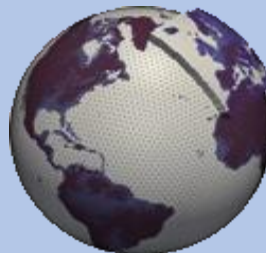# Recent developments in radiance assimilation at DWD

## Global ICON/EnVar

➢ **RT & pre-processing updates**:
- RTTOV v13.2  (v13 predictors)
- Improved ocean salinity for FASTEM
- Updates of MW QC (using NeDT in BUFR) and OBS errors

➢ **Towards an all-surface approach**:
- Introduction of IASI over land: CAMEL emissivity atlas and improved skin temperature first guess via retrieval
- Introduction of AMSU-A ch. 6 (ATMS ch. 7) over land&ice including a revision of QC checks

➢ **All-sky developments (ongoing):**
- Development of all-sky functionality for EnVar system
- Monitoring of VIS reflectances & model cloud evaluation

➢ **New instruments:**
- Introduction of NOAA21 / ATMS
- Technical preparation for IRS
- Monitoring of AWS

# Recent developments in radiance assimilation at DWD

**Deutscher Wetterdienst**
Wetter und Klima aus einer Hand

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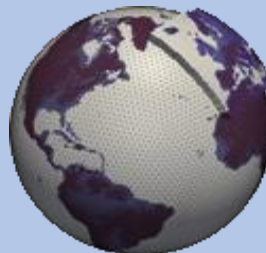
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**D2** domain
Δx = **2.1 km**

## ICON-D2/LETKF

➢ **All-sky assimilation of SEVIRI radiances**
- Visible channel: 0.6 µm
- WV channels: 6.2 µm, 7.3 µm

➢ **Preparation for MTG – IRS hyperspectral sounder**
- Technical system preparation for IRS processing (including model top extension for RT and cloud detection)
- Cloud detection and adaptive OBS error using ensemble information
- Improved Ts-FG using basic Ts-retrieval
- Implementation of bias correction approach