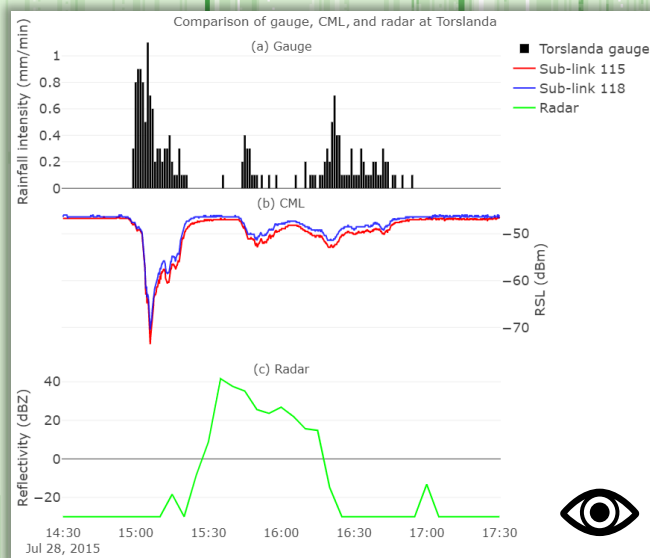
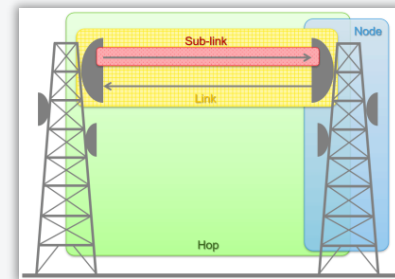


Open data from microwave links, radar and gauges published to boost rainfall research and applications (OpenMRG)



607 million measurements in summer 2015, Sweden



364 commercial microwave links with 10 s signal level data



C-band radar reflectivity at 2 km & 15 min grid

10 gauges at 1 min + 1 gauge at 15 min with additional variables

Article



Data

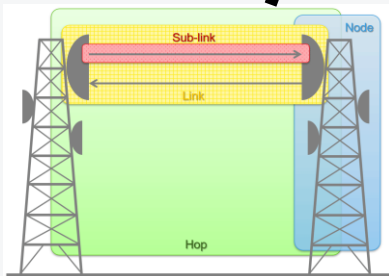
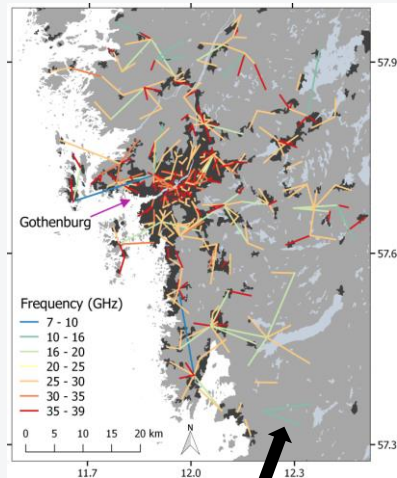


Remco van de Beek, **Jafet C.M. Andersson**, Jonas Olsson, and Jonas Hansryd: *OpenMRG: Open data from Microwave links, Radar, and Gauges for rainfall quantification in Gothenburg, Sweden*, EGU General Assembly 2023, EGU23-14295



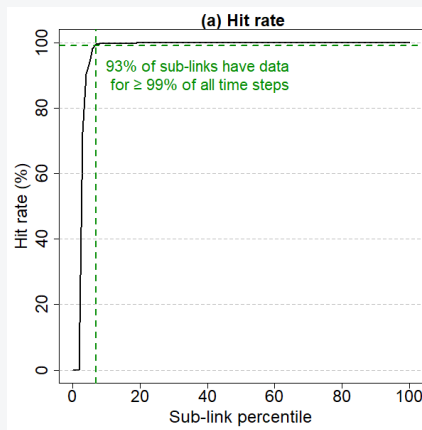
Commercial Microwave Links (CMLs)

Dense CML network

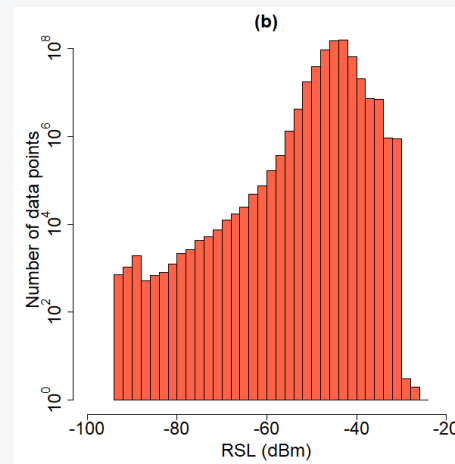


- 364 CMLs in Gothenburg, Sweden
- 10-second resolution
- True coordinates
- Received & transmitted signal levels
- 561 million measurements

