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The Prognosis and Availability Toolbox for Forest Management Support

Felipe Verdú

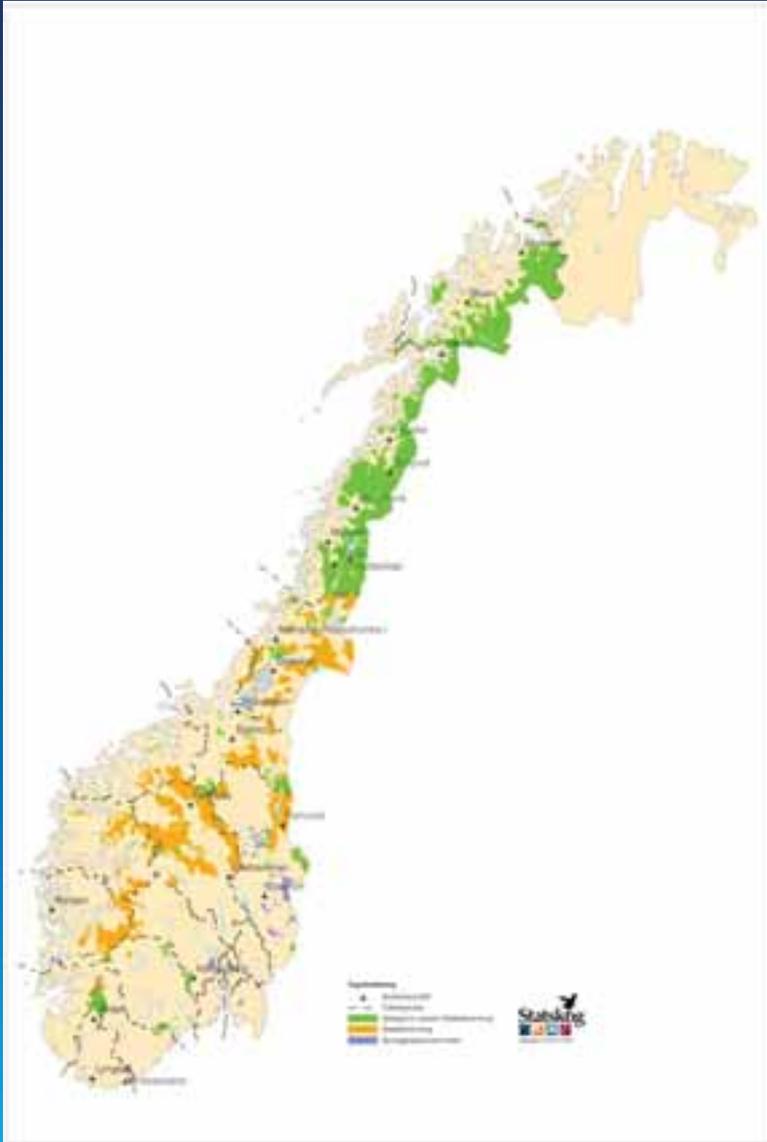
Kjell Anders Vikan

In this breakout session

- Statskog SOE
- Planning & production (GIS Environment)
 - resource data maintenance (ArcSDE)
- Strategic planning
 - Long term prognosis
 - Operational prognosis
- Demo



