

Sustainability and current research projects

Research Symposium on Sustainability

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Sustainability – definitions

.."development which meets the needs of current generations without compromising the ability of future generations to meet their own needs".. Brundtland report 1987

The Natural Step organisation:

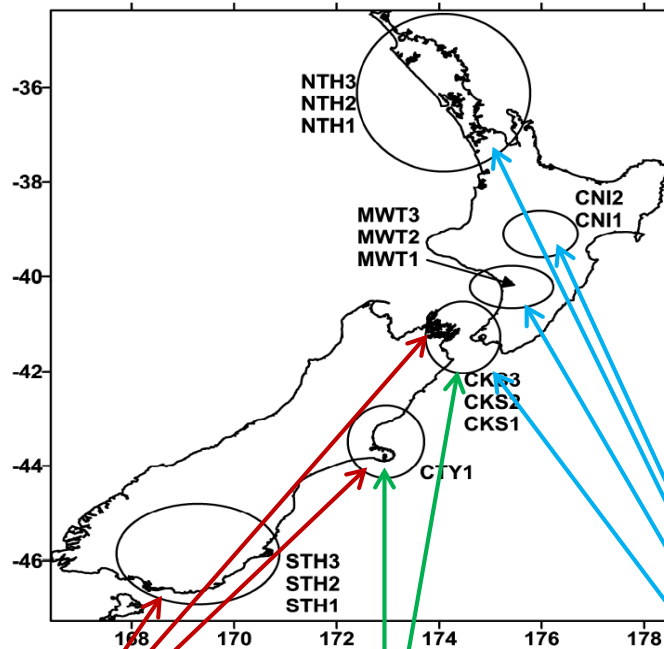
Four System Conditions

In the sustainable society, nature is not subject to **systematically increasing**:

1. concentrations of substances extracted from the Earth's crust,
 2. concentrations of substances produced by society,
 3. degradation by physical means and,
- in that society...
4. people are not subject to conditions that systematically undermine their capacity to meet their needs.



Wind and hydro correlations with demand and prices

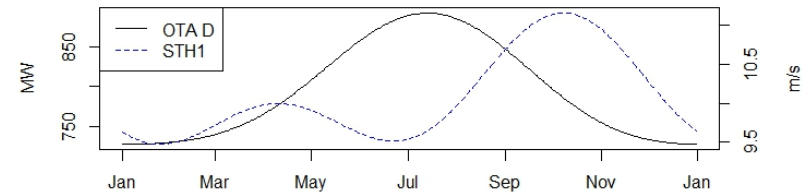


Well-suited during months of low SI hydro

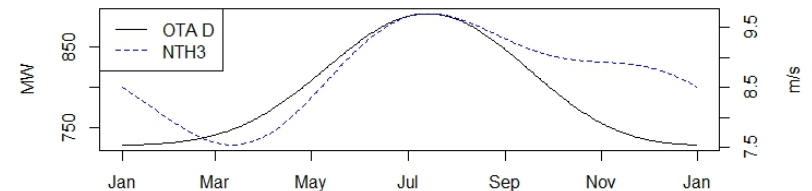
Suitable for balancing SI hydro in general

Well correlated with NI demand (& NTHs, CNIs with prices!)

