



Royal Netherlands Navy

Update on NSHC TWG AP 23/02: Investigate the differences at all MS borders (and overlapping parts of surfaces) between national LAT reference surfaces

NSHC TWG25 (VTC) – 07 Feb 2023

Thijs Ligteringen

Ronald Kuilman

Hydrographic Service

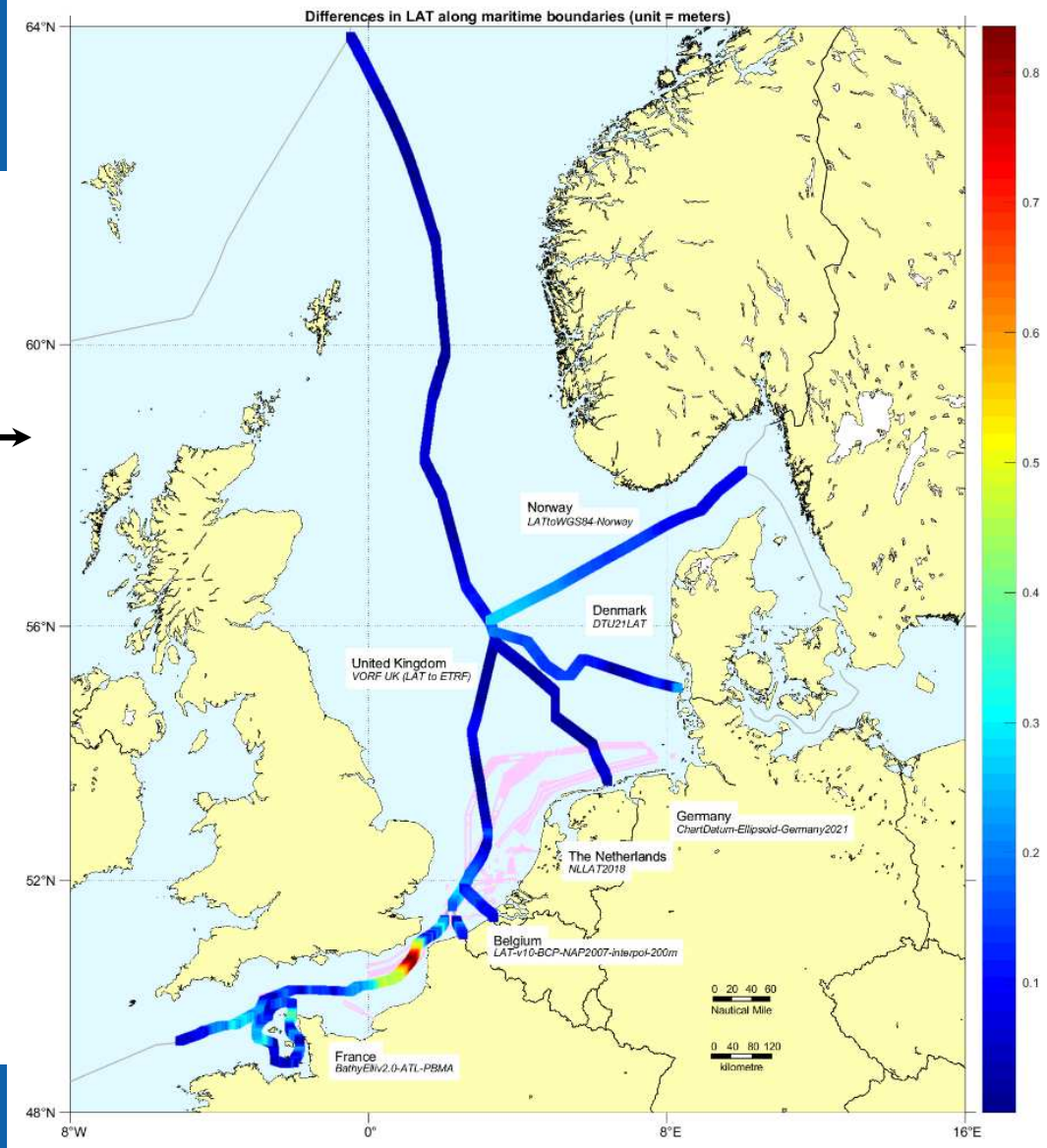
Geodesy and Tides

AP23/02

Two action items:

- Investigate the differences at all MS borders →
- (and overlapping parts of surfaces)

between national LAT reference surfaces





AP23/02 part 2: Overlapping parts of surfaces

LAT to ellipsoid was provided by:

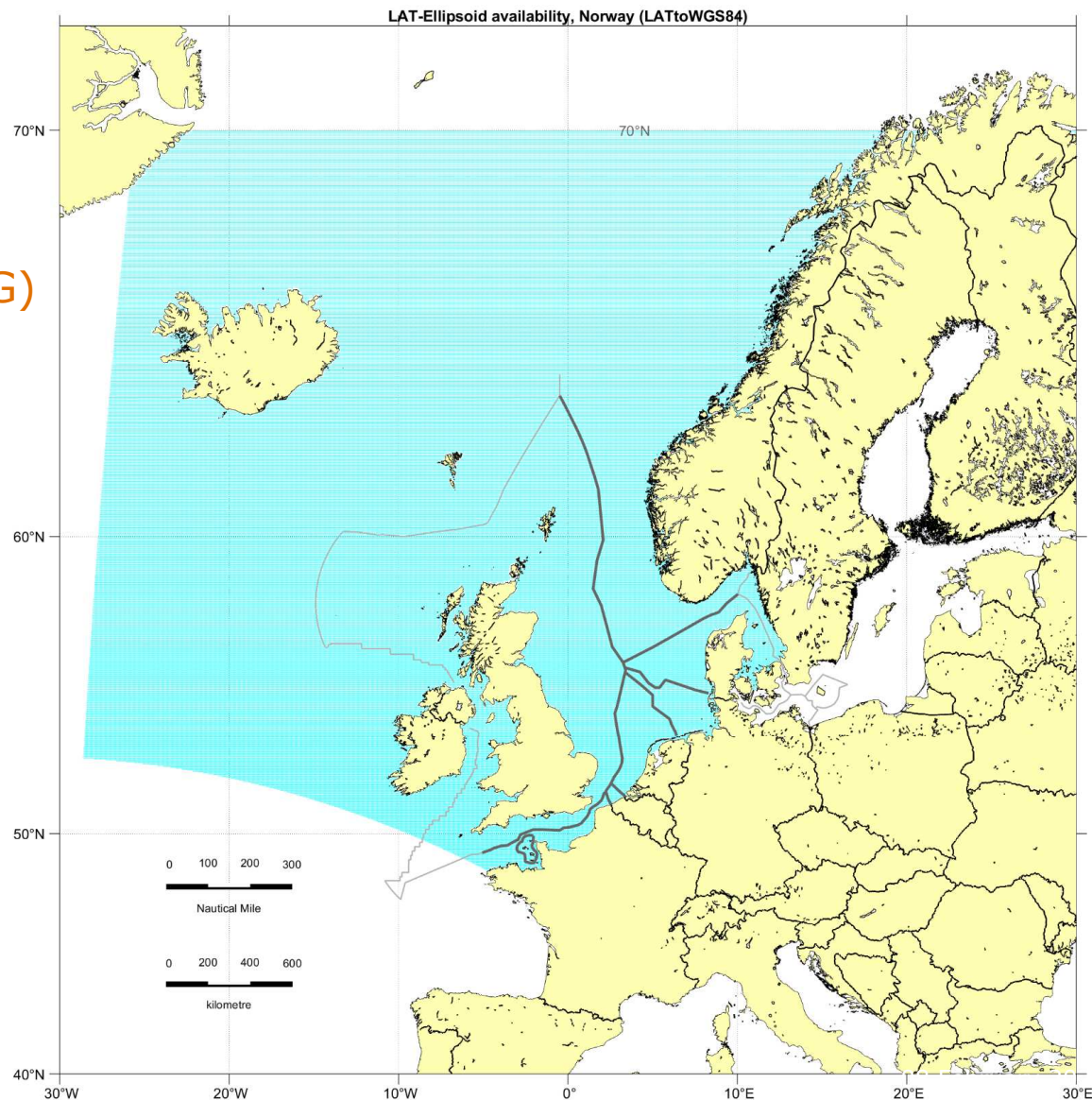
- Norway (LATtoWGS84)
- United Kingdom (VORF)
- Denmark (DTU21LAT)
- Germany (ChartDatum-Ellipsoid-Germany2021)
- Netherlands (NLLAT2018)
- Belgium (LATv10_BCP_NAP2007)
- France (BathyElli)

