



MAP **D-PHASE**



Hans Volkert, DLR-IPA and Mathias Rotach, MeteoSwiss

- 4th phase of MAP; now as FDP for WMO
- **D**emonstration of **P**robabilistic **H**ydrological and **A**tmospheric **S**imulation of flooding **E**vents in the Alps
- scheduled for June–Nov. 2007; Lago Maggiore area
- Meteorol. Services as main drivers (CH, F, I, D); pre-proposal to EU (1.7 MEuro); D-PHASE manager
- independent to COPS; with overlapping aims



MeteoSwiss



Strategy for D-PHASE

Atmosphere - Multi-component approach:

1. Local EPS systems (**COSMO-LEPS**, LAMEPS, PEPS,...)
 - 3-5 days probabilistic forecast
 - likelihood of 'event'
2. 'standard' deterministic models at high resolution (1-3km)
 - short-range, targeted
 - coupled hydrological models
 - latest radar information assimilated
3. A possible 'micro-LEPS' made up as a poor man's EPS from the above
 - probabilistic information on hydrol. patterns



Strategy for D-PHASE



Hydrosphere:

1. Hydrological models
 - distributed
 - coupled
2. Assimilation of latest information
 - radar composites
 - rain gauges
3. Probabilistic forcing
 - from atmospheric models
 - from radar (obs) uncertainty



