Assessment of cloudiness for use in environmental marine research

Maciej Markowski, Anna Panasiuk, Marcin Paszkuta
Faculty of Oceanography and Geography, University of Gdansk, Poland
Crrespondance: marcin.paszkuta@ug.edu.pl

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Let's start with this interesting satellite image –
it's RGB composition
from the MIR station in orbit 350 km
Is that a lot?

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- Richard Branson at (Virgin Galactic) 86 km

- Jeff Bezos (Blue Origin) meet orbit 160 km

- Elon Musk (SpaceX) 584 km

- MSG- SEVIRI 35 tkm

but in space scanning distance does not play an important role!


Is something else interesting here?

Something interesting here?


• In fact, water cover 71% of our planet's surface
But this image is strange for another reason!


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But this image is strange for another reason!
Where are the clouds ?
• 70 % of the surface is permanently covered by clouds

Take a distance : 35 tkm

- why clouds are interesting?

  for climatology a clue, for oceanograpy an obstacle

- why MSG – SEVIRI?

  geostationary devices scan at high temporal frequency (important for clouds)

- why the Baltic Sea?

  Baltic- a region where changes (e.g. climate) are occurring rapidly and clearly

- where to find data?

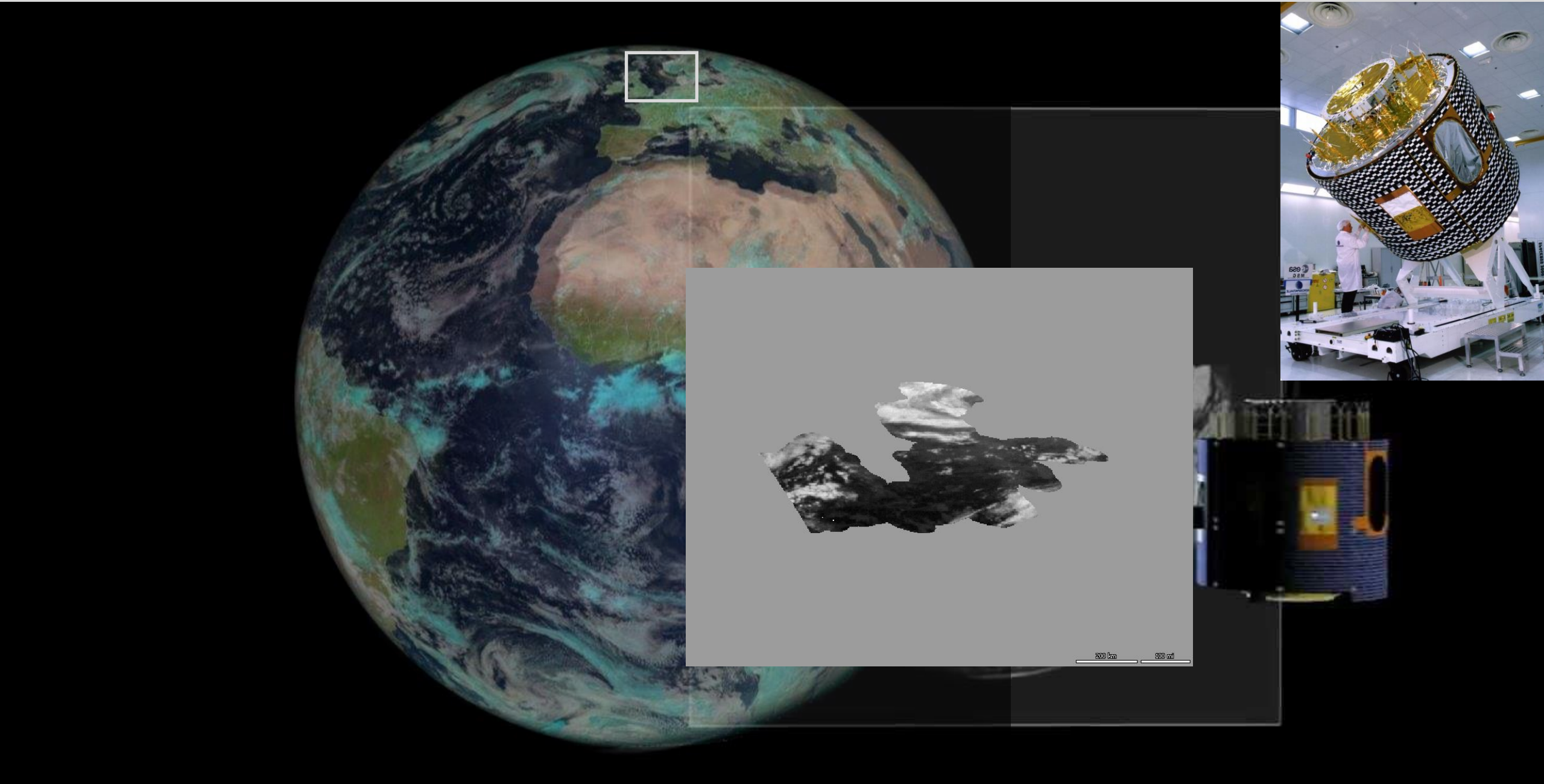
  propose SatBaltic - dedicated data distribution service

