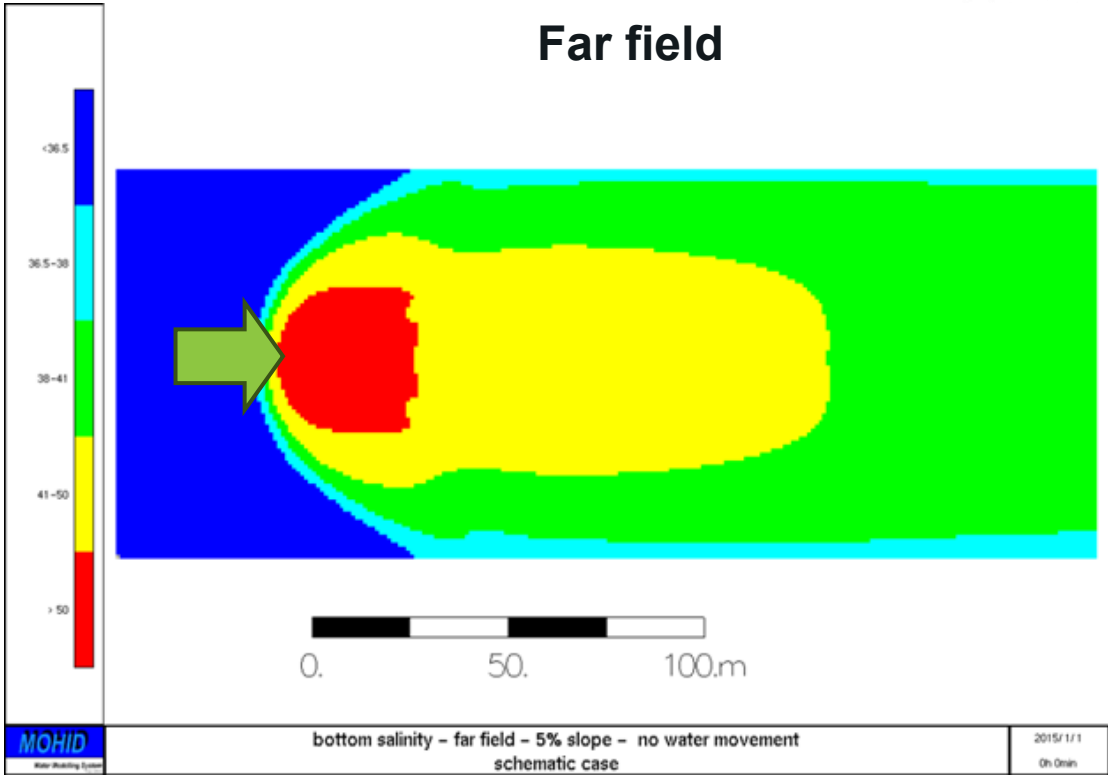


Saline plume – plan view

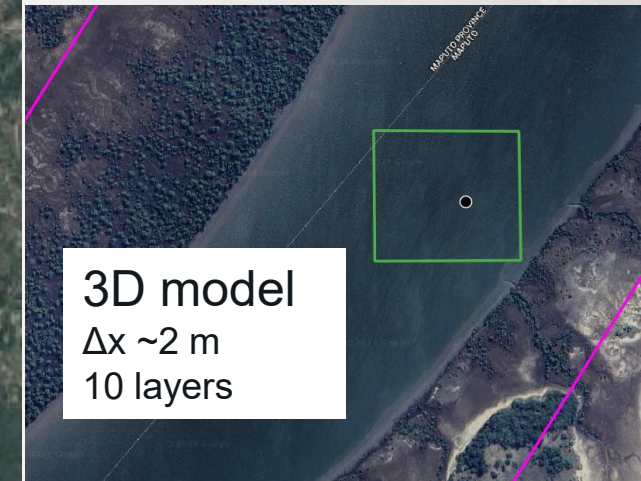
Near field



Far field

