



## **Emission-induced rime pattern in the Low Countries and NW Germany, 20-22 Dec 2007, in MODIS satellite images**

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At the end of the second decade of December 2007, a low level fog layer covered the northwestern part of the continental Europe; the Netherlands, Belgium, northern Germany, even a part of Poland. The cloud top of the low level stratus layer was at ca. 350 meters above sea level in 20 Dec. Meteorological situations were ideal for 'industrial' snow formation and rather rime precipitation where cities and industrial plants produce extra water vapor and aerosol emission. The temperature on the surface was below freezing-point, so this pattern was preserved for about two days. As the fog was cleared in 22 Dec, the whole pattern became visible in a zone with the extents of several hundred kilometers. The characteristics of the MODIS sensor on Terra and Aqua satellites are ideal to depict this interesting scenario; the resolution of 250 meters is good enough to show the details of the pattern but not too detailed, resulting in an image covering the whole region.

MODIS images received during the fog and the later cleared phases were rectified in a common projection system to show the disturbances of the fog (assumed by chimneys of the aerosol emitters) and the later visible rime patches around them. The effect is well known from long ago but an illustration of it is quite rare in this extent.