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Vegetation feedbacks during drought exacerbate ozone air pollution extremes in Europe

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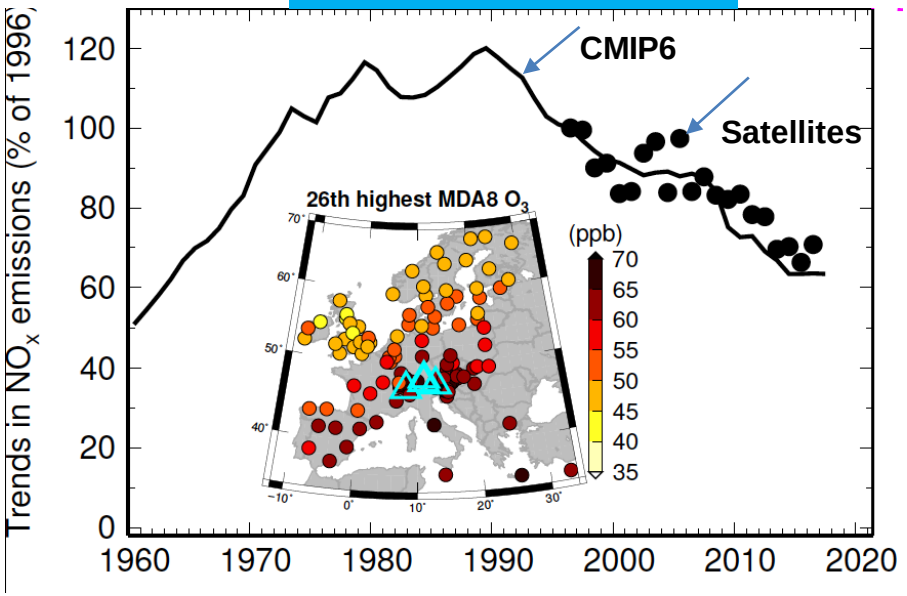
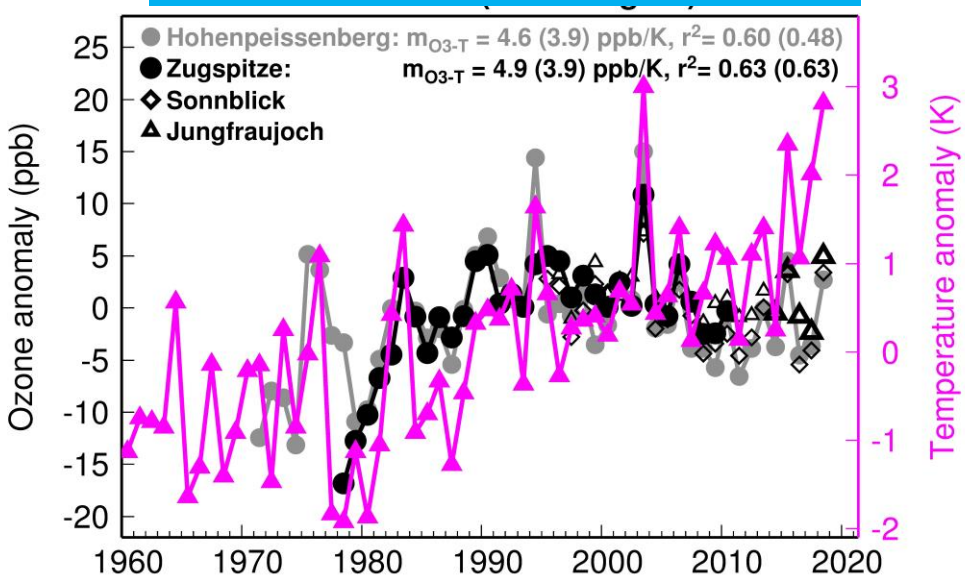
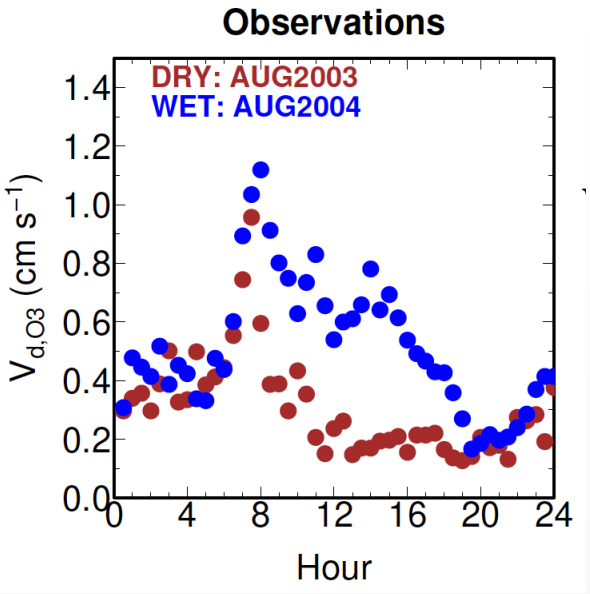
NO_x emissions

