

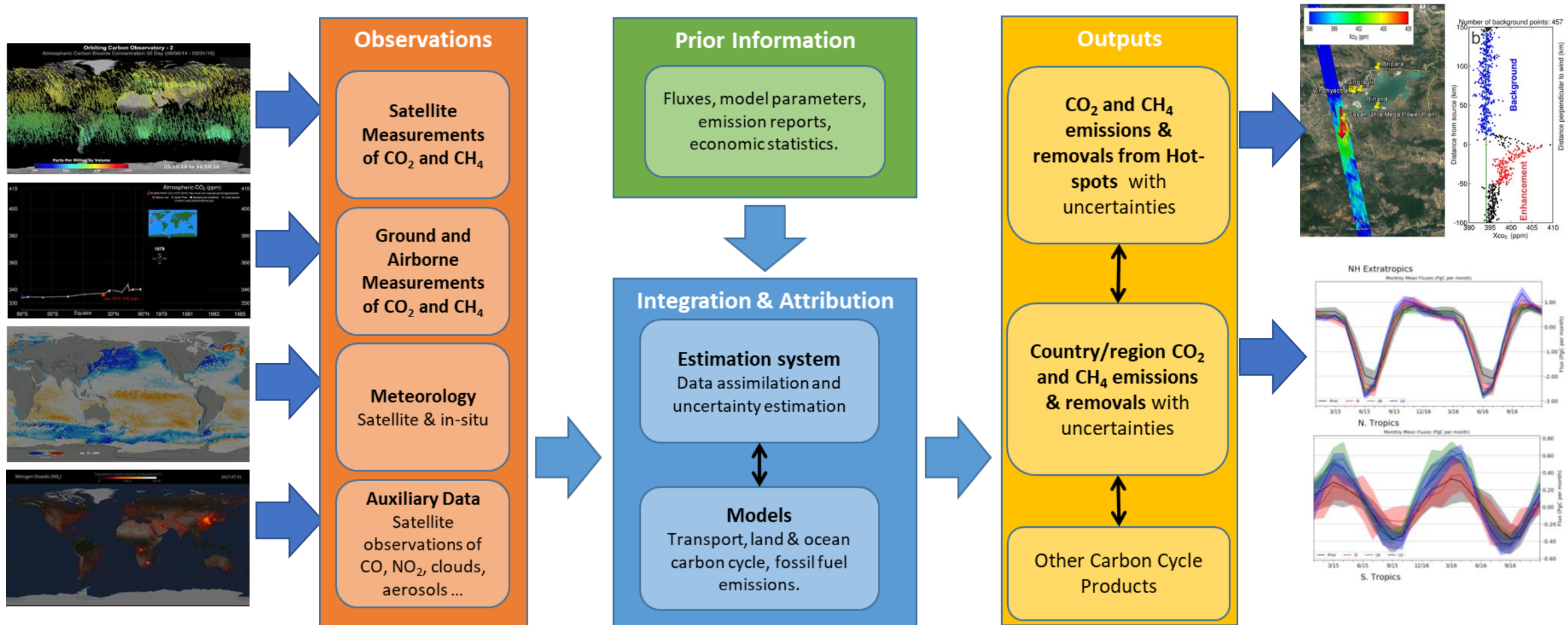
# Products for the First Global Stocktake

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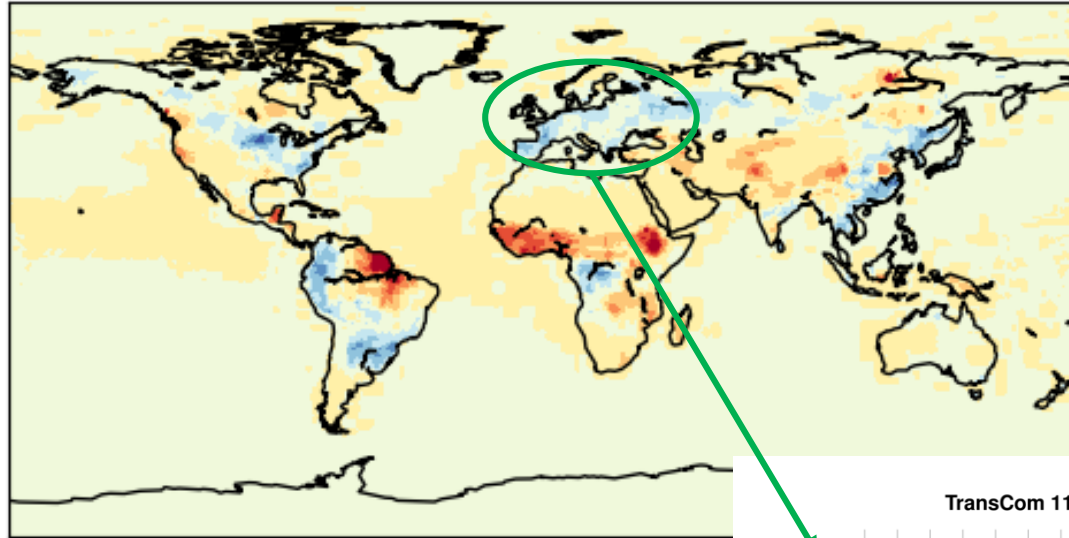
# A System Approach is Adopted to Deliver Atmospheric CO<sub>2</sub> and CH<sub>4</sub> Inventories



