

**The Center for Integrated Space Weather Modeling (CISM)
An NSF Science and Technology Center**

Second 5-Year Goals & Milestones¹ (established October 2007)

Annual Milestones:

- Hold all-hands CISM meeting in early Fall.
- Hold Summer School for at least 25 students, of which at least 8 are women or underrepresented minorities and 3 are from non-graduate school settings.
- Hold annual meeting for CISM graduate students.
- Hold Space Weather Weekend for students from minority-serving institutions in 2008, 2009, 2010.
- Provide research opportunities for at least 10 undergrads of diverse backgrounds.

Year 6 Milestones (August 2007 – July 2008):

- Freeze CORHEL 4.0, incorporating MPI MAS and (domain decomposition) ENLIL.
- Freeze LTR 2.0: MPI LFM, TIE-GCM, RCM coupled geospace model.
- Provide community access to COHEL 3.4 (coupled MAS, ENLIL, CONE models).
- Perform initial validations of SEP MOD runs with cone model.
- Identify and develop test forecast products for CMIT at SEC.
- Report on validations of WSA-ENLIL running as realtime solar wind forecast model at SEC.
- Hold community modeling workshop.

Year 7 Milestones (August 2008 – July 2009):

- Provide Summer School labs and supporting materials for community use.
- Freeze CORHEL 5.0, adding “thermodynamic” MAS.
- Provide community access to CMIT 2.5 (coupled MPI LFM, TIE-GCM)
- RABBELT and SEP Cutoff codes running in LTR fields with SEP MOD input.
- Freeze LTR with capability for initialization using a data-assimilated ionosphere, solar forcing, and asymmetric RCM.
- Complete realtime test system for CMIT at SEC.

¹ Detailed goals and metrics for education and diversity are specified in the CISM *Education Plan* and *Diversity Plan*.

Year 8 Milestones (August 2009 – July 2010):

- Freeze SEPMOD 2.0, adding x-ray based flare source option.
- Freeze RADBELT and SEP Cutoff codes for LTR fields.
- Freeze LTR version with TIME-GCM, multi-fluid LFM.
- Identify institution(s) and structure for post-STC “integrator” functions.

Year 9 Milestones (August 2010 – July 2011):

- Complete development of time-dependently driven MAS; ready for CORHEL implementation.
- Freeze LTR adding high resolution TIME-GCM and inductive coupler for MI gap region.

Year 10 Milestones (August 2011 – July 2012):

- Freeze CORHEL 7.0, adding thermodynamic MAS driven by flux-evolution model
- Graduate first Ph.D. student from new AAMU program.
- Complete transition of model repository and “integrator” functions.
- Comprehensive validation/metrics report.