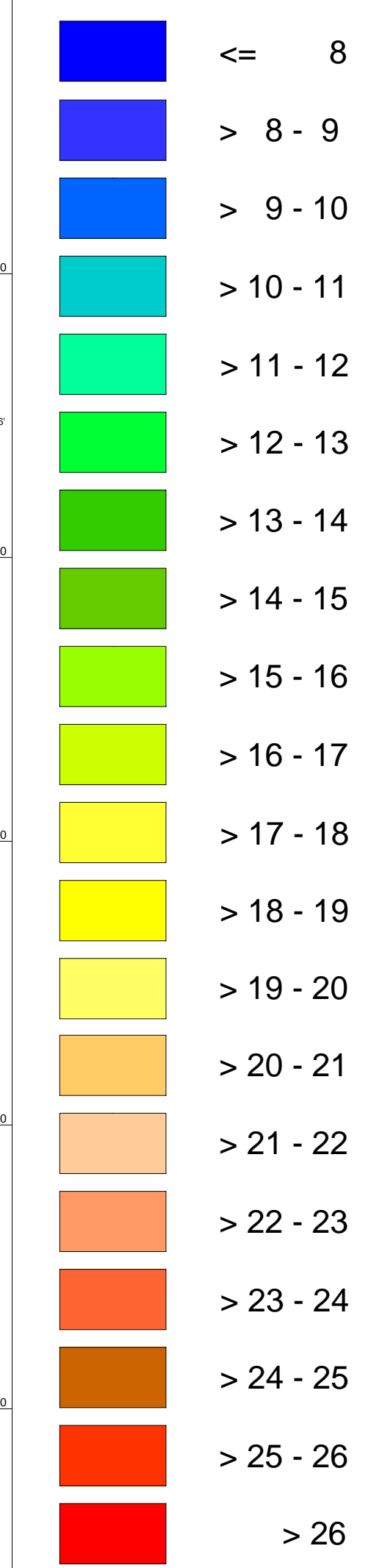


Surface Temperatures in the Evening

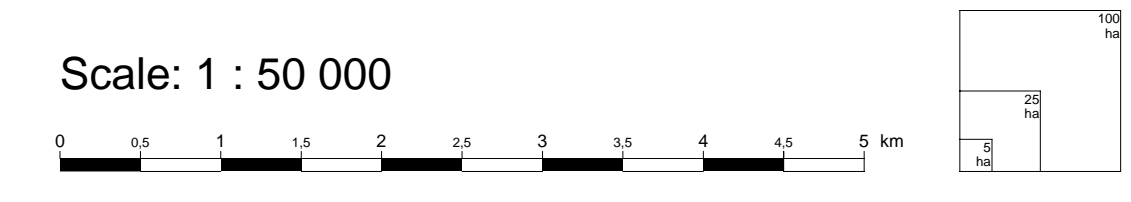
Temperatures in °C



1. The maps show the blanket distribution of surface temperatures in an evening and a morning situation on the basis of remote sensing data:  
 Date: 14/15.09.1991  
 Time: 21.45 CET on 14.09.1991 / 10.30 CET on 15.09.1991  
 Satellite: Thematic Mapper (Landsat 5)  
 Altitude: 705 km above ground  
 Resolution of exposure: 120 x 120 m  
 Resolution in representation: 30 x 30 m  
 Wavelengths: 10.4 to 12.5 µm  
 Meteorological factors: pronounced high-pressure summer weather, all-day sunshine.

2. In interpreting thermal images - e.g. in relation to climate functions - the following points should be borne in mind:  
 - The surface temperatures calculated relate to different heights (roofs, crowns of trees, water surfaces, etc.). They therefore cannot be applied directly to the air temperature at a height of 2 m.  
 - In many cases the temperature readings shown for individual points on the map go back to the irradiation characteristics of different forms of land-use. This is a boundary condition of particular significance in transitional areas (built-up area/green area or body of water/forest).  
 - The degree of warming or cooling of surfaces depends to a large extent on the time of day. Times around 14:00 and 04:00 CET are considered optimal for representing maximum temperature differences. Thus the Landsat flights over the Berlin area occur about 4-6 hours "too early" - this cannot be changed - and can thus only give an approximate representation of the true variability of the surfaces' thermal behavior.

3. The representation of the temperature differences between evening and morning (04.06.3) is also to be interpreted against the background of the time the exposures were made. It can be expected that later overflight times will reveal a much greater temperature gradient, in particular due to the pronounced cooling behavior of urban open spaces.



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