

Sand availability and extraction
in the Belgian part of the North Sea
Dienst Continentaal Plat

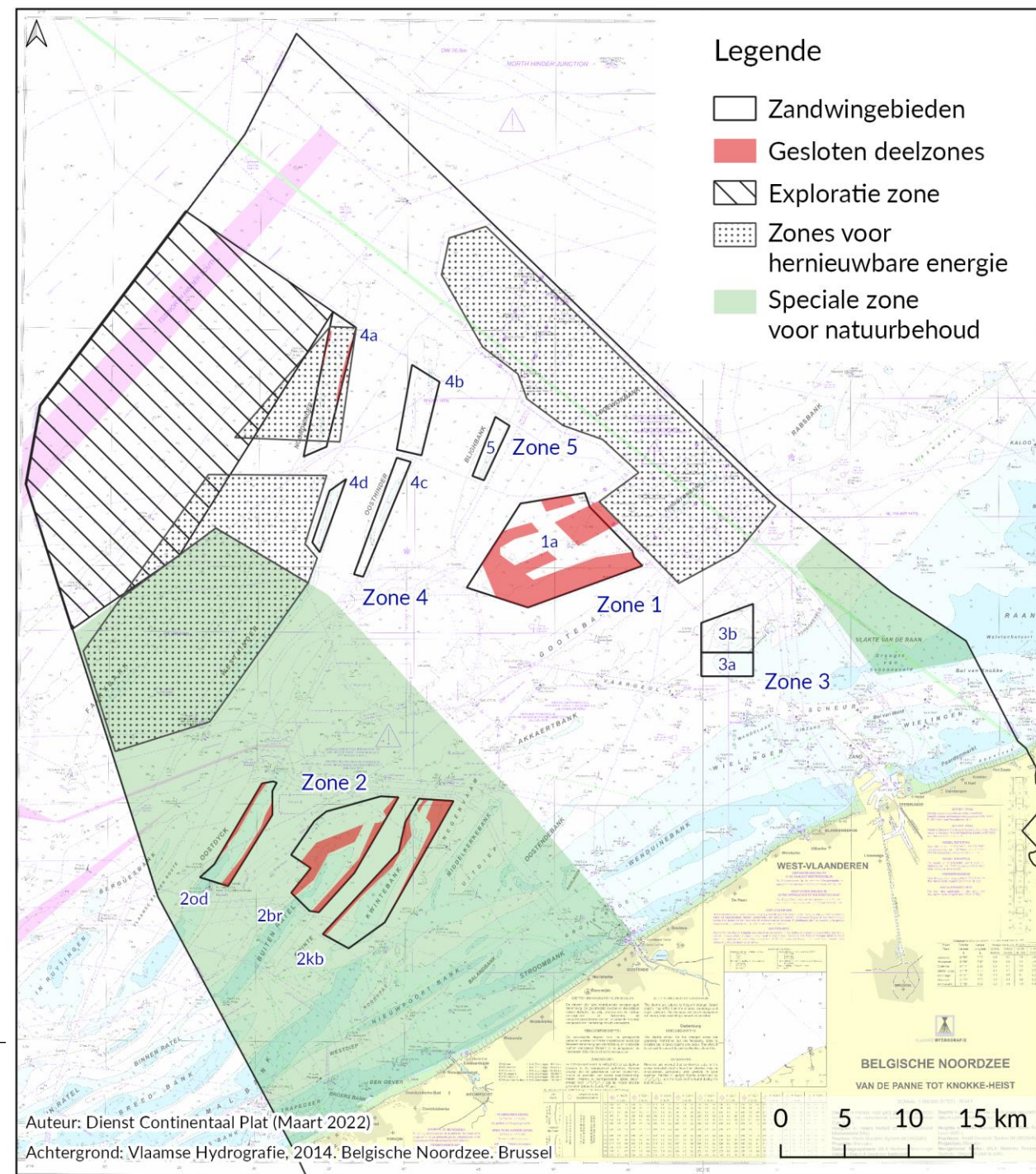
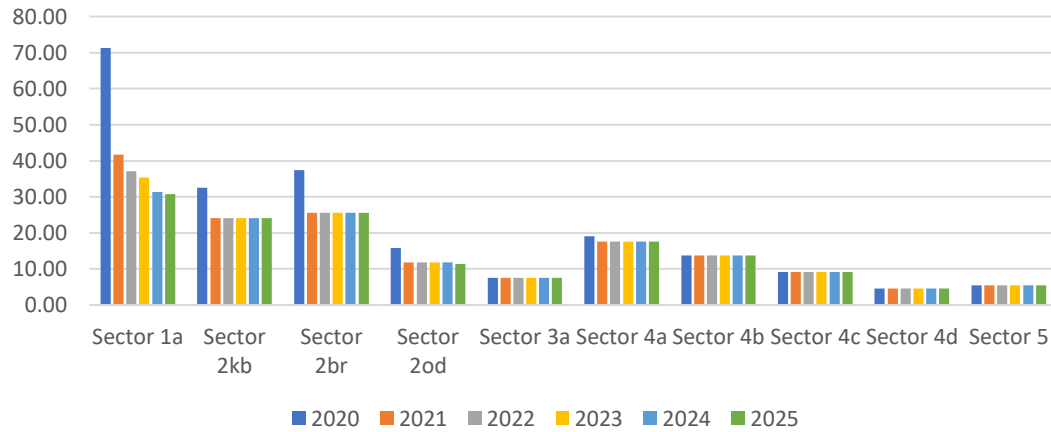
Current Available Reserves

After Introduction of the reference surface

in 2021:

30% of the total surface of extraction areas closed to avoid impact

Evolution areas open for extraction



Current Available Reserves

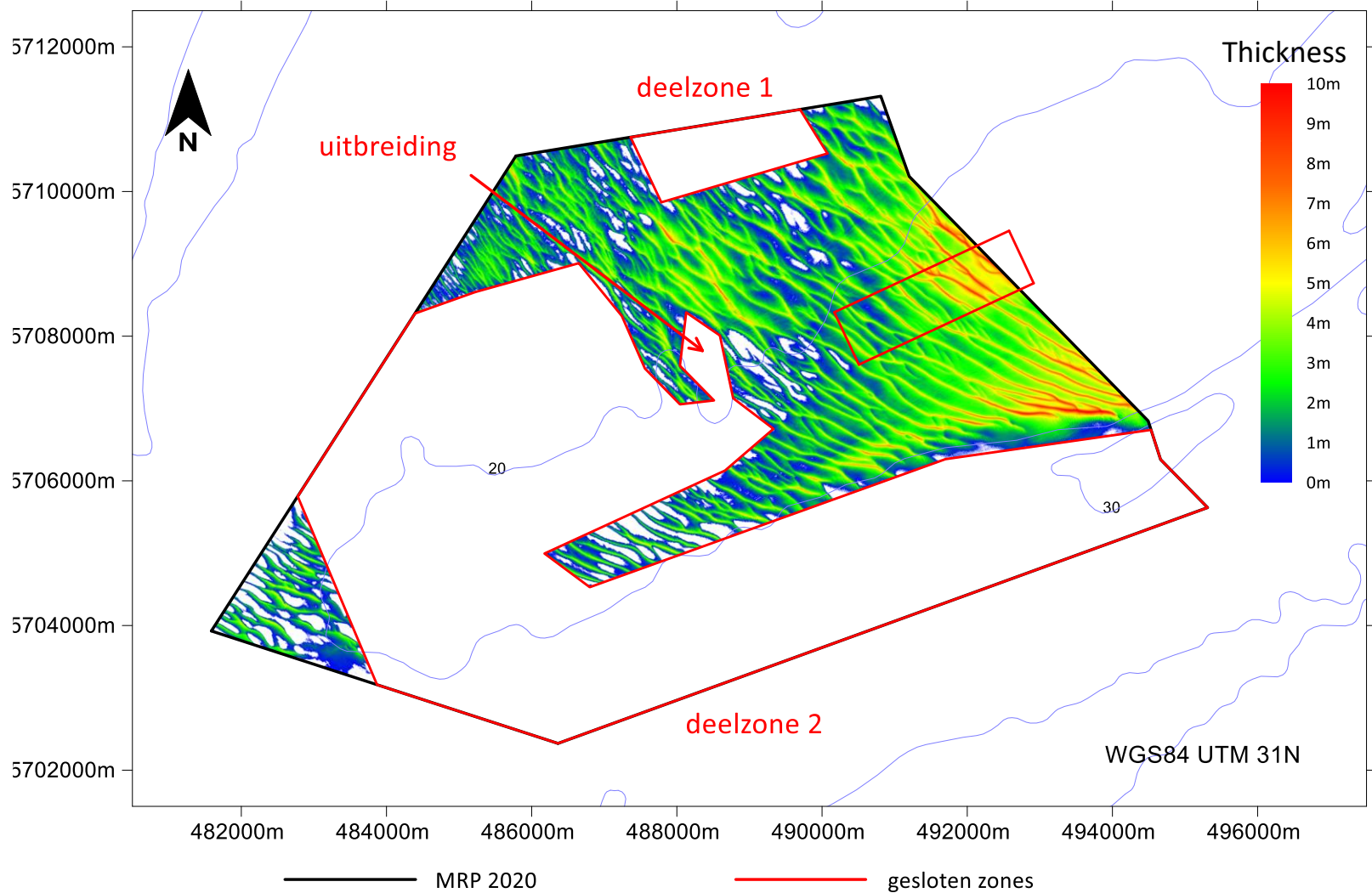
Zone 1

- Coarse sand
- Important for industry (concrete production)
- Progressive closure central area

