

Progress Report

Variation in productivity, wood quality and soil carbon of nine conifer species across a gradient in water deficit

CAFS.21.85

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Presenter: Emily Von Blon (OSU)

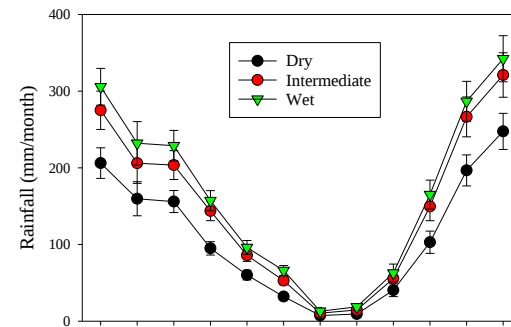


Project Overview

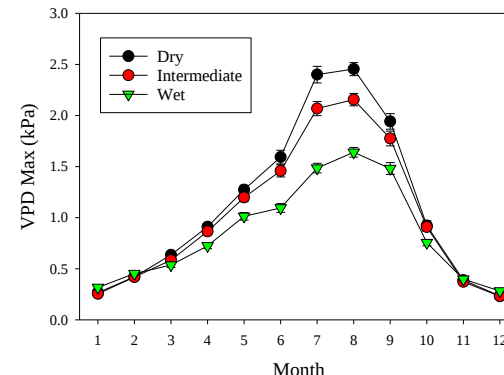
A species comparison study was installed in 1996 by Starker Forests in western Oregon.

Nine native and non-native conifer species were planted in three sites along a water deficit gradient from the western Coast Range to the Willamette Valley of western Oregon.

DF	Douglas-fir
GF	Grand fir
GS	Giant sequoia
POC	Port Orford cedar
PP	Ponderosa pine (Willamette Valley)
SSP	Sitka spruce
WH	Western hemlock
WRC	Western red cedar
WWP	Western white pine (Blister Rust Resistant)