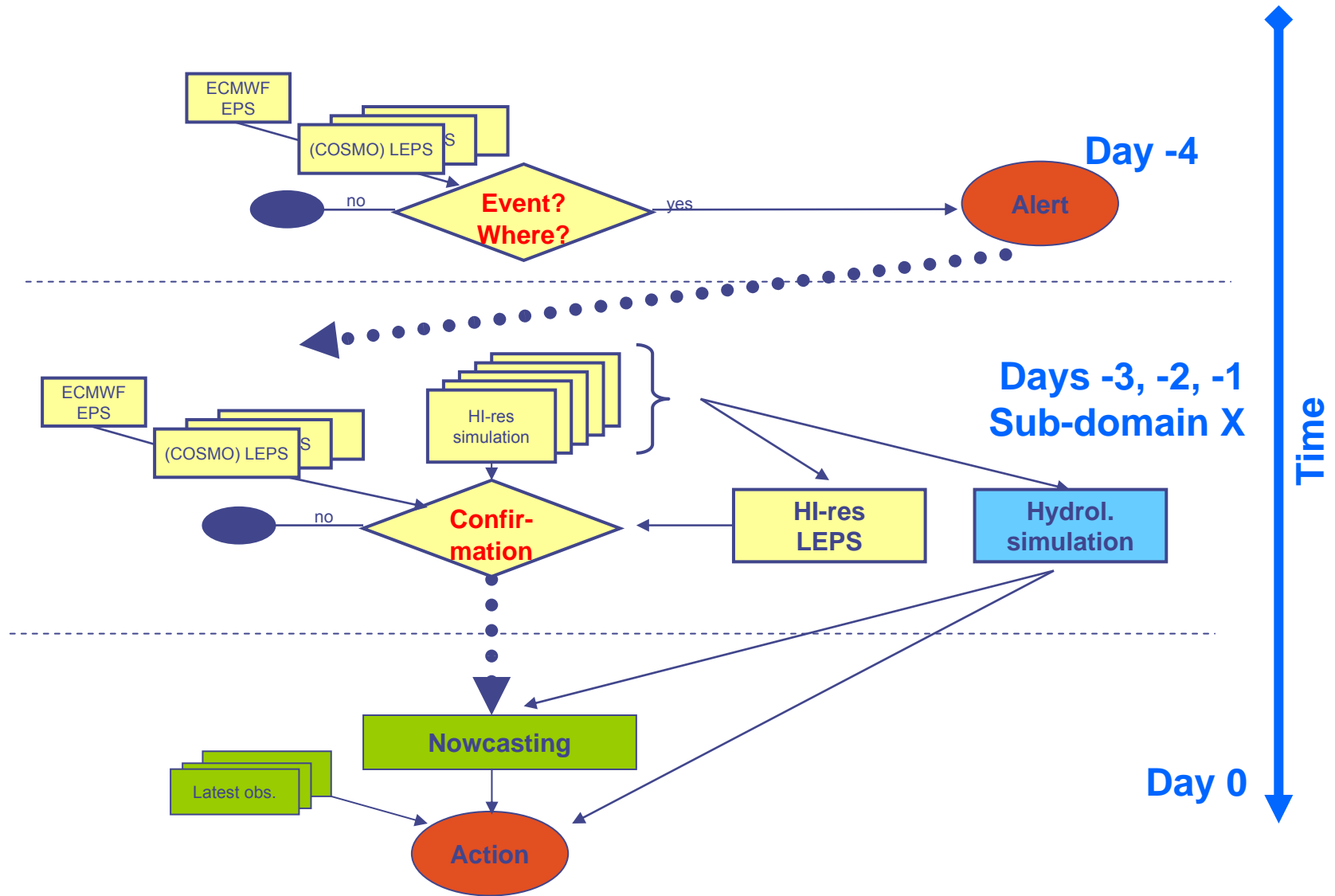
Strategy for D-PHASE



End users:

1. Authorities
 - civil protection
 - river/lake management
2. THEIR needs
 - thresholds
 - cost/loss

--> end-to-end flood forecasting system



Cooperation: COPS ↔ D-PHASE



◆ D-PHASE → COPS:

Suite of operational forecasts for mission planning (selection?), including probabilistic information

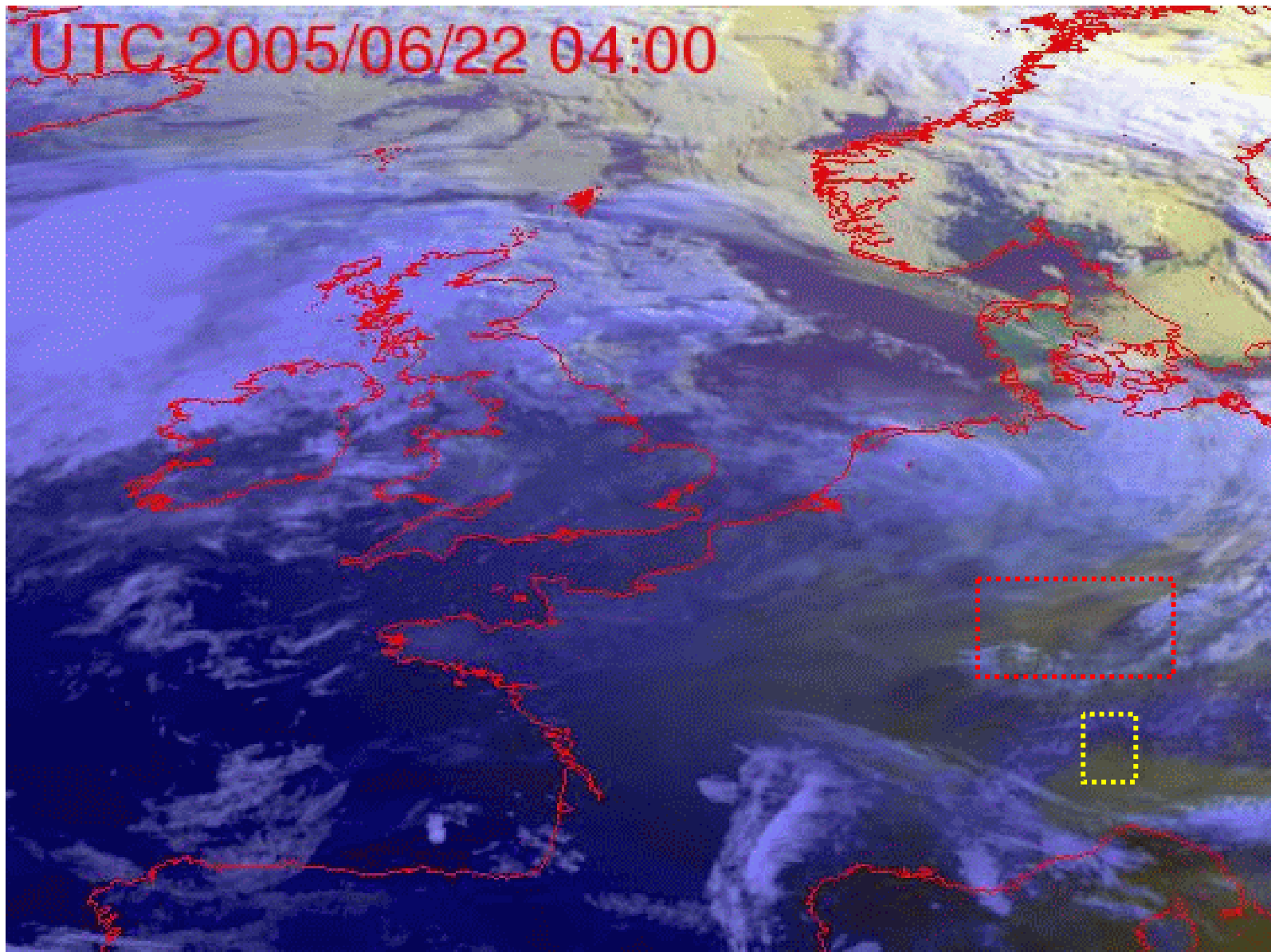
Synoptic scale background for analysis and interpretation of measurements