Volume (2024): 66 10⁶ m³

With current closure rate:

entirely closed by 2050



Current Available Reserves

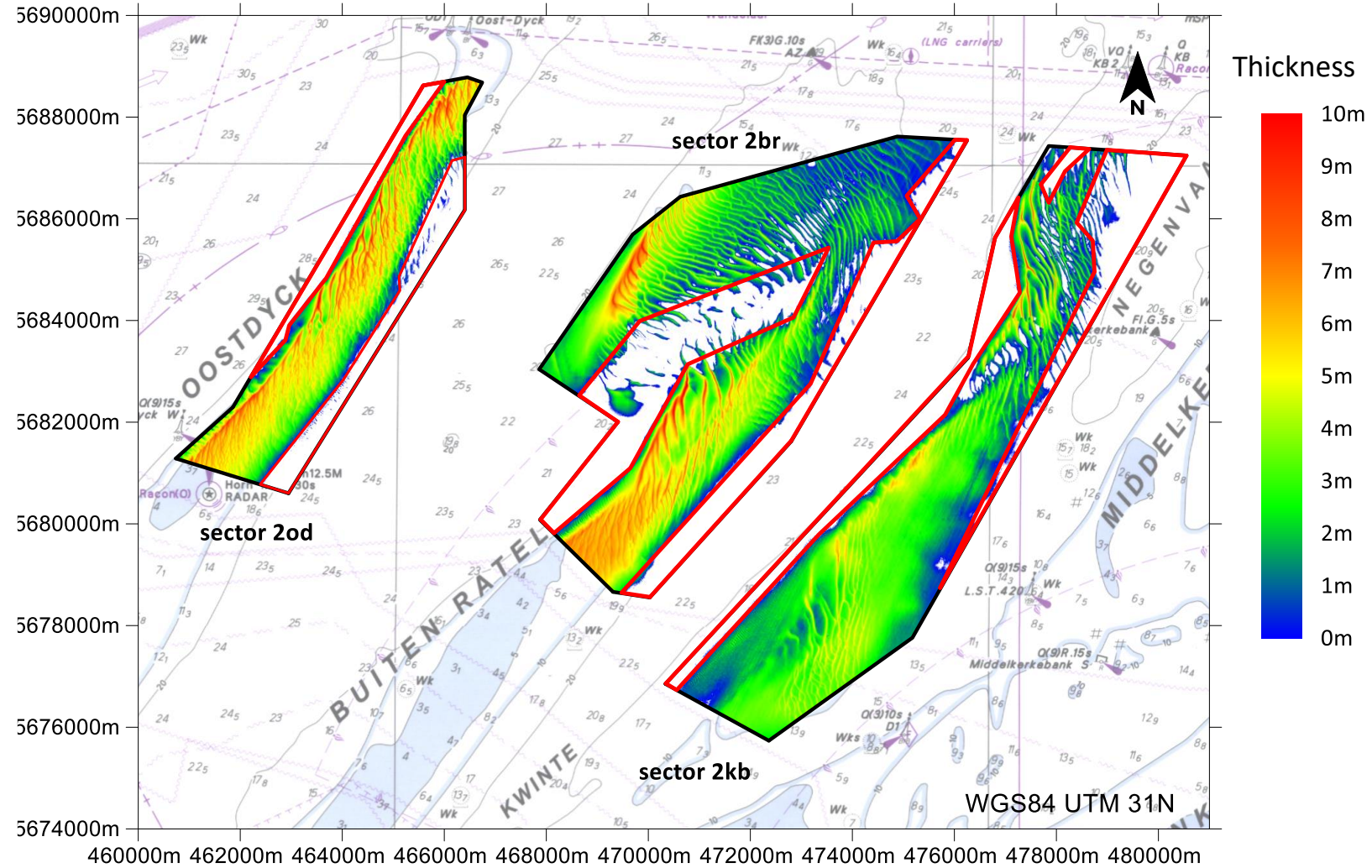
Zone 2

- Medium Sand
- Limited extraction
- Inside Natura 2000 area
- No large scale extraction

Volume (2024): 177 10⁶ m³

With current rate:

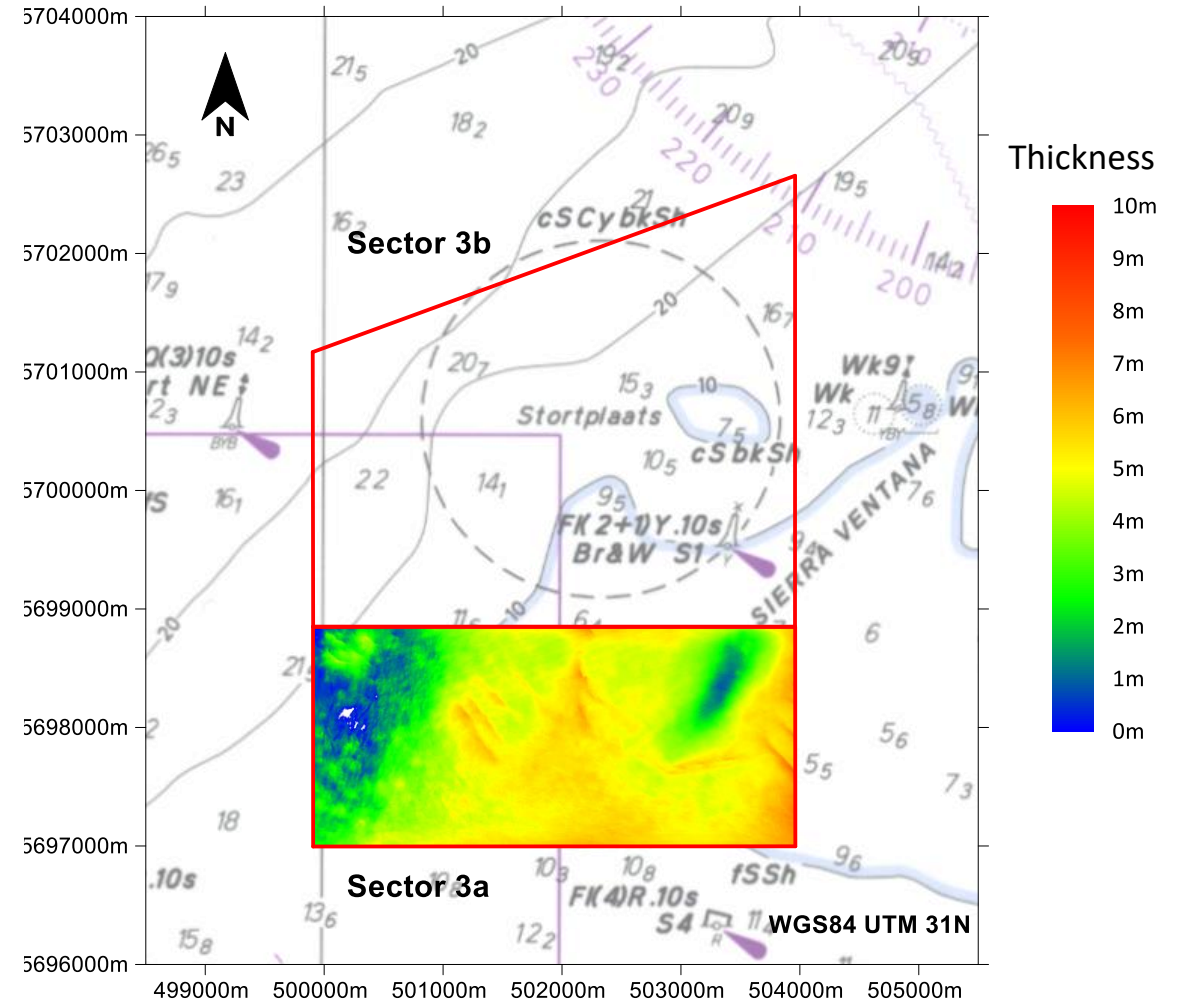
Availability until 2125



Zone 3

- Fine Sand
- Southern zone - extraction
- Northern zone - dumping
- Renewable character -> alternation

Volume (2024): 32 10⁶ m³



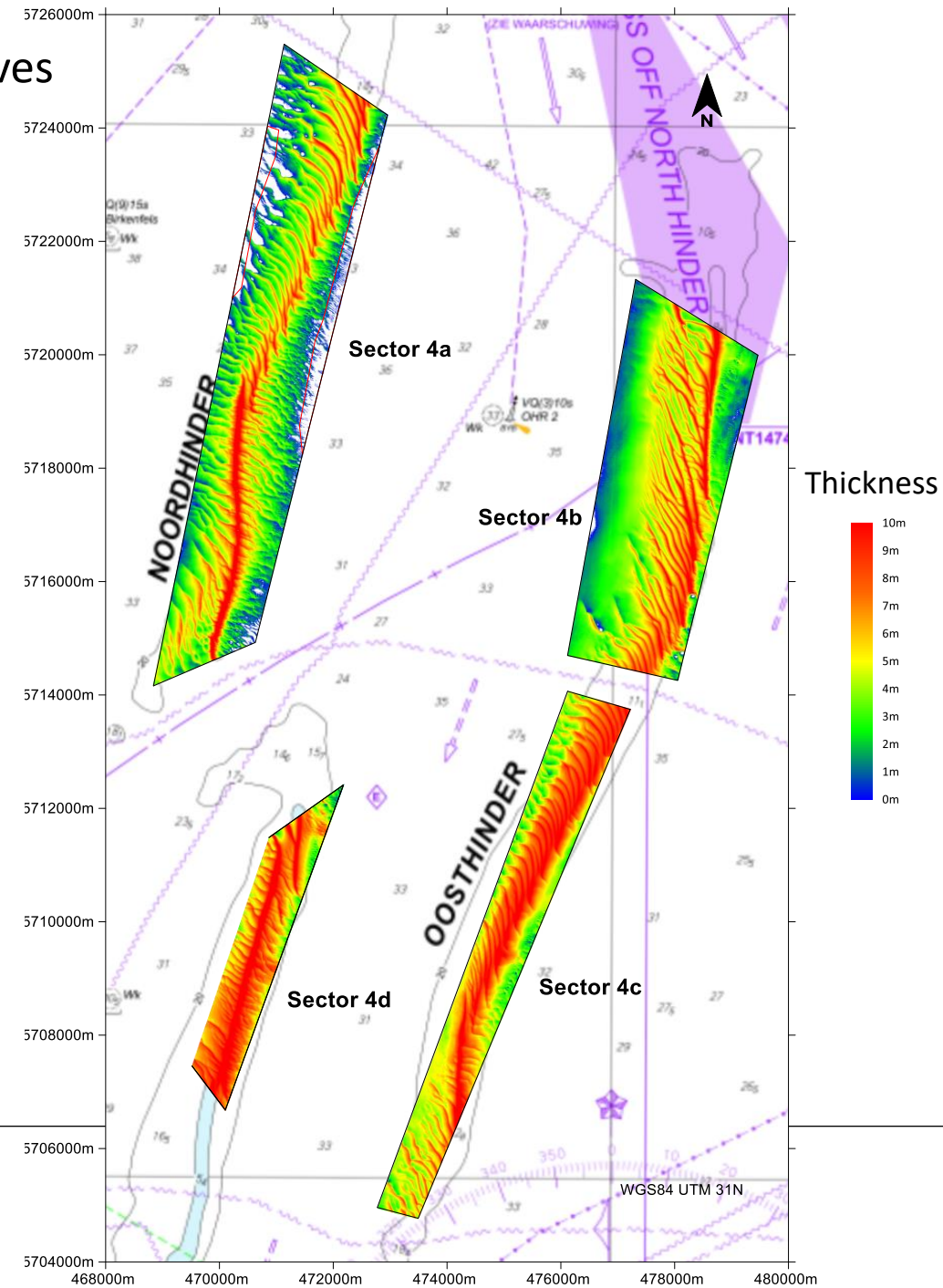
Zone 4

- Coarse / medium sand
- Important for beach supplementation
- Zone 4a: closure expected end 2025

Volume (2024):

