*** By completing this model questionnaire, you agree to the [CCMC DATA Collection Consent Agreement](#) ***

Model Installation Questionnaire

Model Metadata
Please go to the CCMC Metadata Registry (CMR) at
https://kauai.ccmc.gsfc.nasa.gov/CMR/ to register your model.
See an example:
https://kauai.ccmc.gsfc.nasa.gov/CMR/view/model/SimulationModel?resourceID=spase://CCMC/SimulationModel/OpenGGCM/Version.4.0
If you are unable to access this website, please provide us the following information for registration.

Model Name (example: WSA):
Model Full Name if applicable (example: The Wang-Sheeley-Arge Model):

Model Release Date:
Model Description:

Model Version (example: v.2.2 or v.2019):

Change Log, if applicable (what are the notable changes when compared to the previous released version of the model?):

Input Description:

Output Description:

Simulation Type (required and can select more than one):
- ☐ Data Assimilation
- ☐ Empirical
- ☐ Ensemble
- ☐ Physics-based
- ☐ Physics-based.Kinetic
- ☐ Physics-based.MHD
- ☐ Post_Processing_Tools

Model Domains (required and can select more than one):
- ☐ Solar
- ☐ Heliosphere.Inner_Heliosphere
- ☐ Heliosphere.Outer_Heliosphere
- ☐ Geospace

- ☐ Magnetosphere.Global_Magnetosphere
- ☐ Magnetosphere.Inner_Magnetosphere.Plasmasphere
- ☐ Magnetosphere.Inner_Magnetosphere.RadiationBelt
- ☐ Magnetosphere.Inner_Magnetosphere.RingCurrent
- ☐ Local_Physics
- ☐ Global_Ionosphere
- ☐ High_Latitude_Ionosphere/Auroral_Region
- ☐ Thermosphere

Space Weather Impacts:
- ☐ Atmosphere variability (satellite/debris drag)
- ☐ Galactic cosmic rays - GCRs (human exploration, aviation safety, aerospace assets functionality)
- ☐ Geomagnetically induced currents - GICs (electric power systems)
- ☐ Ionosphere variability (navigation, communications)
- ☐ Near-earth radiation and plasma environment (aerospace assets functionality)
- ☐ Solar energetic particles - SEPs (human exploration, aviation safety, aerospace assets functionality)

Temporal Dependence Possible? Can the results evolve with time?
- ☐ True
- ☐ False

Code Language (example: IDL, Fortran):

Model Caveats (if any):

Contact information (provide the following information for each contact)
  First name:
  Middle name:
  Last name:
  Organization Name:
  Email:
  Phone:
  Role:
  - ☐ Model Host Contact
  - ☐ Model Contact
  - ☐ Model Developer

Acknowledgement/Institution (provide following information for each acknowledgement/institution)
  Name:

  URL:

Relevant Links, if any (example: link to source code on Github, link to online documentation about the model, etc.):

    Name (ex: General Description of ENLIL Model):

    URL (ex: https://ccmc.gsfc.nasa.gov/models/Code_description.pdf):

    Description (optional):

Publication(s), if any:

    Title:

    DOI for the publication, if any (ex: 10.1016/S0273-1177(03)00332-6):

List of Phenomena (This is domain specific)

  Solar List:

- ☐ Solar_Magnetic_Field
- ☐ Coronal_Holes
- ☐ Coronal_Mass_Ejections
- ☐ Solar_Electromagnetic_Emissions
- ☐ Solar_Energetic_Particles
- ☐ Solar_Flares
- ☐ Solar_Spectral_Irradiance

  Heliosphere List:

- ☐ Solar_Energetic_Particles
- ☐ Ambient_Solar_Wind
- ☐ Magnetic_Connectivity
- ☐ High_Speed_Stream
- ☐ Stream_Interaction_Regions
- ☐ Interplanetary_Shocks
- ☐ Heliospheric_Current_Sheet
- ☐ Interplanetary_Scintillation
- ☐ Coronal_Mass_Ejections_Propagation
- ☐ Coronal_Mass_Ejection_Arrival

  Global Magnetosphere List:

- ☐ Geomagnetic_Storms
- ☐ Geomagnetic_Sub-storms
- ☐ Magnetosphere_Current_Systems
- ☐ Plasma_Sheet
- ☐ Magnetopause
- ☐ Bow-shock
- ☐ Cusp
- ☐ Magnetosheath
- ☐ Magnetic_Mapping
- ☐ Magnetotail_Dynamics
- ☐ Plasmoids