◆ COPS → D-PHASE:

Extra data (upstream humidity & stability; directly into GTS?)

Additional emphasis on events driven by convection

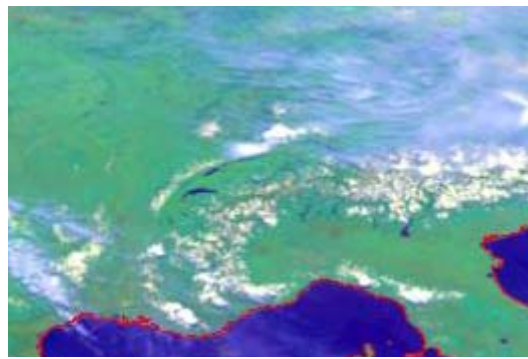




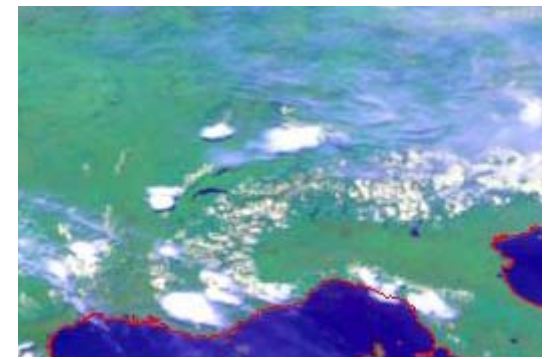
MSG: 22 June 2005; 0400-1945; every 15 min.