Norway

(as delivered to NSHC TWG)

Spatial delimitation:
70°N

Spatial resolution:
N: 0.0333 degrees
E: 0.0333 degrees



United Kingdom (as delivered to NSHC TWG)

Spatial delimitation:

50.152°N (Celtic Sea)

12.19°W (Celtic Sea)

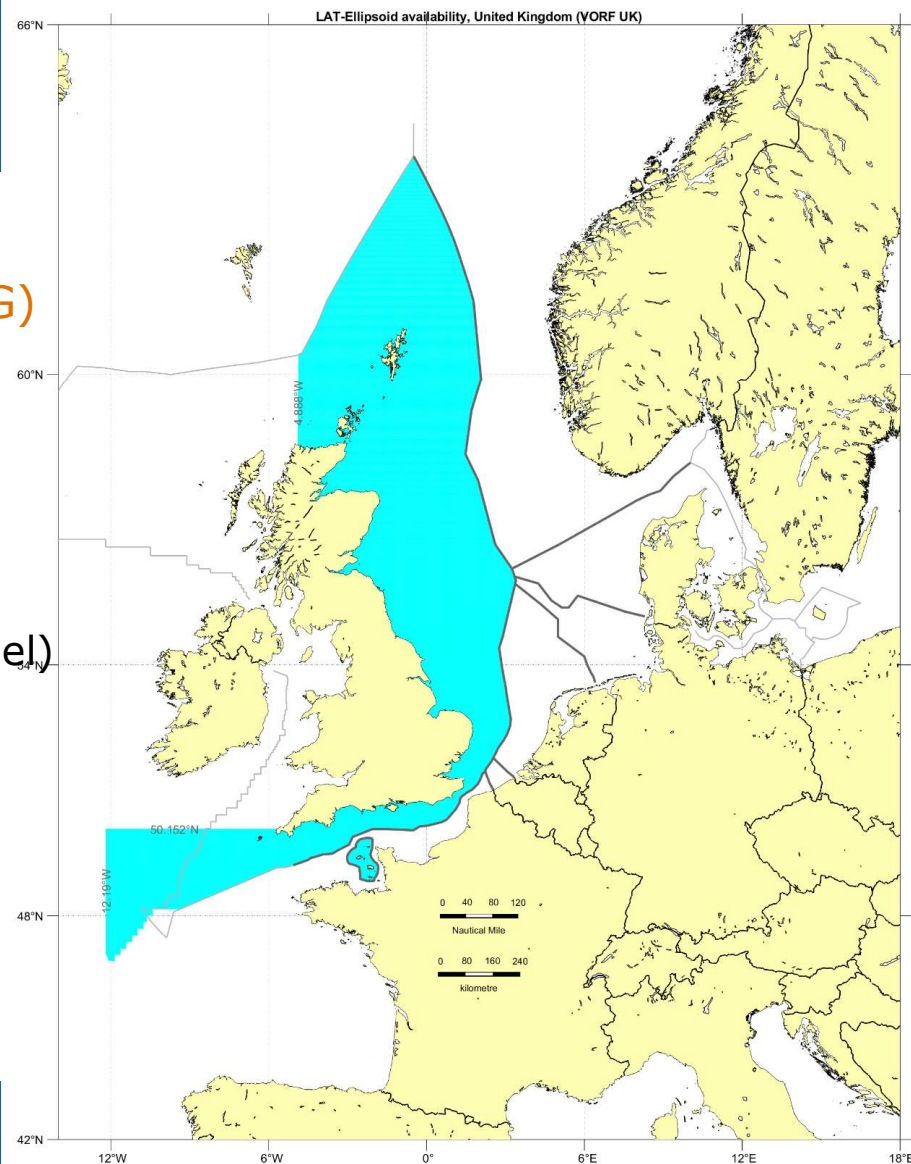
4.888°W (north of Scotland)

Agreed maritime boundaries
(North sea and English Channel)

Spatial resolution:

N: 0.008 degrees

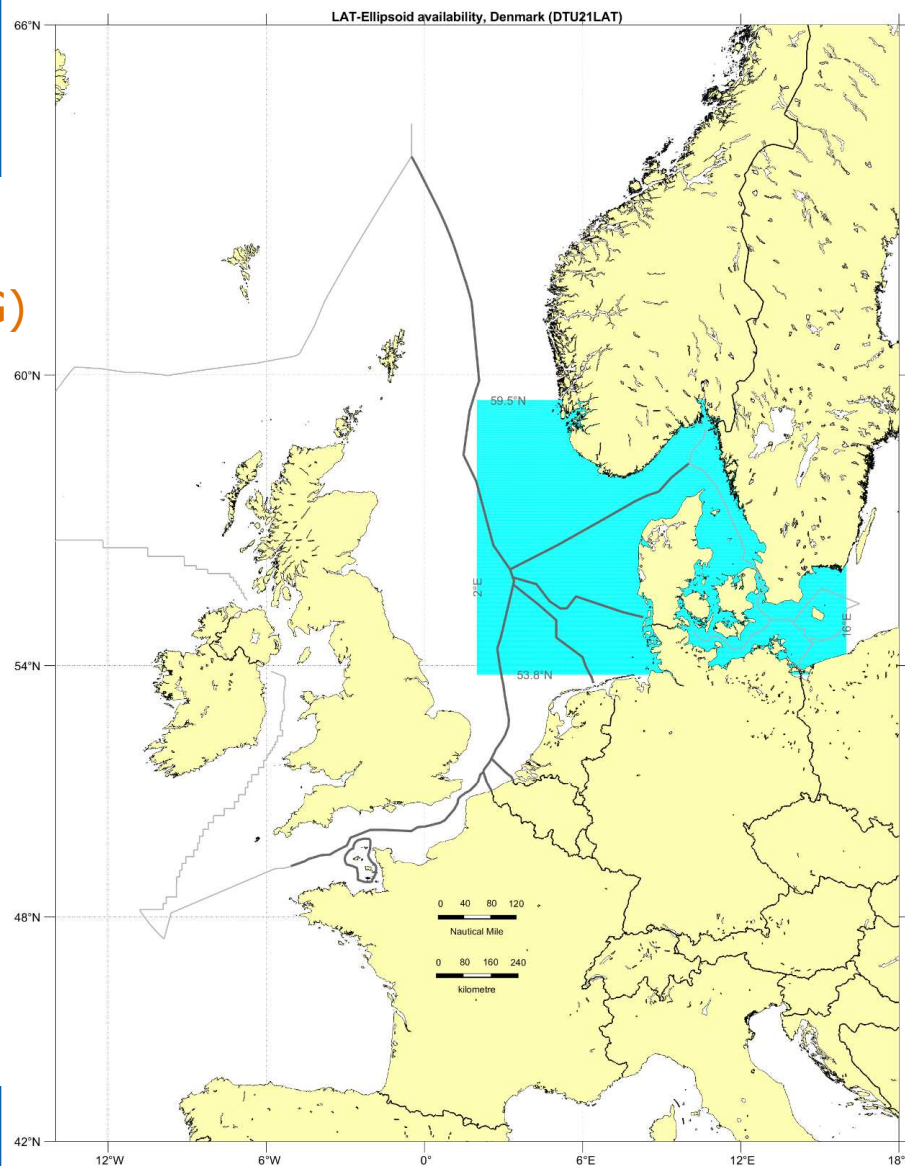
E: 0.008 degrees



Denmark (as delivered to NSHC TWG)

Spatial delimitation:
53.8 - 59.5°N
2 - 16°E

Spatial resolution:
N: 0.01 degrees
E: 0.01 degrees



Germany (as delivered to NSHC TWG)

Spatial delimitation:

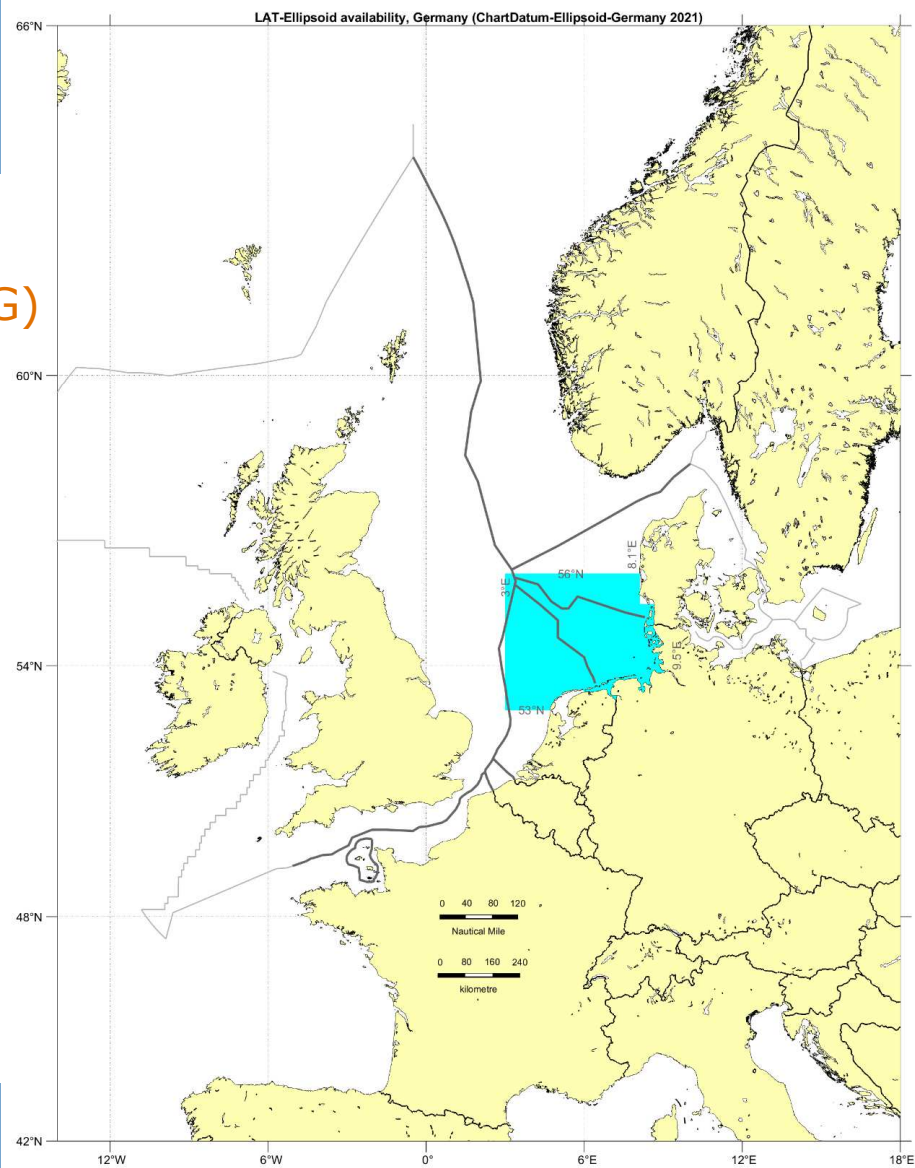
53 - 56°N

3 - 9.5°E

Spatial resolution:

N: 0.0036133 degrees

E: 0.0063 degrees



Netherlands (as delivered to NSHC TWG)

Spatial delimitation:

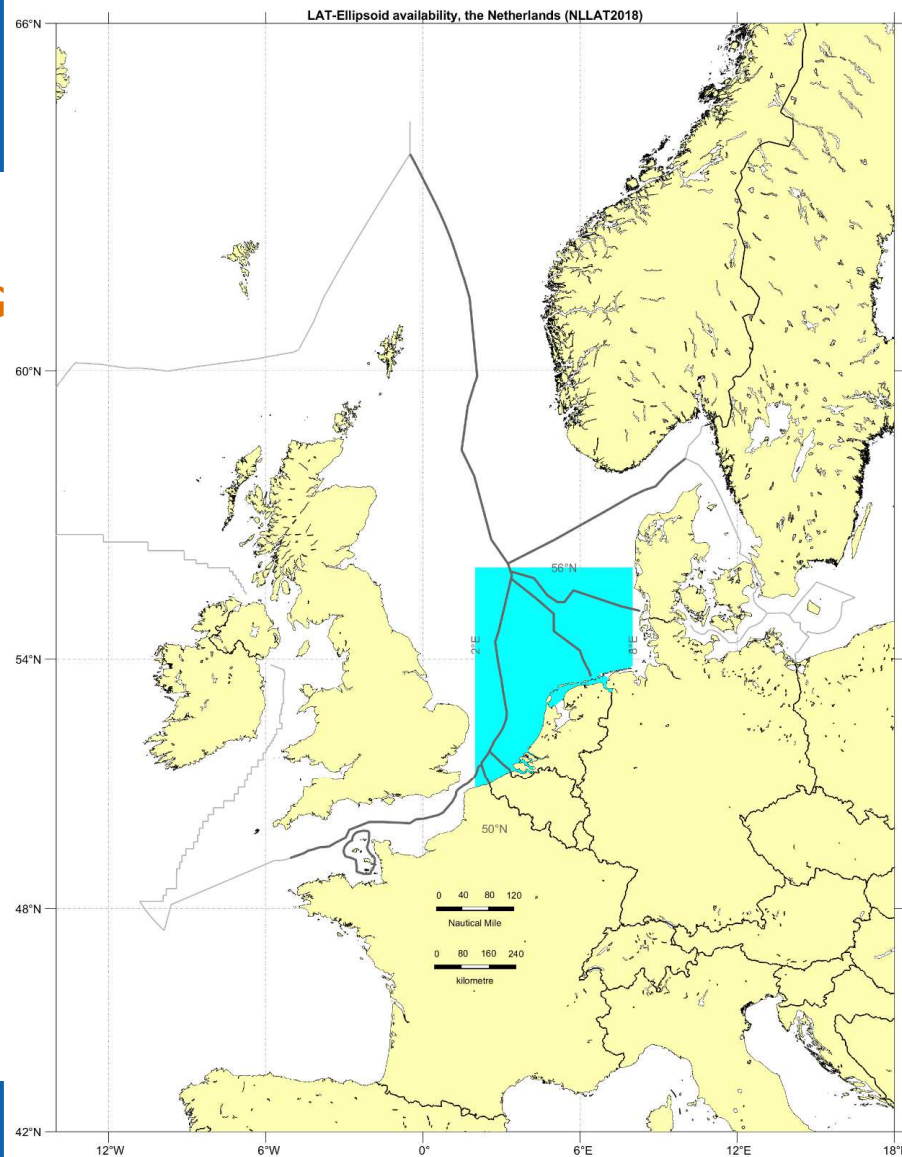
50 - 56°N

2 - 8°E

Spatial resolution:

N: 0.00625 degrees

E: 0.01 degrees



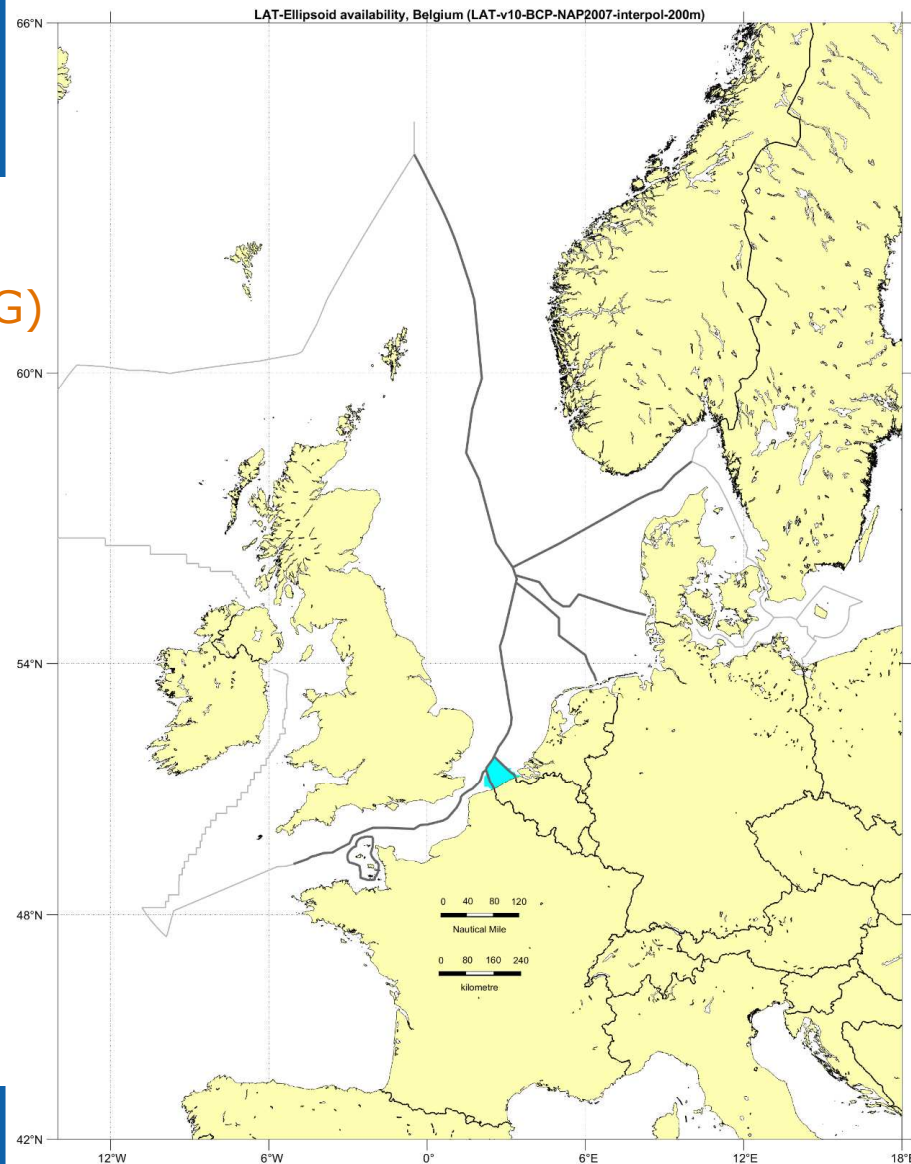
Belgium (as delivered to NSHC TWG)

Spatial delimitation:
Small overlap with neighbour
countries

Spatial resolution:

