Mundi Presentation

A space of new opportunities

An Asset for Digital Twin Earth

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Mundi at a glance

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Earth Observation data: a technological & human challenge

- Combine satellite data with in-situ or enterprise data
- Understand, select, download, store and process data
- Harness a range of scientific and technical skills and manpower
- Load and store petabytes of data
- Deploy high performance computing capabilities

Photo: ESA

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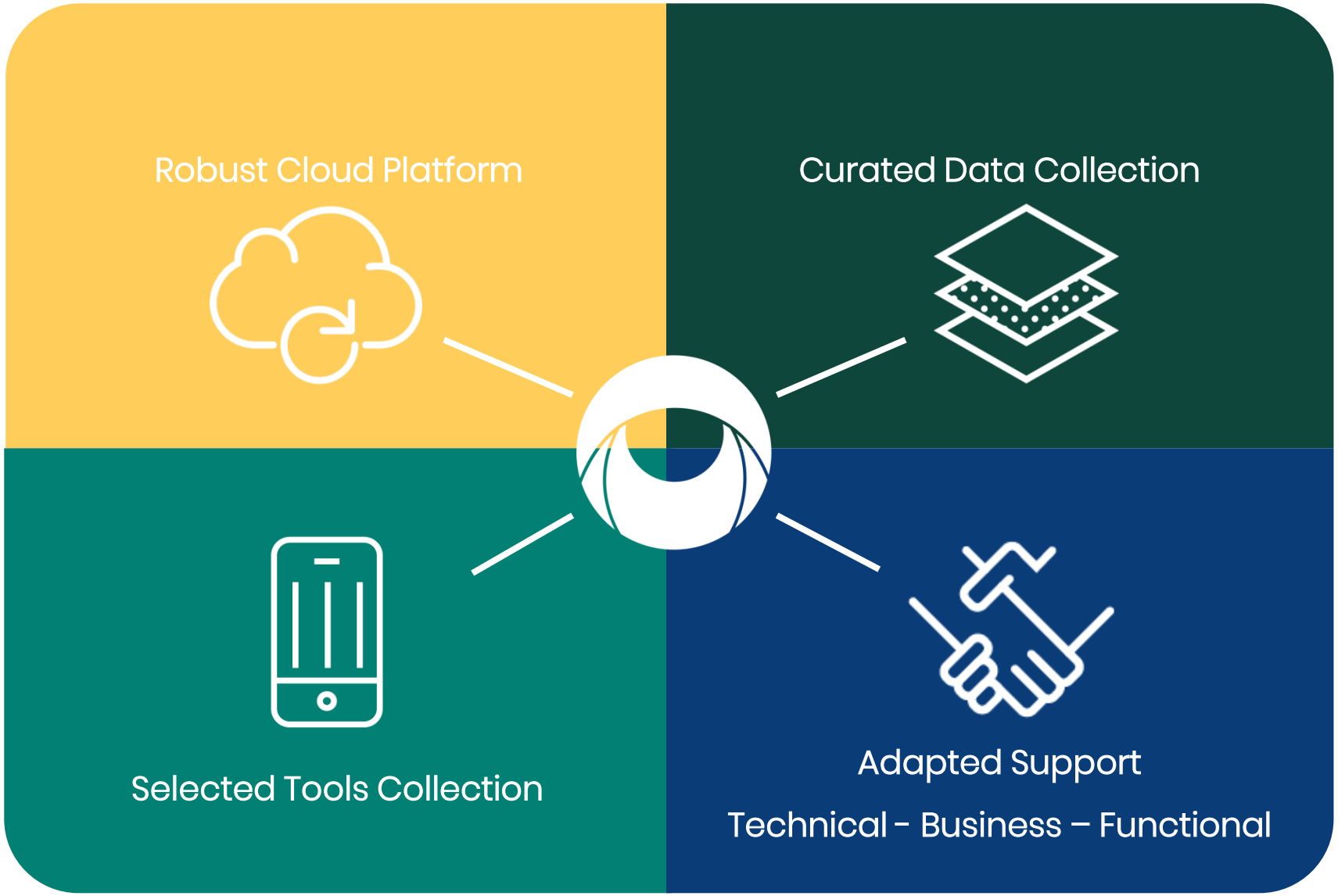
Key elements