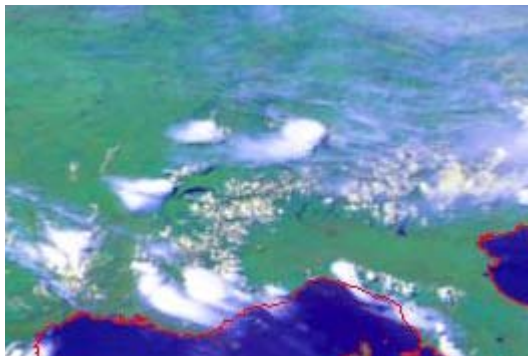
1100



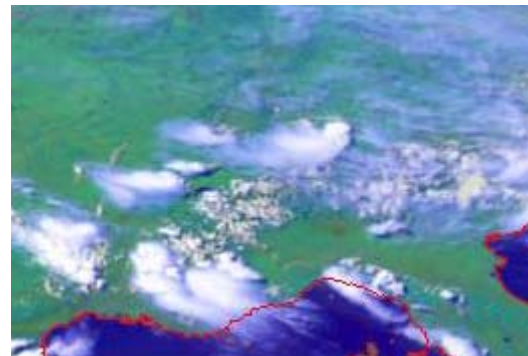
1200



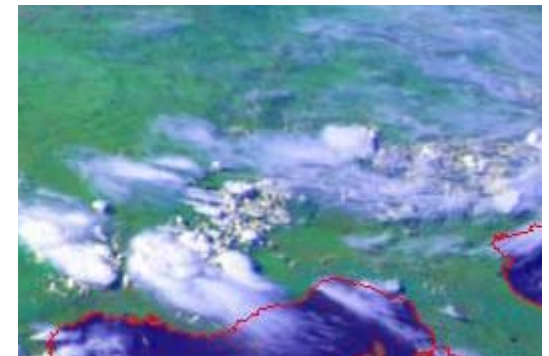
1300



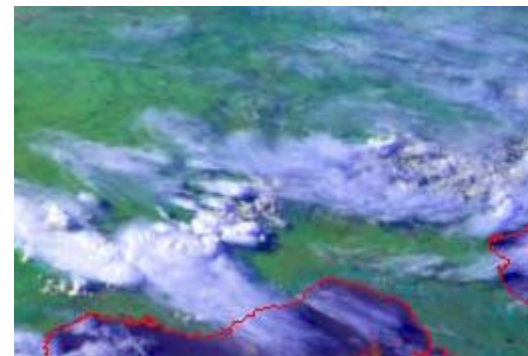
1400



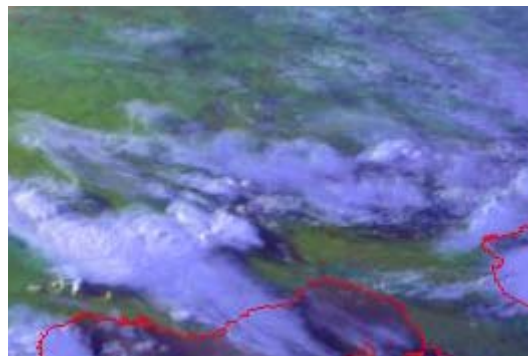
1500