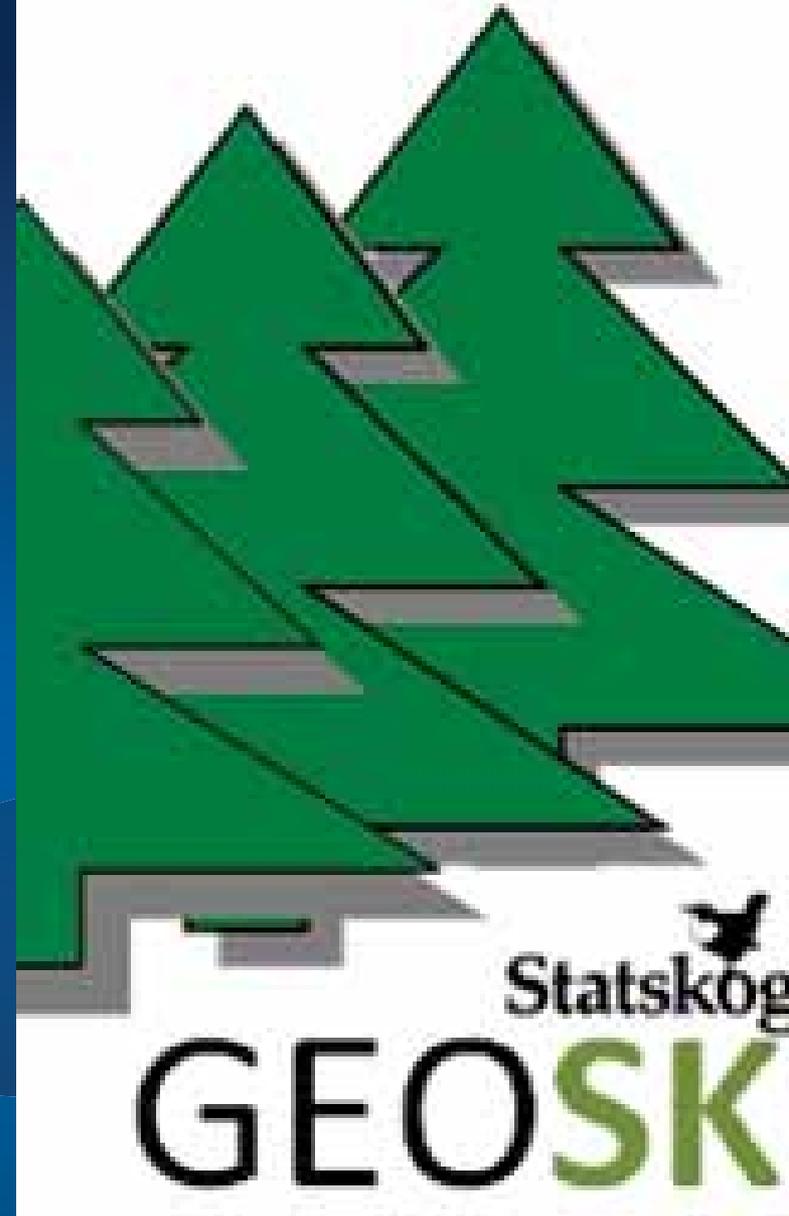
Statskog SOE



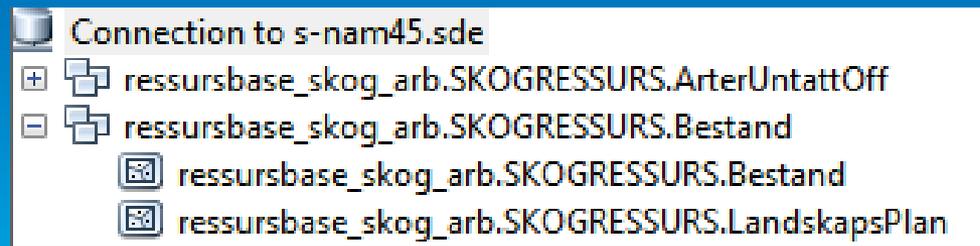
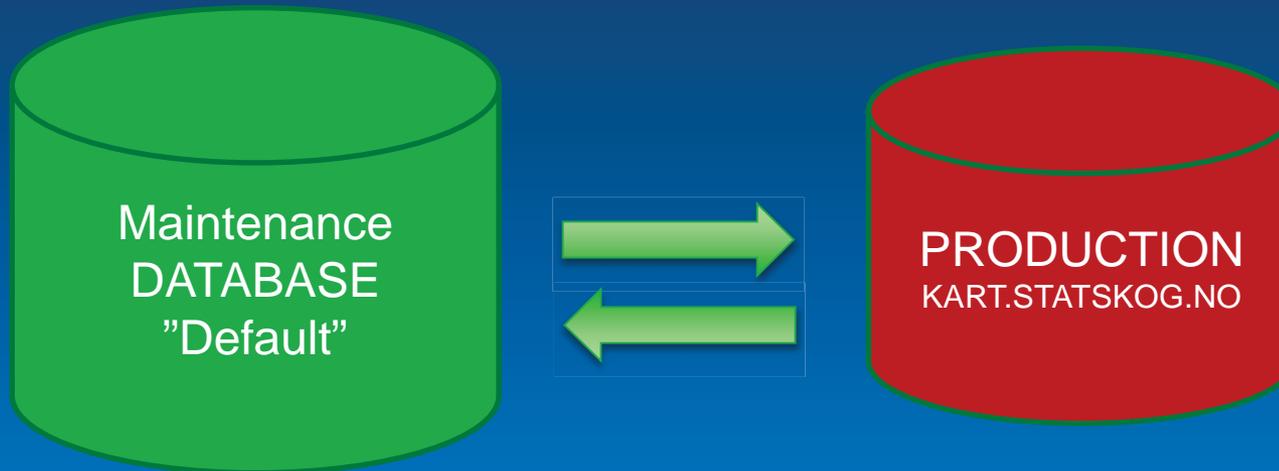
- **Vision**: Statskog shall safeguard and develop values in public holdings
- Statskog holds title to about 60,000 km² of land, about a fifth of mainland Norway.
- Statskog is a landowner in 17 counties and in 194 municipalities
- Productive forests cover about 4,800 km² of the land held.
- More than 80% of Statskog lands are above timberline.

