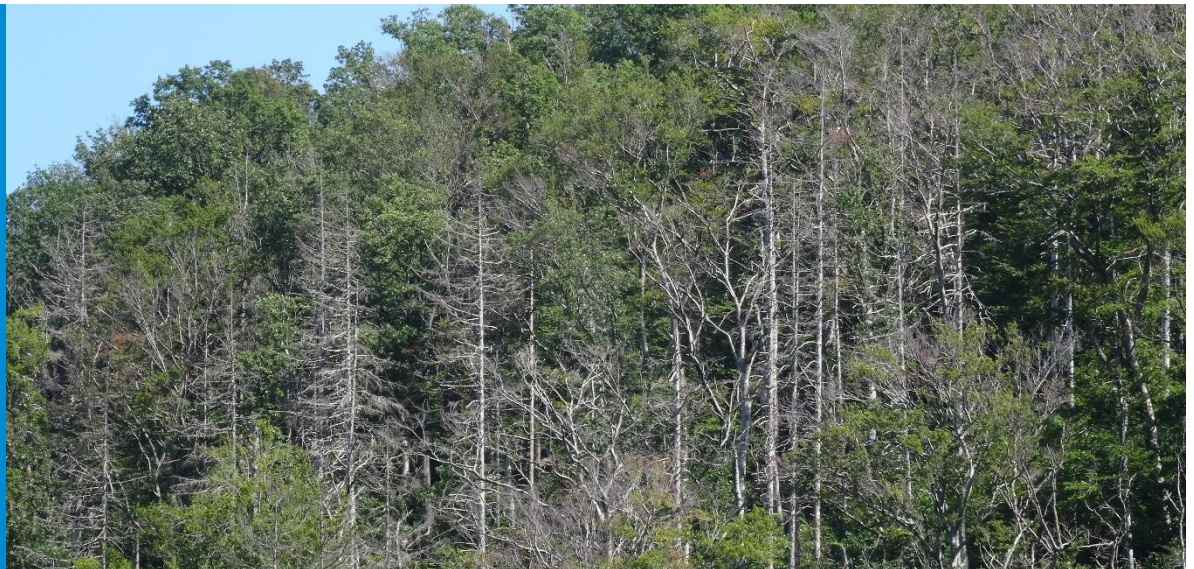


# Impact of the 2018ff disturbances on German forests

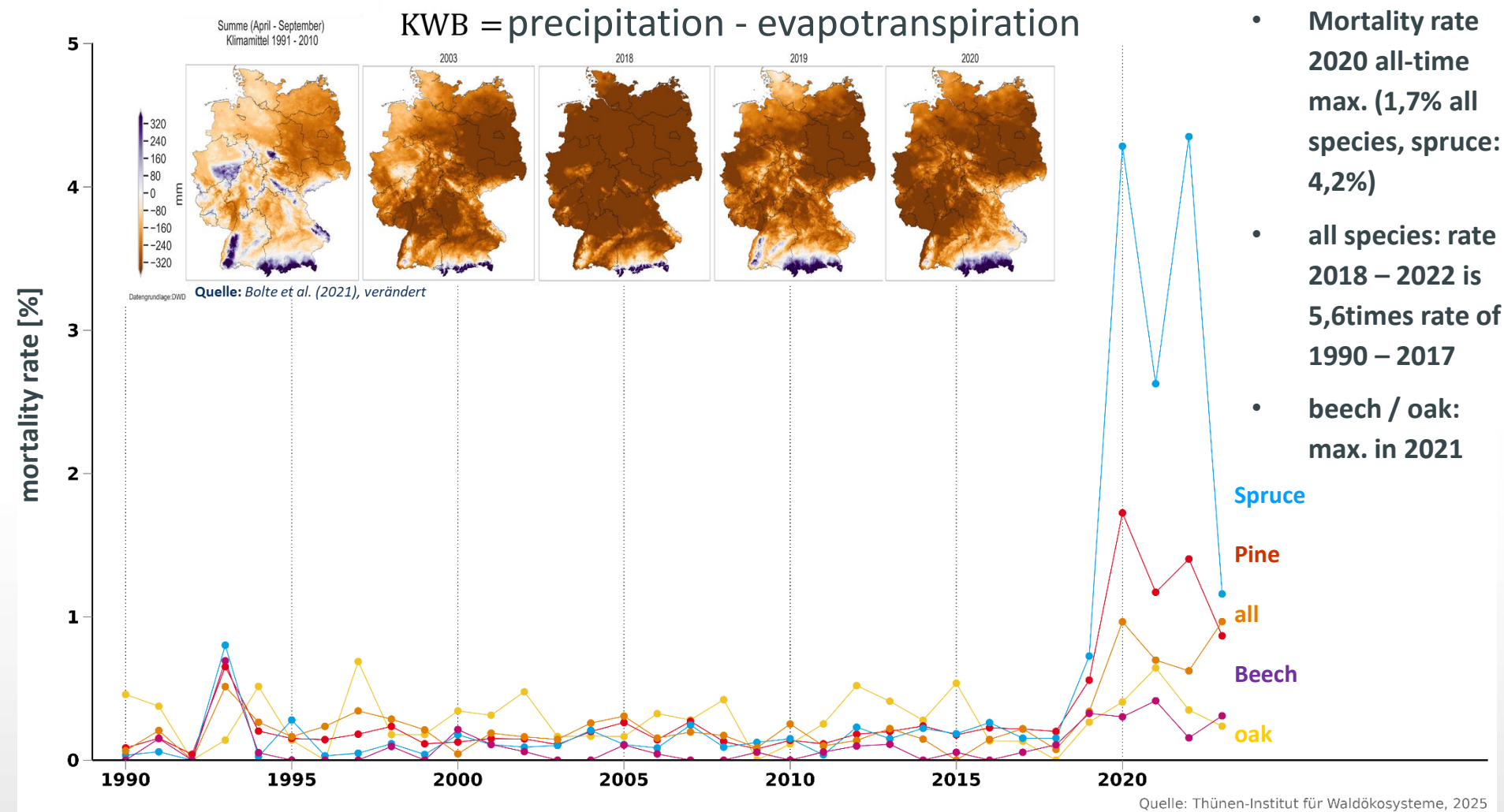
Dr. Joachim Rock, Dr. Wolfgang Stümer, Sascha Adam, Karsten Dunger  
Thünen-Institute of Forest Ecosystems