N: 200 m

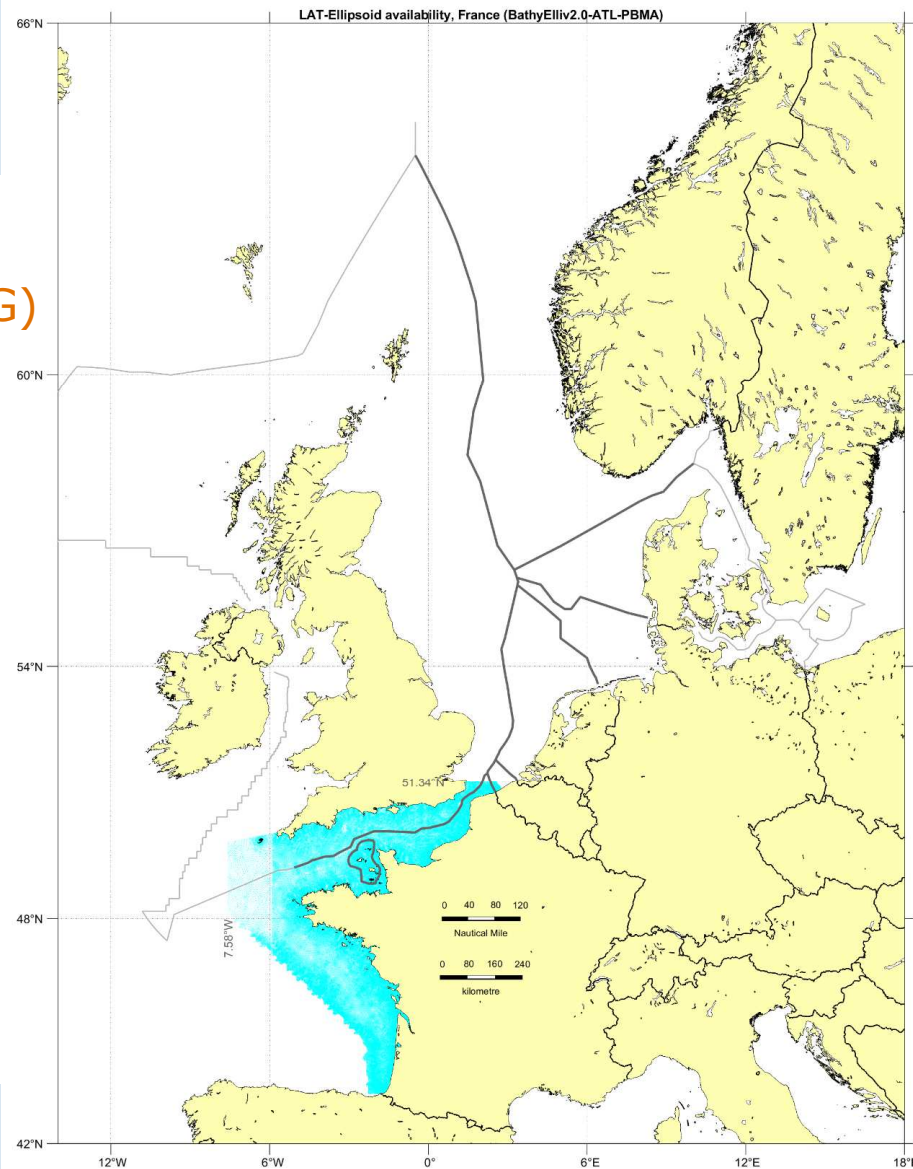
E: 200 m



France (as delivered to NSHC TWG)

Spatial delimitation:
51.34°N (North Sea)
7.56°W (Atlantic Ocean)

Spatial resolution:
variable



Overlapping areas: LATtoWGS84 (Norway)

With UK: 100% of NSHC TWG area
(95% of UK EEZ)

With DK: 100% (up to Great Belt & Sound)