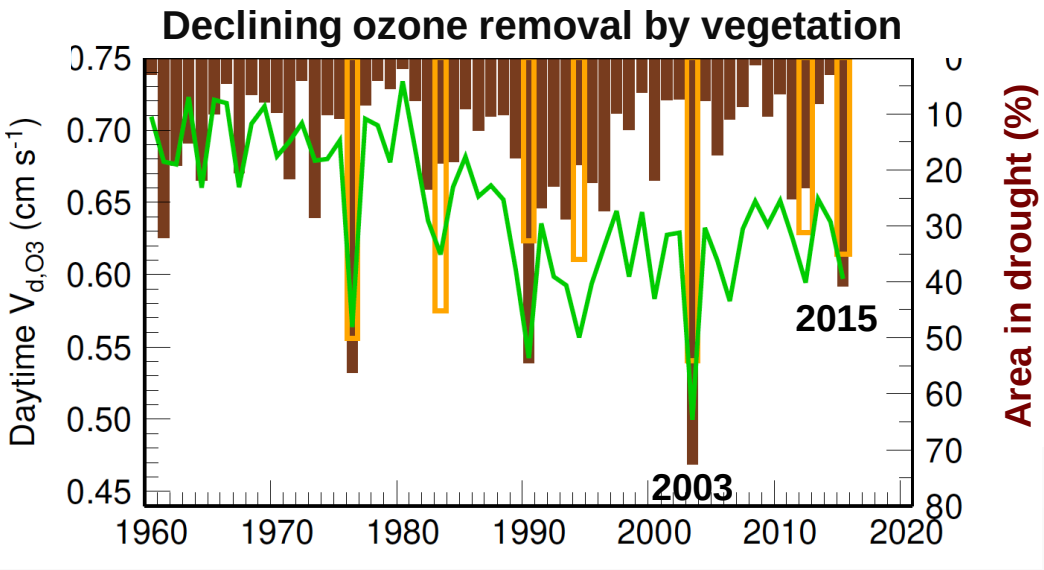


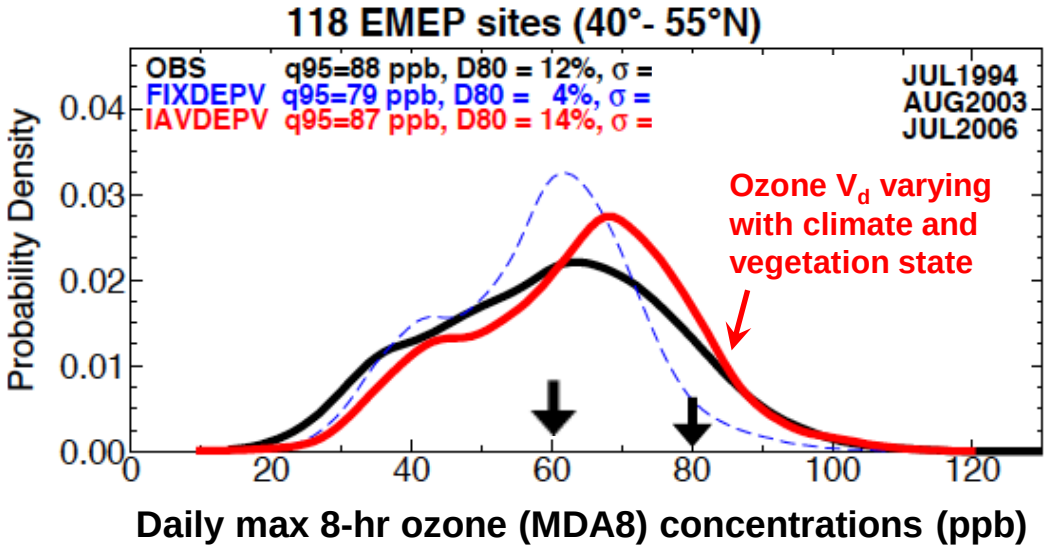
Summer ozone and T_{max}



Reduced uptake by drought-stressed vegetation worsens ozone air pollution extremes, offsetting the effects of precursor emission controls







- Increases in Asian emissions and global CH4 are of minor importance (see Extended Fig.10)
- IAVDEPV leads to 20-30% increases in the O_3-T regression slopes (Fig.6)
- Substantial reductions in ozone V_d were also observed in recent U.S. droughts (Lin et al., GBC 2019)
- Effective emissions policies must consider the climate penalty of plants