

# Land-Atmosphere Feedback Initiative (LAFI)

Remote sensing of vegetation canopy properties:

States & spatio-temporal dynamics

Project P02

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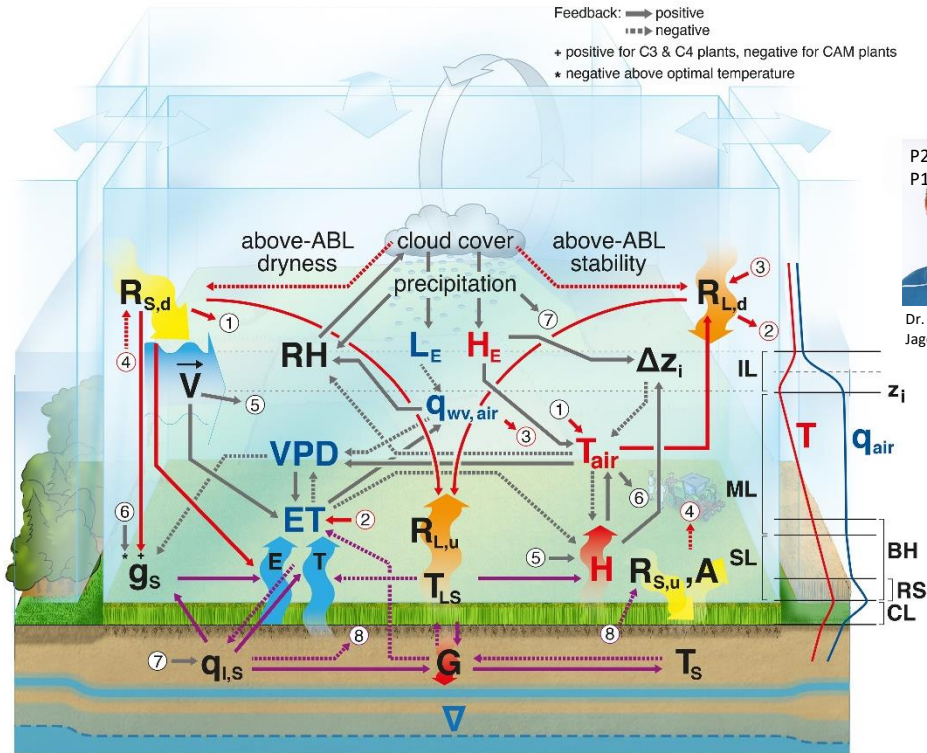
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Knowledge for Tomorrow



