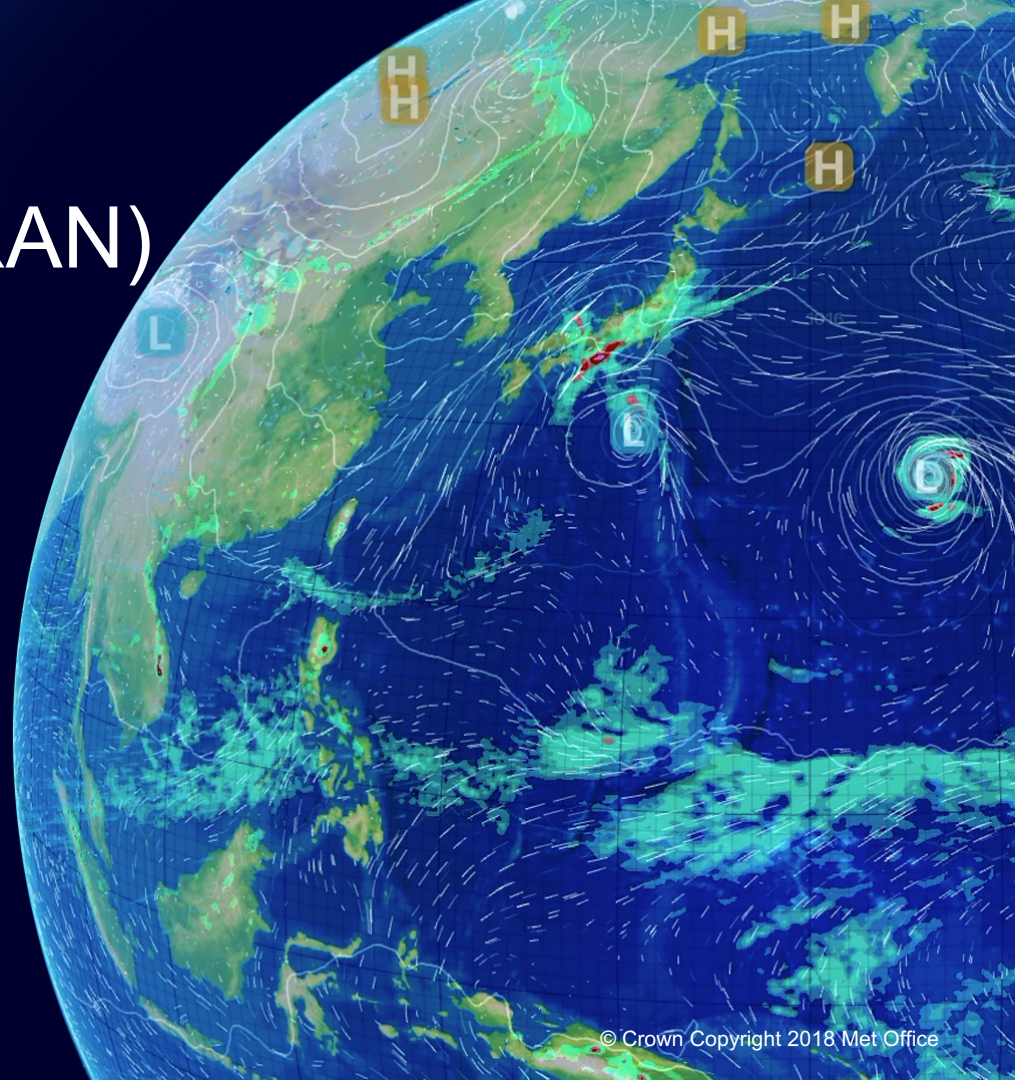


# UFO-RTTOV (FORTRAN) interface

September 2020 Update

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# UFO-RTTOV interface

## Goals

1. **[Primary focus]** Providing a 'continuation' interface for existing Met Office operational observation processing and data assimilation (e.g. 1DVar)
2. **[Important]** Facilitating some level of interoperability with other radiance forward operators (i.e. CRTM)
3. **[someday]** Becoming a valid option for other NWP centres

# UFO-RTTOV interface

## Current capability

- Forward model and linear/adjoint model supports MW instrument processing in clear-sky mode
  - Calculation of hofxdiags used to post-filter obs (required for 1DVar)
  - Compatibility with existing radiance processing (SatRad) code
  - Full support for modifying all current RTTOV runtime options
- Nascent support for models which might not, by default, supply all mandatory inputs for RTTOV (e.g. near-surface/surface parameters)

# UFO-RTTOV interface

## Roadmap

- **Testing (continuous)**
- **Replicating SatRad Output (continuous)**
- Hyperspectral sounder support (**October**)
  - Add IR active absorbing species
  - Grey cloud support
- Scattering (MW and IR/Vis) (**October**)
  - Add RTTOV\_SCATT interface and get hydrometeor quantities from model
  - Technical changes to handle additional coefficients
- MW/IR Emissivity Atlas support (**December**)

# UFO-RTTOV interface

## Roadmap continued

- MFASIS (fast visible scattering model) support
- RTTOV v13
- PC support