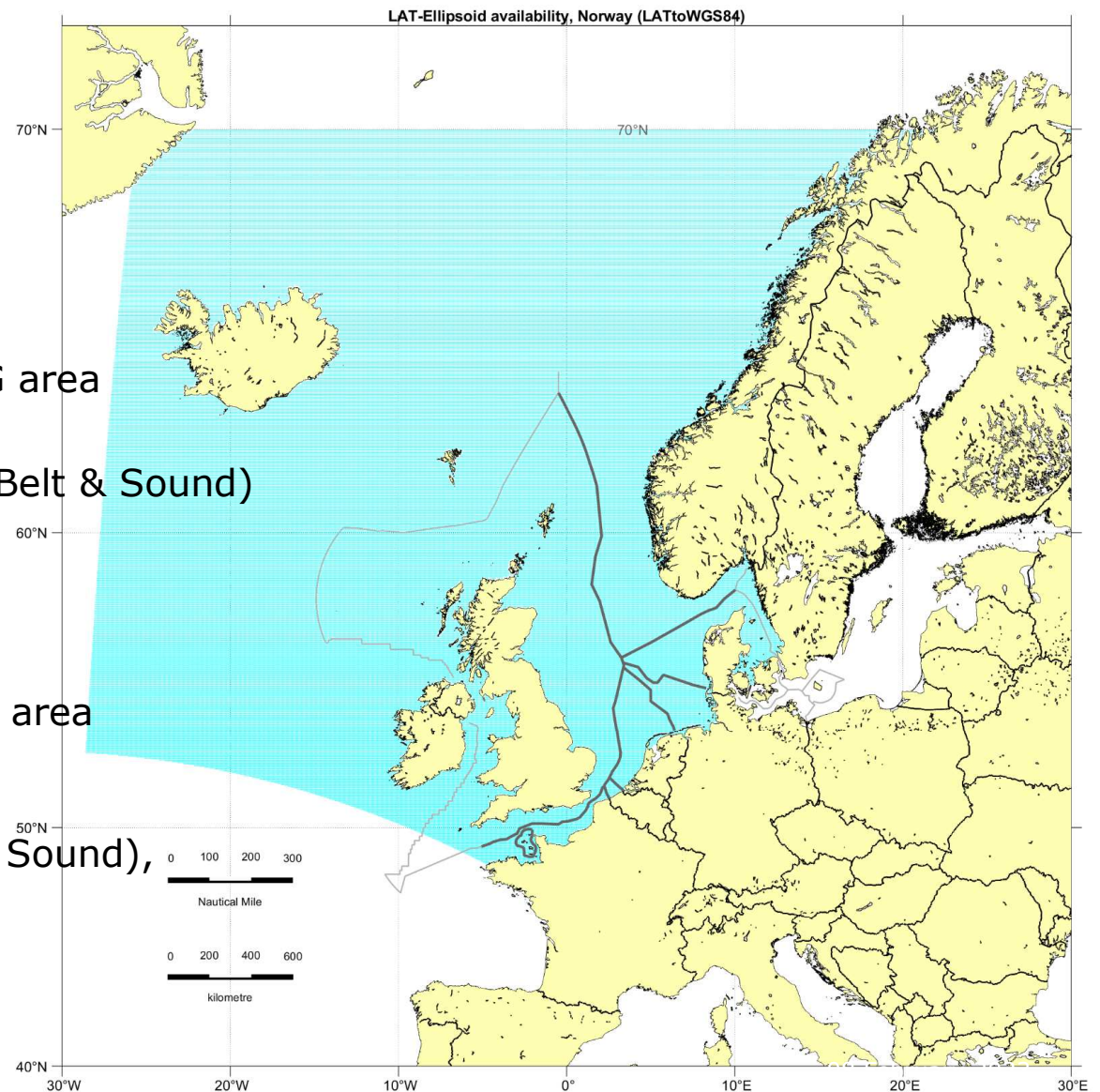
With DE: 100%

With NL: 100%

With BE: 100%

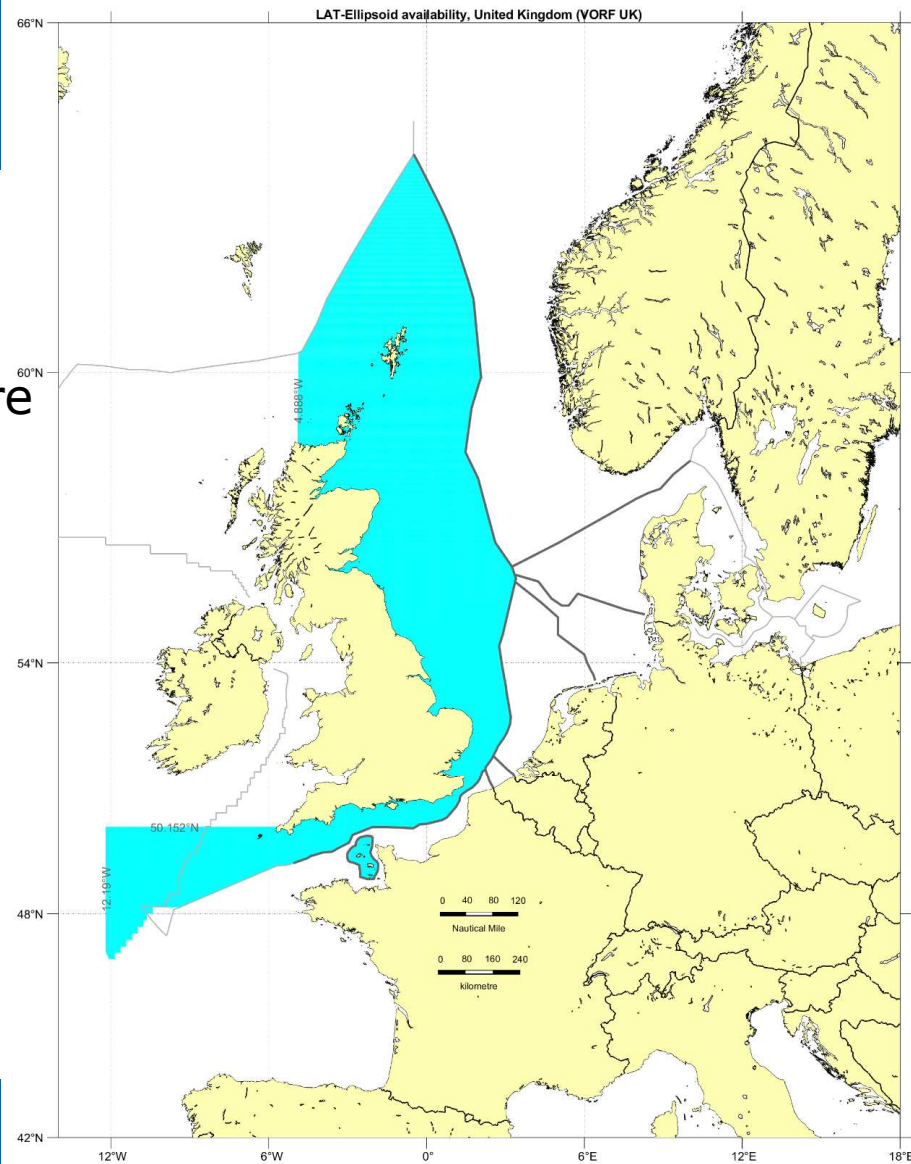
With FR: 100% of NSHC TWG area
(~50% of FR EEZ)

With Sweden (up to Great Belt & Sound),
Iceland, Ireland and Faeroer



Overlapping areas: VORF (UK)

No overlapping data were
supplied to NSHC TWG



Overlapping areas: DTU21LAT (Denmark)