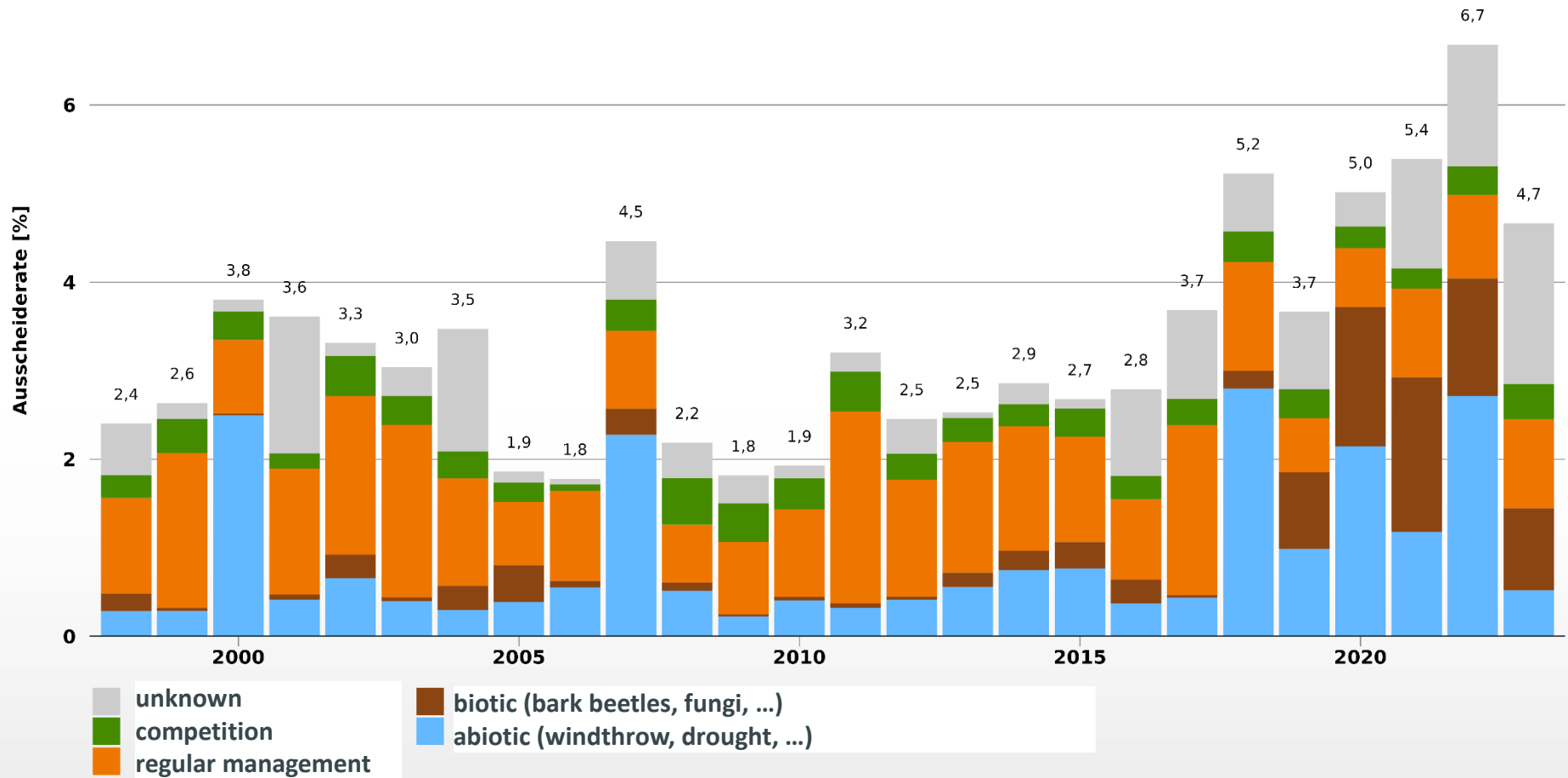
Ispira,  
07.05.2025

Photo: J. Rock

# What happened 2018 – 2022 in German forests?

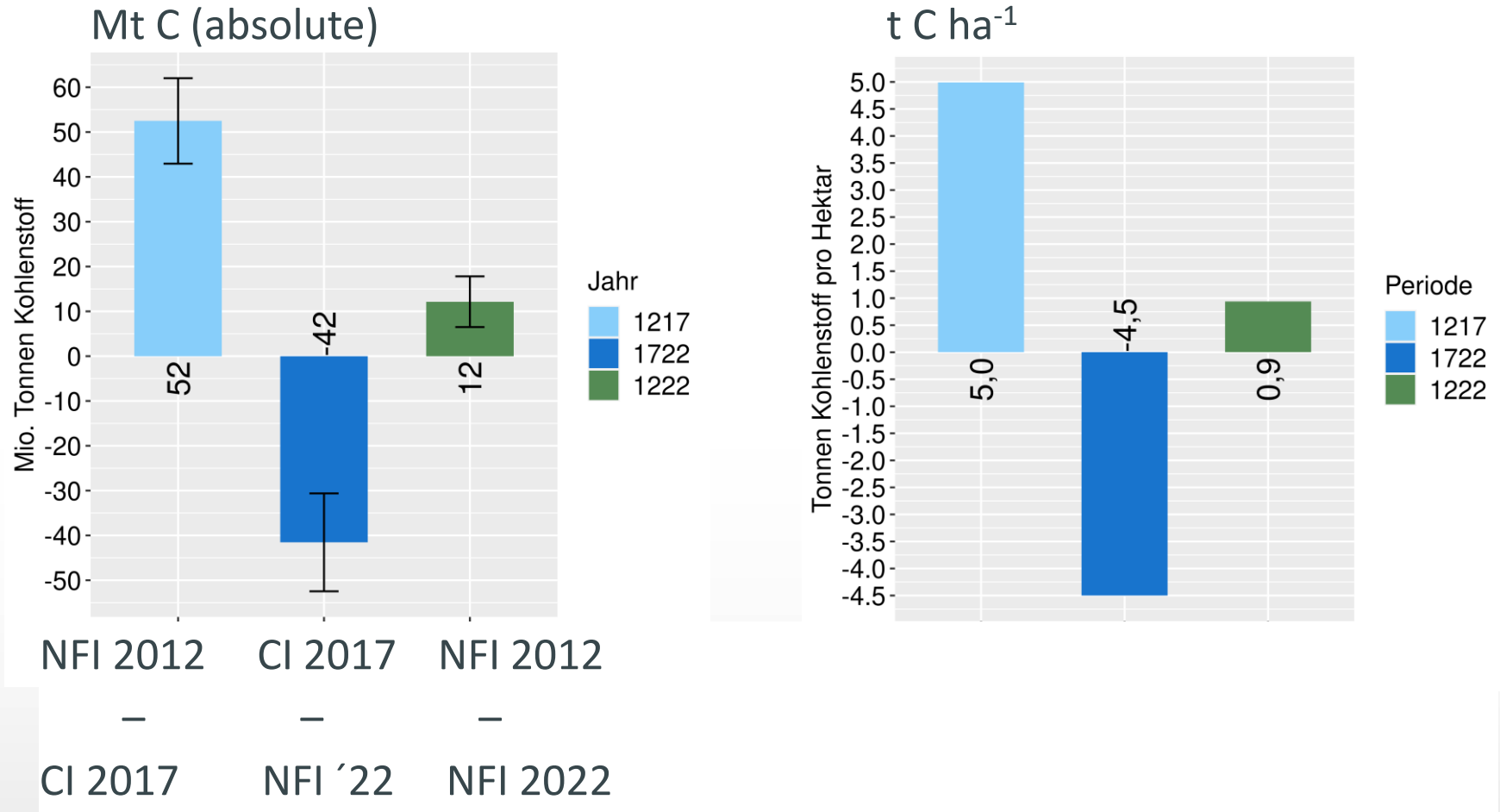


