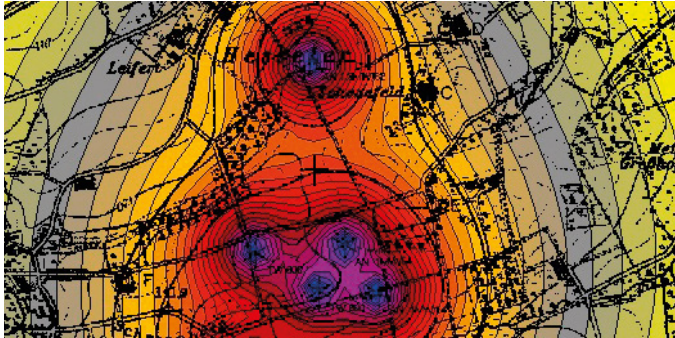


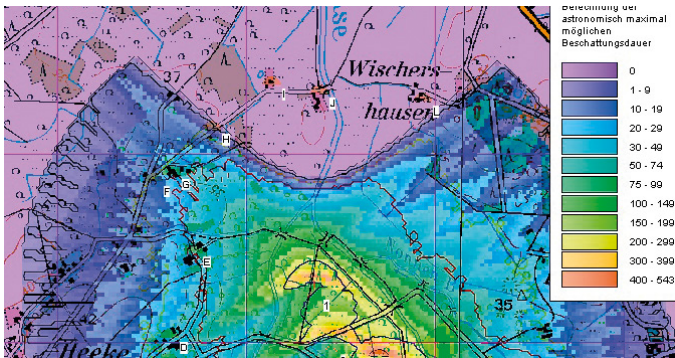
# Environmental Impact Analysis



## Noise Immission Assessment

Noise immission can be critical for wind turbine run time and energy yield. TÜV NORD assessment serves to determine the most economical operational modes for wind farm projects. Impact of noise immission is calculated with established methods and tools while considering the following factors:

- Expanded noise sources e.g. industrial area
- Immission locations with directional effects
- Acoustic background noises such as freeways



## Shadow Flicker Assessment

Shadow flicker can also be a limiting factor during the planning of a wind farm project. Our shadow flicker assessment helps to reach the most optimal wind farm design in compliance with legal licensing standards.

## Environmental Impact Studies

The environmental impact of wind turbines is one of the main aspects in the planning stage of wind farms. Impact of wind farms on birds, bats, water pollution as well as impact of offshore wind farms on marine flora and fauna can be determined by our environmental experts. We also assist our customers in the application process for permits according to the Federal Immission Control Act (BImSchG) in Germany.



## Risk Assessment

Risk assessment is necessary for safe operation of wind turbines located close to populated areas due to potential hazards. Hazard risks are present near e.g. traffic infrastructure, chemical plants, industrial areas, pipelines, power lines or dikes. Potential hazards are shedding of ice fragments, blade fracture, fire, tower structural failure, etc. Minimum distances to overhead power lines can also be examined due to damage-relevant turbine's wake in accordance with mandatory standards.



**TÜV NORD risk assessments are aimed at construction permission procedure and contain:**

- Hazard identification
- Risk analysis and illustration
- Risk assessment
- Concepts for risk reduction