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Data Collection

SENTINEL 1 – SLC – GRD
SAR images

SENTINEL 2 – L1C - L2A
Optical images

SENTINEL 3 – L1 – L2
Ocean Monitoring

SENTINEL 5P
Troposphere Monitoring

EMERGENCY
LAND
CLIMATE
ATMOSPHERE
MARINE

Copernicus Services

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Earth Obs.

LANDSAT 7 – 8

VHR collection

HR SAR collection

Non-EO

IoT data (via Internet or Satellite)

Weather data

European DEM (Euromaps 3D)

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Need of data for DTE

- Accessing all kind of data
- Through partnership and technical integration, Mundi is expanding the data offer of the platform
- Open data initiative is helping to get more data in different sectors
- Not storing but accessing
- Solving the “Tower of Babel” issue by interoperability

OGC®
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www.opengeospatial.org

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DTE use cases

2

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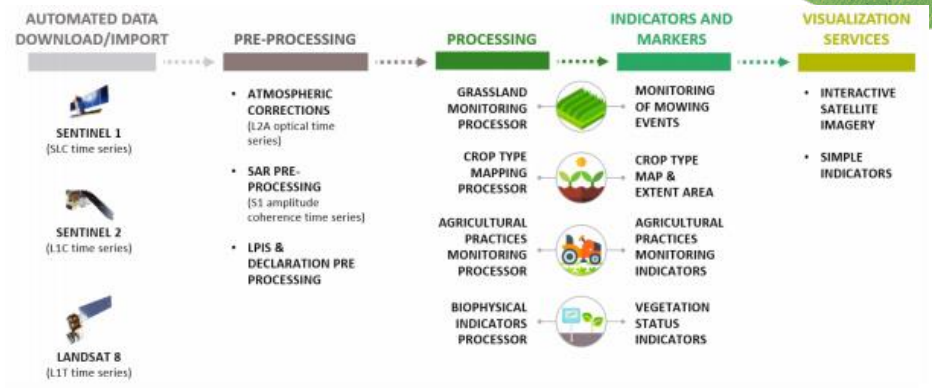
Monitoring farming with Mundi

- Mundi provides products for Agriculture
  - Land-parcel identification system
  - Sentinel-1 GRD back-scattering

  + Sentinel-2 L2A : NDVI and hydrology indexes
  - Sentinel-1 SLC 6-day coherence : change detection, crop evolution, clear cuts

- Coping with Climate Change challenges
  - Monitor farming from county-scale to world-scale
  - Tuning irrigation
  - Adapting inputs
  - Optimizing yield



