# Trenowanie modelu Random Forest za pomocą caret

model\_caret <- train(total\_n ~ year + cutting\_year\_1 + cutting\_year\_2 +

soil\_preparation + distance\_from\_edge +

forest\_district + stand + row,

data = data\_flow,

method = "rf", # Ustawienie metody na Random Forest

trControl = train\_control, # Kontrola treningu

ntree = 500, # Liczba drzew w lesie

importance = TRUE, # Obliczenie ważności zmiennych

metric = "Rsquared") # Metryka do optymalizacji

# Wyświetlenie wyników

print(model\_caret)

Random Forest

12249 samples

8 predictor

No pre-processing

Resampling: Cross-Validated (10 fold)

Summary of sample sizes: 11024, 11023, 11025, 11025, 11024, 11024, ...

Resampling results across tuning parameters:

mtry RMSE Rsquared MAE

2 5.665504 0.3379451 3.186430

**16 4.433118 0.5472827 2.265337**

30 4.600719 0.5240753 2.273345

Rsquared was used to select the optimal model using the largest value.

The final value used for the model was **mtry = 16.**