

BSNE Dust Sample Collection

Materials:

Pre-weighed whirlpak bags (with mass written on bag)
Small paint brush
Rubber spatula
Squirt bottle and DI water
Sharpie
Metric measuring tape
Compass with declination set
Scissors
Phillips and flathead screwdriver
Digital camera if available (for damage documentation)
Pre-weighed 250mL or 500mL Nalgene bottles (for wet collection)

Before Collection:

1. Approach dust collectors with extra care towards minimizing disturbance of soil and soil crusts. Try to stand in one place during the duration of the collection.
2. Measure and record height of the lowest BSNE collector (from the ground to the opening lip) at the four cardinal directions to the nearest 0.1cm.

Collection:

1. Carefully remove collector from wind vane. Remove rubber band from bucket.
2. Using the heel of your palm, gently loosen the top of the BSNE from the bottom collection pan. Take extra care in not spilling any sample if the collector is full of water.
3. Use paint brush to dislodge sediment from collector into pre-weighed whirlpak. A rubber spatula may be used if sediment is stuck to the collector. **Do not use metal objects to scrape dust from collector.**
 - a. If the collectors are full of water, swirl around contents of collector (using a rubber spatula) to suspend sediments and decant into a pre-weighed Nalgene bottle or a pre-weighed whirlpak bag. Wash remaining sediment into the bottle or bag with DI water.
4. Label bag (or bottle) with: Date, Site ID, and Collector ID (i.e. height, if there are multiple collectors on one pole).
5. Note on bag/bottle or field book, the cardinal heights of the lower BSNE bucket.

After Collection:

1. Make sure collector is clean. Shake out any remaining water and blow out any debris from the collector top.
2. Reassemble, attach rubber band, and place back on wind vane.
3. If collector is loose on the wind vane: (a) squeeze the wind vane “arms” together or (b) slide the collector away from the pole to sit more firmly in the arms.
4. Adjust height of collector if it is off by more than +/- 5cm from set position average (i.e. if the average of the four cardinal directions is 10cm for a 15cm collector, readjust the height).

5. Rotate collector 360° to ensure that movement of the wind vane is unrestricted by vegetation.
If rotation is blocked clip with scissors at the ground level of the vegetation.
Do not uproot plants.
6. If there is any damage to the collector, or anything else of note, take a picture and make notes in field book. Repair collector if it is possible.

(Adapted from CLIM-MET network dust collection protocols)