# LAFI: Project overview



Spokesperson  
P1, P10



P1



P1



P1



P1



P2  
P1



P3  
P1



P3  
P1



P4  
P1



P4



P4  
P1



P5  
P1



P6  
P1



P7



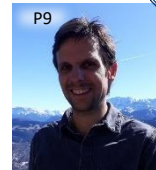
P7



P8



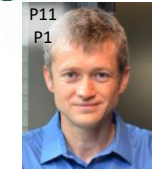
P9



P9



P10



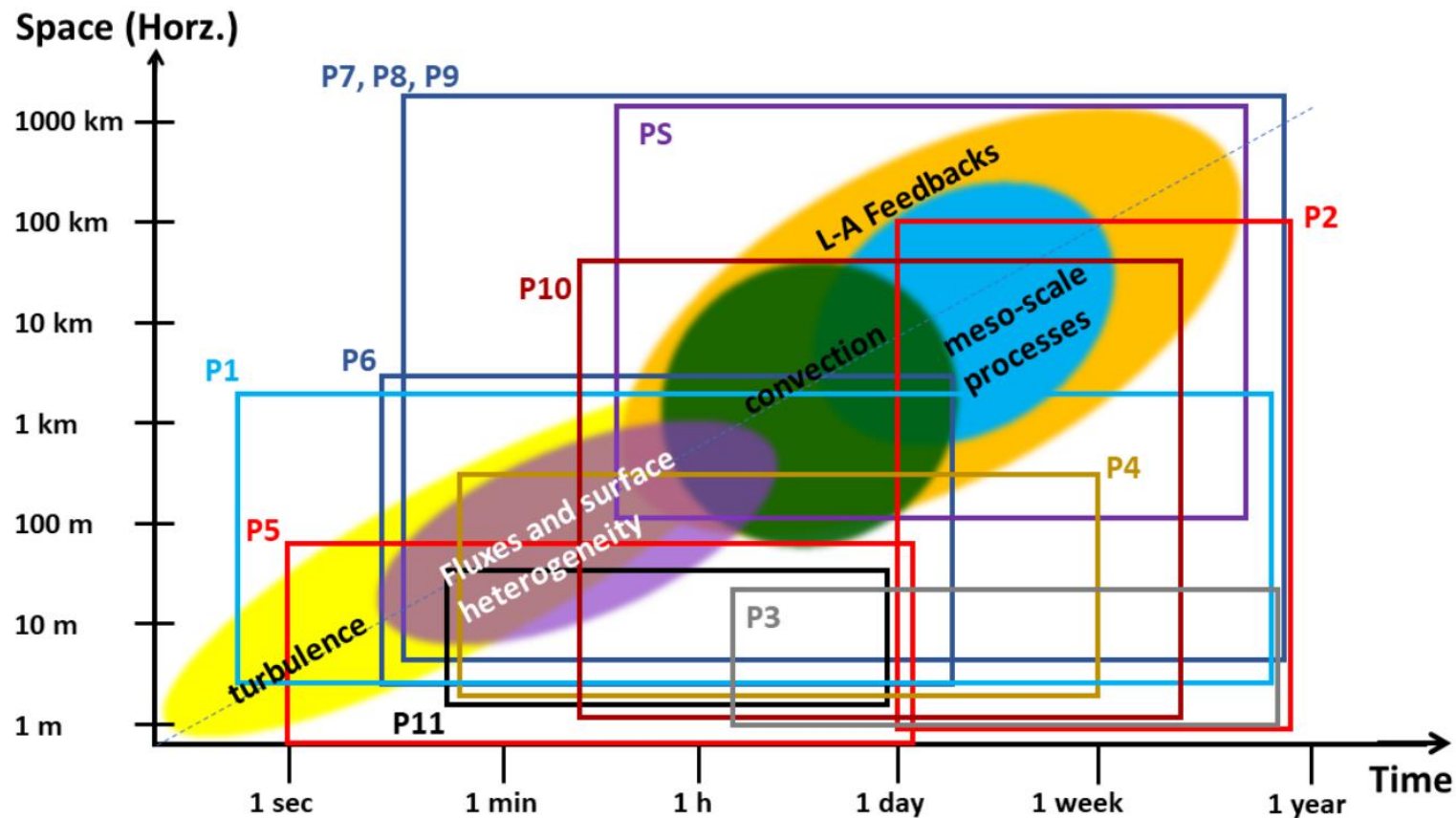
P11  
P1



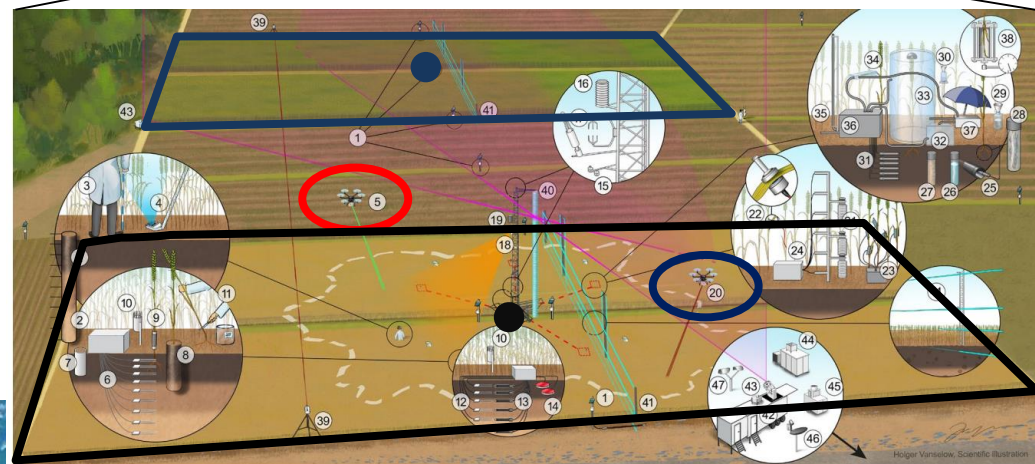
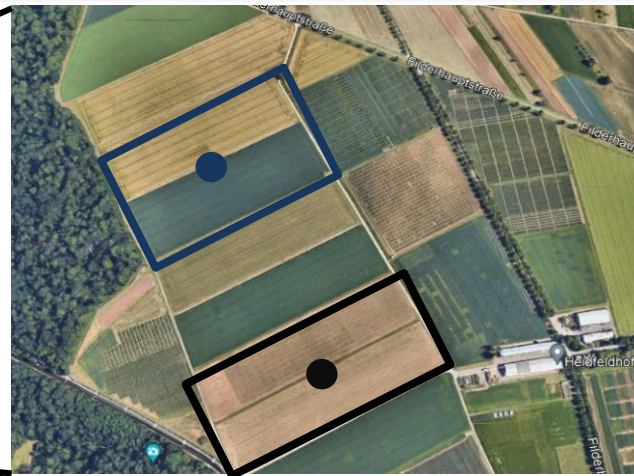
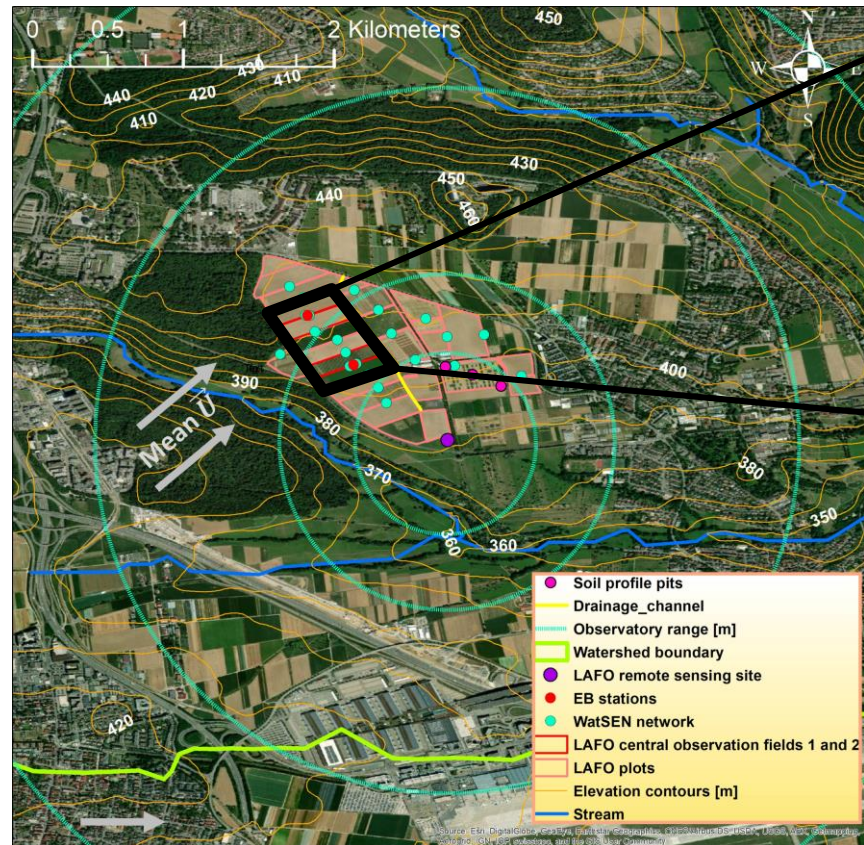
PS



