

## 1. Information and Code Sharing

Sharing of code, particularly when new code and new models become available: Users and PI's will want to test and try out new code and models. Shared resources may be problematic across organizations, particularly government agencies. Should JCSDA have its own infrastructure for sharing code? May need external institute to host IT infrastructure for sharing, e.g. CIMSS, CICS. How can JCSDA-related code be housed by an organization that doesn't hold the rights to that code?

**Recommendation:** JCSDA needs shared IT resource for code exchange. Implementation details need to be investigated. At least an initial solution would be a simple webpage with links to code repositories at difference institutions. Specify procedures for applying for accounts.

## 2. Cloud & Precip

Does CRTM need to include cloud fraction? This needs to be investigated in order to do cloudy radiance assimilation.

Optical properties in CRTM database need to be evaluated. Choosing of particle types is needed. Compatibility of particle databases across the spectrum: IR and MW? A consistent database should be a goal for the future.

Microphysical particles are unknown – need to consider distribution (ensemble) of particles. Computational feasibility? Need to keep an estimate of errors/variability associated with particle distribution.

Should CRTM number of streams be user-selectable? Some situations require small number of streams. CRTM is planning to make number of streams selectable with a default.

**Recommendation:** For testing, JCSDA partners can use a set of cloudy profiles (ECMWF set and CloudSat set). This dataset should be made available on the repository.

## 3. Land

We need research on land surface emissivity models. LIS can provide the necessary inputs: soil type, texture, moisture, permittivity, greenness.

Land group could use CRTM to derive integrated flux for a pseudo instrument. In this way, CRTM could also be used to verify surface flux models.

Need to determine from a science perspective how many layers are needed in snow models. This could be generalized like the atmospheric models. This is a radiative transfer solution and could be done in CRTM.

Does improvement in land surface modeling matter in improving forecast? It's not just a matter of the weather forecast, but forecasting of the land parameters is important in itself (hydrology, soil moisture, etc.).

**Recommendation:** Should there be a Land Working Group? If CRTM changes, that will impact other group's implementations of CRTM. Communication should be improved, particularly with CRTM changes (infrastructure). There already is a JCSDA Land teleconference. There should be joint telecons between CRTM and the Land group. Add a core team member for Land, to CRTM Working Group. Land group could be included in the CRTM WG listserver.