Sites weather
1996-2010



Source: PRISM



Current Progress

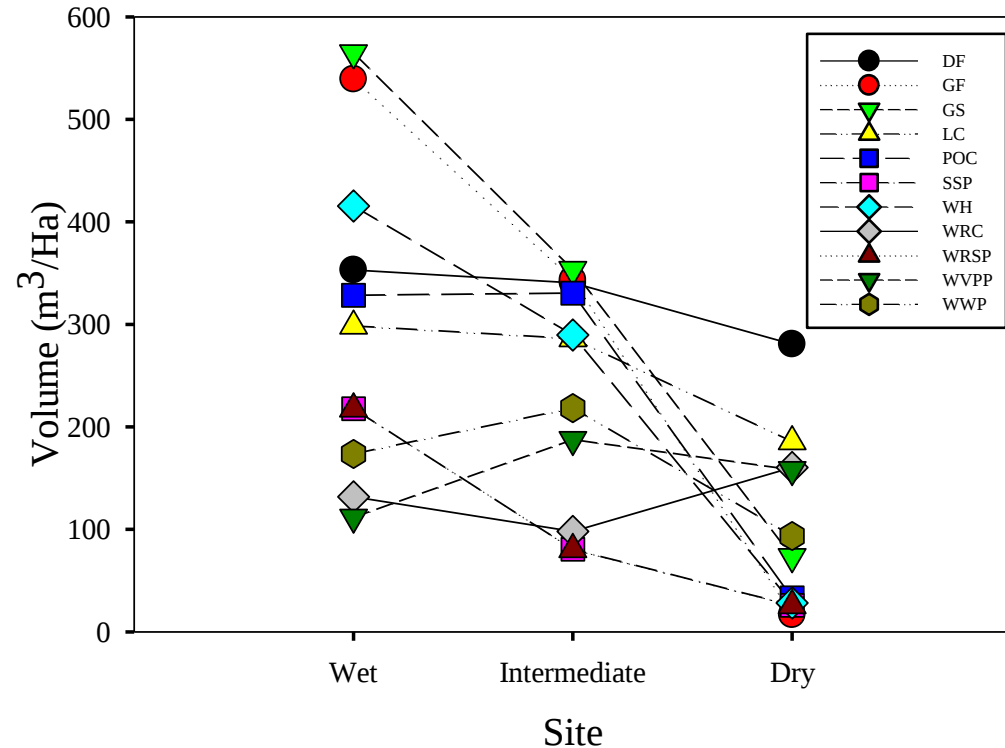
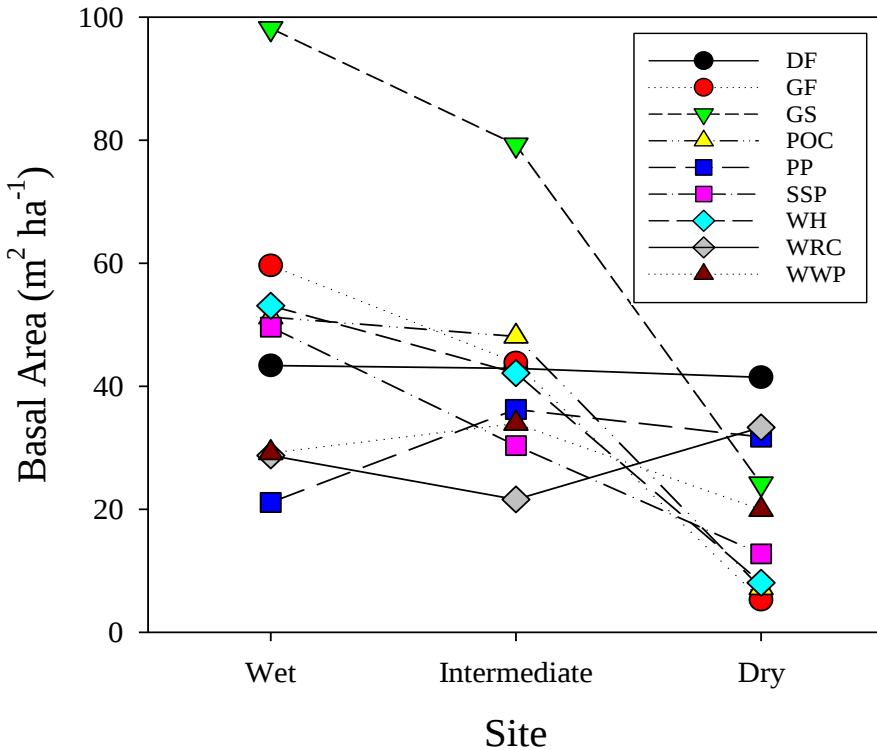
2 MS students are working on this project:
Emily Von Blon and Erkan Babat

	2021			
	Winter	Spring	Summer	Fall
Plots layout	✓			
Weather Stations Installation	✓			
Tree Inventory	✓			
Diameter Growth	✓	✓	✓	✓
Litterfall - LAI	✓	✓	✓	✓
Understory Sampling			✓	
X-ray Densitometry				
Foliage, Litter and Soil Sampling				
CAFS Reports				