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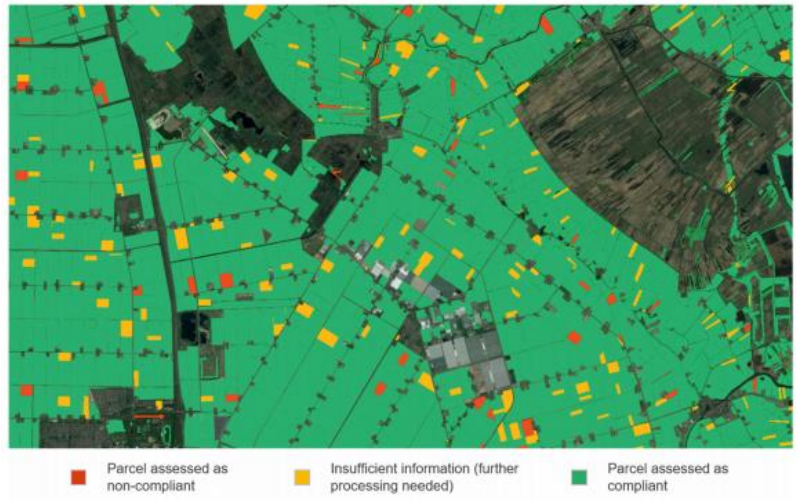
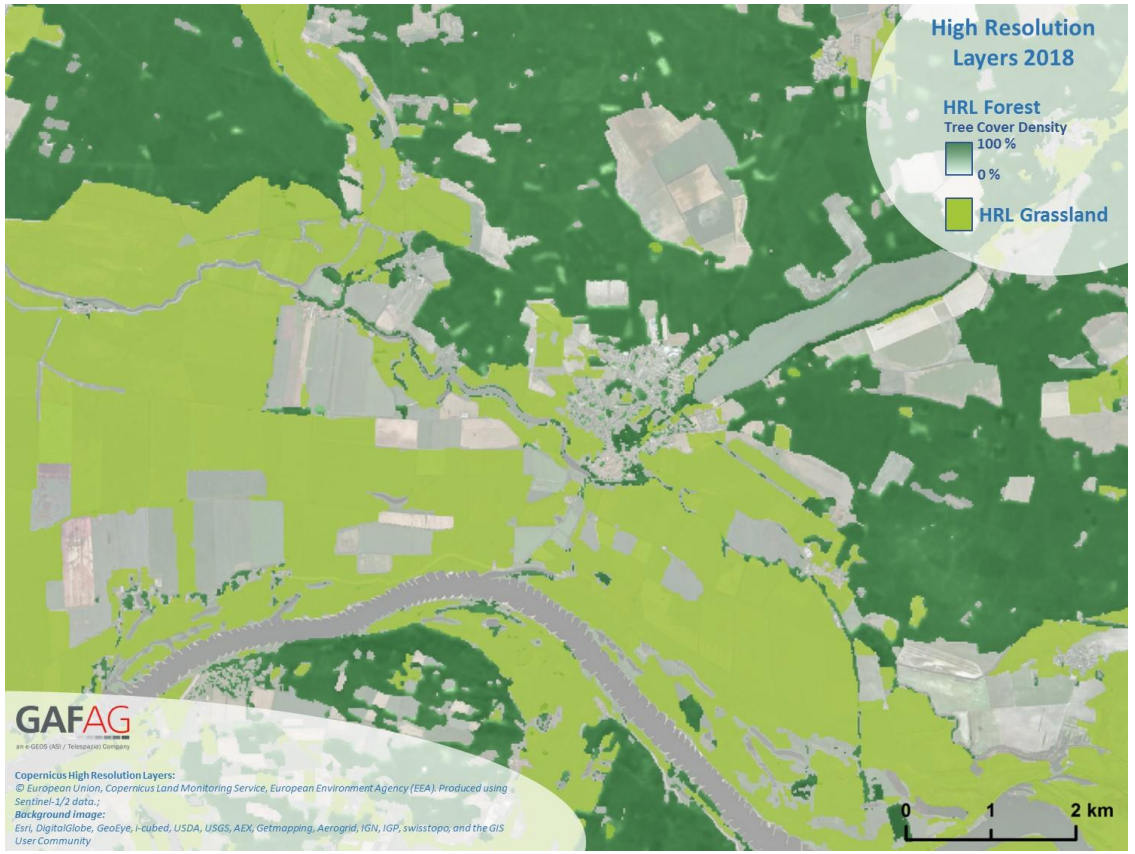


Source: JRC simulation.