- if more questions will appear ...

If you join our project, you will have the opportunity to challenge with:

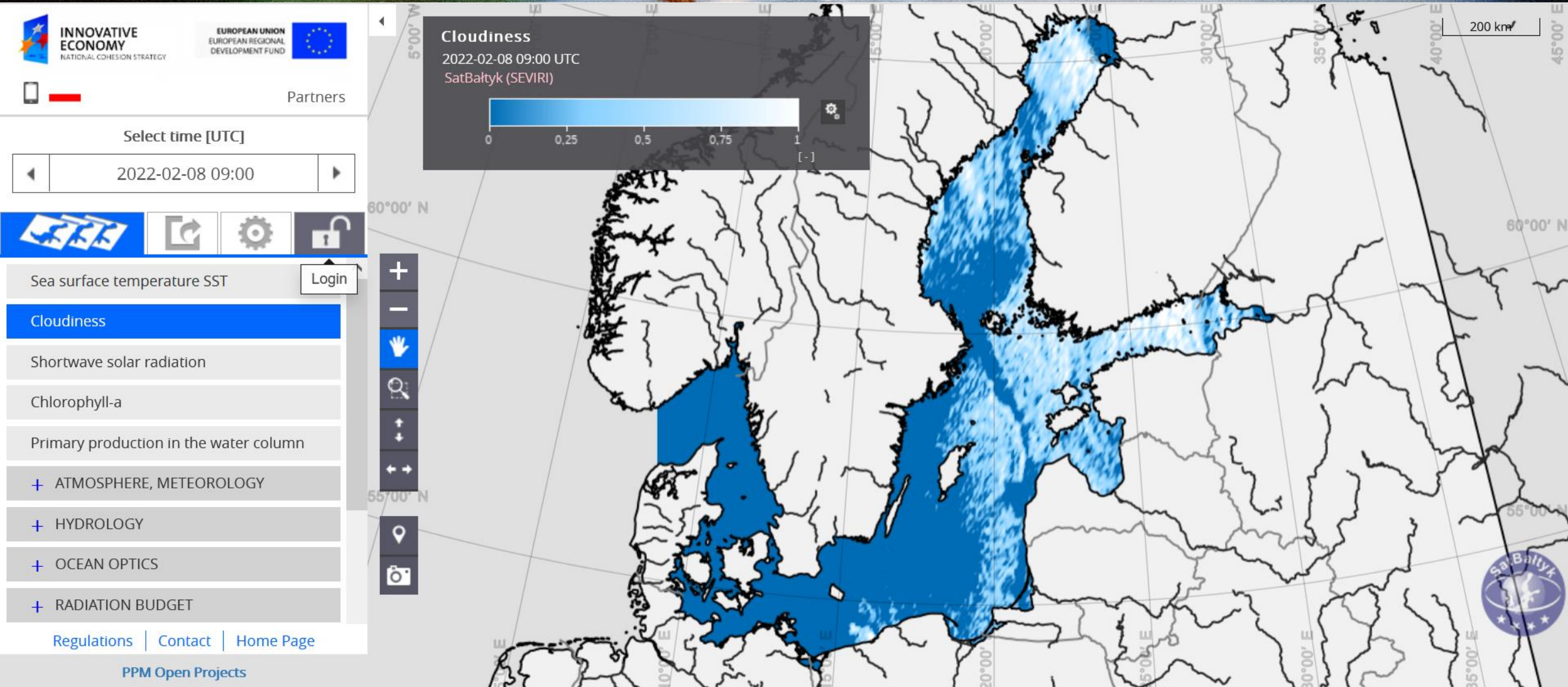
- introduction to the Baltic Sea satellite imagery
- SatBaltic Service
- statistical analysis
- cloud detection concept-method
- applying defined method
- formulating the hypothesis
- testing the hypothesis