Planning & production (GIS Environment)

ArcSDE



Resource data maintenance (ArcSDE)



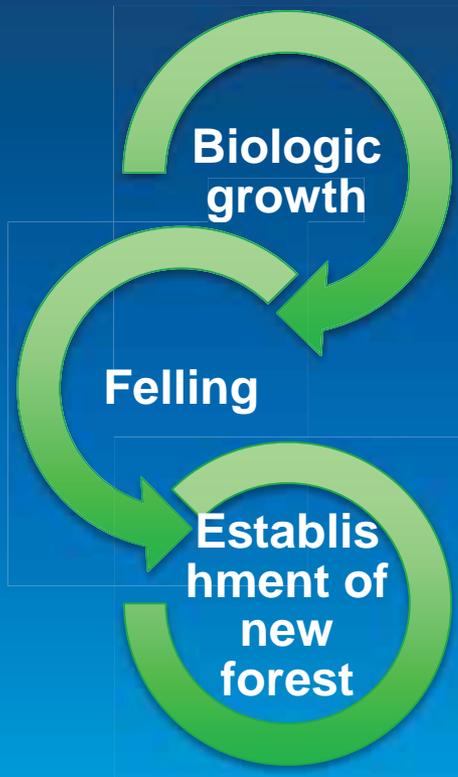
Strategic planning

Long term prognosis



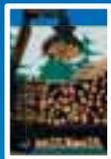
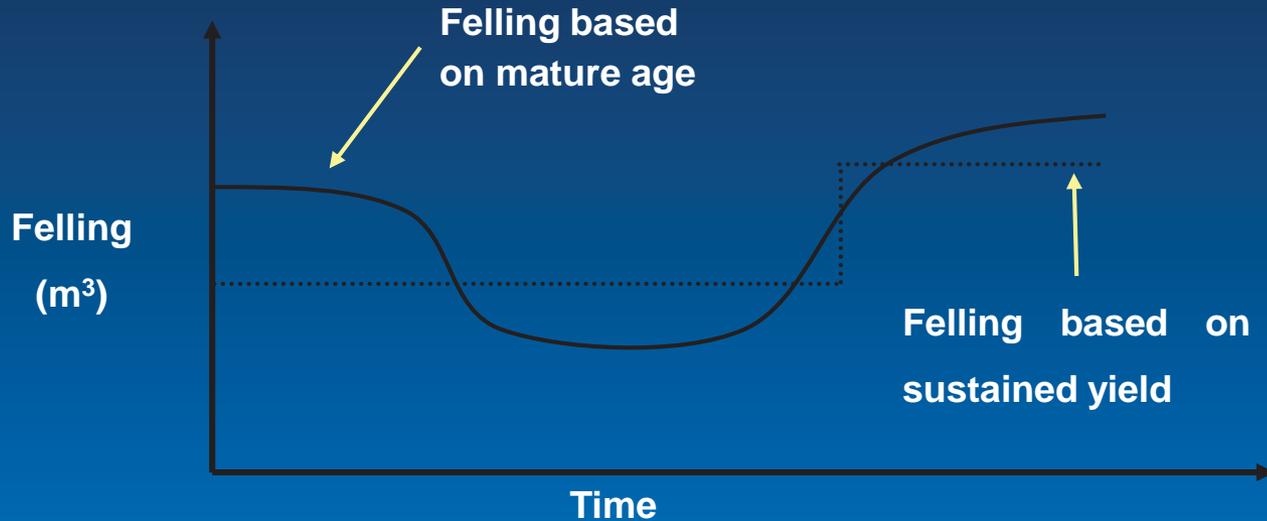
Geoforest (Geoskog)