- **4a: $68 \cdot 10^6 \text{ m}^3$ -> closed by end 2025**
- **4b: $62 \cdot 10^6 \text{ m}^3$**
- **4c: $59 \cdot 10^6 \text{ m}^3$**
- **4d: $34 \cdot 10^6 \text{ m}^3$**

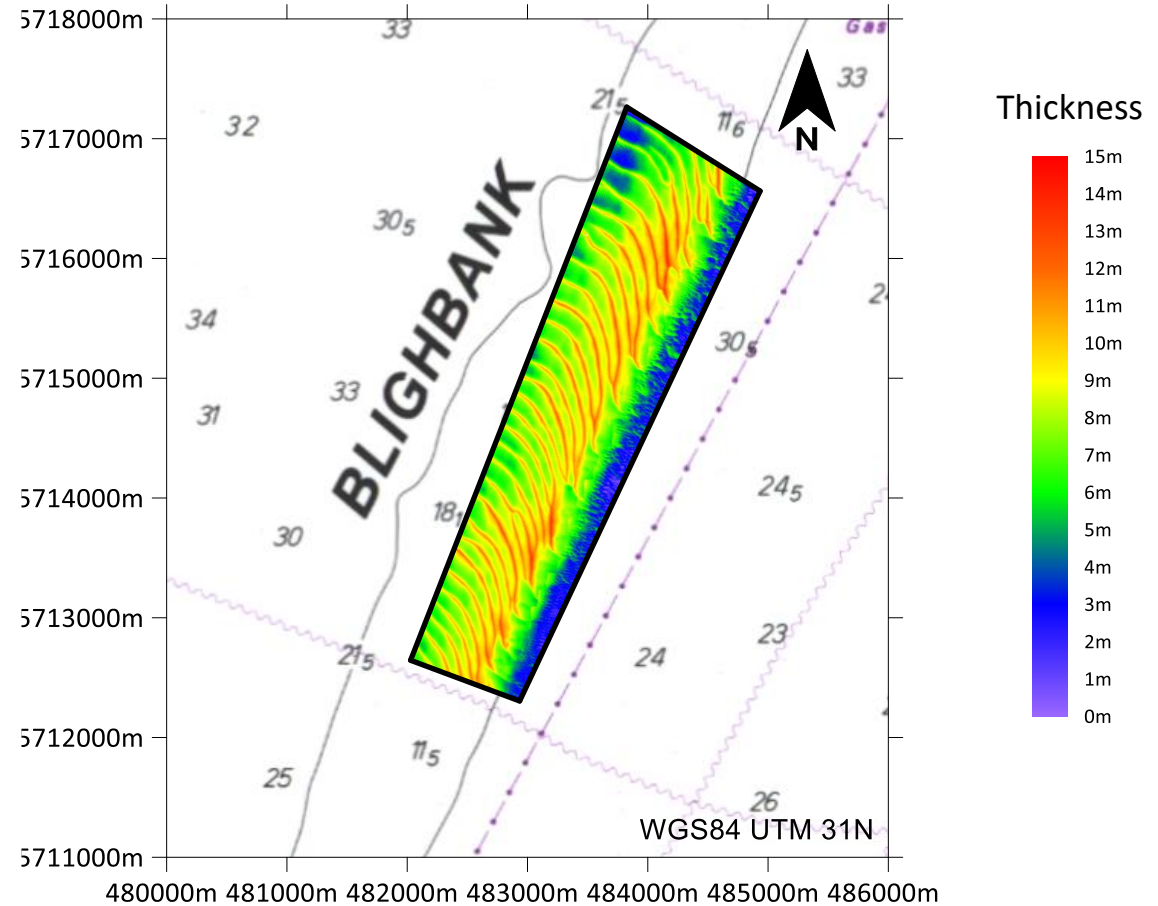
Current Available Reserves



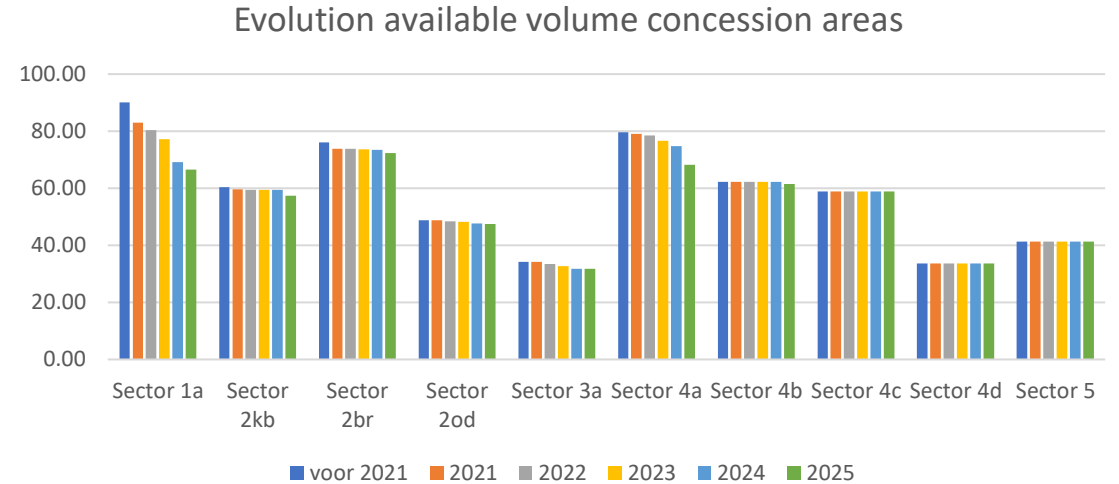
Zone 5

- Coarse / medium sand
- Limited extraction up to date

Volume (2024): 41 10⁶ m³

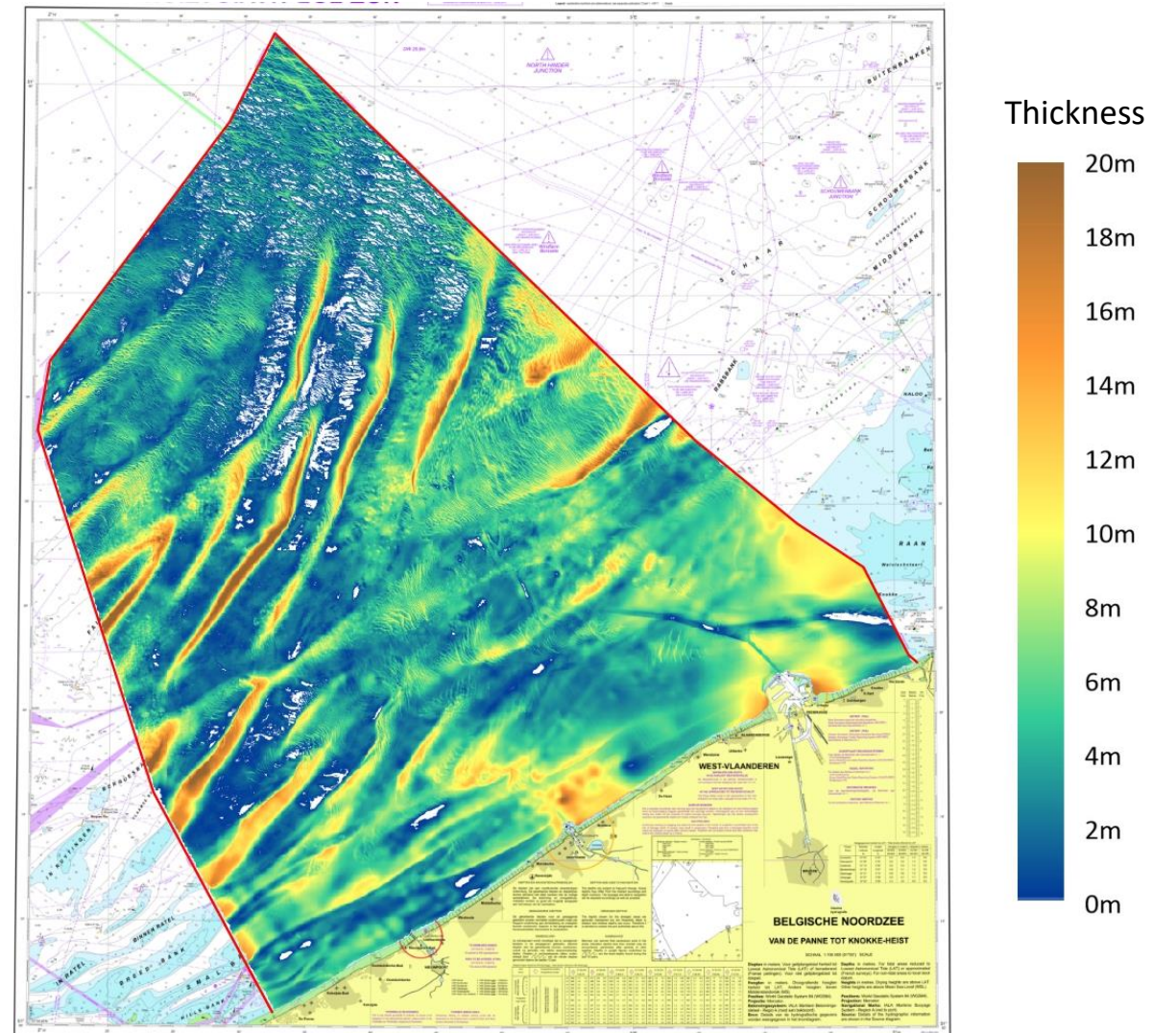


Zone	Volume available in 2024 (10 ⁶ m ³)
Zone 1	66 -> closed by 2050
Zone 2	176
Zone 3	32 (only 3b)
Zone 4	222 -> 154 in 2026
Zone 5	41
Total	538 -> 470 in 2026