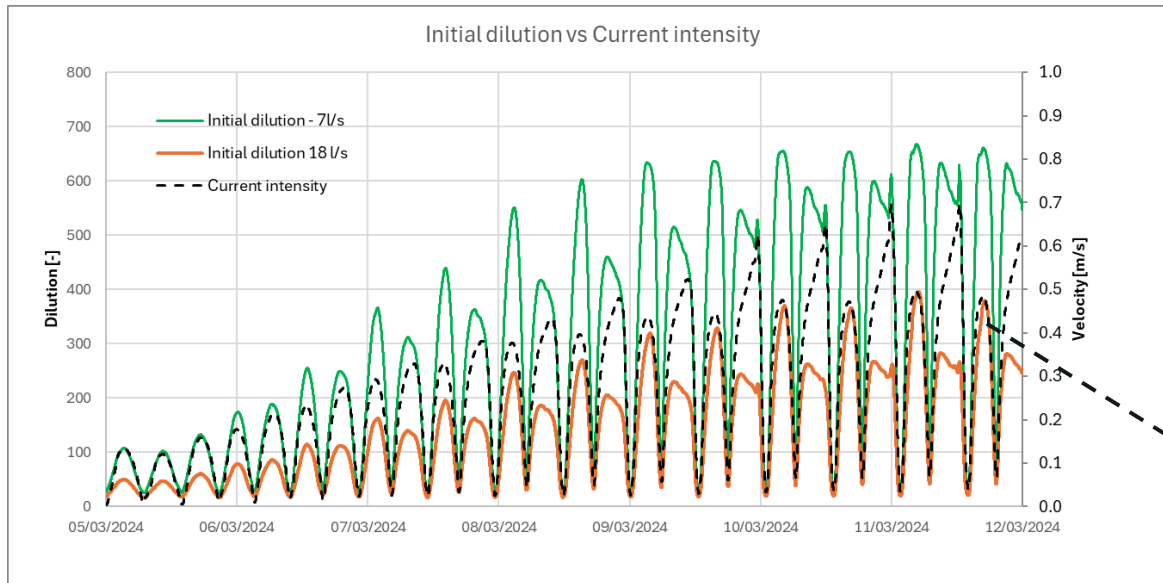


Freshwater outfall plume - Katembe\Mozambique



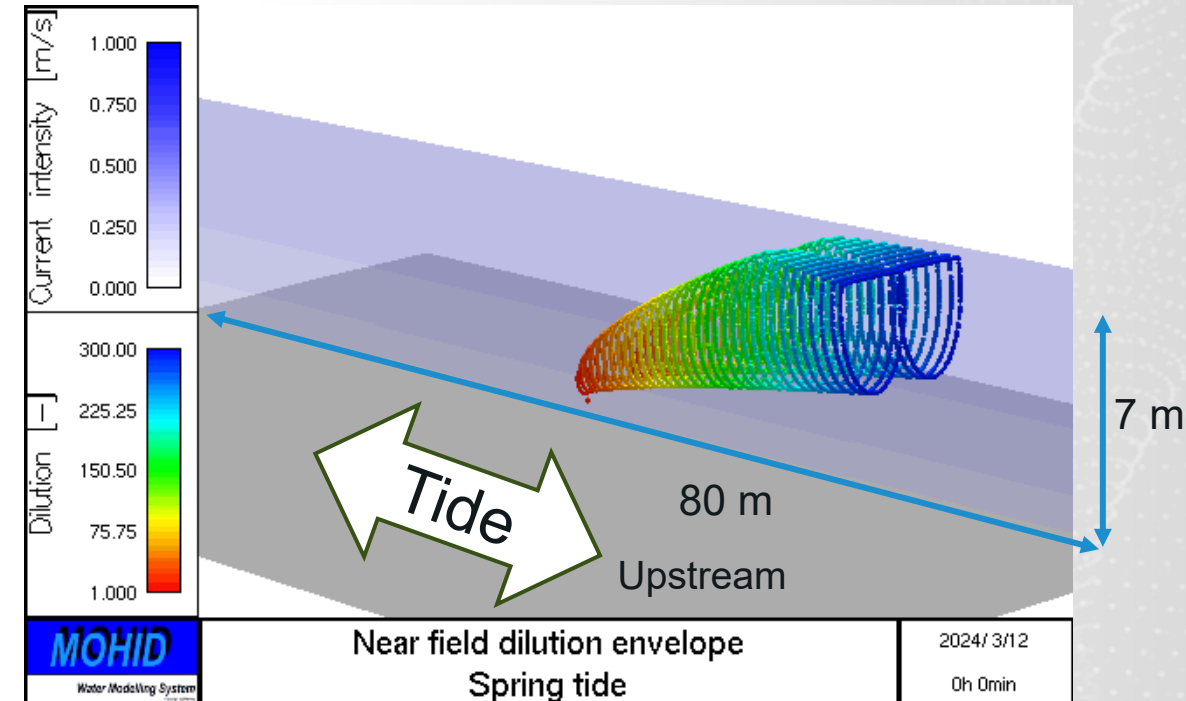
Near field – Dilution variability