GAF Land use classification

- Land use/land cover mapping
  - Part of Copernicus Land Project
  - Covering 6 millions km²
  - Combining ground truth with processed Sentinel-2 L2A and cloud masks
- Mundi set up an elastic cluster and
  - Processed 31k L1C to L2A
  - Processed 150k Fmask
  - Reloaded offline data
  - Deployed a Mundi Sentinel Hub service



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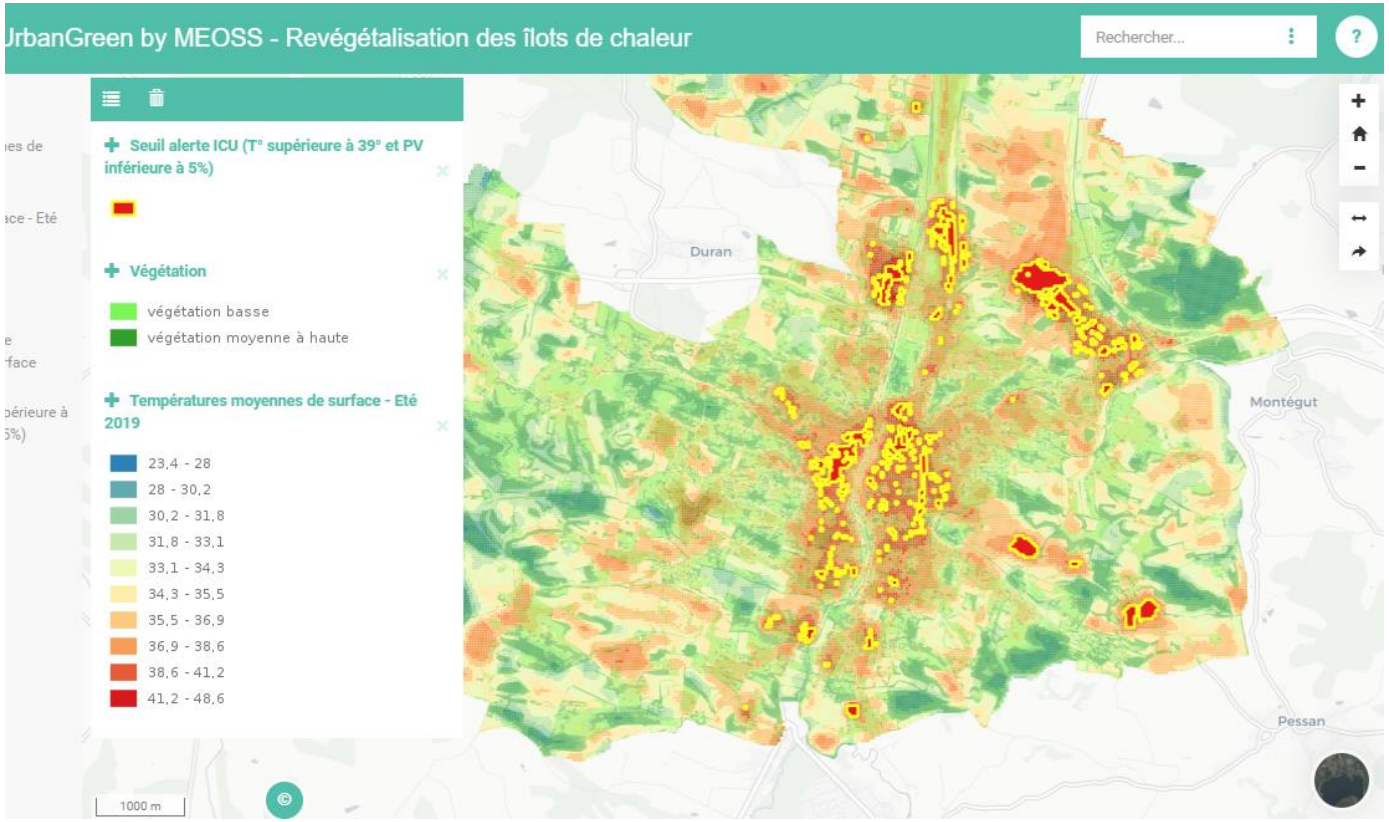
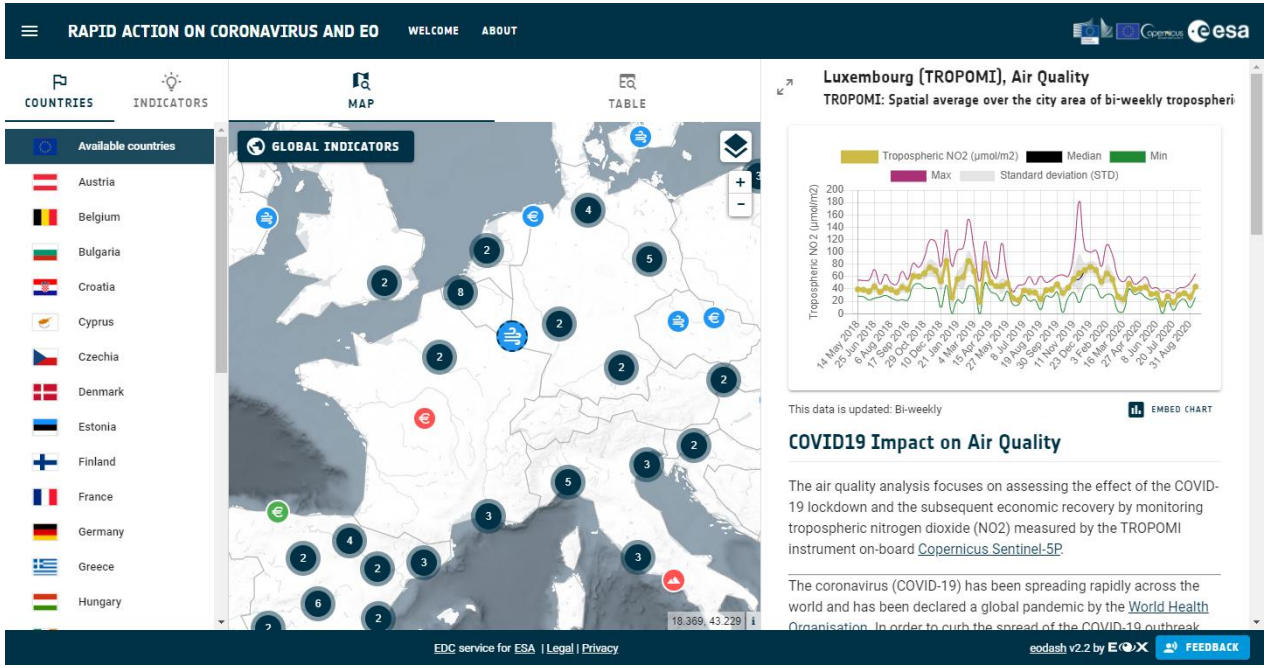
Urban Green