1600



1700



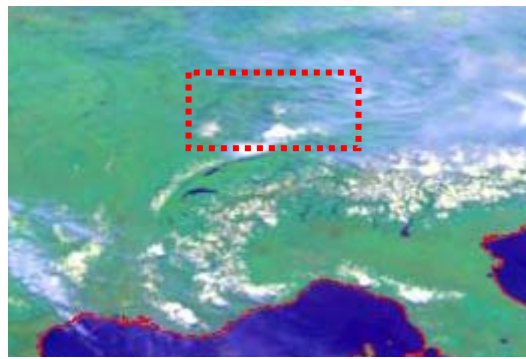
1800



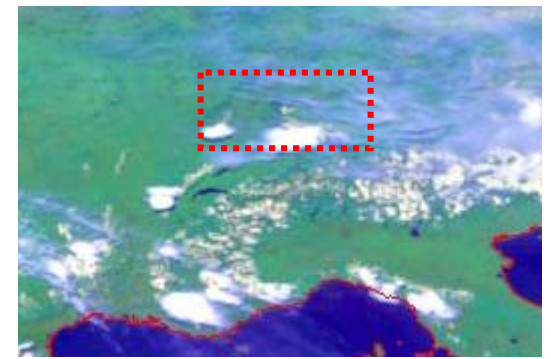
1900



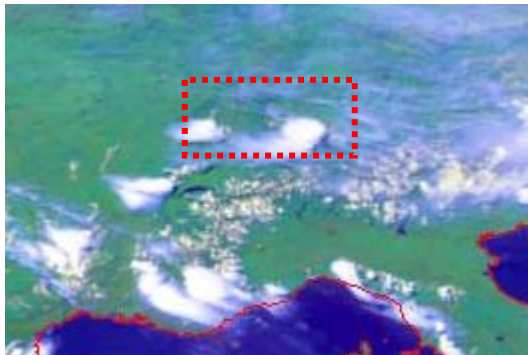
1100



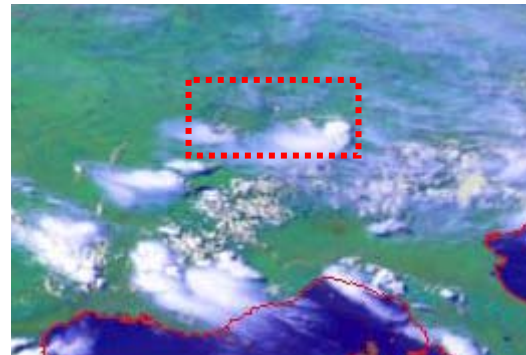
1200



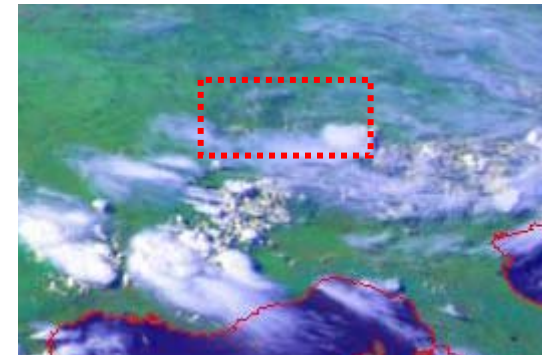
