

# CLM4.5 Technical Note planning (internal)

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| 3. Surface Albedos                                 | G. Bonan / S. Swenson (snow)                | Kyla       |
| 4. Radiative Fluxes                                | G. Bonan                                    | Kyla       |
| 5. Momentum, Sensible and Latent Heat Fluxes       | K. Oleson / S. Swenson                      | Sanjiv     |
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| 12. Urban Model (CLMU)                             | K. Oleson                                   | Jonathon ? |
| 13. Carbon and Nitrogen Allocation and Respiration | P. Thornton                                 | Quinn      |
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| 27. References                                     | K. Oleson (with input from Chapter authors) |            |

## CLM4.5 Technical Note Random Tasks

- |                                                           |      |
|-----------------------------------------------------------|------|
| • High resolution surface datasets                        | DONE |
| • Revisions to canopy radiation and photosynthesis models | DONE |
| • Lake model                                              | DONE |
| • Glacier multiple elevation class model (GLC_MEC)        | DONE |
| • RTM                                                     | DONE |
| • Urban multiple density classes                          | DONE |
| • Carbon-Nitrogen model                                   | DONE |
| • Fire model                                              | DONE |
| • Methane model                                           | DONE |
| • Prognostic crop model                                   | DONE |
| • Irrigation model                                        | DONE |

- Remove old Wood Harvest scaling
- Add 10-m wind speed calculation
- Dry deposition changes
- Bare ice albedo change from Bill Lipscomb

DONE  
DONE

DONE

- Thermal conductivity for water in `clm_varcon` changed from 0.6 to 0.57
- Use volume fraction instead of mass fraction and remove temperature

DONE  
DONE

threshold in calculation of saturated thermal conductivity in `SoilTemperatureMod`

- The very last terms in equations 7.115 and 7.116 in CLM4.0 tech note are wrong.
  - Last term of Eq. 7.115 is currently:  
 $(0.5 / ?_{\text{sat},i-1})$   
 but should be:  
 $(0.5 / (0.5 (?_{\text{sat},i-1} + ?_{\text{sat},i})))$
  - similarly, last term of Eq. 7.116 is currently:  
 $(0.5 / ?_{\text{sat},i})$   
 but should be:  
 $(0.5 / (0.5 (?_{\text{sat},i} + ?_{\text{sat},i+1})))$

DONE

- Add table in Chapter 6 showing soil  $\delta z$ ,  $z_i$ , and  $z_{hi}$  for 15 layers
- New expression for saturated soil thermal conductivity in Chapter 6
- Check consistency of cross-chapter section references
- Check consistency of cross-chapter table references
- Check consistency of cross-chapter figure references
- Check consistency of cross-chapter equation references
- Remove references to CLM-CN or CLM-BGC
- Remove references to CLM4.5
- Buy postdocs a beer (one beer to share) when they complete the review

DONE  
DONE  
DONE  
DONE  
DONE  
DONE  
DONE  
DONE  
DONE

DONE (except for Danica and Kyla)