- Available on Mundi marketplace
- Developed by MEOSS on Mundi
- Combining high temperature and low vegetation index to deliver consultancy
- Helping cities to make the right decisions
- Adding Open Data and IoT data



RACE and EO Dashboard projects

- Making available EO data through EuroDatacube
- Data hosted on Mundi
- From various sources to single access
- Harmonising the access by understanding the data



What's next?

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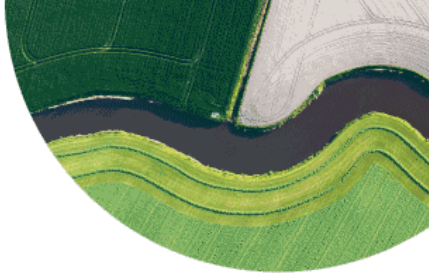
Roadmap for Mundi



- Welcoming more data provider

- Work on use cases with data fusion (IoT, UAV, satellite, reference data)

- Help users to upscale any processing
  - Making available Processing-as-a-Service feature
  - Adding Atos HPC-as-a-Service feature to the cloud

- Introducing graphical interface allowing data fusion and prototyping
  - Bring Jupyter Notebook to the next level

- Promoting standards emphasizing that interoperability is the key

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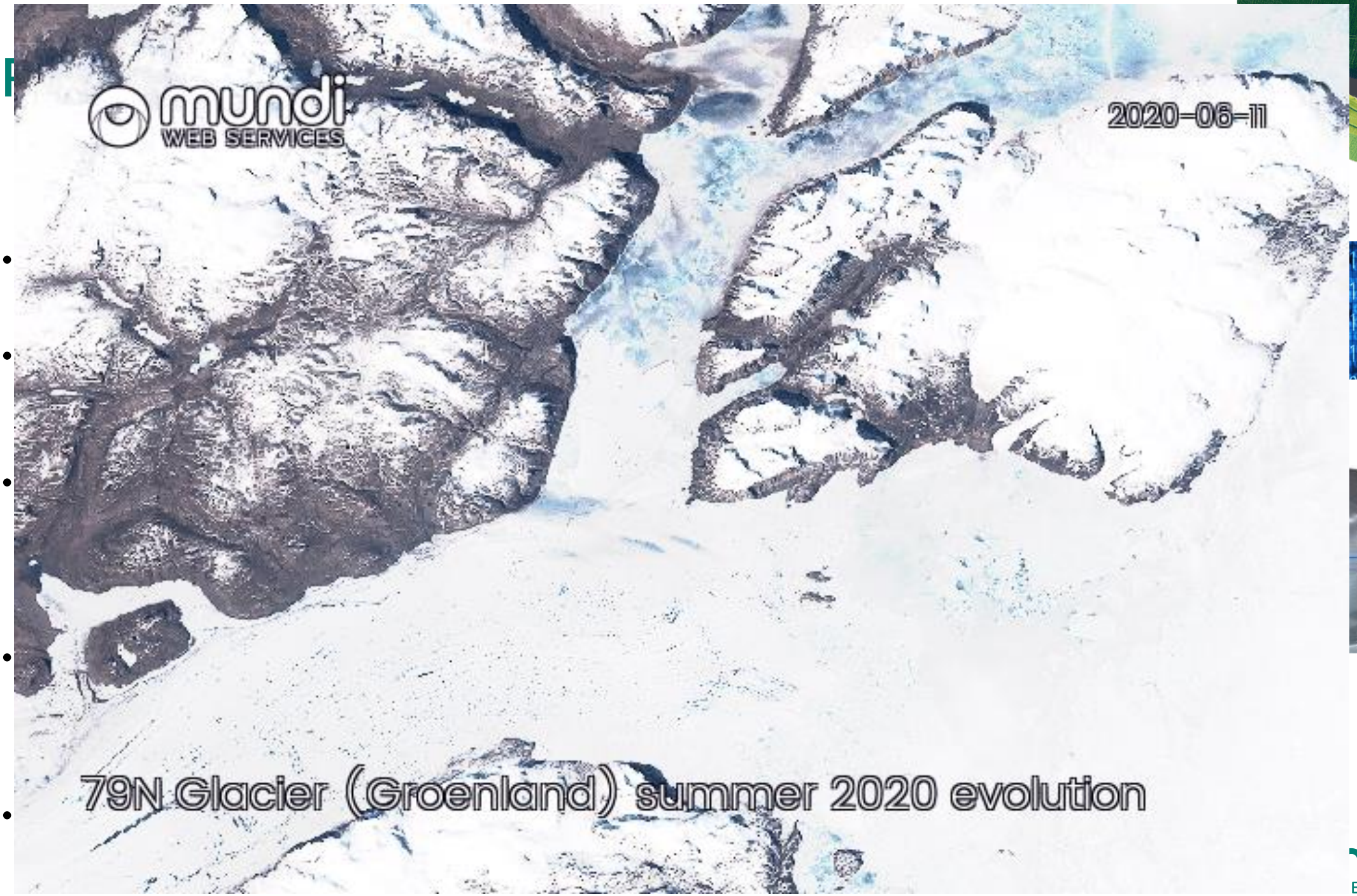
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2020-06-11
79N Glacier (Groenland) summer 2020 evolution

Thank you.

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