

Application study: Land Data Assimilation System developed at University of Tokyo (LDAS-UT)

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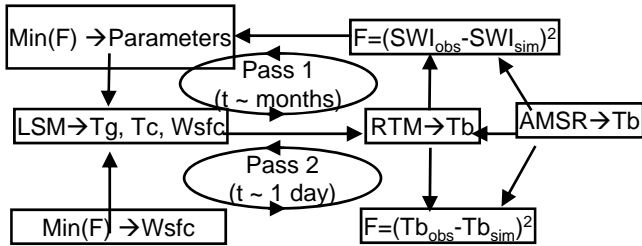
1. LDAS-UT

1.1 Modules of LDAS-UT

- A **land surface model (LSM)** to calculate surface fluxes and soil moisture → **Improved SiB2** for bare soil and sparse vegetation.
- A **radiative transfer model (RTM)** to estimate microwave brightness temperature → **Advanced Integral Equation Model (AIEM)+4SFM with dense mediamodel**;
- A **minimization scheme** to search for optimal values of soil moisture through minimizing the difference between modeled and observed brightness temperature → **Shuffled Complex Evolution (SCE)**.

1.2 Algorithms of LDAS-UT: Dual-pass technique

Pass 1: Optimize model parameters; Pass 2: Data assimilation.



2. Application to Tibet Gaize Station



3. Results

Case 1: Forcing Data : In-situ data
Period : 2007/06/15 – 2007/08/24

Case 2: Forcing Data : MOLTS from JMA
Period : 2007/07/01 – 2007/08/24