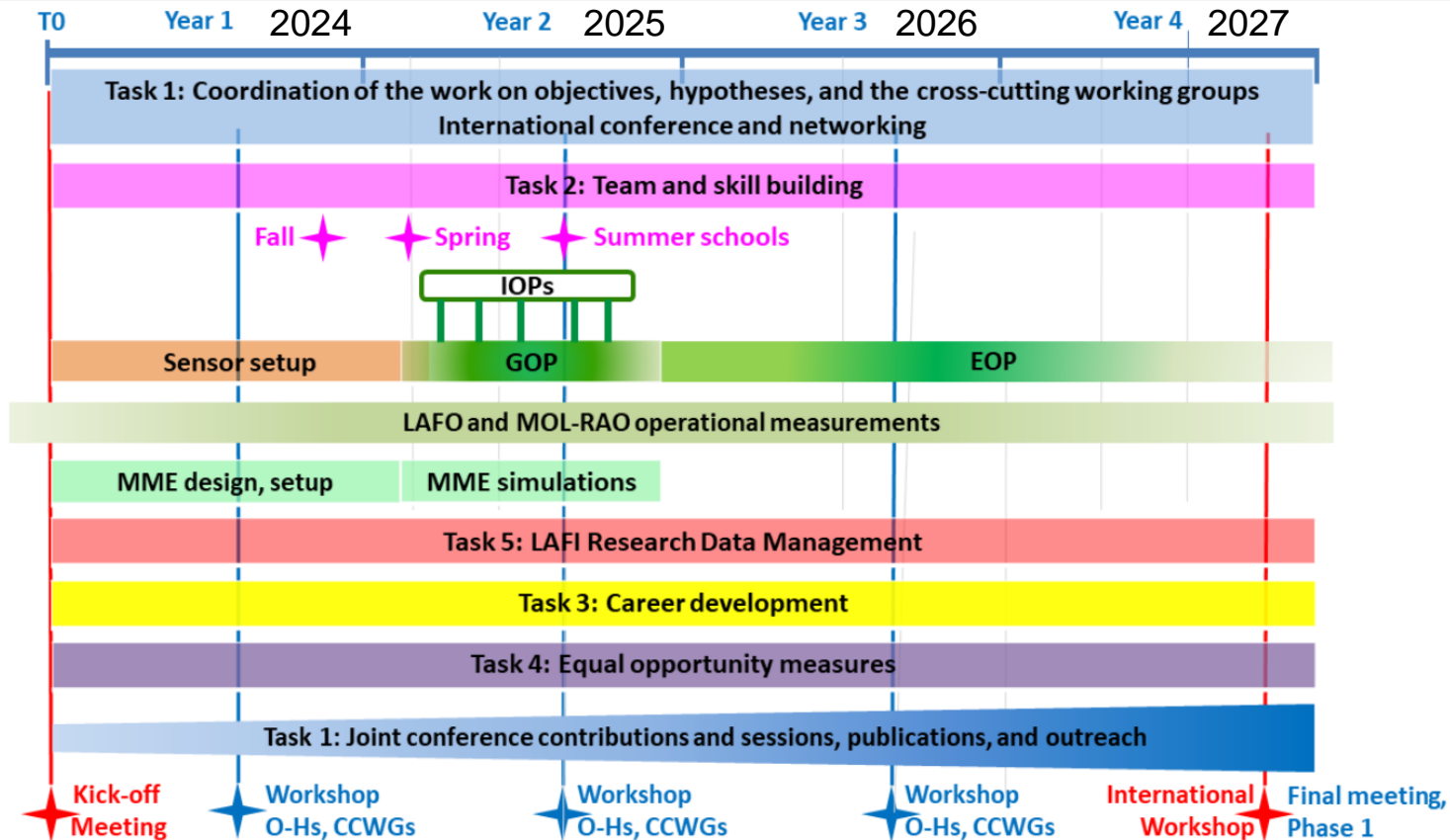
# LAFI: Project scales



# LAFI: Study site



# LAFI: Project timeline



# LAFI P02: Overview

## Remote sensing of vegetation canopy properties:

States & spatio-temporal dynamics of the

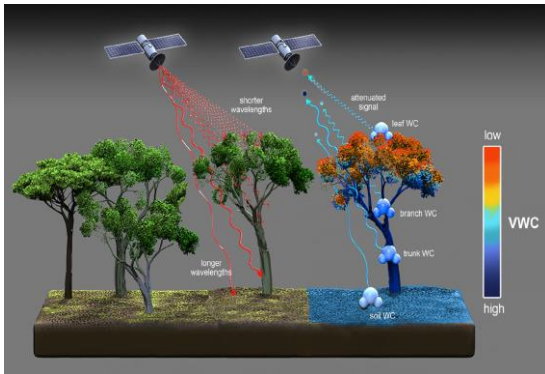
moisture, temperature and topography of the vegetation canopy

Work Packages	Variable	Temporal res.	Spatial res.
WP1	Liquid water in the canopy ( $q_{l,can}$ )	3 days	100 m
WP2	Land surface temperature ( $T_{LS}$ )	1 day	100 m
WP3	Atmospheric roughness sublayer ( <b>RS</b> )	10 days	100 m



# LAFI P02: Overview

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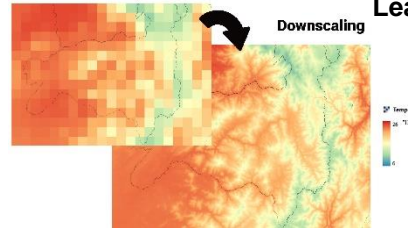
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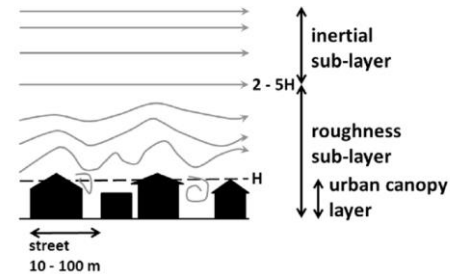
Radiative Transfer Models



Machine Learning

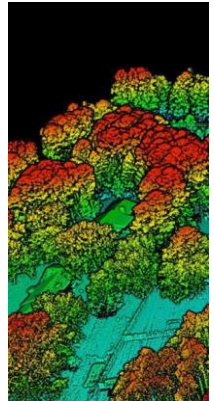


[i2.wp.com/giscrack.com](https://i2.wp.com/giscrack.com)



10.1016/j.uclim.2014.03.011

Digital Surface Model



[flyguys.com](https://flyguys.com)



# LAFI P02: Timeline

WPs	2024				2025				2026				2027			
	1	4	7	10	1	4	7	10	1	4	7	10	1	4	7	10
<b>WP1 canopy moisture</b>																
Satellite data acquisition		█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Algorithm development			█	█	█	█	█	█	█	█	█	█	█	█	█	█
Intensive measurement campaigns					█	█	█	█	█	█	█	█	█	█	█	█
Data analysis									█	█	█	█	█	█	█	█
Validation									█	█	█	█	█	█	█	█
<b>WP2 canopy temperature</b>																
Satellite data acquisition		█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Algorithm development			█	█	█	█	█	█	█	█	█	█	█	█	█	█
Intensive measurement campaigns					█	█	█	█	█	█	█	█	█	█	█	█
Data analysis									█	█	█	█	█	█	█	█
Validation & model integration									█	█	█	█	█	█	█	█
<b>WP3 topography &amp; roughness sublayer</b>																
Satellite data acquisition		█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
Algorithm development					█	█	█	█	█	█	█	█	█	█	█	█
Intensive measurement campaigns					█	█	█	█	█	█	█	█	█	█	█	█
Data analysis									█	█	█	█	█	█	█	█
Validation & model integration									█	█	█	█	█	█	█	█
<b>WP4 team &amp; skill building</b>	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█
<b>Dissemination</b>																