You will learn about the imaging processing of the Baltic Sea



You will join the SatBaltic platform

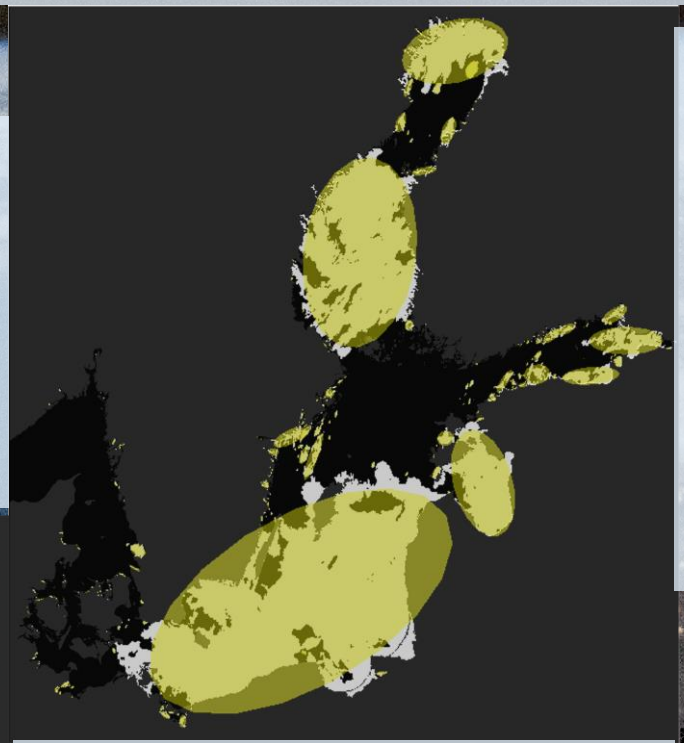
http://www.satbaltyk.pl/en/



You will discover the methods and applications for cloud detection in marine research

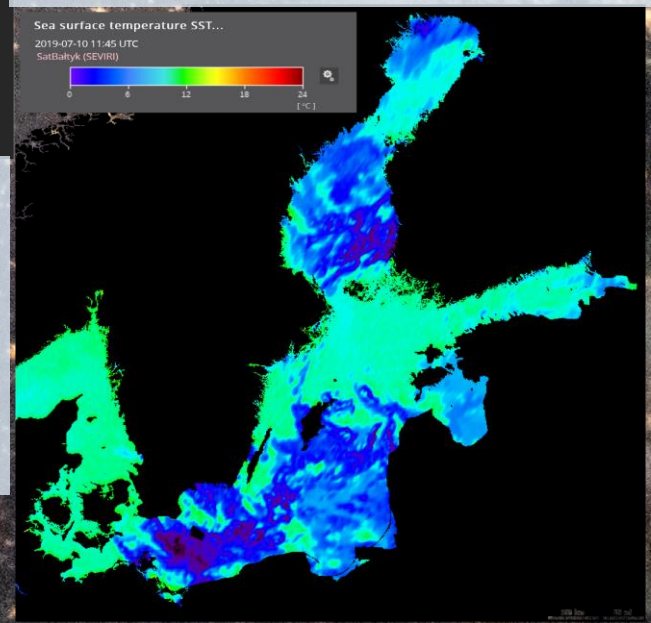
Transmission radiation by the atmosphere