Inventory Date: 02/2021

Current Progress

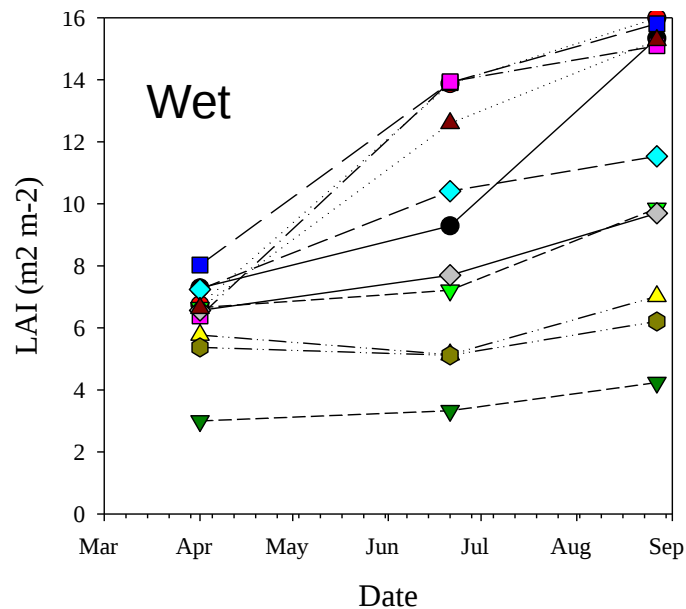
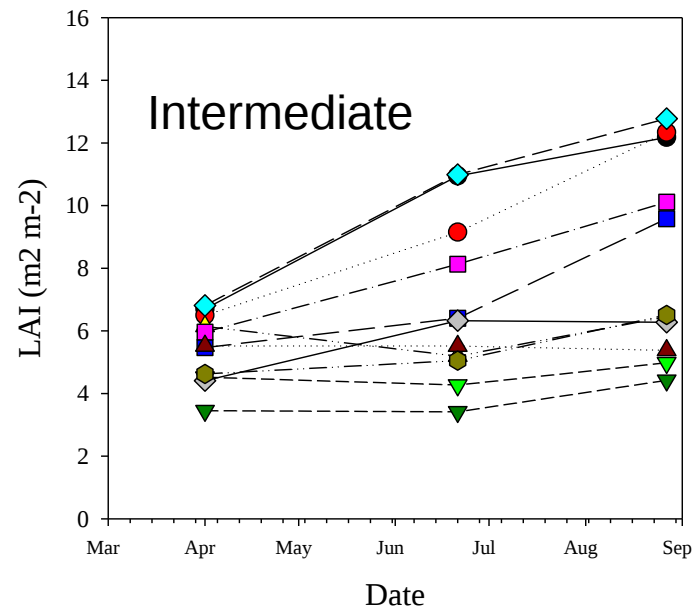
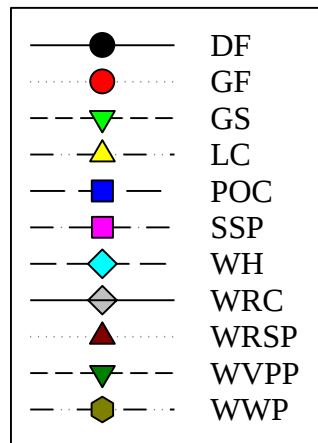
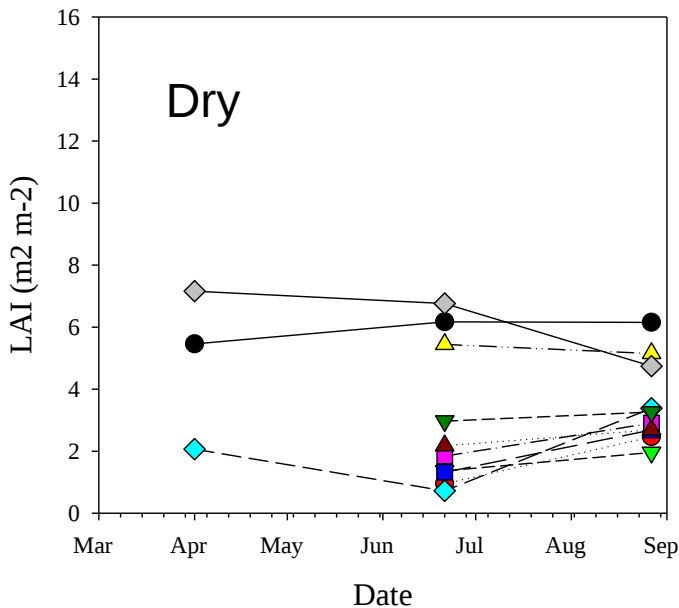


- Inventory Results Presented at Growing Redwoods Science Meeting (October 13, 2021)