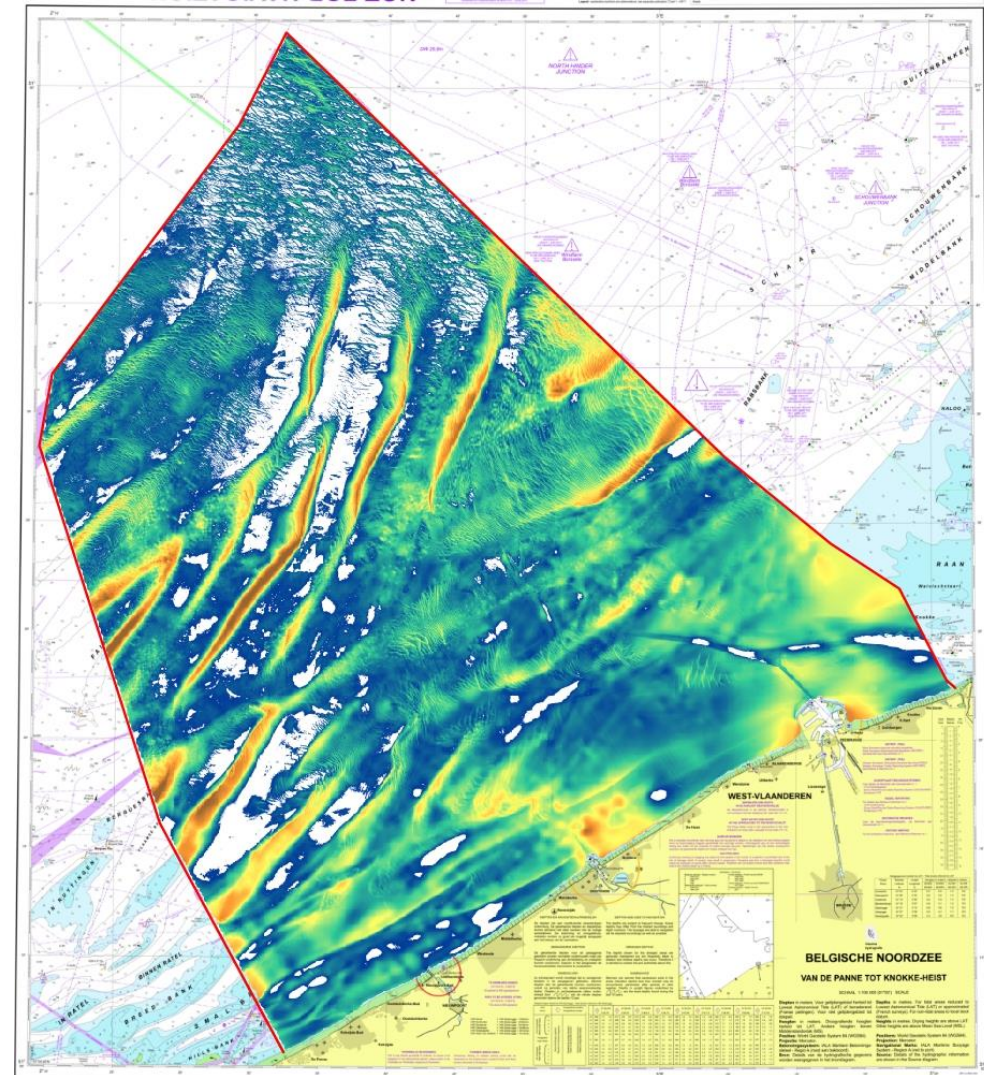


Holocene

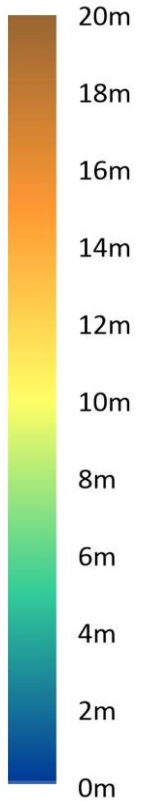
Volume: $16.5 \cdot 10^9 \text{ m}^3$



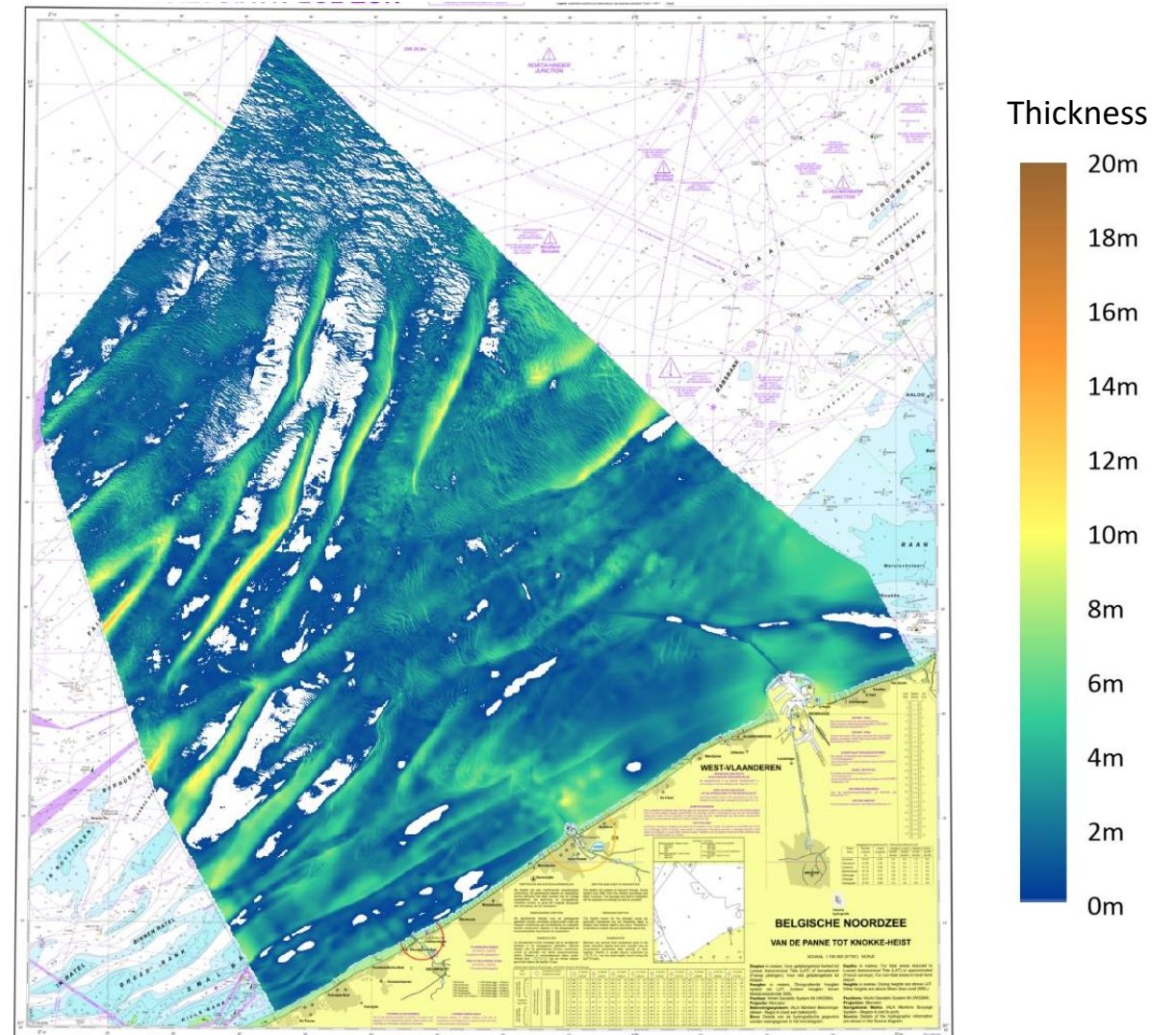
Holocene + 1m



Thickness



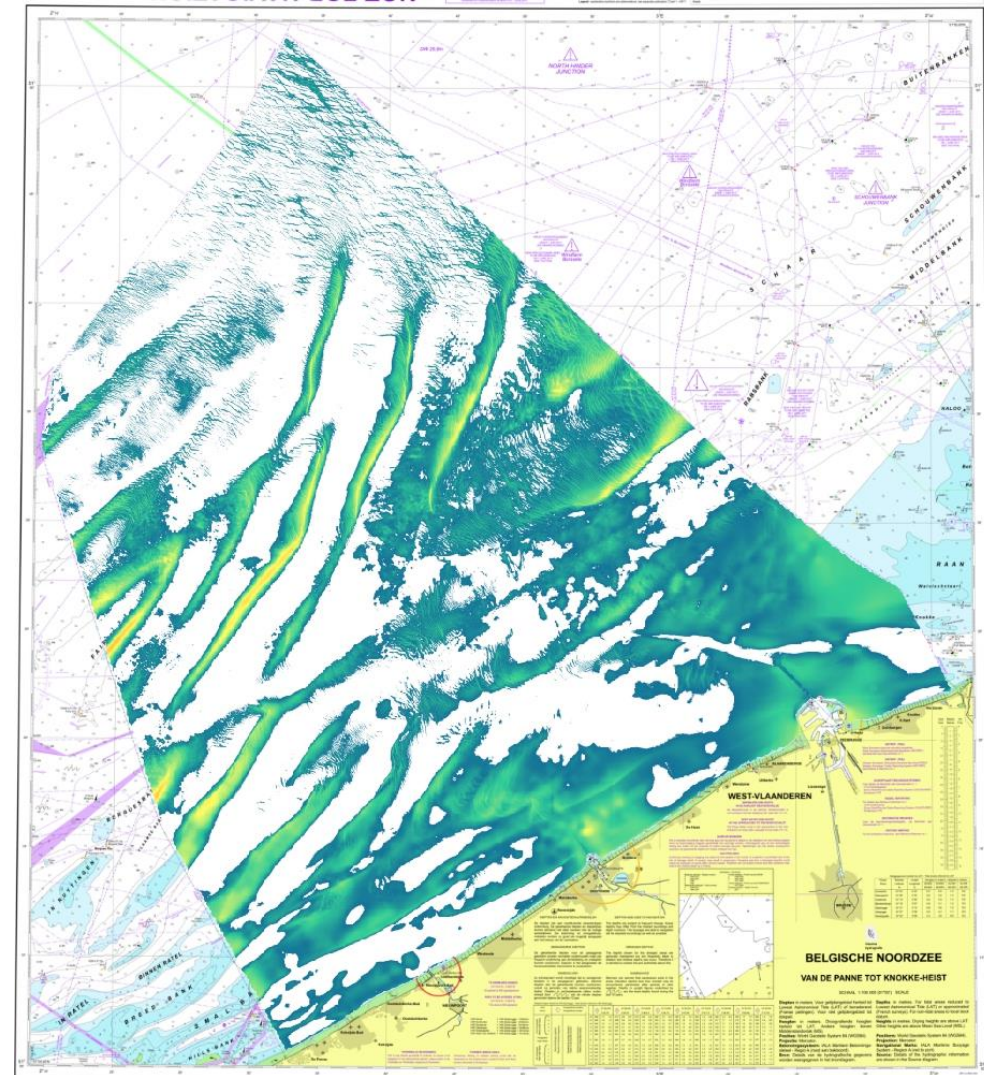
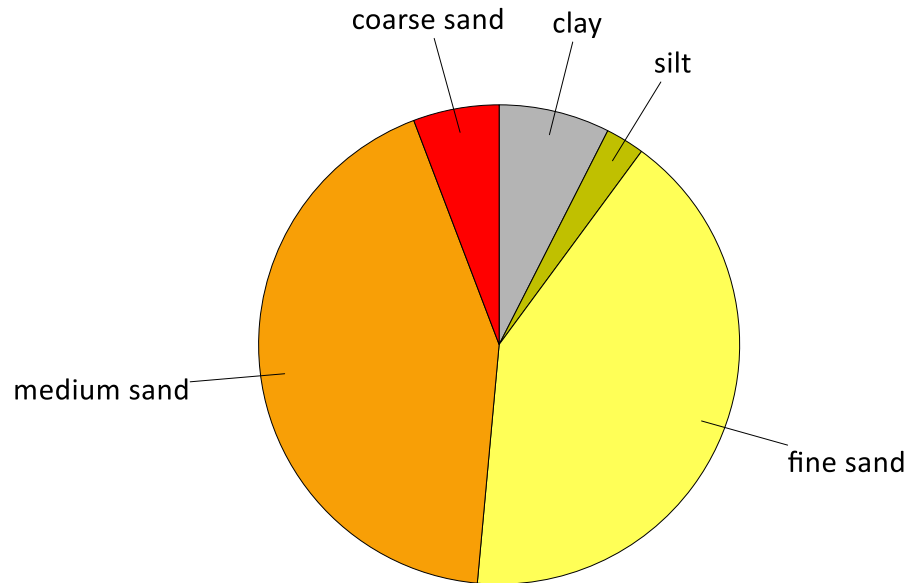
Holocene + 1m + 50%