Long term Prognosis



Geoforest – Felling programs

Long term Prognosis



Mature Age



Sustained Yield



Fixed Volume

Strategic planning

Operational prognosis

- Availability (connection to roads)
- Operational prognosis toolbox (priority of areas & roads)



Operational Prognosis - Availability

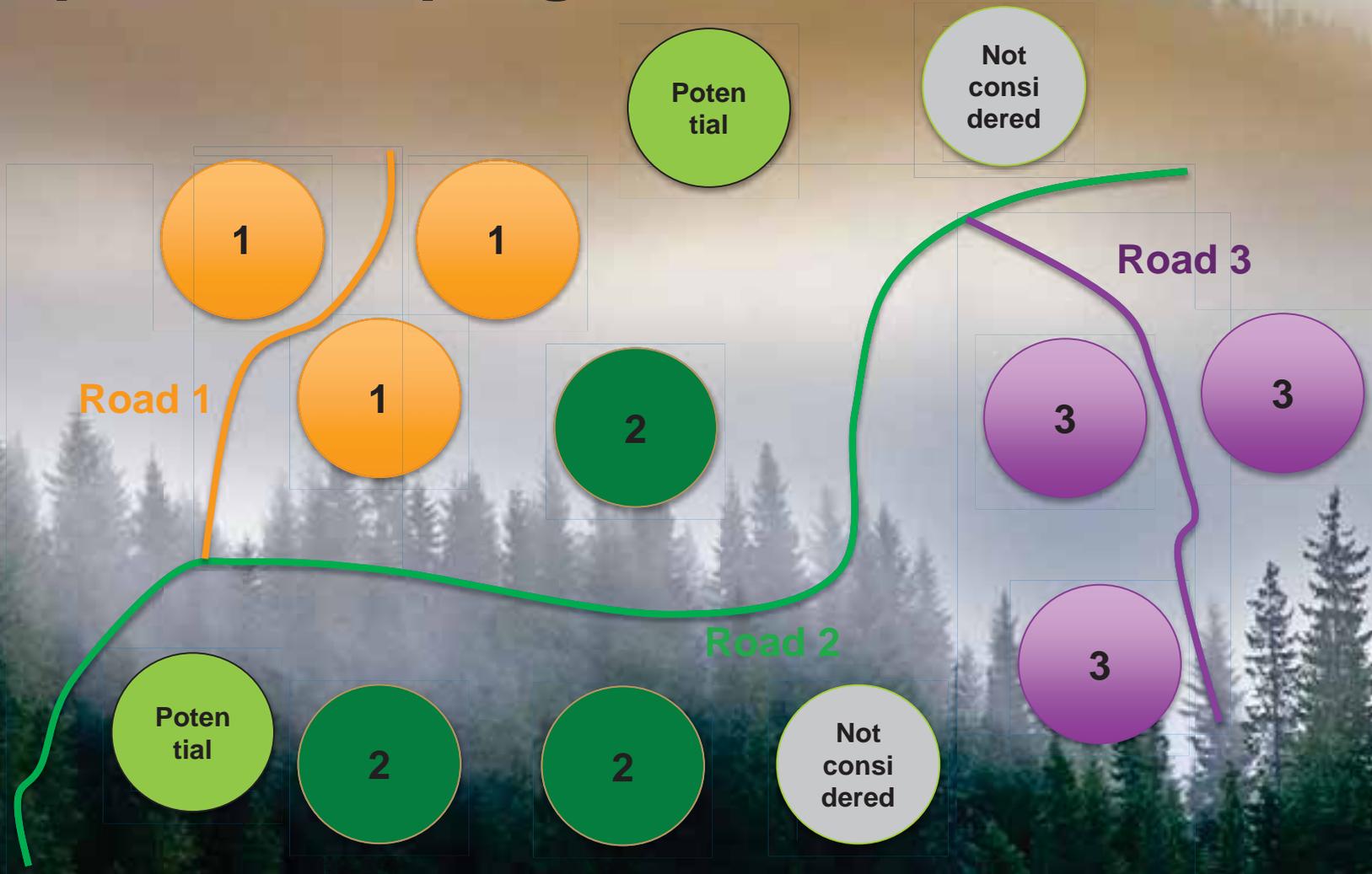
- Logging road (Winter)
- Logging road (Always)
- Roads
- Stand
- Lakes
- Swamp Areas
- Open Areas
- GeocacheBasis

