Is the world burning less?
Disentangling decadal trends, inter-annual fire variability and product uncertainties, through harmonization of the NASA MODIS and VIIRS fire product record

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Rationale
The combined MODIS / VIIRS burned area time series will provide the first ever global fire record covering the 30 years conventionally required for climate analysis.
Validation with Landsat shows a large bias due to missing small burns. The bias can affect the usefulness of the time series.

Project Objectives and Tasks
• Quantify the discrepancy between active fire counts and burned area detections in the MODIS and VIIRS product record.
• Generate reference L8 / S2 burned area time series at representative locations.
• Derive an unbiased 25-year 0.25° harmonized MODIS/VIIRS time series, with uncertainties, calibrated using the L8/ S2 reference burned area
• Detect burned area trends and interannual variability, identify if observed trends are significant relative to inter-annual fire variability and to the uncertainties.
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**Proposed milestones (deliverables)**

Year 1: Intercomparison of MODIS/VIIRS burned area and active fire products. Selection of locations for L8/S2 reference data.

Year 2: Generation of the L8/S2 reference dataset
- Define the approach for the AF/BA fusion
- Define the approach for the calibration of the 0.25° harmonized product

Year 3: Generation of the calibrated 0.25° MODIS/VIIRS burned area product (2012-2024) and contingency VIIRS only product (2002-2024)
- Documentation and distribution

**Critical concern:** delay in the release of the VIIRS burned area product (L8/S2 reference dataset ideally informed by MODIS and VIIRS)