## Pilot Gridded Global CO<sub>2</sub> Flux Inventory

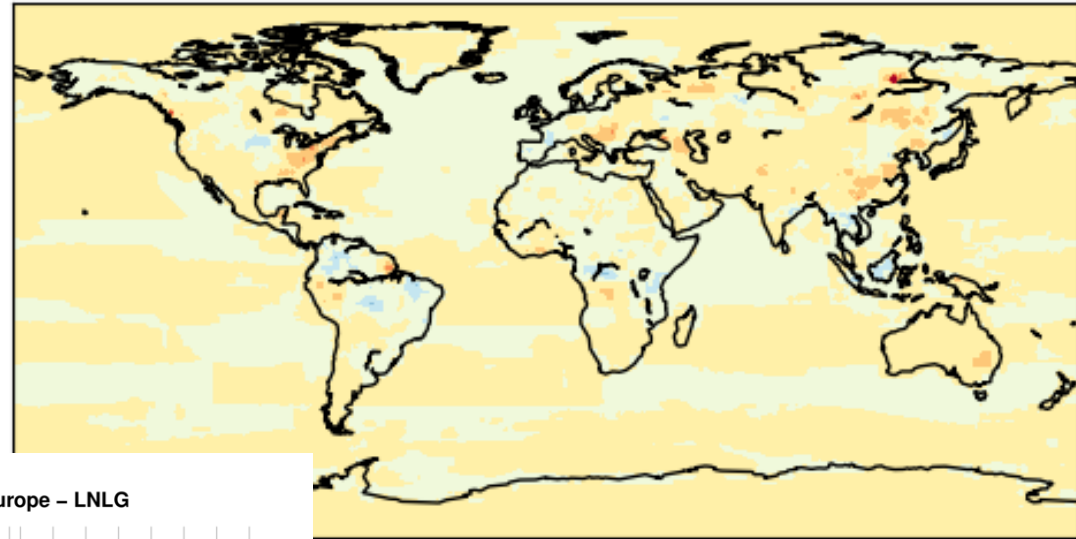
- An Ensemble of 10 atmospheric inverse models are being used to assimilate spacecraft and in situ measurements to derive spatially-resolved maps of CO<sub>2</sub> emissions and uptake
- Bottom-up inventories for fossil fuel, fires etc. are used to establish the prior flux estimates
- Ensemble mean CO<sub>2</sub> flux maps optimized with in situ and space-based CO<sub>2</sub> measurements, at a spatial resolution of 2° by 2° at yearly intervals will be adopted as the baseline values
  - Monthly time series can also be extracted for 38 regions
- Variances across the ensemble will initially be adopted as uncertainty estimates
- Delivery formats and schedule are still under discussion

EnsMean: LN Land 2018 Annual Flux

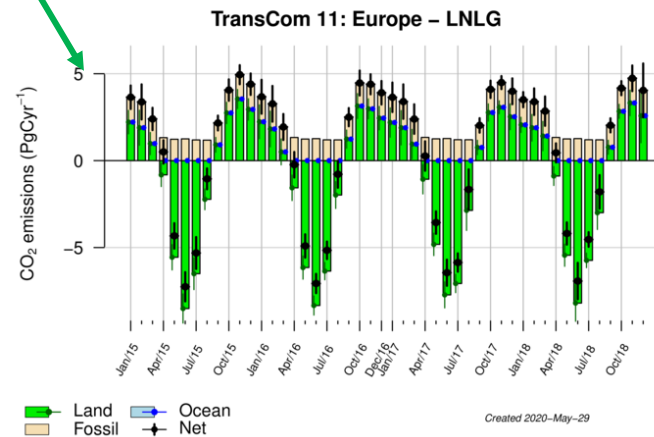
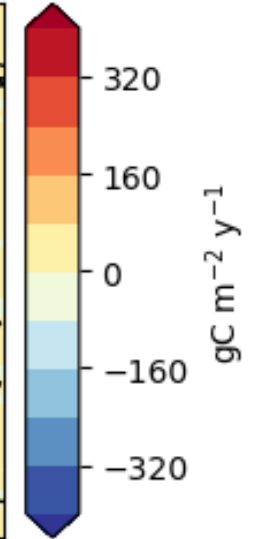