Cloud binary mask

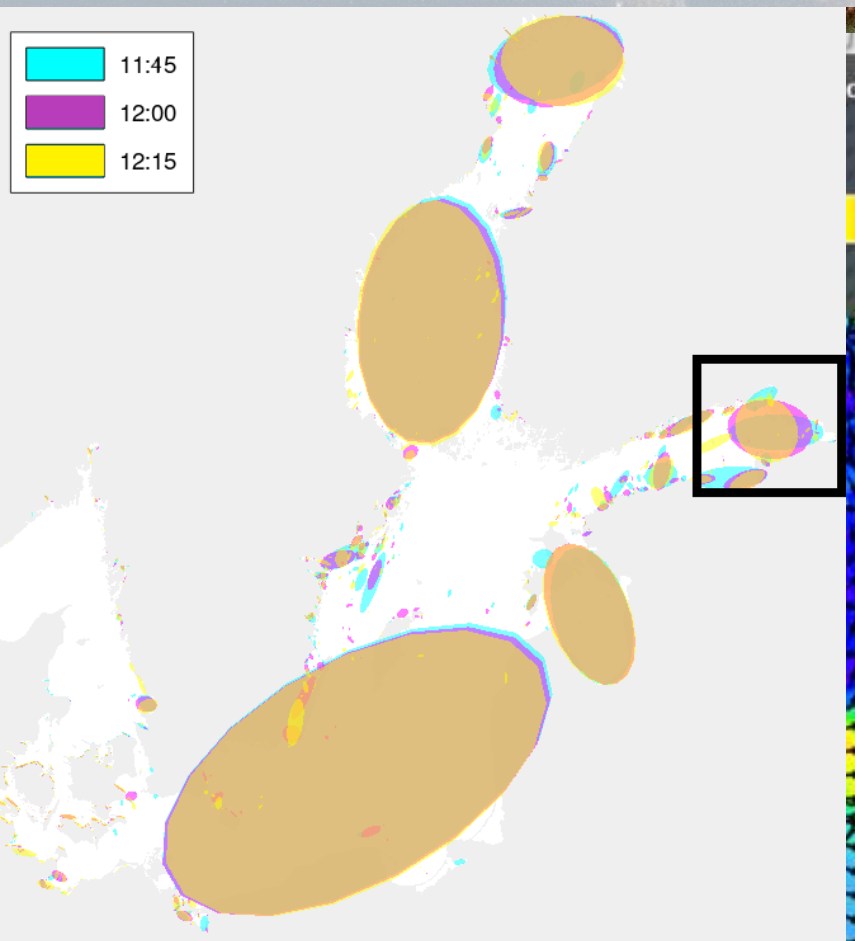


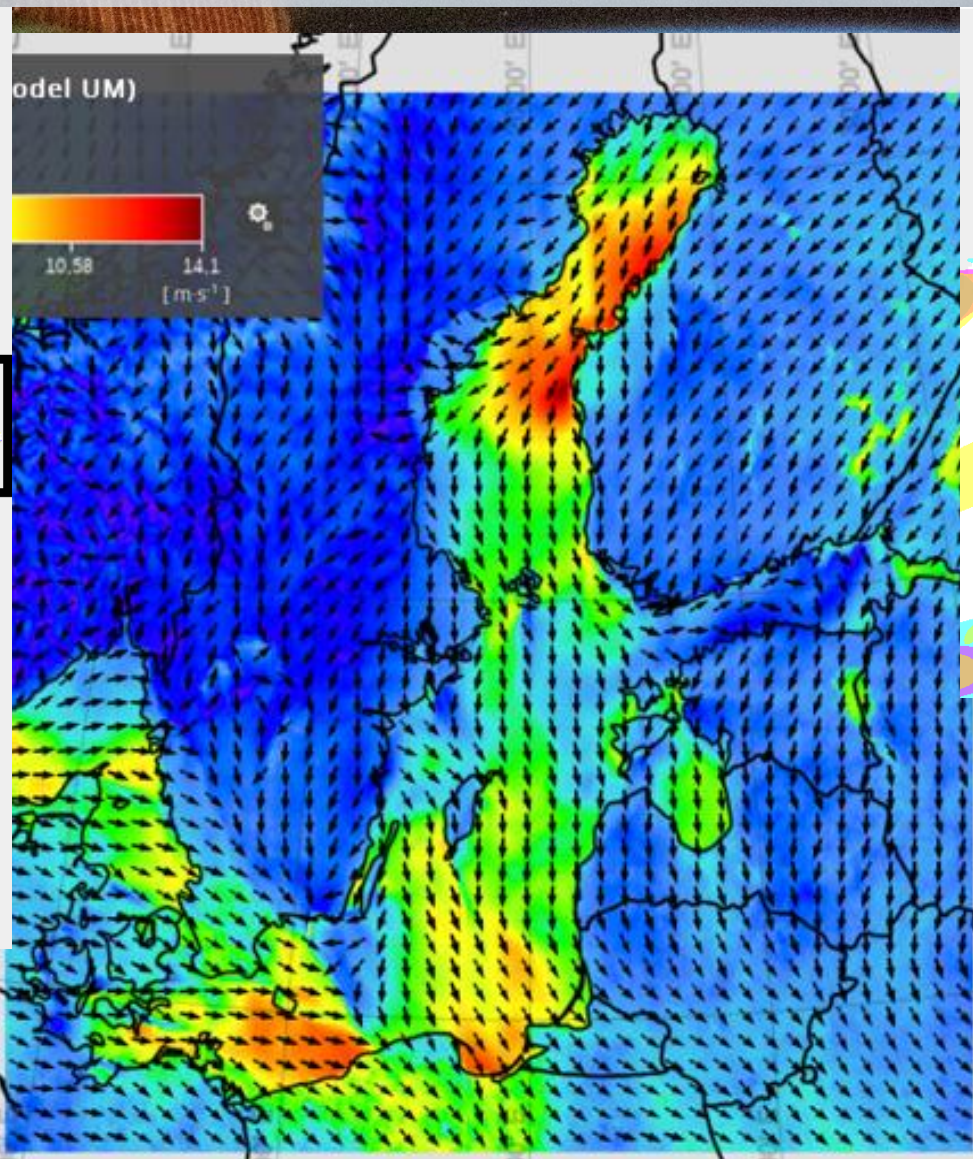
Cloud parametrization

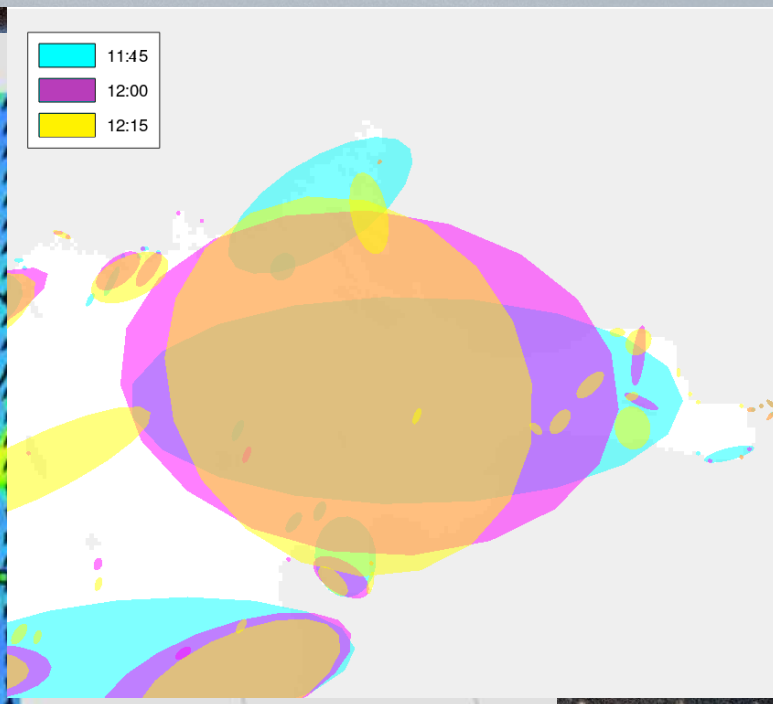
- SST
- Chlorophyll
- Primary production
- ...



You will formulate and test hypothesis







Whole project is divided into 4 items

*As a **team player**, Your contribution will be significant, as:*

You will have an opportunity to **conduct literature review** in order to get knowledge related with cloud detection concepts-methods …

You will be challenged as developer to **create code** which trigger key part of this prjoect …

You will incorporate all gathered information into **final read out of conclusions** – sounds

You will be called to put on the cloak of scientist and **perform various analysis**- based on results delivered by developer …

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READY for the Yourney?