1300



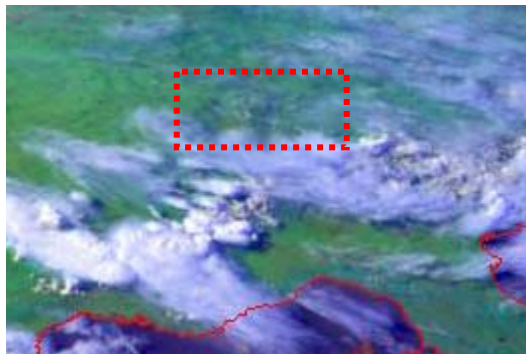
1400



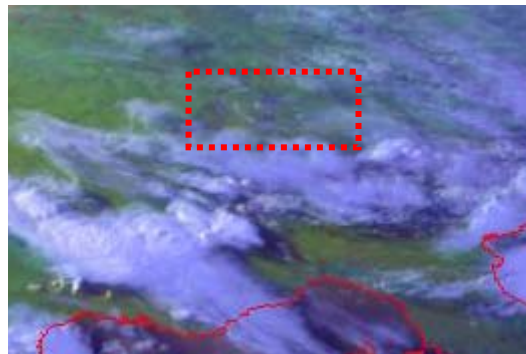
1500



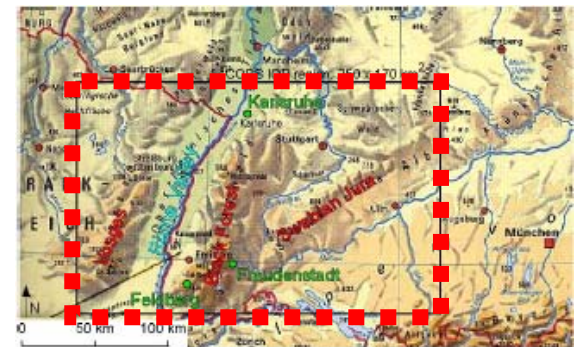
1600



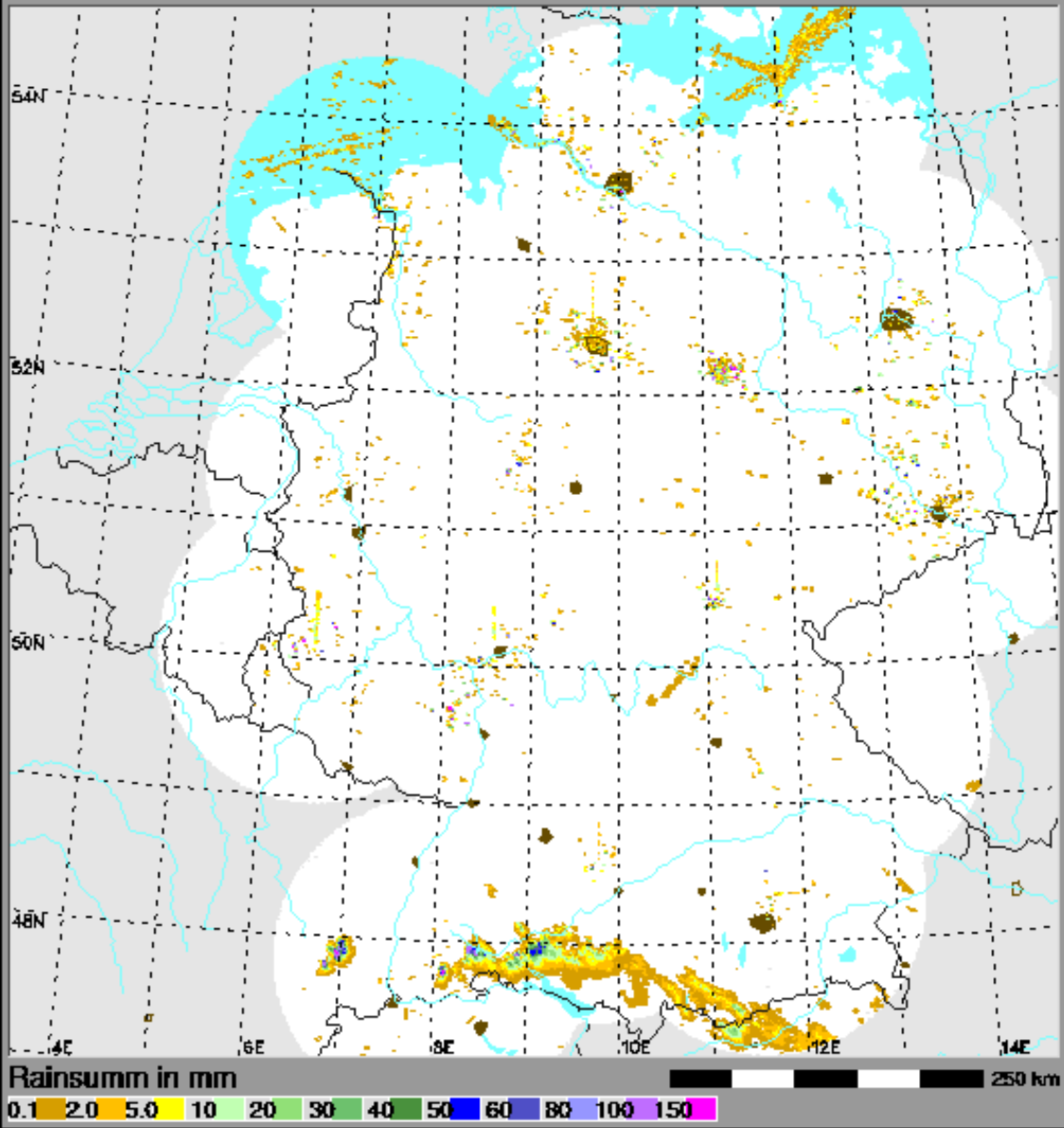
1700



1800

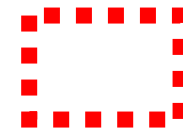