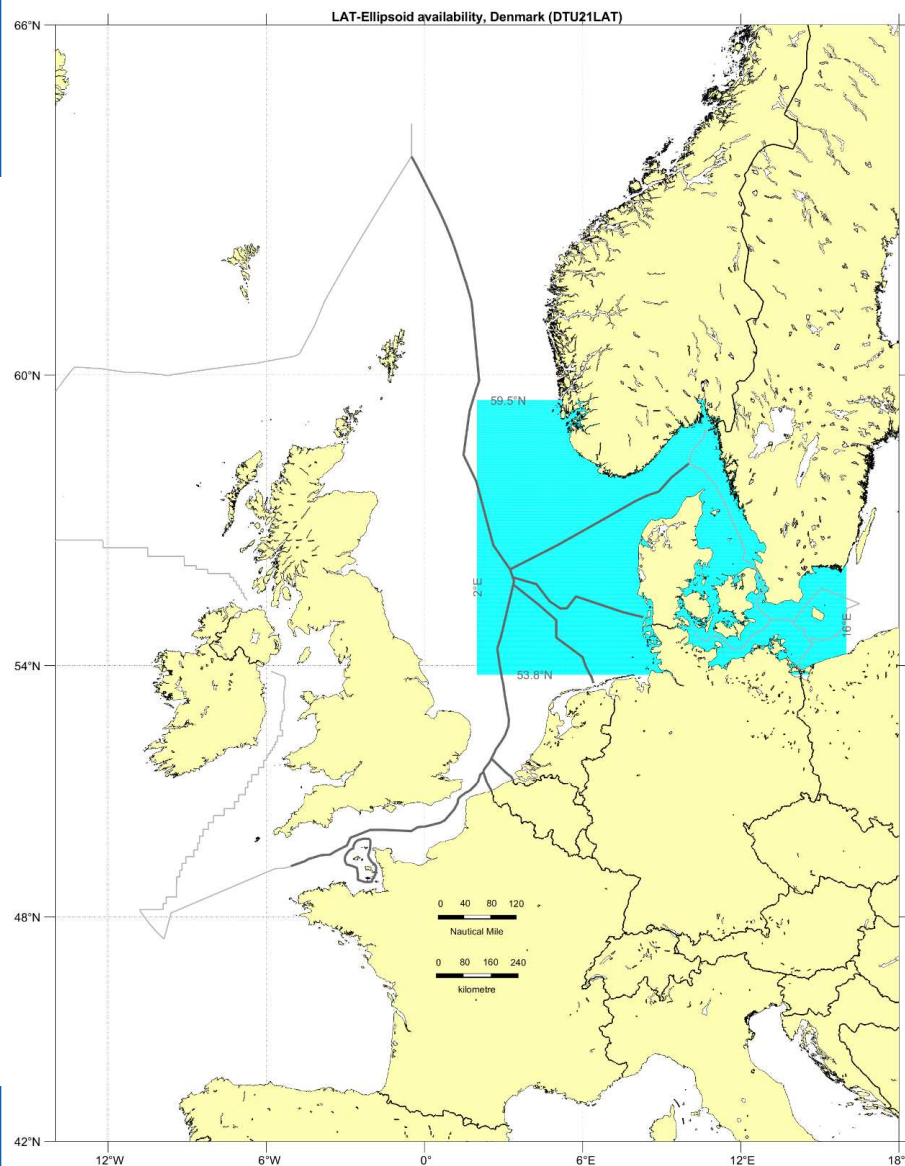
With UK: partially

With NO: partially

With DE: ~90%

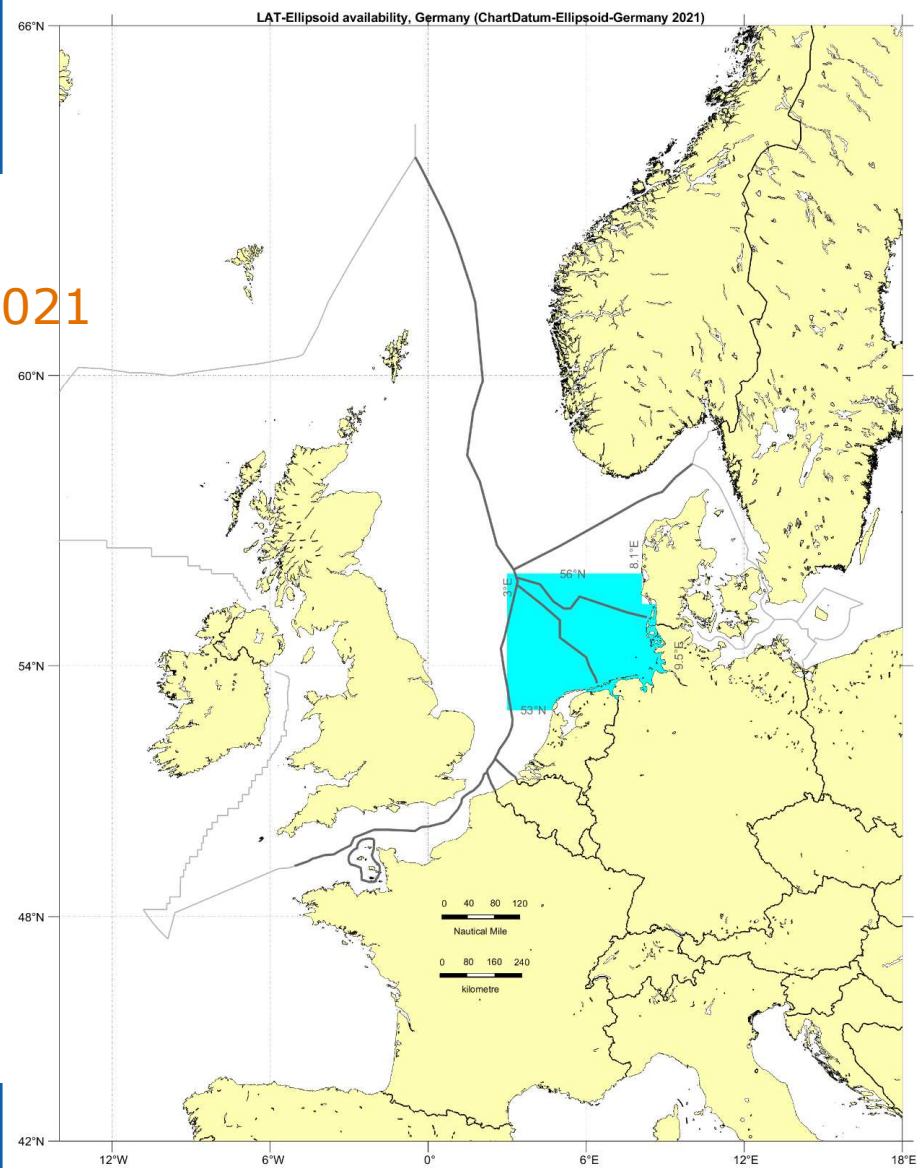
With NL: partially

With Sweden (up to 16°E,
100% of NSHC TWG area)



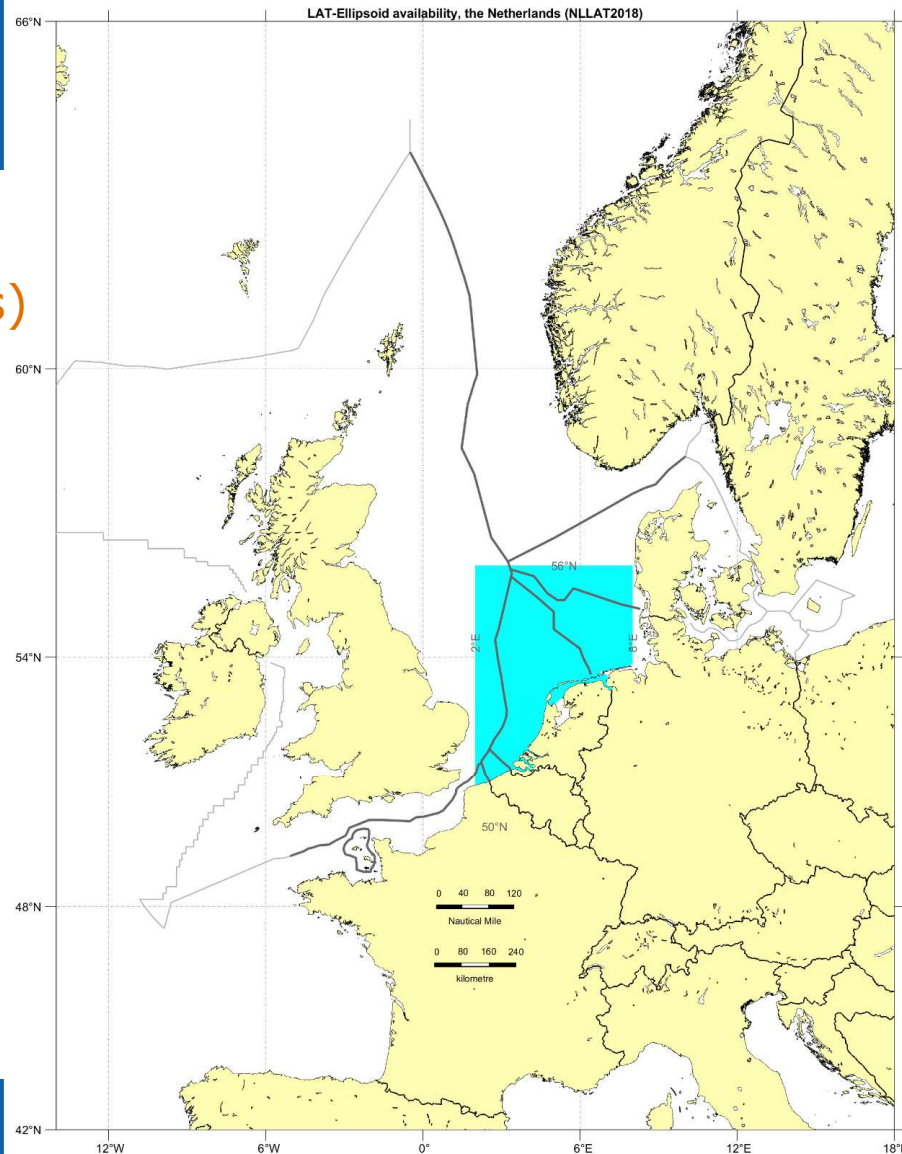
Overlapping areas: ChartDatum_Ellipsoid_2021 (Germany)

With UK: partially
With DK: partially
With NL: partially



Overlapping areas: NLLAT2018 (Netherlands)

With UK: partially
With DK: partially
With DE: partially
With BE: 100%
With FR: partially

