



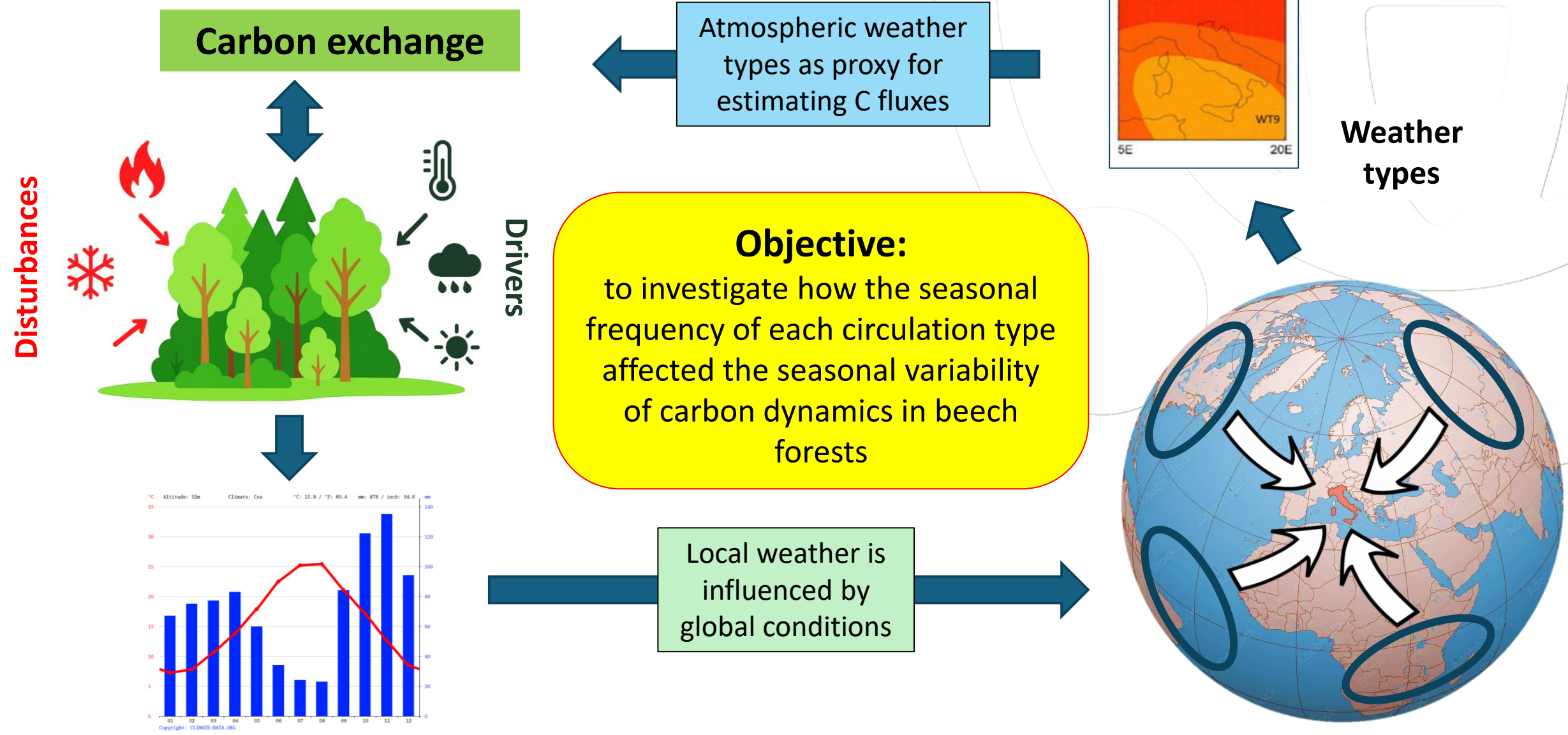
# A VRE-based analysis of the influence of atmospheric circulation types on seasonal C fluxes in a Mediterranean beech forest

S. Costafreda-Aumedes, P. Tagliolato, R. Giusti, M. Iannuccilli, G. Matteucci, F. Mazzenga, A. Messeri, G. Messeri, A. Oggioni

**IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System**  
(D.D. n. 130/2022 - CUP B53C22002150006) Funded by EU - Next Generation EU PNRR-  
Mission 4 “Education and Research” - Component 2: “From research to business” - Investment  
3.1: “Fund for the realisation of an integrated system of research and innovation infrastructures”