- Strong time\space variability due to the tidal currents



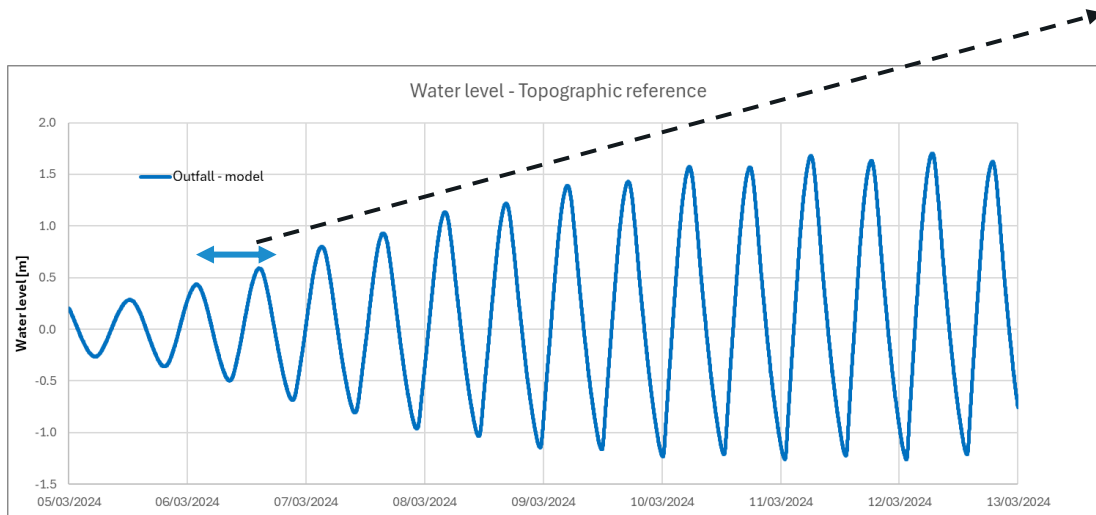
Neap tide conditions – discharge = 18 l/s

