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## Kyrill, Franz, and the Societal Impacts of the Storms of January 2007

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January 2007 was a remarkably stormy period in Europe with impacts on societal infrastructure and implications for energy meteorology. A series of cyclones tracked across the North Atlantic and into Europe during the two week period 8-22 January 2007. For many parts of Europe, Storm Kyrill on 18 January 2007 was the most important of these for the infrastructure damage that it caused. It had the highest European storm-related insurance losses in recent history. The storm spawned a high intensity derecho that started in western Germany and travelled into eastern Europe. It was associated with severe convection, lightning, several tornadoes, and strong wind gusts. The storm caused over 50 fatalities, widespread disruption of transport and power networks, and a lot of forest damage. Storm Hanno on the 14 January 2007 was the second most severe storm of the period with serious impacts in Norway and southern Sweden. Wind gusts reached the level of the 20-50 year event. There were 6 fatalities in southern Sweden, some building damage, power cuts, and forest damage. Storm Franz on 12 January 2007 caused the highest surge in the southern North Sea for January. However, its flooding impact was reduced because the monthly cycle of spring and neap tides was near a minimum. By contrast, astronomical tides were highest near the end of the period on 20-22 January 2007. The highest absolute water levels for the month for many tide gauge stations were registered during Storm Kyrill on 18 January 2007 and also during Storm Lancelot on 20 January 2007. This contribution takes a closer look at the North Sea surge of two important storms of the period: Storm Franz and Storm Kyrill. An analysis is presented of tide gauge data to elucidate the storm surge and wave field around the North Sea and to assess possible links with shipping accidents and offshore incidents. An unusually large wave sequence had been registered at the FINO1 offshore wind energy research platform only a couple of months previously on 1 November 2006. The water level data is analyzed to ascertain if there may have been a repeat of the wave event during the storm sequence on 8-22 January 2007.