Minimum 2m available

Volume: $6.5 \cdot 10^9 \text{ m}^3$

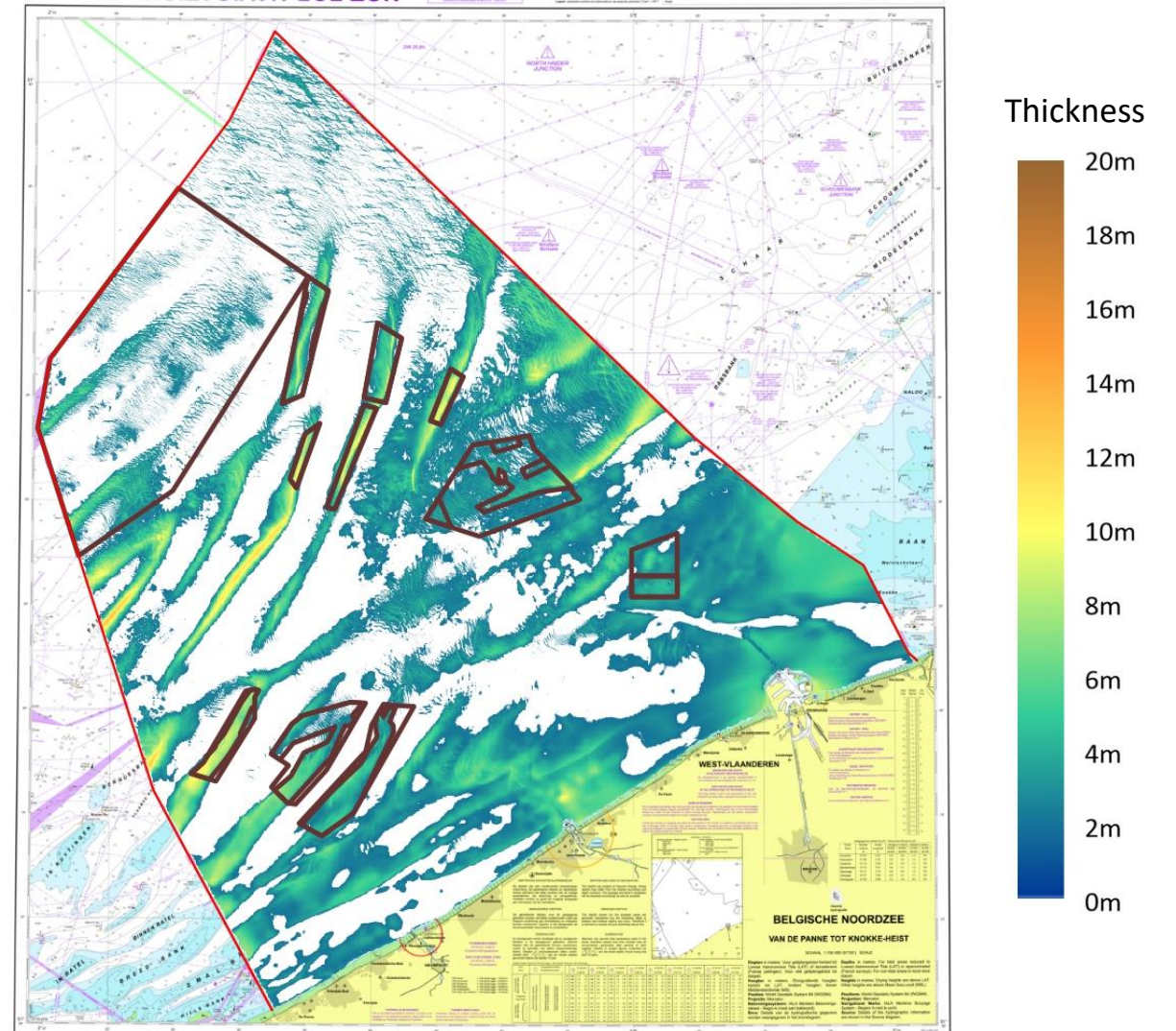
Holocene Belgian part of the North Sea



Thickness








Controlezones + exploratie



Exploration Zone

Legende

-  Zandwingebieden
-  Gesloten deelzones
-  Exploratie zone
-  Zones voor hernieuwbare energie
-  Speciale zone voor natuurbehoud

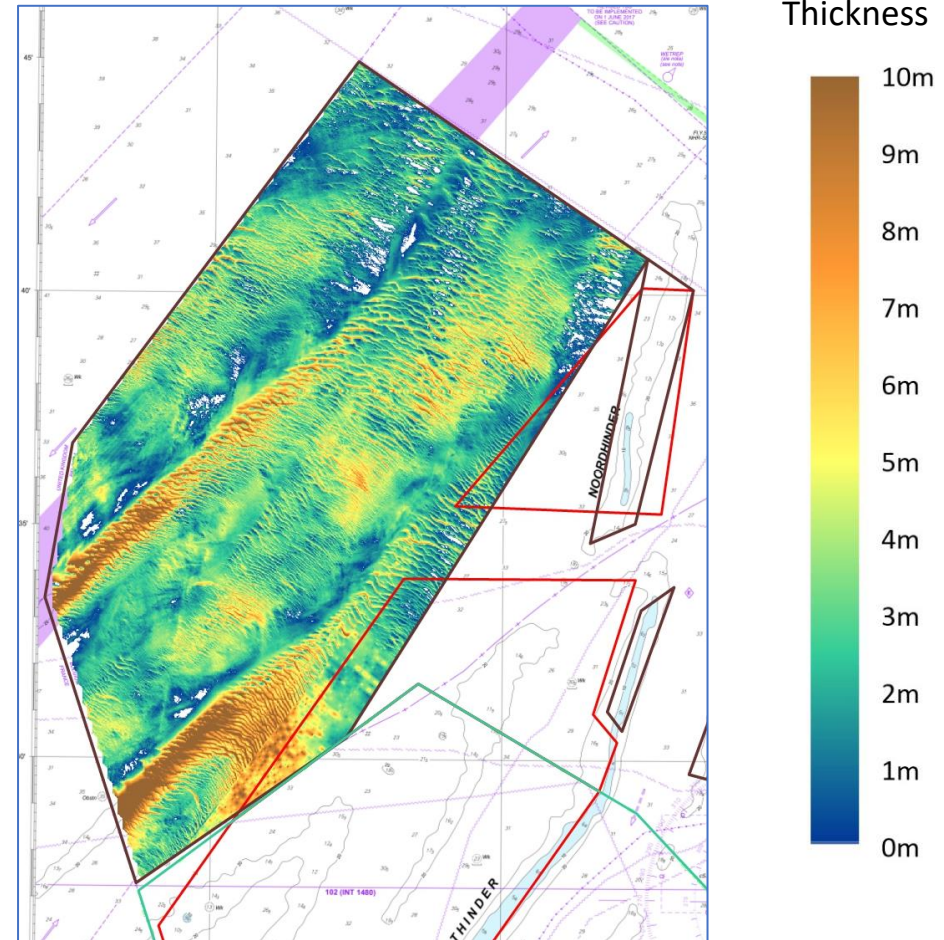


Auteur: Dienst Continentaal Plat (Maart 2022)

Achtergrond: Vlaamse Hydrografie, 2014. Belgische Noordzee. Brussel



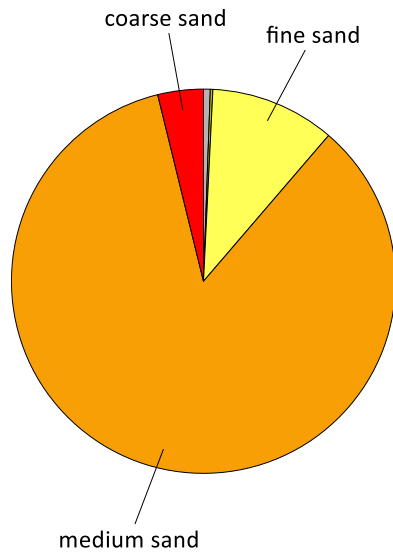
Holocene Volume: $1.3 \cdot 10^9 \text{ m}^3$



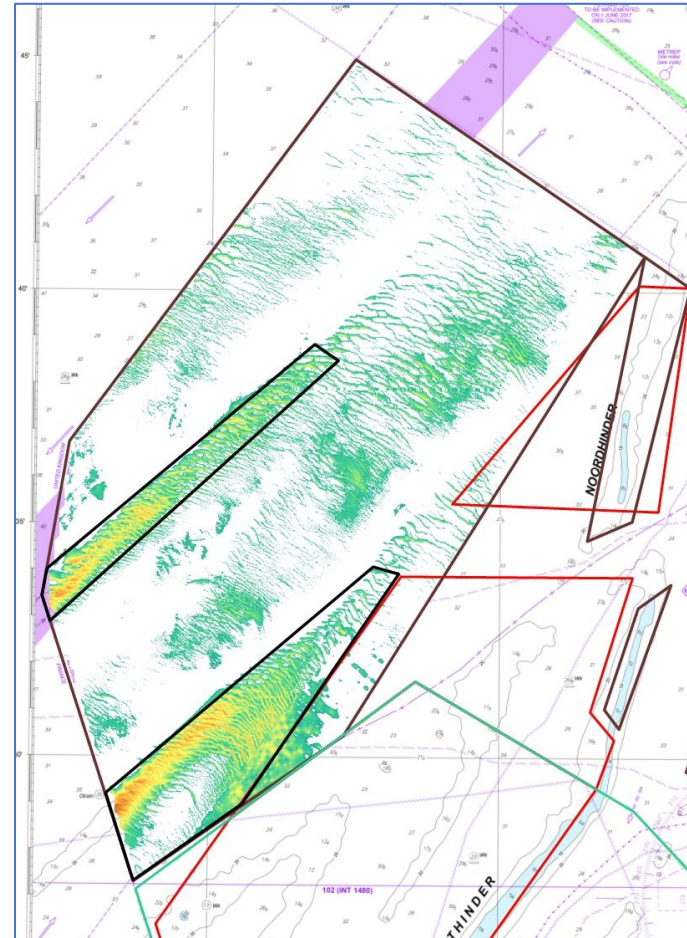
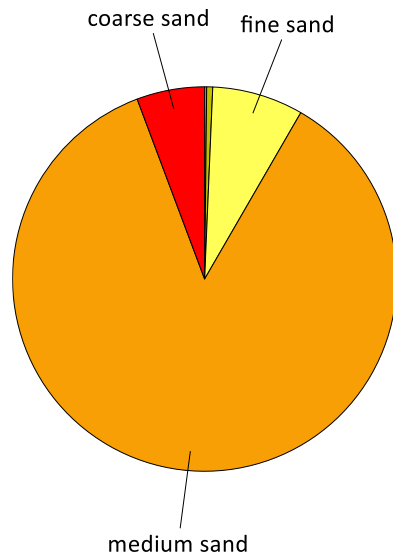
Minimum 2m available

