



New Radiation initiatives in Austria: Part I (Monitoring according to BSRN standard)

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The project ARAD aims to assess temporal changes of near surface radiation components by improving existing measurements and setting up new high quality sites as a fundamental background for an enhanced long term climate monitoring in Austria. A new measurement program for solar (global, direct, diffus) and terrestrial (longwave incoming) radiation was started at ZAMG in 2009 using automatic suntracking devices. 2 high quality (BSRN criteria) monitoring sites in Wien Hohe Warte (198 m a.s.l.) and Sonnblick (3105 m a.s.l.) were set up already, the stations Graz (366 m a.s.l.) and Innsbruck (578 m a.s.l.) should follow. Semi-automatic data quality control procedures have been developed to guarantee high quality data that is available for comparison to existing operational measurements and for all kind of subsequent users (modeling community, solar energy applications, ...). The operational station network at ZAMG involves 249 automatic weather stations, including the measurement of sunshine duration at all stations. Additionally, global solar radiation is recorded at 232 sites (117 m a.s.l – 3109 m a.s.l) using the Schenk star pyranometer. At 6 stations, a shadow band is used to measure diffuse solar radiation as well. The gained knowledge and methodologies are also used for the planned operational modeling of global solar radiation at 1x1 km scale over Austria (see separate Poster Olefs et al. (Part II)).