3D view

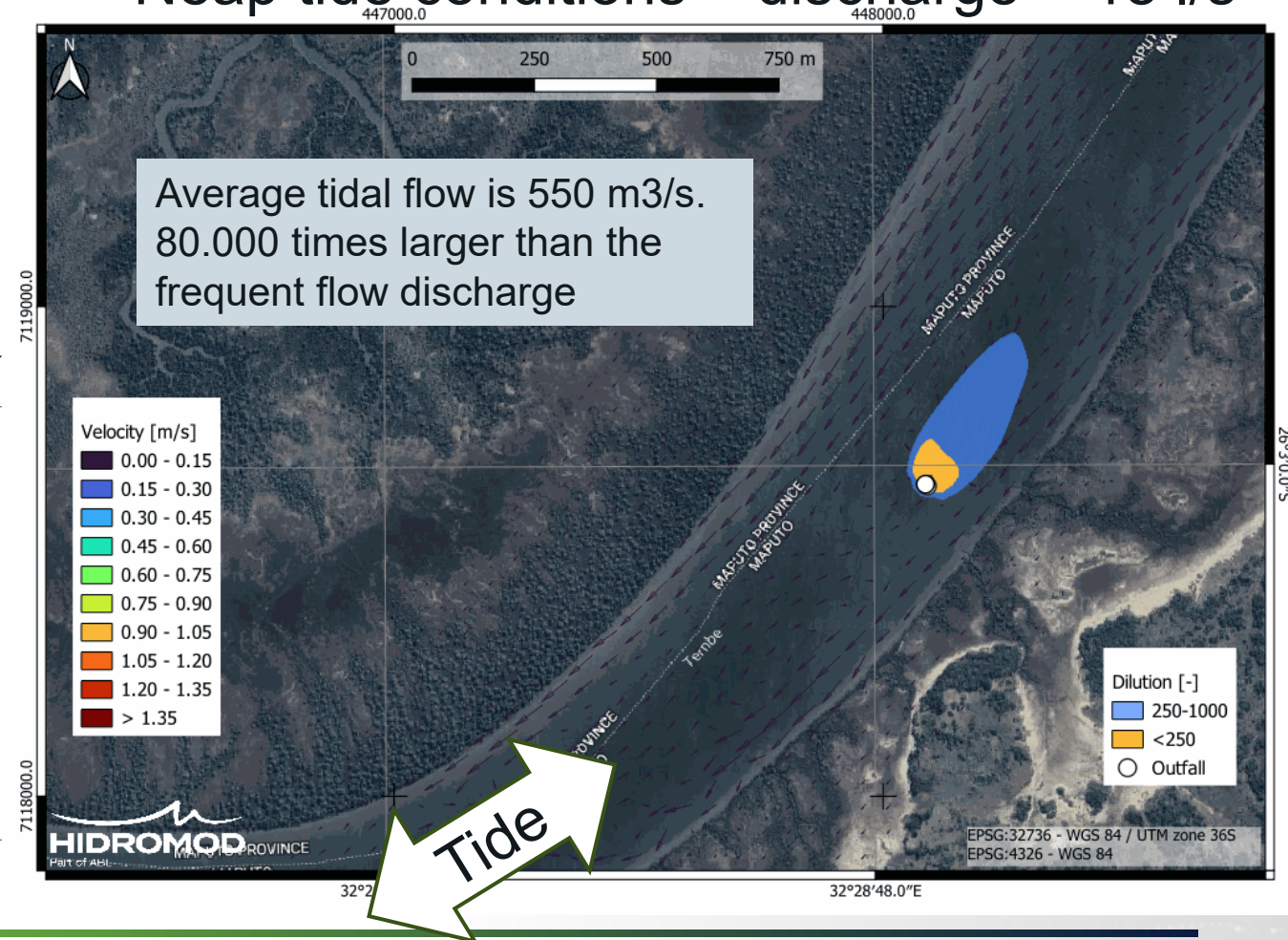


Far field – Dilution variability

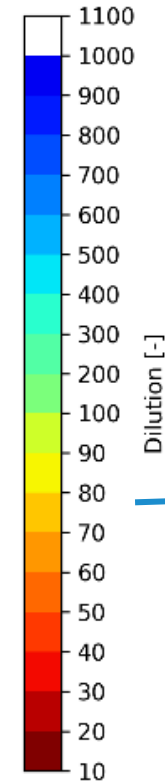
- Strong time\space variability due to the tidal currents
- Only for dilution < 250 there is the potential for values above legal limits



Neap tide conditions – discharge = 18 l/s



HIDROMOD
Part of ABL



How to? Near and far field coupling: eulerian

Go to Discharges_x.dat

```
!MohidJet  
DISCHARGE_TYPE : 6  
MOHID_JET_FILE : ..\data\MohidJet_West.dat
```

Go to hydrodynamic_x.dat

```
WATER_DISCHARGES : 1  
MOMENTUM_DISCHARGE : 1
```

<http://www.mohid.com/PublicData/Products/Manuals/MOHIDJET.pdf>

http://www.wiki.mohid.com/index.php?title=Module_Discharges



Driving Sustainability in Energy and Oceans.



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