Seasonal pattern

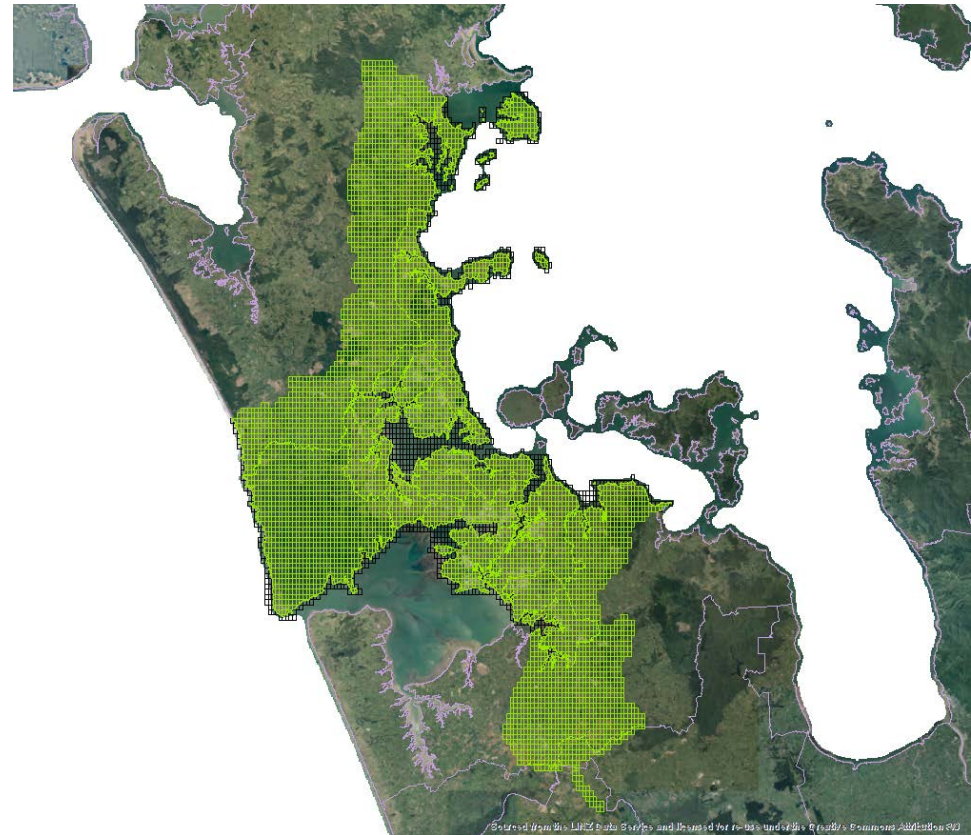
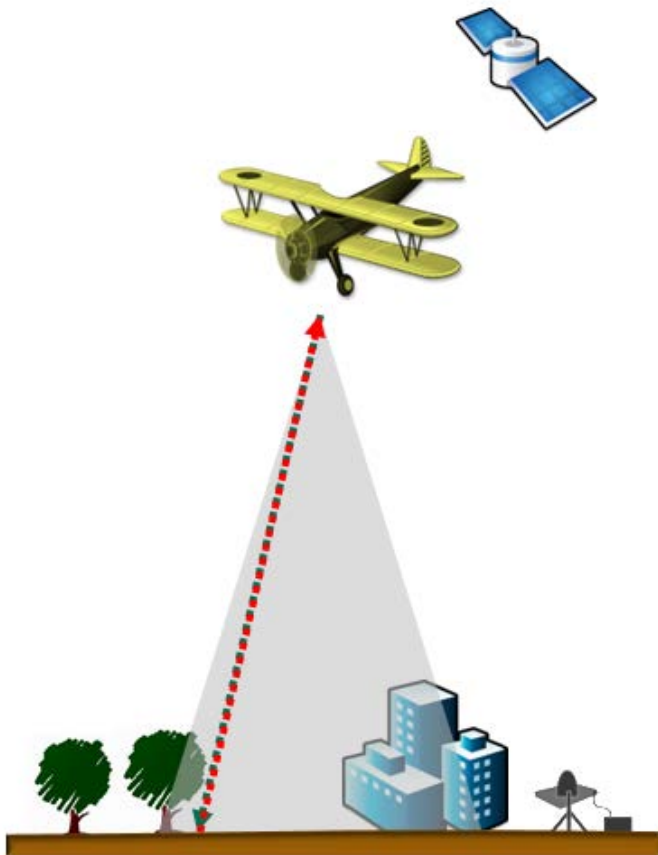


Seasonal pattern



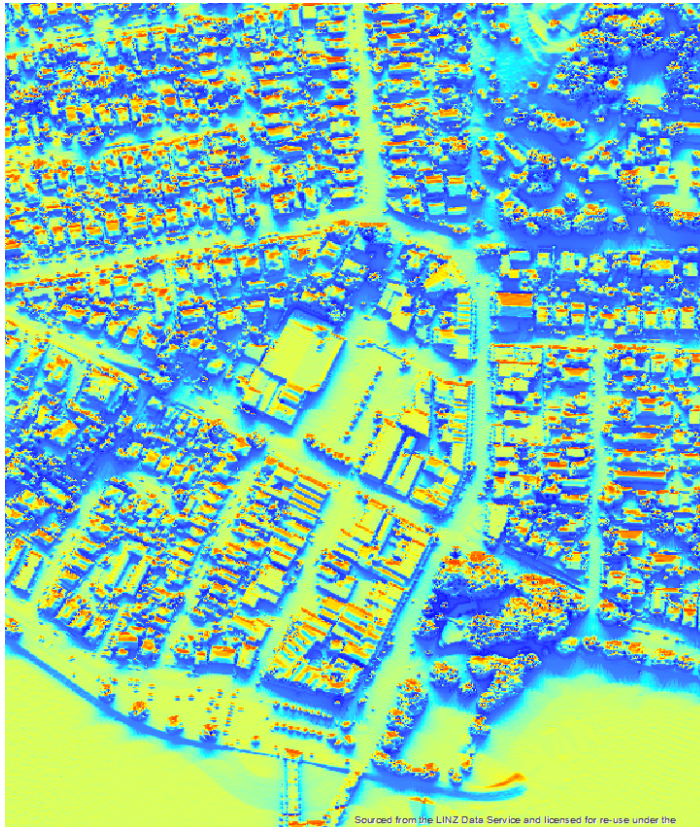
OTA D: demand at Auckland node
STH1: wind speed
NTH3: wind speed

