The Ice Storm of December 2007 at the SGP

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Oklahoma and Kansas experienced a severe ice storm on December 8-11 2007 and a near miss on February 16 2008. The SGP's instrument suite can provide rare and important looks at storm evolution and can be used for forecasting and case studies. The storm's effects were widespread in Central and Eastern Oklahoma, with over 600,000 customers without power, some for weeks. Ice began in Oklahoma on the 8\textsuperscript{th} and lasted at many locations through the 10\textsuperscript{th} with ice layers that often exceeded 3/4". By contrast, the storm in February had little or no ice in spite of surface temperatures hovering near freezing for a long period.

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**9-11 December 2007**

The December storm is a classic case of "overrunning", in which a storm system pulls warm moist air over the top of shallow subfreezing air at the surface.

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**Compare to 15-17 February 2008 Storm (no-ice)**

The February 16 storm was a close call. Surface temperatures hovered just above freezing most of the day.

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**Effects on ARM Operations**

15 of the SGP's 31 sites were affected by combinations of power, communication and instrument outages: DEC 9-10 and DEC 11.

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**Instrumentation For Future Cases**

- a Microwave Profiler
- scanning cloud radars
- integrated MMCR and WACR data (microphysical retrievals)
- Real-time displays at the SGP

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**Summary**

The SGP’s instrument suite is ideally suited to collect data for case studies; in addition, real-time use of this information for forecasts can provide field campaign customers the best possible service. This is especially true in rapidly-changing, or “borderline” situations like the February case.