# What happened 2018 – 2022 in German forests?



Quelle: Thünen-Institut für Waldökosysteme, 2025

# Carbon stock changes in „living biomass“

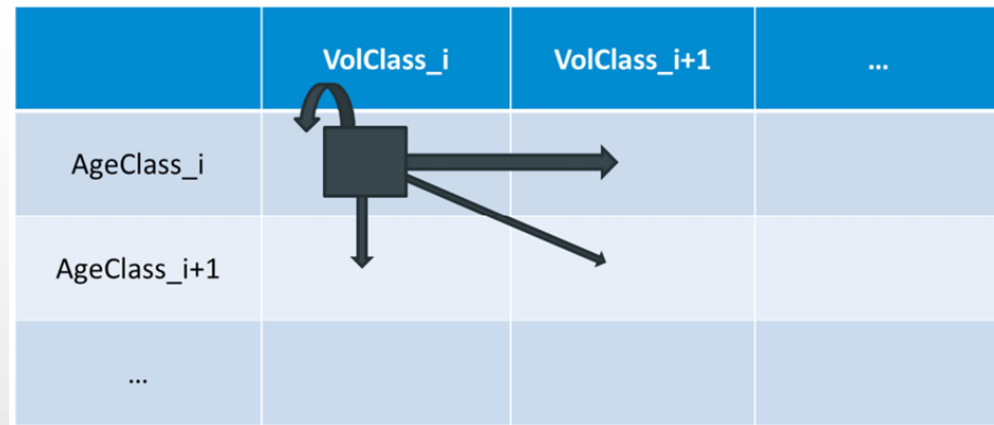


**2018 – 2022 living biomass was a source!**

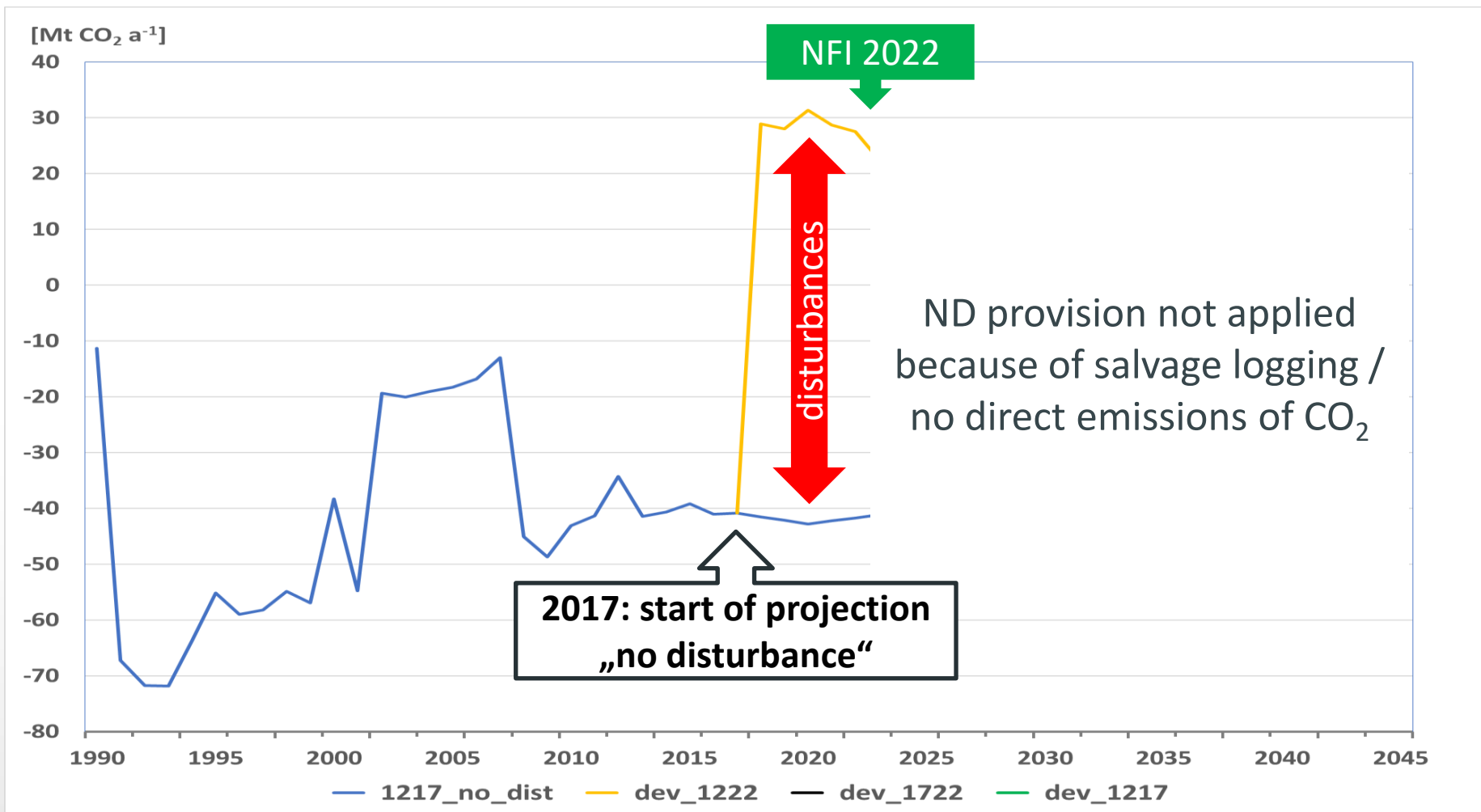
# What if ... ?

