

In Situ Data for Terrestrial Carbon Observations (TCO)

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Adequacy of existing *In Situ* data

Frescati report and IP contains wealth of information on data sources

- Are these data sources adequate?
 - Networks / monitoring sites / Gridded data products
- TCO needs to evaluate underrepresented systems and make recommendations about enhancing existing observations
 - Urban areas, wetlands, disturbed areas
- Are variables measured appropriate (Tables 1-7 and appendices)?
 - How were TCO variables defined?
 - Nitrogen, methane, other C gases, hydrology?
- How can TCO ensure that estimates of uncertainty needed for data assimilation are included in regional networks?
- Data harmonization across networks
 - Consistency and completeness of data streams to enable integration of diverse data

FLUXNET Data Issues

- Flux tower measures NEE from a variable footprint
- Eddy correlation technique has difficulty with night time NEE
 - Only 65% of data stream has values; gaps need to be filled
- MODIS estimates NPP based on cloud free days
- The challenge is to combine relevant information from these multiple but mismatched approaches

■ Workshops

- Scaling issues (FLUXNET)
 - Building on the FLUXNET validation/scaling approach (from tower footprint to remote sensing pixel) to extend out to regional scales
- Bringing together northern hemisphere projects (NACP, EU activities, other)

TCO DISS

- What resources are available to support the kind of DISS needed to advance the goals of TCO?
- Would resources be better spent on workshops that advance the methods of model-data fusion/ data assimilation?
- What is the role of GOSIC within TCO?
 - Instead of a TCO-DISS could GOSIC be charged with proving central access TOC Data?

What is the status of other GTOS activities and how should they be blended into the IP?

- GT-Net
- TEMS
- Southern Africa
- Central and Eastern Europe
- NPP
- TCO Activities
 - **CYCLOPES**
 - **GLOBCARBON** (value-added remote sensing products)
 - **SIBERIA-II**
 - **TCOS Siberia**
 - **TEMIS** (trace gas emission from remote sensing)