Volume

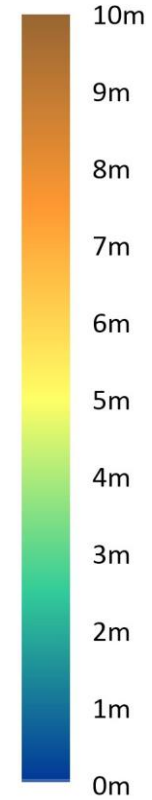
60 10⁶ m³



106 10⁶ m³



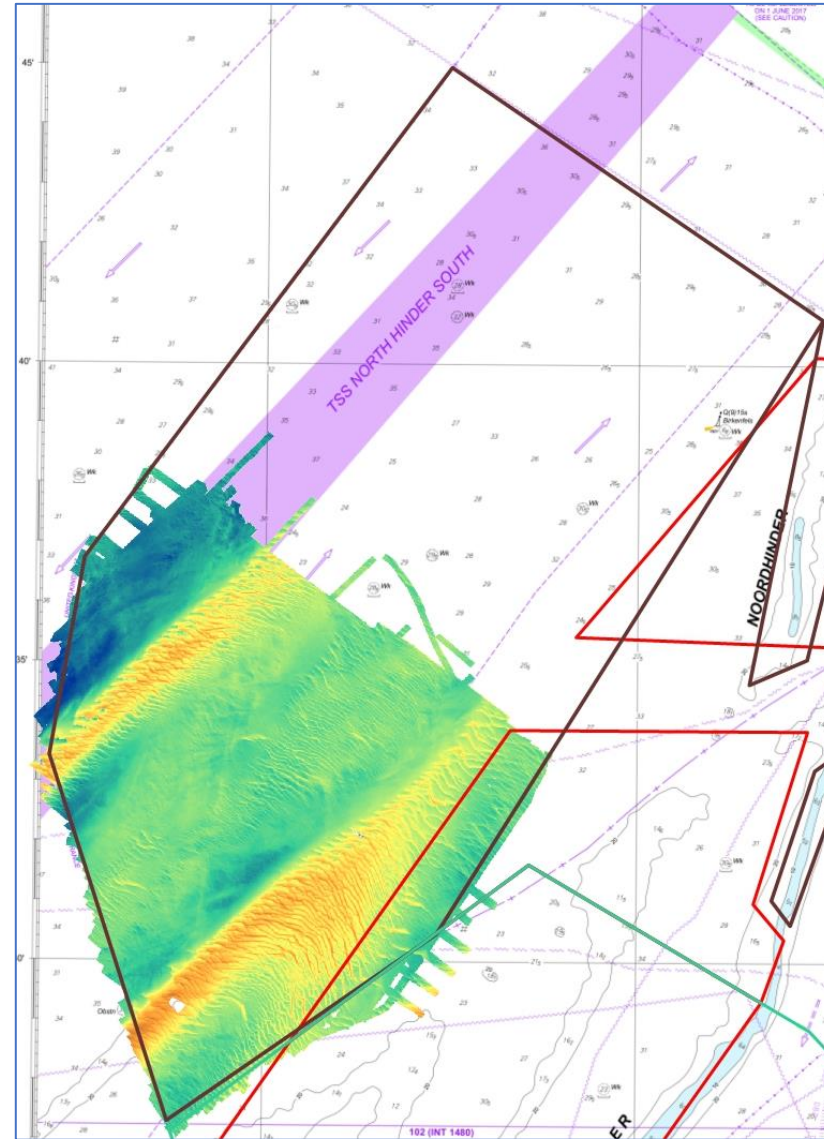
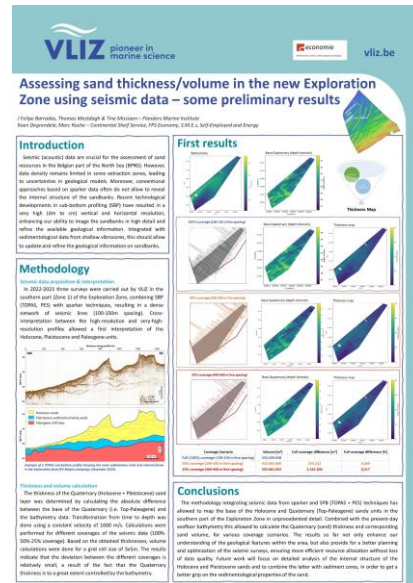
Thickness



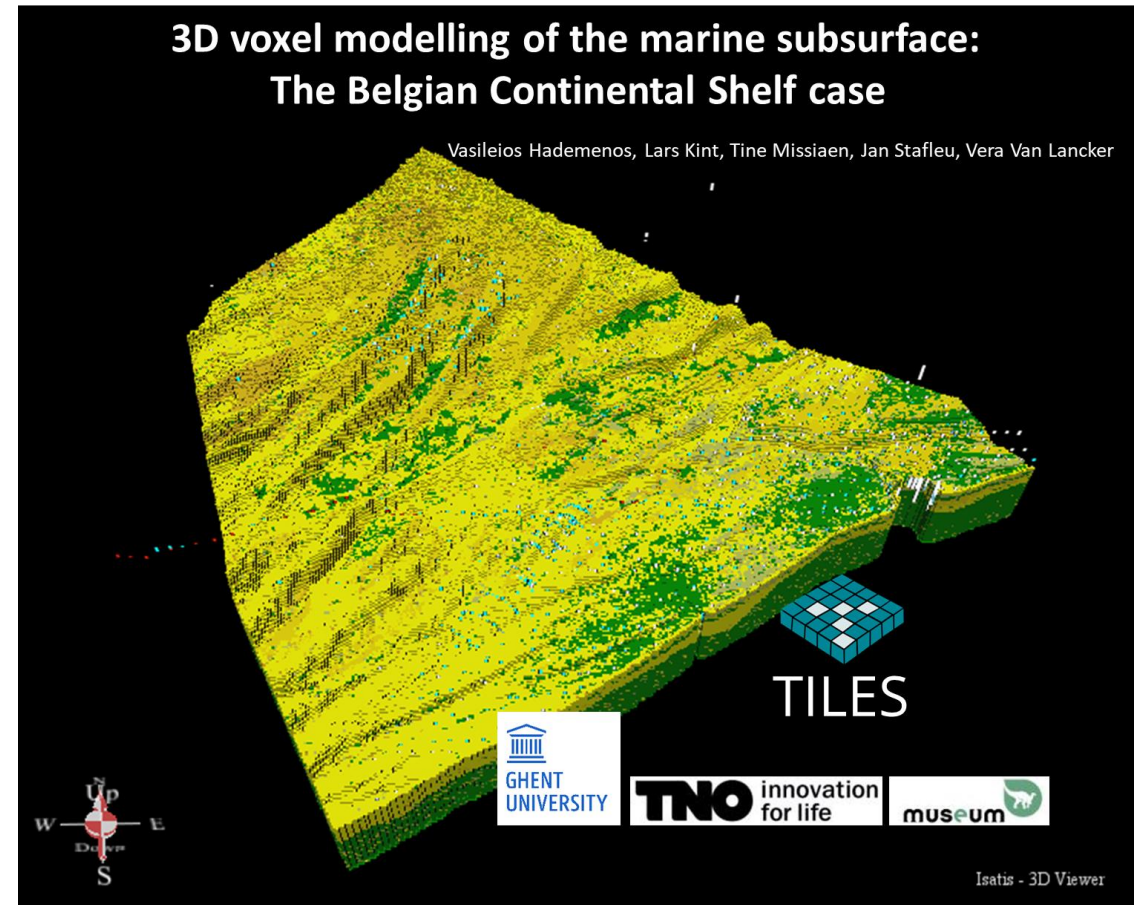
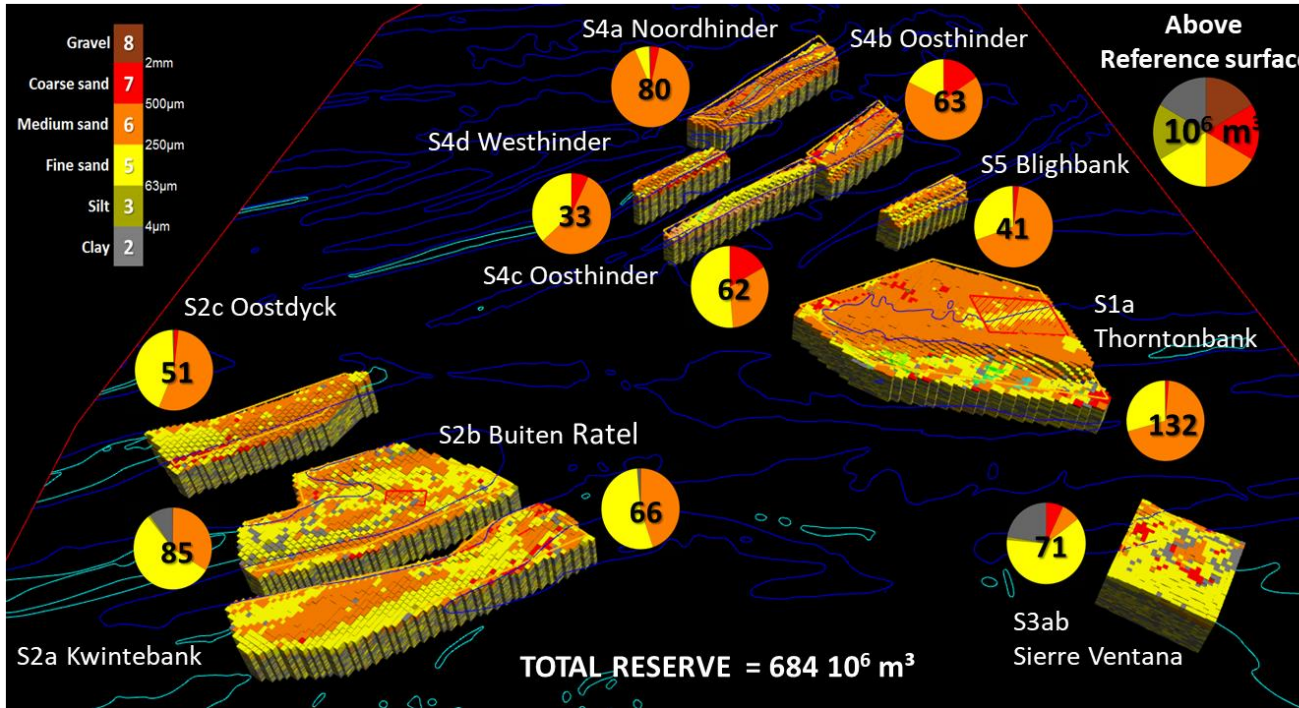
Cartography project together with VLIZ:
 High resolution pseudo 3D of available
 sand resources