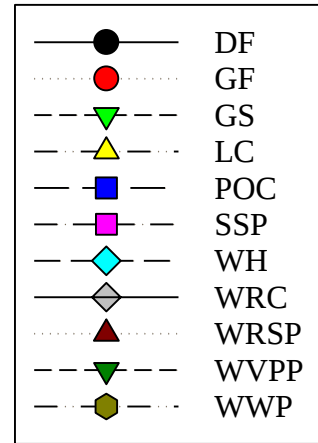
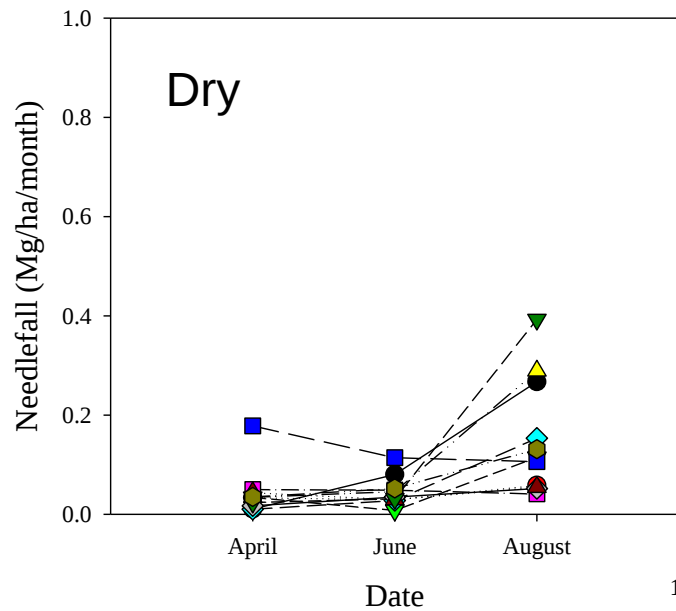


LAI (ceptometer): 04/2021-09/2021

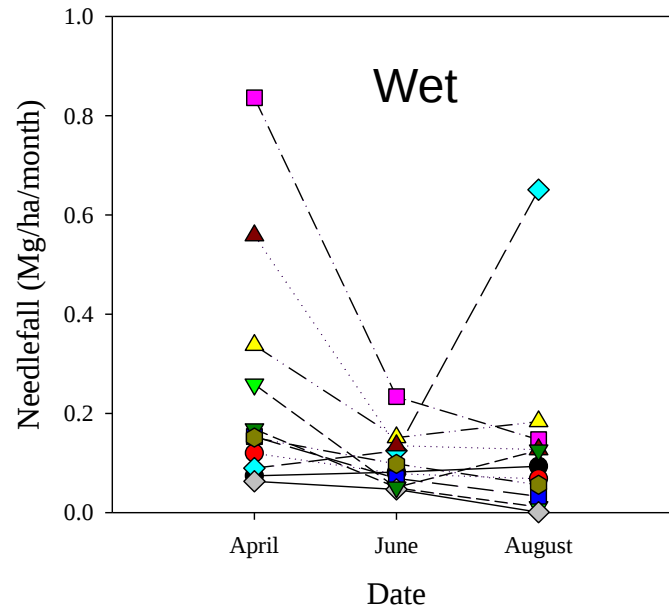
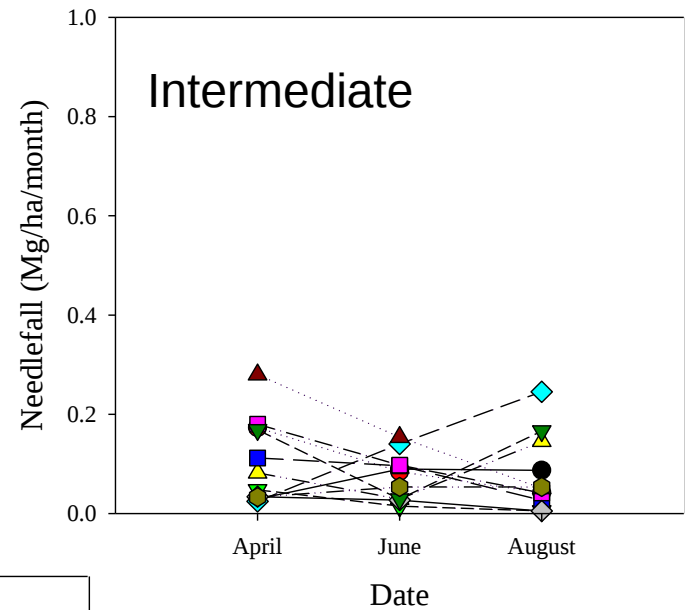
Current Progress



