Can TanDEM-X replace Skogliga Grunddata?

Ljungbergsseminarium 27. October 2016
Henrik Persson, Henrik.Persson@slu.se
Division of Forest Remote Sensing, SLU, Umeå

518 scenes
**Satellite interferometry**

- Measures height differences in terms of phase multiples $-\pi \ldots \pi$
- Distance between satellites determines this sensitivity – height of ambiguity (HOA)
Cov­er­ages possess HOA=45-60m

Almost…

Two stripes without other coverage have HOA=25-29 m
Some challenges

- Low HOA
- Water
- Scene trends…
- Lots of cities and few natural open regions
- Hilly terrain
- Relative height calibration
- Geocoding – side looking configuration
Low HOA
Trends.... combined with low HOA

- If the Earth was flat...
Hilly terrain

Hundreds of meter…
passing HOA

Or water as far as you can see?
So what do we get?
Biomass mosaic Uppland
Or Southern Sweden
Or entire Sweden...
Quality at pixel level compared to ALS based product -6y

TanDEM-X 2015

Skogliga grunddata (ALS 2009)
Automatic mosaic
In addition – coherence maps
Airborne laser, winter is coming!