

Data Session Summary

- NEESPI research needs different spatial and temporal data resolutions and each data “scale” requires separate treatment and delivery tools; however, methods (protocols) to blend these diverse data should be developed and always “at hand”
- **Developing a single system/database architecture to account for different data disciplines and different resolutions, is very expensive.**
- A more feasible approach is to have a distributed system of systems (using GEOSS approach). Each system is responsible for its own discipline / field /region.
- The NEESPI Focus Research and Science Data Support Centers should serve as these subsystems.
- It is vital for these subsystems to be interoperable, i.e., they should be able to access each other’s metadata and data via standard protocols.
- Each system should develop and integrate converters from their data formats into common formats.
- A NEESPI Meta-portal should be established to provide a gateway to all NEESPI data. At first, it should provide easy data discovery and access to all NEESPI data (similar to the LBA site).
- In the future, if funding is available, it may allow exploration of data at a coarse resolution in a Giovanni-like interface, and then zooming to a specific focus field or an area.
- Practically, in the near future, a couple of centers should establish machine-to-machine connections allowing access to remotely located data:
 - **Example 1.** Data Centers working with similar spatial resolution data (e.g., glaciological and social economical data at the NASA NEESPI Data Center and the Russian Institute of Geography) may start working on IPY and a larger Digital Earth database;
 - **Example 2.** Downscaling from sub-continental to regional scale (e.g., data of Siberian Integrated Regional Study can incorporate Irkutsk Regional Area Information System being developed at the Friedrich-Schiller University at Jena, Germany).
- For the next NEESPI meeting, there should be a technical session on the system of systems, with tech reps from focus centers and their PIs present.