

Agenda for Cross-Panel Group on air-sea and air-land fluxes

Action B9: Improve estimates of latent and sensible heat fluxes and wind stress

Activity 1 – Improve and extend in situ measurements needed to estimate surface fluxes, with the objectives of improving accuracy and better defining the uncertainties of those measurements and calculated fluxes

Activity 2 – Extend sites with co-located measurements of direct turbulent and radiative fluxes and variables required to estimate turbulent surface fluxes targeted at improving parameterizations of air-sea exchange and air-land exchange.

Session 1 – 2 hours

1. **Tour de table:** 5 min
2. Introduction of action B9 activities 1. and 2- and of approach decided to address these activities (Liz, 5min)

Short presentation on Oasis (Meghan) - 5 min

3. Observations required for flux estimation

State variables & metadata required to calculate fluxes– where and what are the gaps (5min presentation each)

- Terrestrial observing networks that measure observations of ECV for estimating wind stress, latent & sensible heat fluxes, and surface solar & longwave radiation - Flux measurements for terrestrial (+ commercial such as wind farms) 2-3 slides (TBD)
- Global Ocean Observing System networks that measure observations for estimating wind stress, latent & sensible heat fluxes, and surface radiative heat fluxes - (Meghan & Liz)

4. Discussion: gap analysis of needed variables (60 min)

Guiding questions:

1st part: gaps in the observing system

- Fixed long timeseries vs. Short-duration Mobile platforms vs. Fiduciary Reference Measurements (definitions, networks identification, value of each type,..)
- Are the gaps geographical, temporal or quality related?
- Do we need more high-quality stations, if so, where? And how (e.g., enhance existing sites with additional sensors, new sites/platforms, fixed long-term vs. Mobile short duration)?
- Can we elevate stations to FRM?
- Should the terrestrial networks be connected with ocean networks to make the system truly global?

2nd part: Data management

- Can we easily access the data to evaluate what we have?
- Metadata search to discover flux platforms “dots on the map”, e.g. using <https://www.ocean-ops.org/board/?t=oceansites>
- Project vs. Network flux data portals
- Do we have integrated data management and standards?

5. **Wrap-up:** identify steps and responsibilities and concrete recommendations to move this action forward; establish what needs to be discussed in the second session (30min)