- MBES
- Sparker
- Sub-bottom profiling
- Vibrocoring

-> See poster

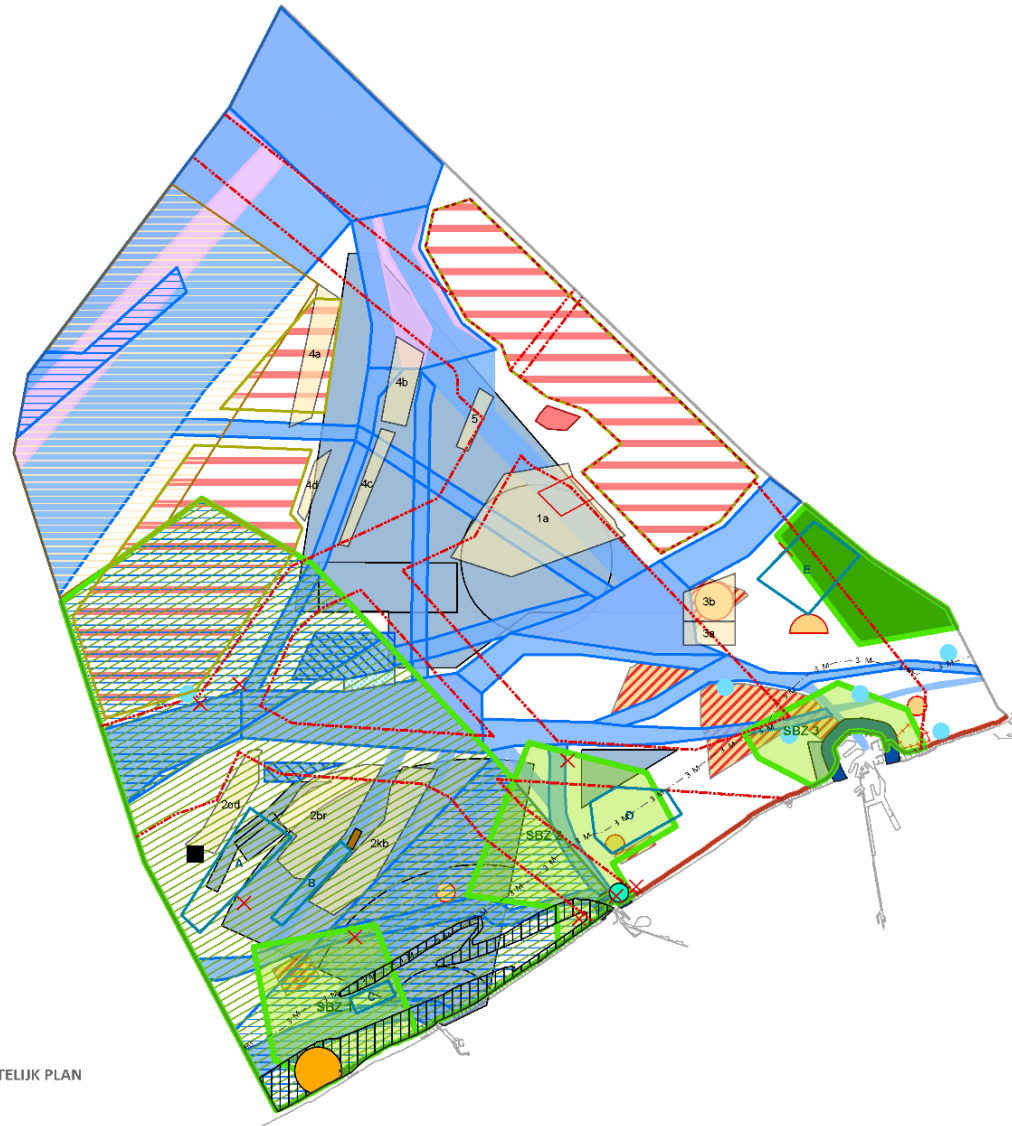


Base for evaluation of sediment quality:



Need for maintenance, improvements and accessibility

Currently non available sand reserves?