Solar potential in Auckland rooftops using LiDAR data

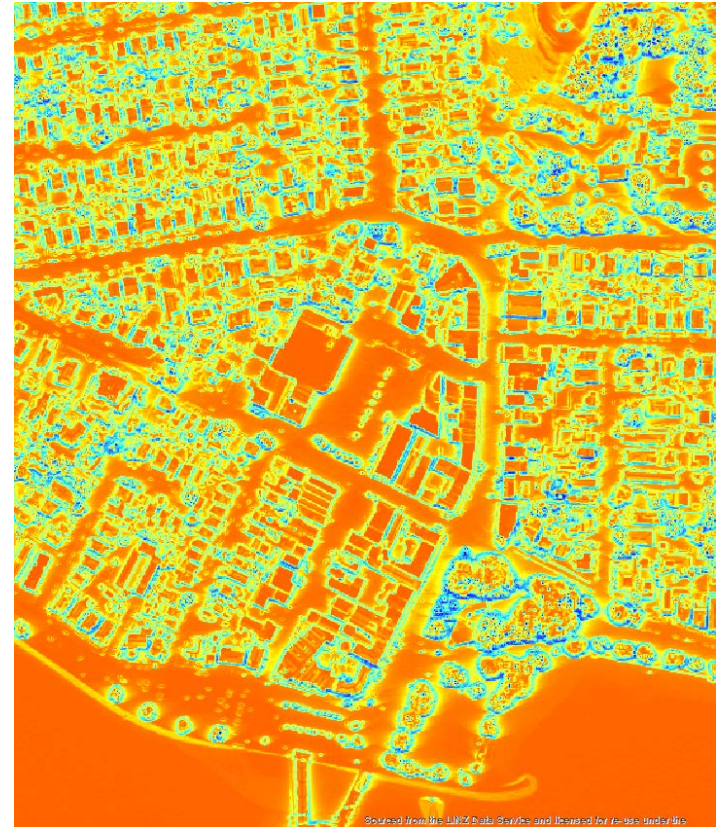


Solar potential in Auckland rooftops using LiDAR data

Winter

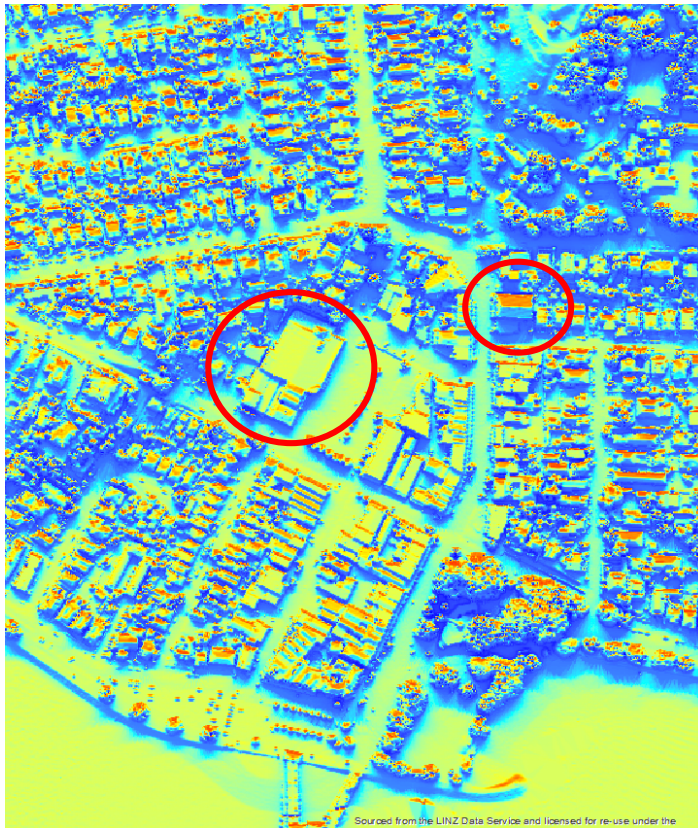


Summer



Solar potential in Auckland rooftops using LiDAR data

Winter



Summer