- ☐ Magnetic_Perturbations_at_Geosynchronous_Orbit
- ☐ Ground_Magnetic_Perturbations
- ☐ Ultra_Low_Frequency_Waves
- ☐ Flux_Transfer_Events
- ☐ Busty_Bulk_Flows
- ☐ Kelvin-Helmholtz_Instabilities
- ☐ Distant_Tail
- ☐ Near-Earth_Neutral_Line
- ☐ Magnetic_Reconnection

Inner Magnetosphere List:
- ☐ Ultra_Low_Frequency_Waves
- ☐ Whistler_Chorus_Waves
- ☐ Plasmaspheric_Hiss
- ☐ Electromagnetic_Ion_Cyclotron_Waves
- ☐ Other_Tyes_of_Waves
- ☐ Wave-particle_Interactions
- ☐ Particle_Dynamics
- ☐ Plasmasphere/Plasmapause_Dynamics
- ☐ Inner_Magnetosphere-ionosphere-thermosphere_Coupling
- ☐ Inner_Magnetosphere_and_Outer_Magnetosphere/Tail_Coupling
- ☐ Seed_Population_for_the_Ring_Current_and_Radiation_Belt/Preconditioning

Geospace List:
- ☐ Coupled_Geospace_System_Response_To_Drivers
- ☐ Magnetosphere-ionosphere_Convection
- ☐ Energy_Distribution_In_Coupled Geospace_System

Ionosphere List:
- ☐ Variablility_of_Plasma_Density
- ☐ Ion_Drift_Velocity
- ☐ Equatorial_Anomaly
- ☐ Traveling_Ionospheric_Disturbances
- ☐ Ionospheric_Scintillations
- ☐ HF_Signal_Absorption

Thermosphere List:
- ☐ Atmosphere_Expansion
- ☐ Neutral_Composition_Change
- ☐ Neutral_Wind_Change
- ☐ Traveling_Atmospheric_Disturbances

High Latitude Ionosphere/Auroral Region List:
- ☐ Ionosphere_Electrodynamics
- ☐ Particle_Precipitation
- ☐ Energy_Flow_into_Ionosphere
- ☐ Joule_Heating

☐ Ionosphere_Convection
☐ Polar_Wind
☐ Ionosphere_Particle_Outflow
☐ Field-aligned_Currents
☐ Cross-polarcap_Electric_Potential

Material for the Model Display System (Capabilities Demo)
- Inputs and outputs of sample runs
- Post-processing results (time series, images) demonstrating capabilities (a prototype of quick-look graphic/data to be produced as a standard post-processing for all requested runs)
- Publications/presentations
- Model-data comparisons results. Possible options:
  - A few examples demonstrating model potential
  - Time series (for models and data) to evaluation topics already available at CCMC systems (CAMEL, Scoreboard)

Evaluation Results and Tools (if a part of proposal objectives)
- Observational data used for mode-data comparison (with metadata)
- Time series derived from models (with metadata)
- Algorithms for model-data comparisons

Model Installation/Execution
Please forward us any documentation for this model, such as but not limited to: user's guide, sample post processing script/executables, and/or visualization sample output for your model

Build Instruction
What software, libraries, licenses, and compilers does the model requires?

Is there any software/libraries/compilers version dependency?

What compiler flags, make file and/or configure script options is needed to build the model?

What environment variable(s) is/are needed to build the model?

Execution
Does this model rely on other pre-computation tools (i.e. EEGGL and SWPC_CAT)?

How do you make and run preprocessing executables/tools?

What input file(s) does this model use?

What environment variable(s) is/are needed to run the model?

Web Interface, if applicable
List all input parameters for the model that should be available for user to select/specify on the web interface during run submission. Specify default values, short definitions, units and valid ranges for these parameters.

How can the model run submission interface best serve two different types of users (beginner and advanced)? E.g., what are the basic model capabilities that need to be included on the part of the web interface to be available to all users, including beginner users? Are there any additional parameters for model adjustment that can benefit the advanced user?

Do any of the input parameters need to be visualized for the user prior to the run submission?
Will external testers (outside of NASA) be involved to test this model web interface?

Resources
Is this model installation for Run On Request (RoR), Instant Run (IR), Continuous Run (CR), or all? Is this an assimilation model?

What is the long-term plan for this model?

How long will the model installation need to be on the development machine before it is ready for IR, RoR and/or CR?

What resources does this model need? Number of processors, memory, disk space for both input and output.
Will the input & output be archived for long term storage?

Would it be difficult to re-install the model and model dependencies (software, libraries, compilers) on a similarly configured system? Please prepare to do this.

Will you be running a cronjob?

Does this model use any container technology, i.e Docker?

Will the container technology be available for CCMC to use, i.e. Docker image or Docker file?