Future development of forests → projections with Matrix-Model

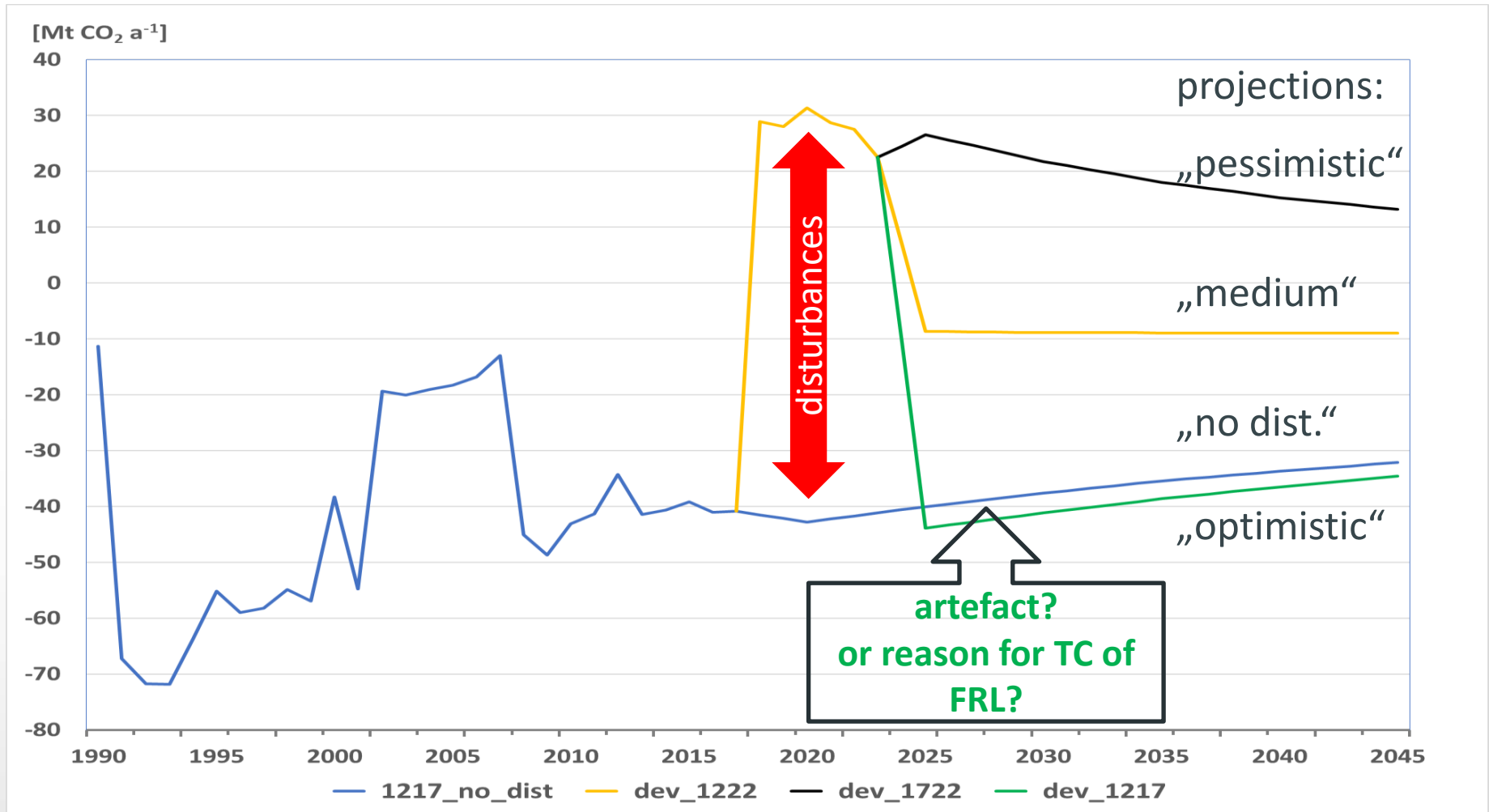
1. extrapolation of development 2012 – 2017 („pre-disturbance“)
2. extrapolation of development post-disturbance
  1. as 2013 – 2017 („optimistic“)
  2. as 2013 – 2022 („medium“)
  3. as 2018 – 2022 („pessimistic“)
3. timesteps: 5 yrs.



# living biomass – annual net emissions



# living biomass – annual net emissions





# Disturbances and FRL



1. FRL: attempt to exclude natural impacts / influences from accounting
2. The ND Prov. does not cover indirect effects, but changes in forest structure influence future development w/o changes in management.

⇒ „new data“ + „better data“ (cf. LULUCF-Reg.)

⇒ TC to FRL ... mandatory?

... possible?

... unnecessary?

... prohibited?