Mean CO<sub>2</sub> Fluxes

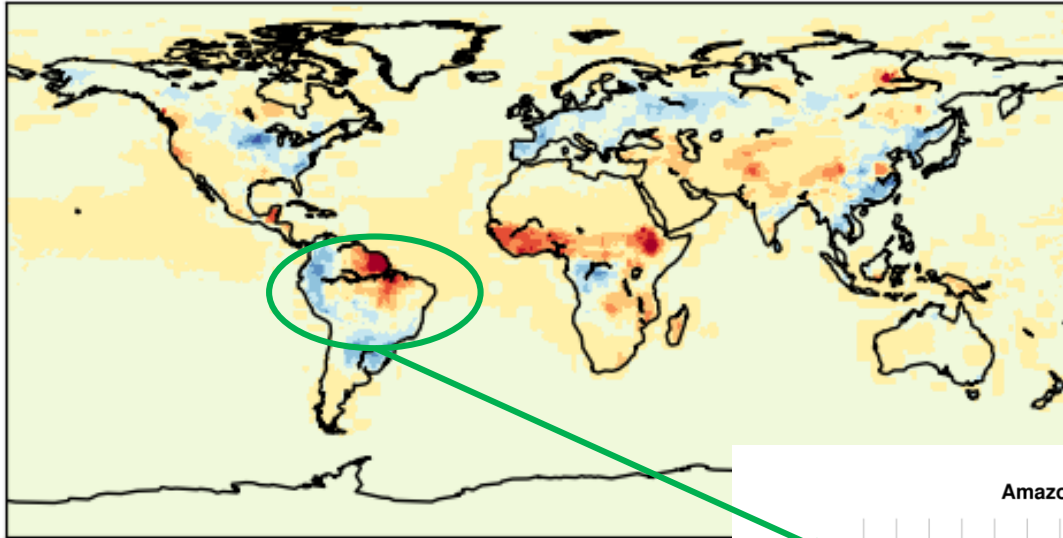
EnsMean: LN Net 2018 Annual Flux Anomaly



Flux Uncertainties

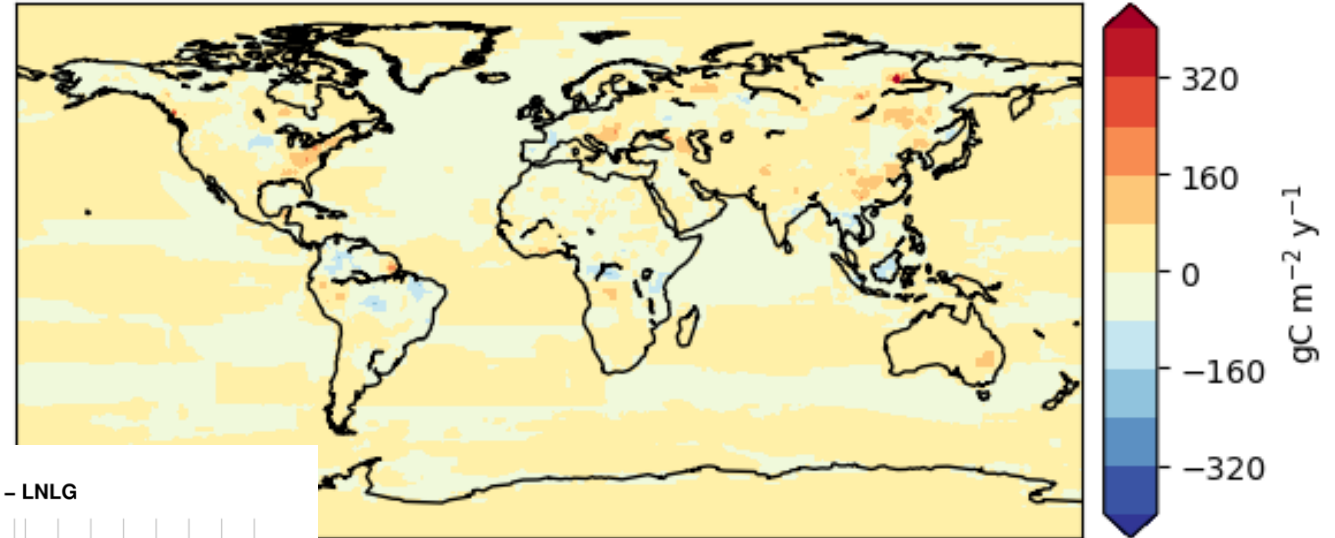


EnsMean: LN Land 2018 Annual Flux



Mean CO<sub>2</sub> Fluxes

EnsMean: LN Net 2018 Annual Flux Anomaly



Flux Uncertainties