**Successful
data
collection**

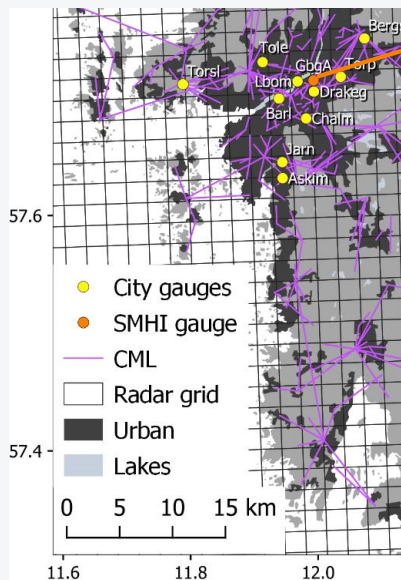


**Received signal levels
reach -90 dBm → a lot
of rainfall information**

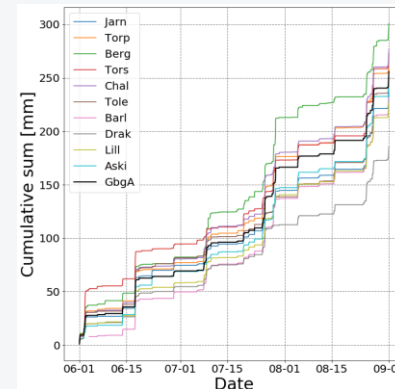
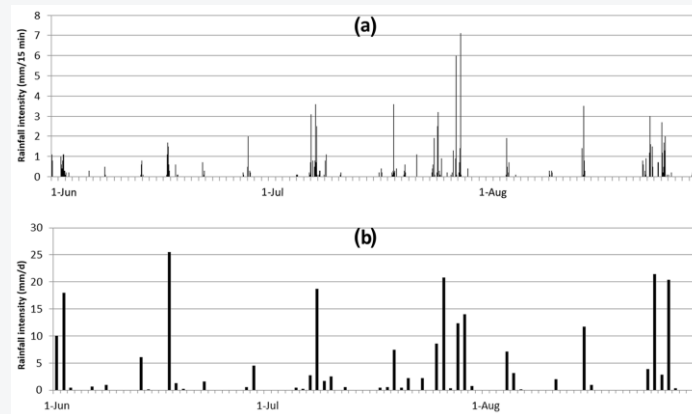


Gauges

- Ten 1-min rain gauges
- One meteo. station with 15-min precip. + temperature, humidity, pressure, wind speed & direction
- 100% data collection



2015: a normal summer rain-wise

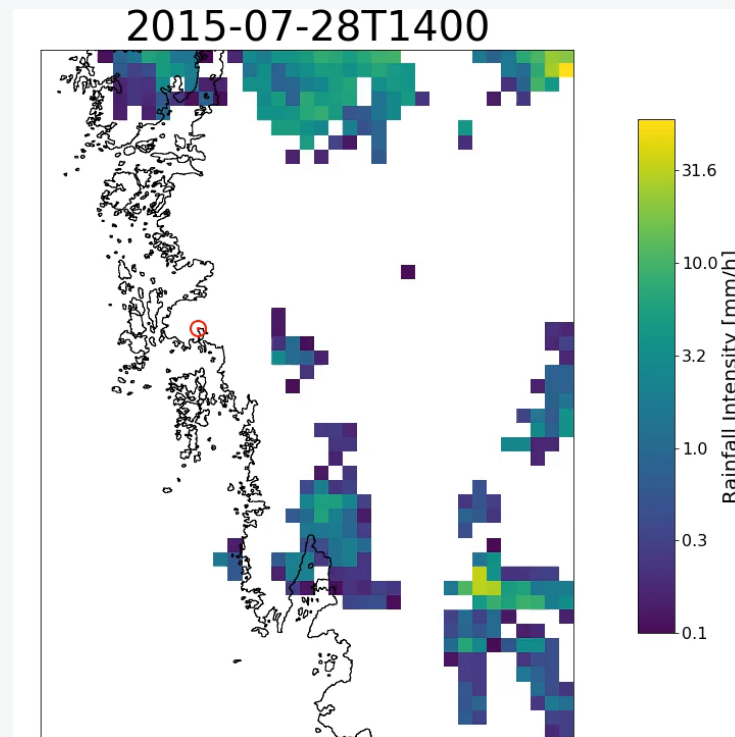


Good correspondence
among gauges

Weather radar

- Swedish operational C-band radar composite
- Reflectivity data (dBZ)
- Grid at 2 km & 15-min resolution
- 99.6% time steps with data for ≥ 1 radar pixel
- 46.6 million measurements

Animation of rain event
Red circle = Torslanda gauge



Torslanda gauge 25th July 2015

- Intense rain event (> 60 mm/h)
- CMLs capture dynamics better than radar