Litterfall: 04/2021-08/2021

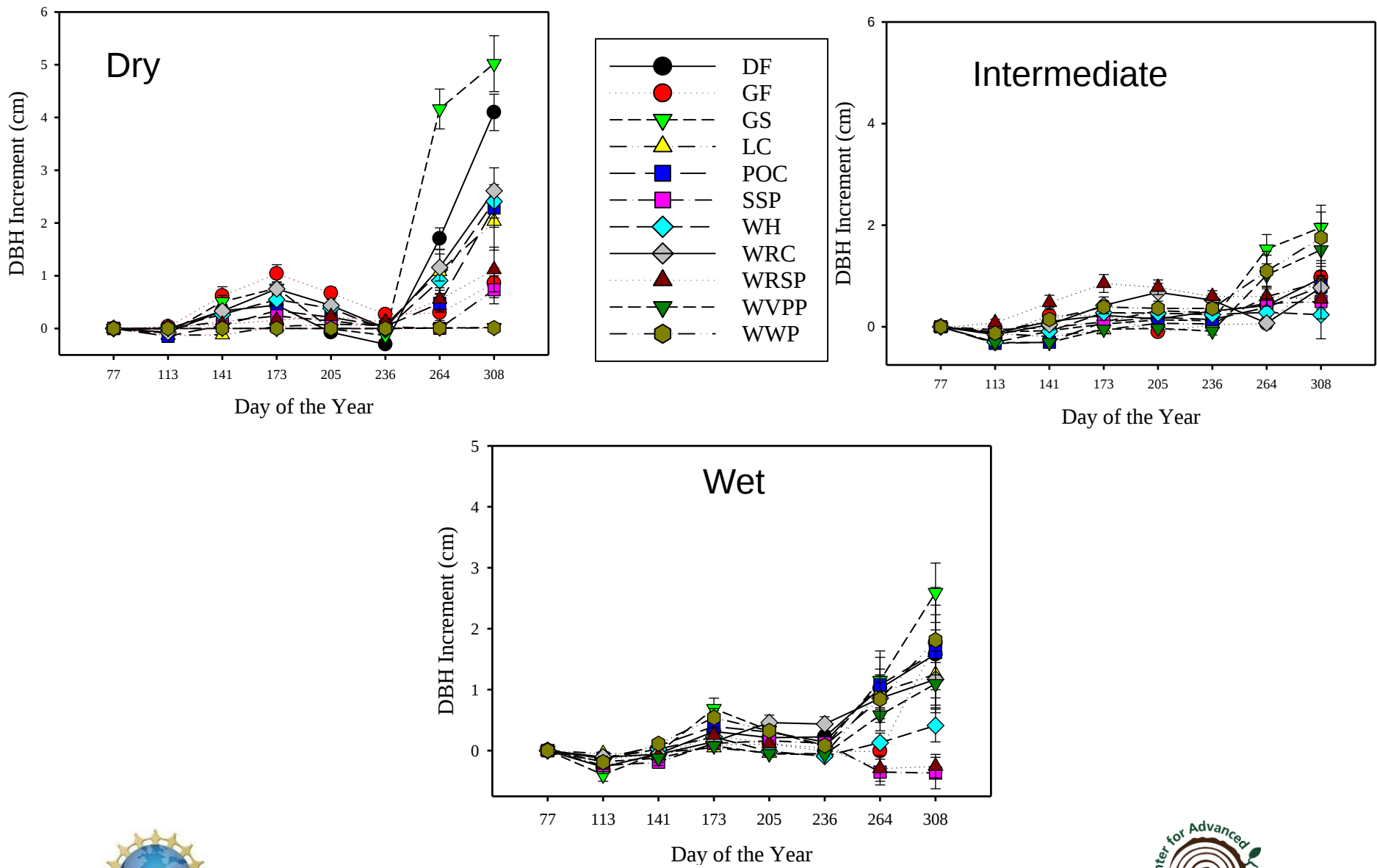


Current Progress



Cumulative DBH Increment: 03/2021-09/2021

Current Progress



Future Plans

- Litterfall collection
 - Bi-monthly for 2 years
- Measuring LAI and Light Interception with a Ceptometer
 - Bi-Monthly for 2 years
- Wood cores sampling (Winter 2022)
 - Total tree ring, earlywood, and latewood width
 - Wood density (X-ray densitometry)
 - Intrinsic Water Use Efficiency (δC^{13})
- Foliar sampling
 - 4 trees per plot (Winter 2022)
- Forest Floor and Soil Samples
 - 0-15, 15-30, 30-50, 50-100 cm (Winter 2022)
 - In collaboration with Kim Littke (UW)
- Second tree inventory (Winter 2022)
- Aboveground biomass and NPP estimation using inventory data and reported biomass functions for each species and litterfall on each plot