2741 m

1883 m



Operational prognosis toolbox



Operational prognosis toolbox

Operational Prognosis

- GP tool
- Based on the value of the stand (W_i) and its volume growth percentage ($Iv\%$).
- We define an average value P_w for each road “j” as:

$$P_w(\text{road})_j = \frac{\sum (W_{ij} * Iv\%_{ij} / 100)}{\sum W_{ij}}$$

- Priority = f {min (P_w1 , P_w2 , P_w3 , ..., P_wj)}

How is the tool being used now?

- Toolbox in Desktop

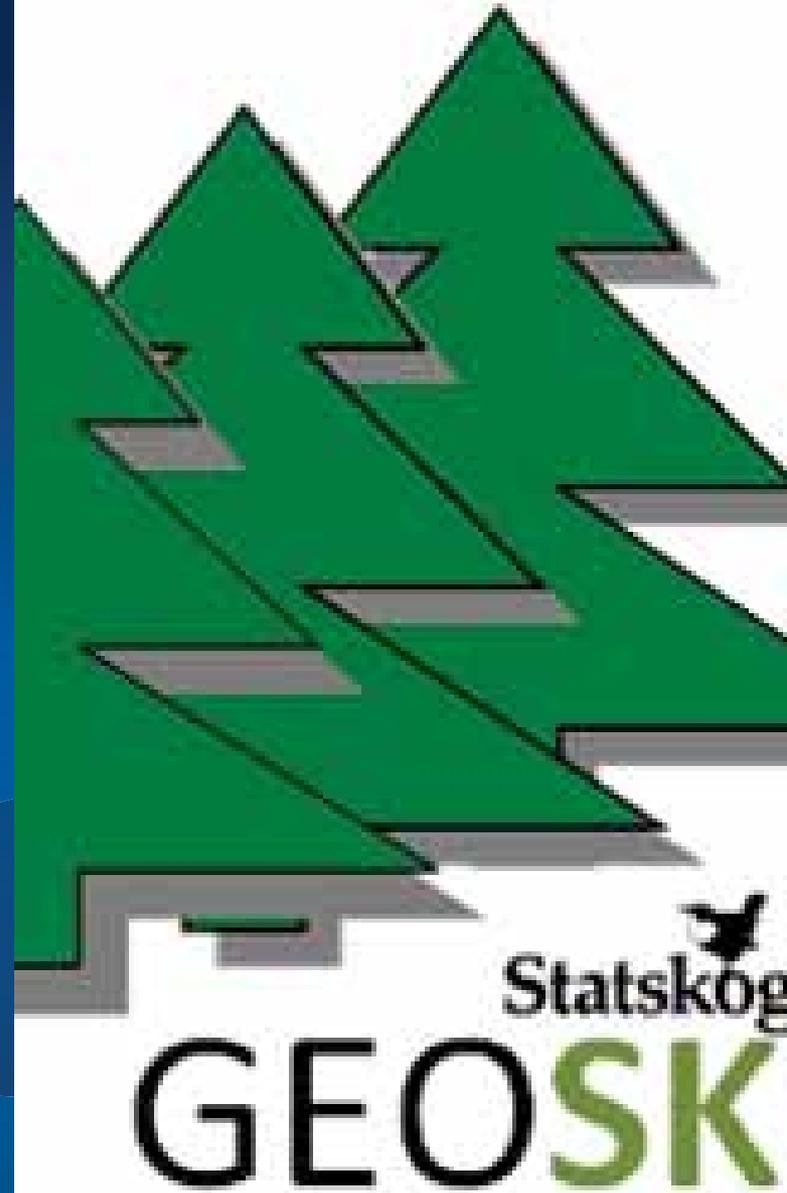


- Web user interface based on GIS services
- Mobile devices



Demo

- Web based
 - ArcGIS Server
 - Geocortex



**Thank you for
your attention!!!**

QUESTIONS?



Statskog
GEOSK