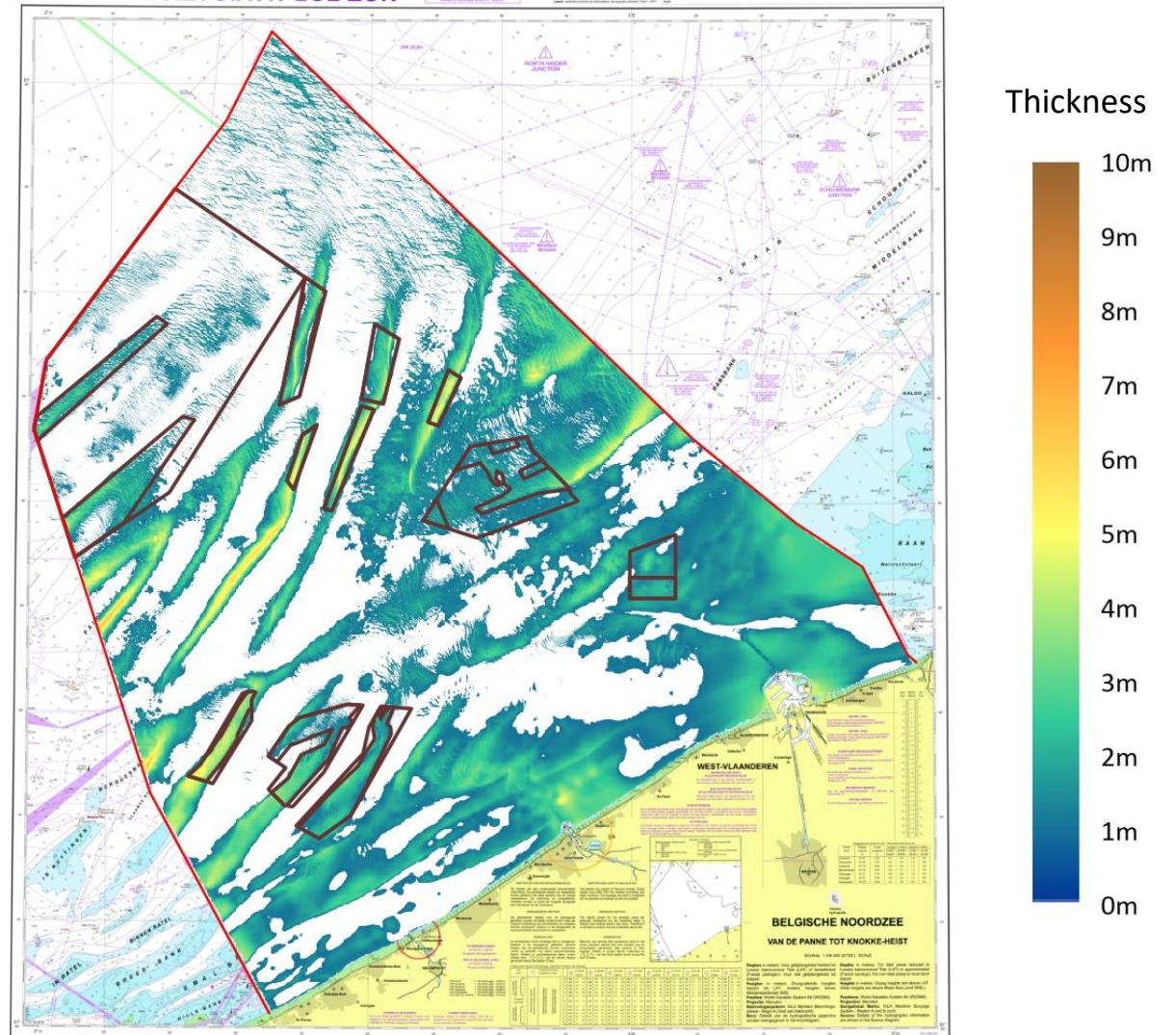


MARIEN RUIMTELIJK PLAN
VISIE

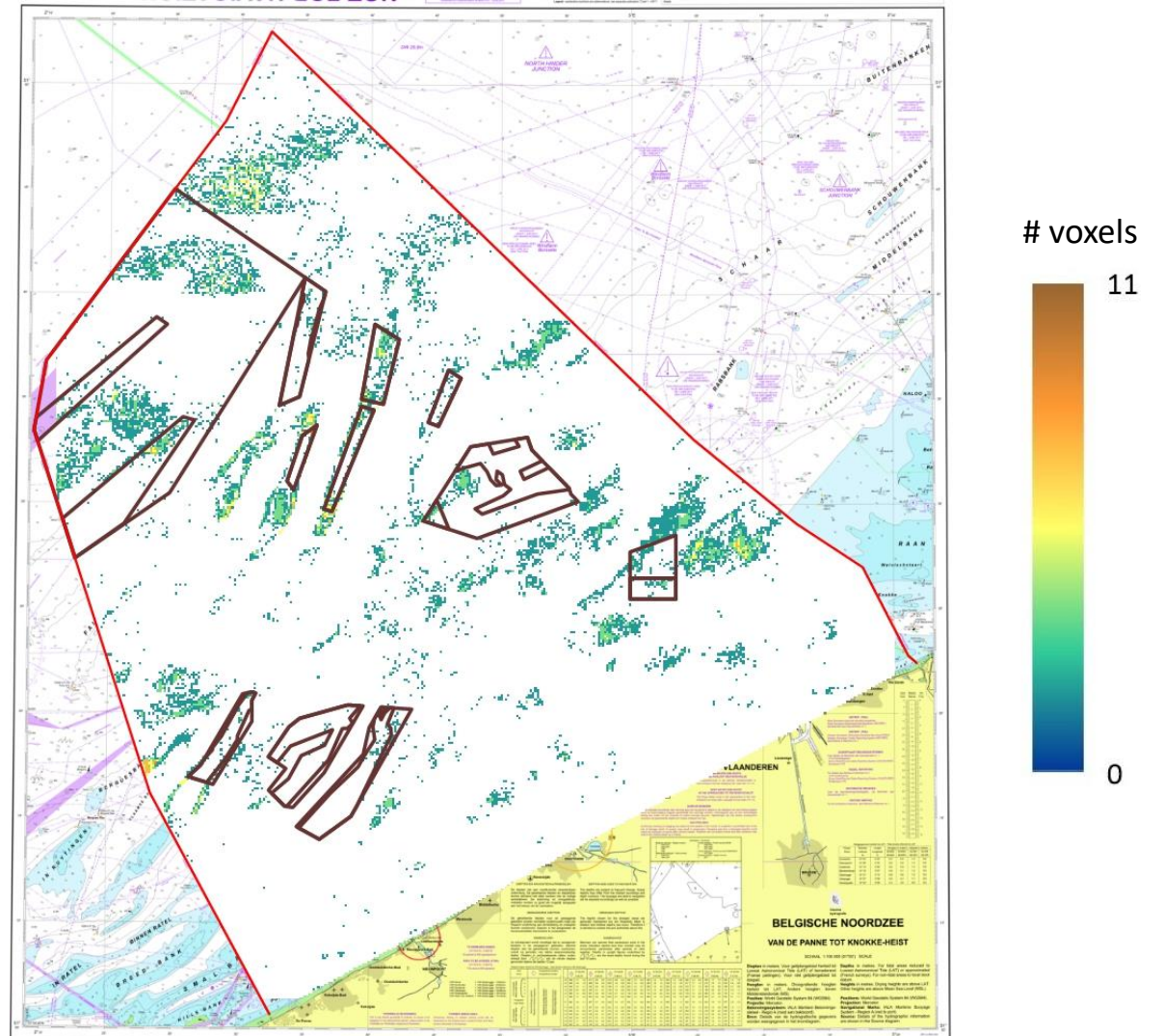
- Geïntegreerde visiekaart**
- Lijn 3-zeemijl -3 M
 - Zone commerciële en industriële activiteiten
 - Zone aquacultuur
 - Zone aquacultuur en passieve visserij
 - Erkend scheepswrak, met ruimtelijke beschermingsmaatregelen
 - Meetpaal
 - Radartoren
 - Testzone zeewering
 - Kalibratiegebied akoestische instrumenten
 - Projectzone mariene innovatielocatie
 - Zone kabels en pijpleidingen
 - RAMSAR
 - Natura-2000-Netwerk
 - Vogelrichtlijngebied
 - Habitatrichtlijngebied Vlake van de Raan
 - Habitatrichtlijngebied Vlaamse Banken
 - Zoekzone bodemintegriteit
 - Monitoringgebied
 - Zoekzone zandwinning
 - Controle- of exploitatiezone
 - Ankergebied
 - Te vermijden gebied
 - Zone installatie transmissie van elektriciteit
 - Zone hernieuwbare energie
 - Uitbreidingszone haven
 - Scheepvaartroutes
 - Scheepvaart
 - Scheepsrouteringssysteem
 - Zone baggerstorten
 - Zoekzone baggerstorten
 - Munitiestortplaats Paardenmarkt
 - Zone voor militaire activiteiten
 - Basislijn



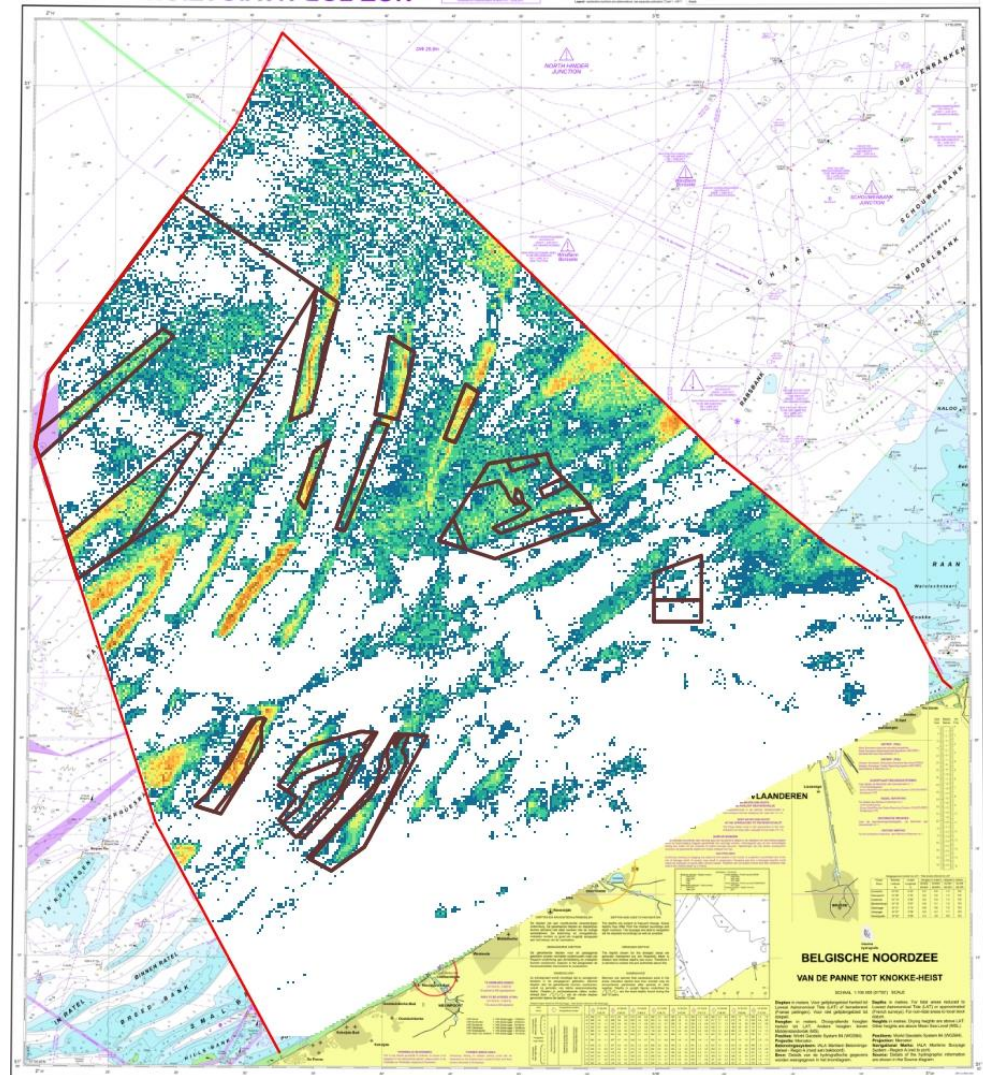
Holocene Sand



Coarse Sand



Medium Sand

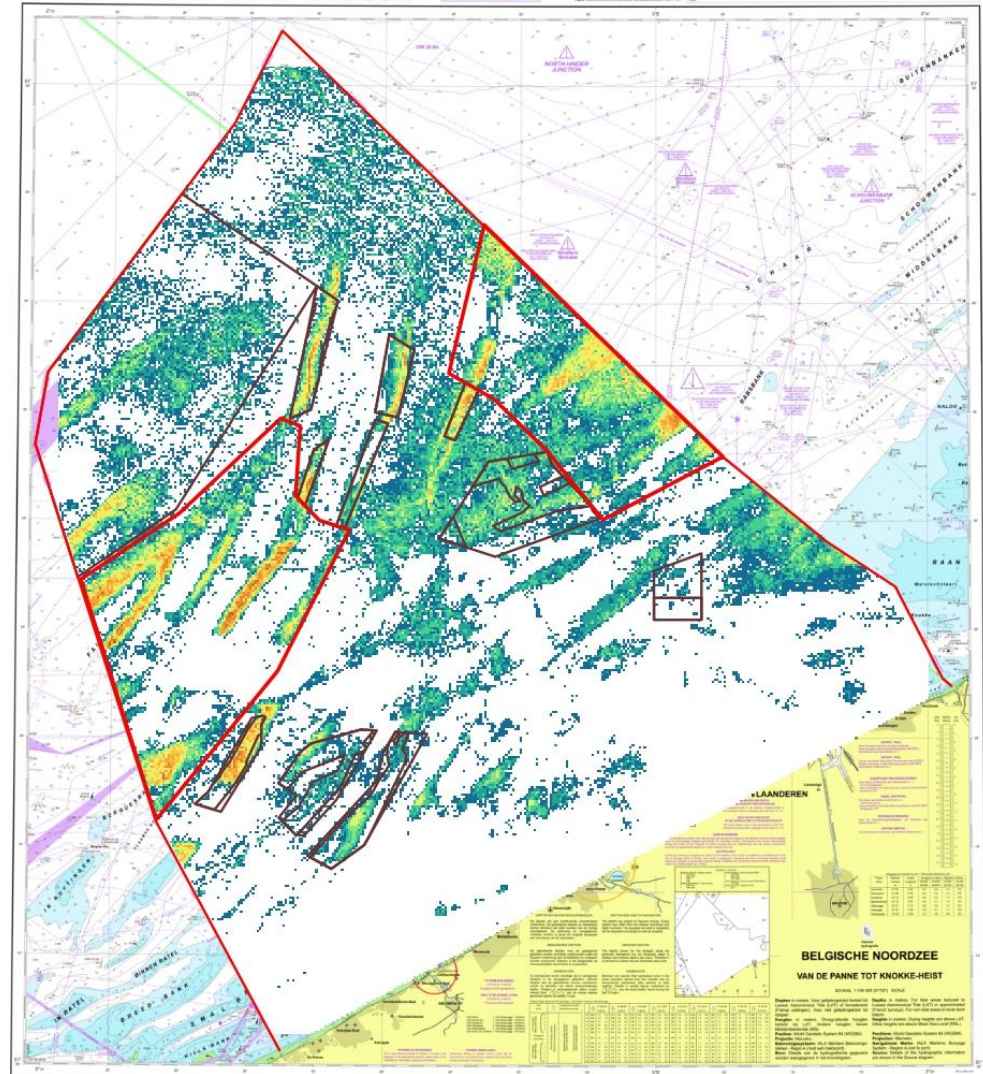


voxels

11

0

Medium Sand



voxels

11

0

For extraction as usual:

- No medium term problems with availability
- Alternative for near closure of zone 1?

For extraction of high volumes in near and distant future:

- Limited volumes available
- Important holocene reserves currently not accessible
-> conditions for repurposing



Questions?