# Background



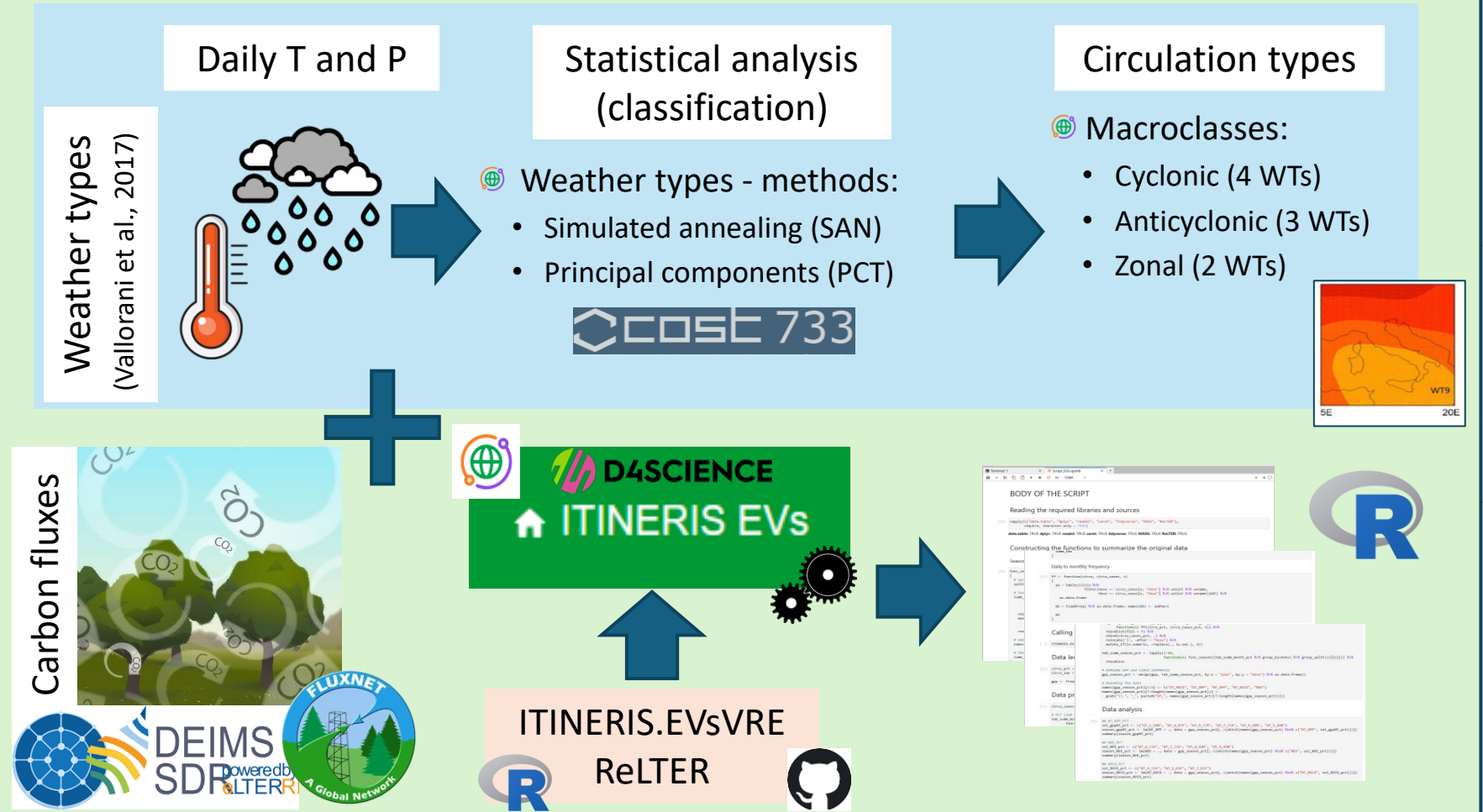
## Study area

### Collelongo - Selva Piana

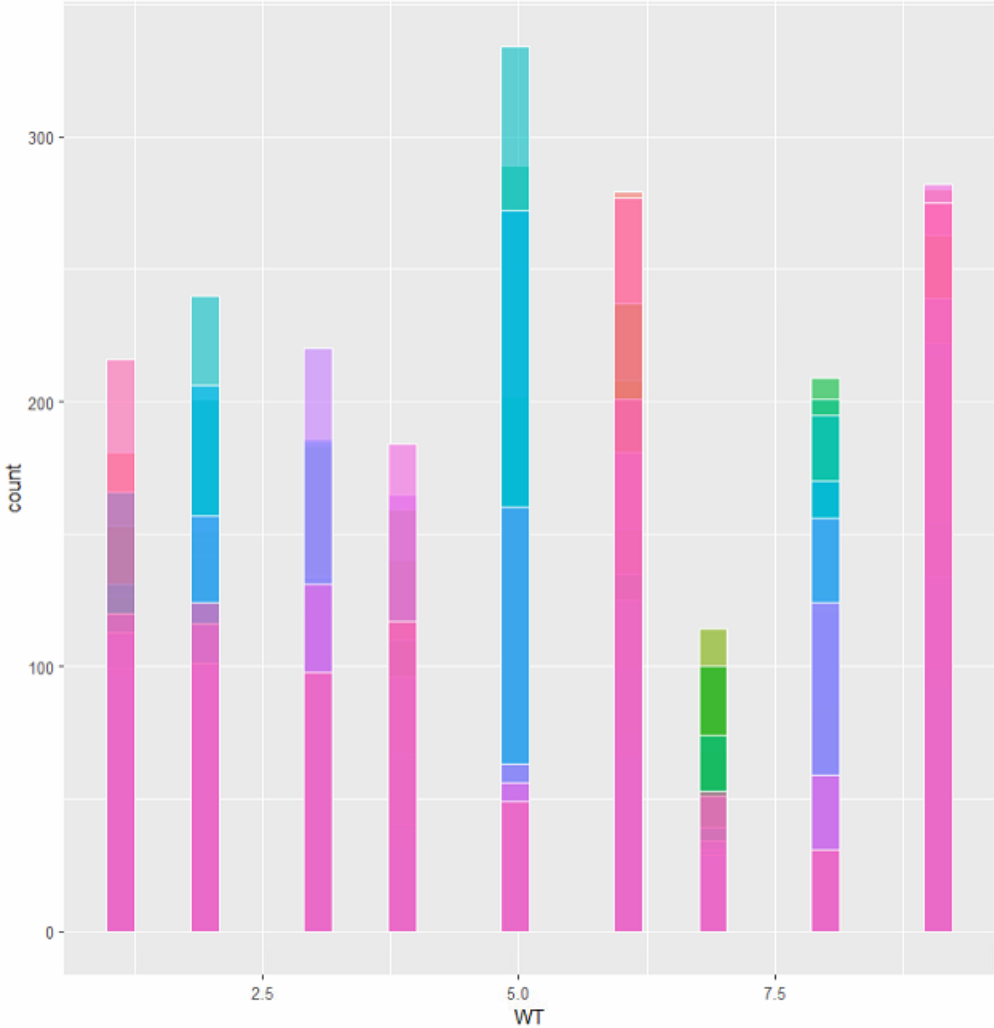


- 3000 ha beech forest (+125 years)
- Period: 1995 – 2014
- Measurements:
  - DBH growth
  - Carbon fluxes (GPP, NEE, RECO)




## General procedure



# Preliminary results



## Weather types

-  **Cyclonic:** WTs 2, 4, 7 and 9
-  **Anticyclonic:** WTs 1, 3 and 5
-  **Zonal:** WTs 6 and 8

## Seasons

-  **DJF:** December - February
-  **MAM:** March - May
-  **JJA:** June - August
-  **SON:** September - November

### Coefficients:

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	294.08	501.36	0.587	0.57191
WT_6_DJF	-24.85	12.00	-2.072	0.06817 .
WT_4_JJA	-137.20	35.00	-3.920	0.00351 **
WT_7_JJA	114.80	35.42	3.241	0.01014 *
WT_1_SON	43.25	22.25	1.944	0.08377 .
WT_4_SON	79.94	19.14	4.177	0.00239 **
WT_5_SON	99.81	34.58	2.886	0.01799 *

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 205.5 on 9 degrees of freedom  
Multiple R-squared: 0.8133, Adjusted R-squared: 0.6889  
F-statistic: 6.536 on 6 and 9 DF, p-value: 0.006736



# THANKS!

**IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System**  
(D.D. n. 130/2022 - CUP B53C22002150006) Funded by EU - Next Generation EU PNRR-  
Mission 4 "Education and Research" - Component 2: "From research to business" - Investment  
3.1: "Fund for the realisation of an integrated system of research and innovation infrastructures"



Finanziato  
dall'Unione europea  
NextGenerationEU



Ministero  
dell'Università  
e della Ricerca



Italiadomani  
INIZIATIVA DI POLITICA PUBBLICA