DWD 24 hour radar precipitation sum 23 June 2005 0630 UTC

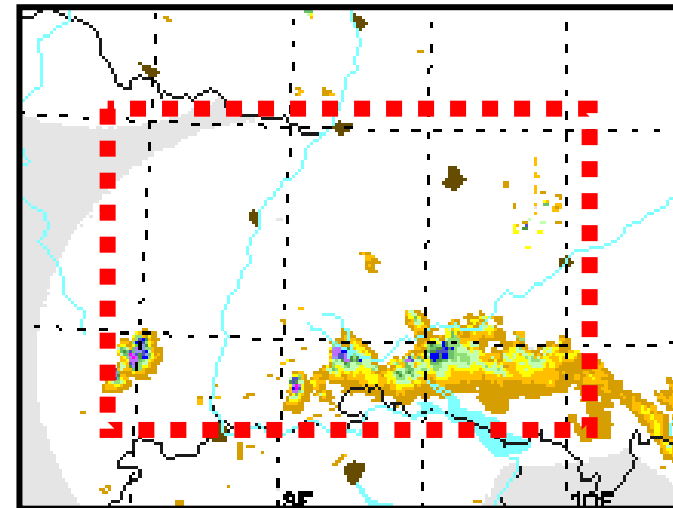


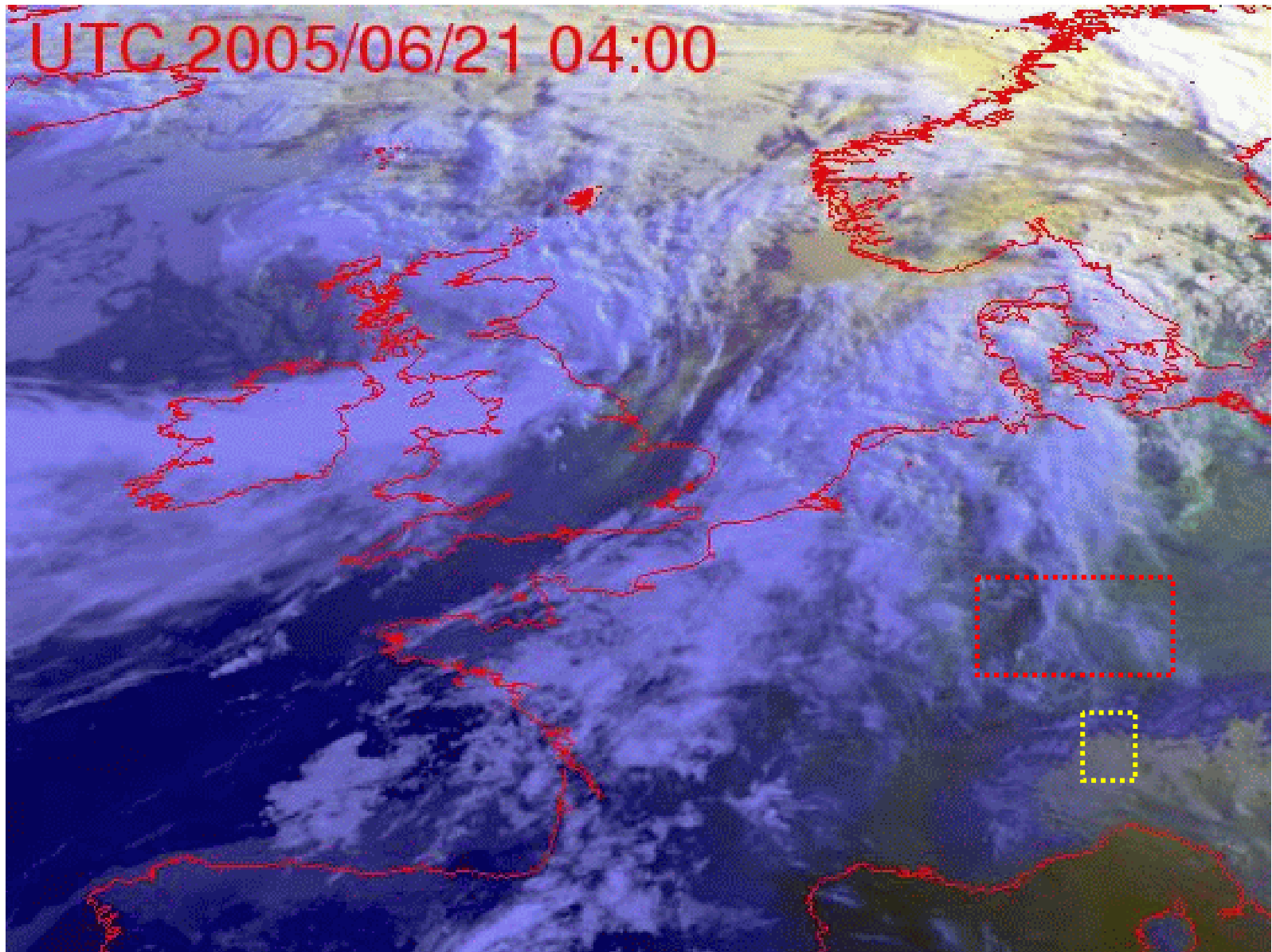
24 h precip. sum
until 23/06/05 0630 UT

Martin Hagen



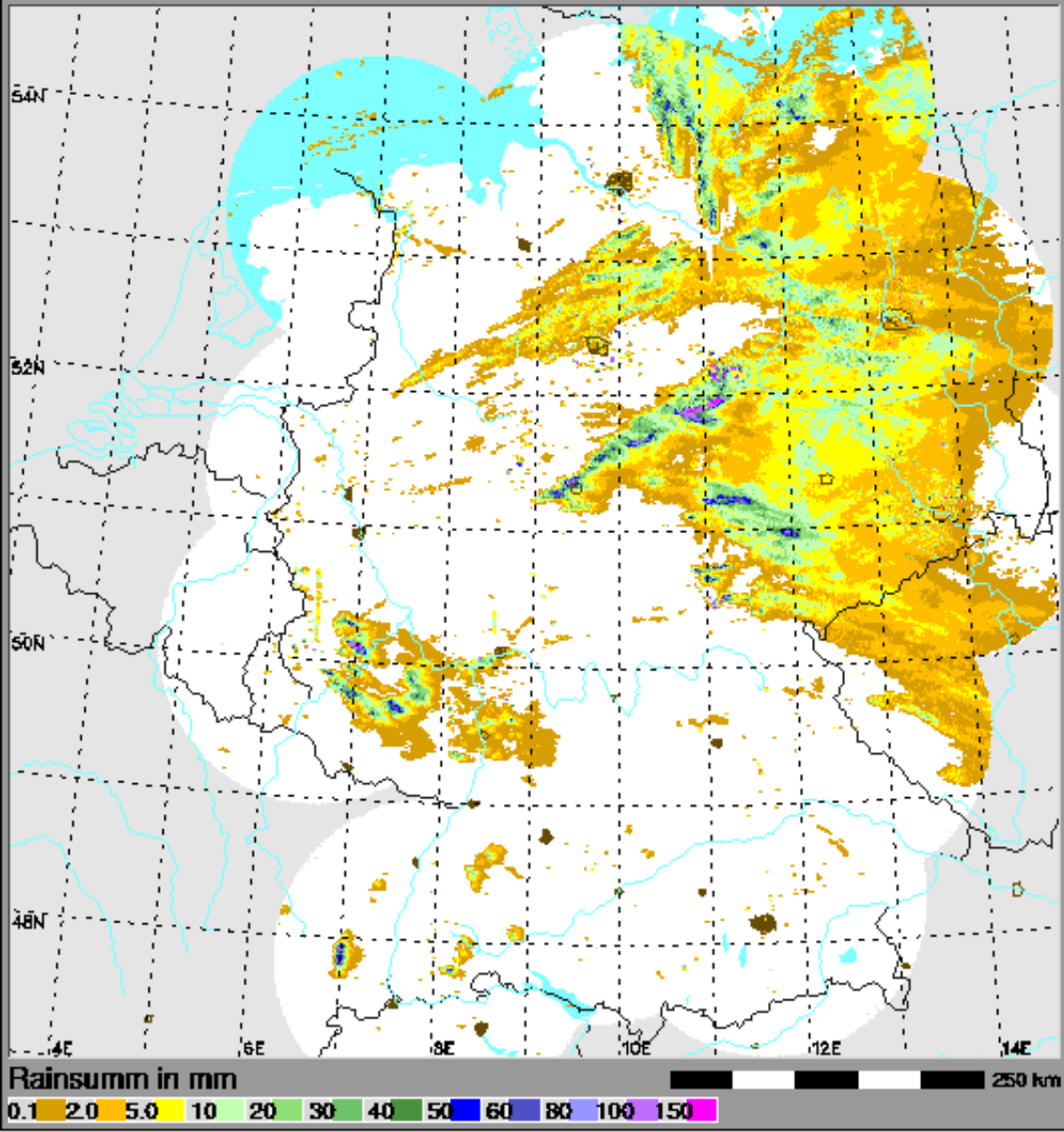
COPS-SOP area





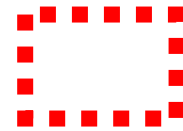
MSG: 21 June 2005; 0400-1945; every 15 min.

DWD 24 hour radar precipitation sum 22 June 2005 0630 UTC



24 h precip. sum
until 22/06/05 0630 UT

Martin Hagen



COPS-SOP area