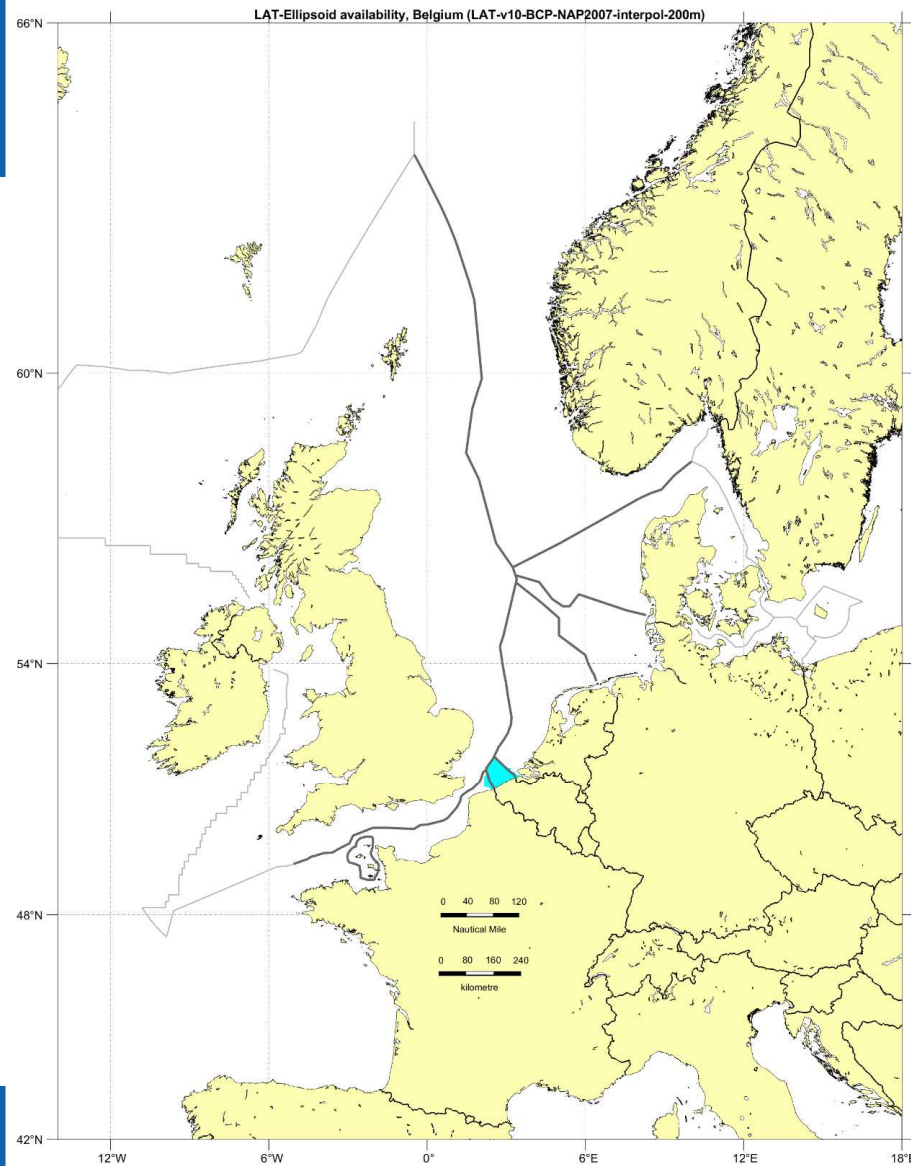


Overlapping areas: LATv10_BCP_NAP2007 (Belgium)

With UK: almost none

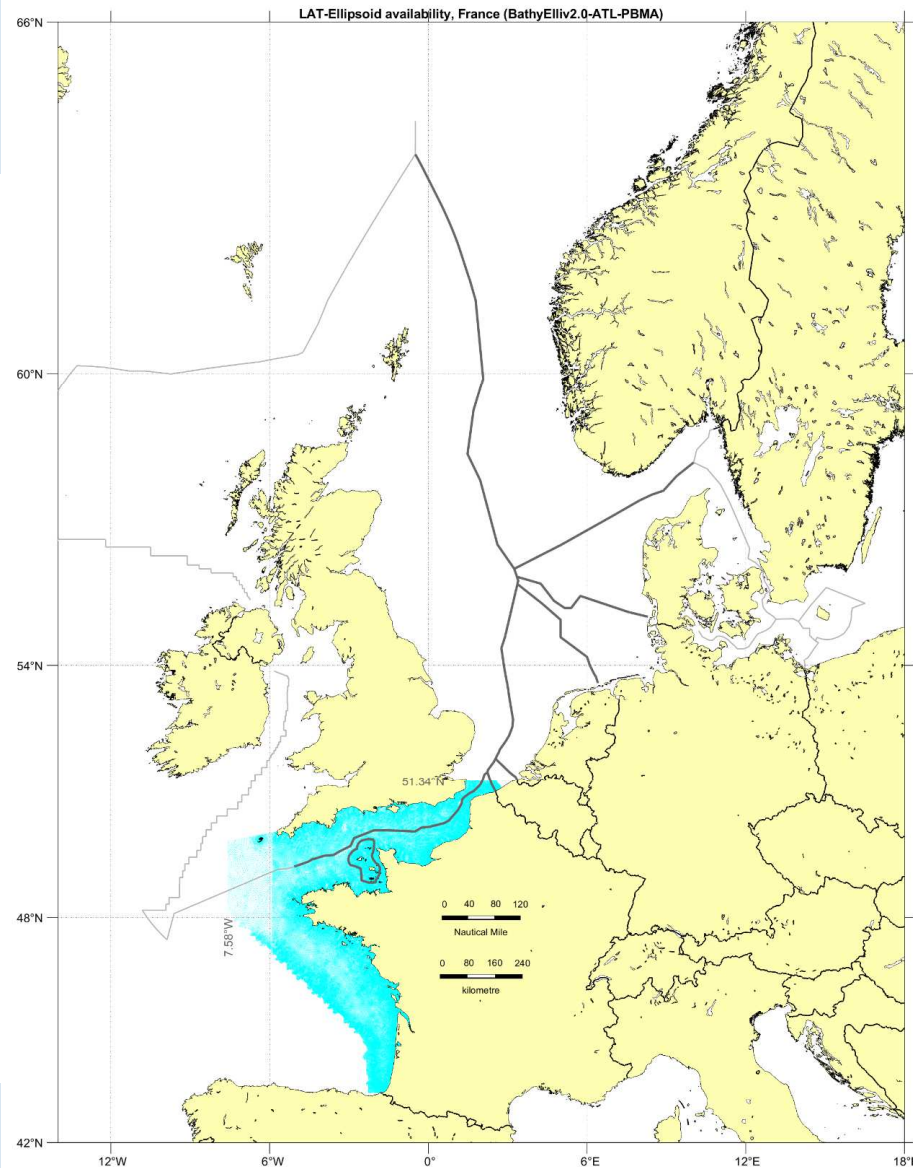
With NL: partially

With FR: partially



Overlapping areas: BathyElli (France)

With UK: partially
(100% in English Channel)
With BE: partially





Next steps...