1. Modeling Protocols
   1. Meteorology/emissions/air quality modeling protocol
      1. Project overview
      2. Model and modeling inputs
         1. Rationale for selection of software
         2. Modeling domain
         3. Horizontal and vertical resolution
         4. Input database
         5. Episode selection
         6. Model configuration
         7. Quality assurance protocol
      3. Technical approach
         1. Simulation identification
         2. General modeling procedures
         3. Planned simulations
      4. Data backup and archival
      5. Documentation
   2. Model performance evaluation protocol
      1. Process overview
      2. Observational data networks
      3. Evaluation tools
      4. Evaluation procedures
         1. Statistical tests
         2. Performance goals
      5. Supplemental analyses
2. 3-State Data Warehouse (3SDW) Operational Protocols
   1. Data management and access protocol
      1. Warehouse logistics
         1. Hardware
         2. Support Software (OS, server software, 3rd party libraries)
         3. Custom Software (data access layer, business logic, etc.)
         4. Networking (local and remote)
         5. Database schema
      2. Available data products
         1. Metadata schema by product
      3. Web interface
         1. Website organization and navigation
         2. User interface design and behavior
         3. Forms and query tools
         4. Analysis tools
         5. Metadata naming and coding
         6. Data presentation
            1. Units of measurement
            2. Precision
            3. Colors
         7. Fonts
         8. Tabular presentation
         9. Graphical presentation
            1. Charts
            2. Maps
         10. Report presentation (tables, graphs, and maps together
      4. Data Organization
         1. File and folder naming convention
         2. Physical file system organization (what developers see)
         3. Logical file system organization (what the user sees)
         4. Dataset partitioning (temporal, spatial, functional, etc.)
         5. Data association (which data components go together for a given purpose)
         6. Database schema
         7. Product, report, and format dictionaries/manifests
         8. Data distribution (remote versus local storage)
      5. Data Management
         1. Versioning and change control
         2. Query optimization
         3. Volume scalability
         4. Backup and restore
      6. Workspace Management
3. Projects (e.g. NEPA analysis)
4. Groups (e.g. NPS, BLM, etc.)
5. Data and results
   * 1. User Management
        1. Authentication and authorization
        2. Roles, responsibilities, and permissions
        3. Administration
   1. Data and metadata acquisition protocol
      1. Online user submissions
         1. Metadata requirements
         2. Documentation requirements
         3. Format and medium requirements
         4. Upload methods
            1. HTTP upload through website
            2. FTP upload
            3. Other
         5. Verification and validation
         6. Staging and mediation
      2. Online download from source providers
         1. Monitored data
         2. Meteorological data
      3. Website forms (design and behavior)
   2. Data order receipt, processing, and tracking protocol
      1. Data order lifecycle description
         1. Database query and selection
         2. Initial order
         3. Processing
         4. Packaging and distribution
         5. Order tracking
      2. Web order form
      3. Packaging scripts
      4. Customer communication protocol
         1. Acknowledge order receipt
         2. Notification of transfer/delivery
         3. Customer feedback
   3. Data processing (pre and post) protocol
      1. Extraction, Transformation, and Loading (ETL)
      2. Unit conversions
      3. Metadata extraction
      4. Metadata mapping
      5. Raw data filtering and sub-setting
      6. Data type conversions
      7. Format and medium conversions
   4. Data transfer protocol
      1. Data Dissemination and Distribution
         1. Packaging
         2. Notification
         3. Tracking
         4. Change control
         5. Updates and revisions
      2. Electronic large data transfer
         1. Implementation for the 3SDW (bit torrent, IRODS?)
         2. Interface with data query and order forms
      3. External hard drive option
   5. Data receipt, upload, and tracking protocol
      1. Types of data expected to be hosted in the 3SDW
      2. Uploading data
         1. Electronic uploads
         2. Hard drive deliveries
      3. Required documentation
      4. Metadata generation process
      5. Scenario naming and data tracking
         1. Database table schema for tracking data uploads
6. Data Request/Transfer Manifests
   1. WestJump modeling data request
      1. Documentation
         1. README describing contents of disk
         2. Modeling protocols (or web links in README)
         3. Emissions memos (or web links in README)
         4. Model performance evaluation (or web links in README)
         5. File checksums
      2. CAMx Input data
         1. Annual 2008 WRFCAMx on 36/12/4km grids
         2. Annual CAMx BCs for 36km grid
         3. All CAMx non-emission inputs
         4. Merged low-level emissions
         5. Merged elevated emissions
      3. Emissions data
         1. Unmerged low-level emissions
         2. Unmerged elevated-emissions
         3. SMOKE GE-DAT data
         4. SMOKE input inventories
      4. CAMx Output data
         1. Course and fine grid outputs
         2. Other diagnostic outputs
      5. Scripts
         1. WRFCAMx scripts
         2. CAMx run scripts
      6. Model evaluation
         1. CAMxtract and CAMxstat scripts and observational data
         2. MPE plots and evaluation scripts
   2. 3SDW data order manifest
      1. Documentation
         1. README describing contents of disk
         2. If electronic transfer, listing of all transferred files
         3. File checksums
      2. Data
         1. Data requested by customer either on disk or transferred electronically