

AERMOD MODELING SYSTEM SUMMARY AND STATUS

5/16/05

THE AERMOD MODELING SYSTEM

HAS 3 COMPONENTS:

1. AERMOD.
2. AERMAP
3. AERMET

OTHER NON-REGULATORY COMPONENTS:

1. AERSCREEN
2. AERSURFACE

OTHER SUPPORT ACTIVITIES

1. AERMOD APPLICATION GUIDE
2. PRIORITY LIST OF ACTION ITEMS

AERMOD MODELING SYSTEM SUMMARY AND STATUS

THE AERMOD MODELING SYSTEM

1. AERMOD:

FUNCTION: AERMOD IS THE DISPERSION MODELING COMPONENT AND THE HEART OF THE MODELING SYSTEM. BASED ON GAUSSIAN DISPERSION AND PLANETARY BOUNDARY LAYER CONCEPTS.

LEAD PERSON: WARREN PETERS

STATUS: AERMOD IS FULLY FUNCTIONAL AND TESTED.

USER GUIDE: THE USER GUIDE HAS BEEN REVISED AND UPDATED. THIS REPORT IS COMPLETED AND BEING PROOFED. HAS AN EPA REPORT NUMBER.

TEST DATA: THERE IS A SET OF TEST DATA FOR THE USER TO DOWNLOAD AND TEST THE EXECUTABLES.

FUTURE ACTIVITIES: COMPILE THIS MODEL FOR PARALLEL PROCESSING. [THIS IS UNDERWAY WITH SUPPORT FROM THE SUPERCOMPUTER CENTER.]

WEB PAGE STATUS: THE CURRENT VERSION OF AERMOD (04300) HAS BEEN UPLOADED TO SCRAM.

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THE AERMOD MODELING SYSTEM

2. AERMAP:

FUNCTION: AERMAP IS A TERRAIN PREPROCESSOR. AERMOD HAS THE CAPABILITY OF TREATING SOURCES AND RECEPTORS IN COMPLEX TERRAIN. AERMAP PROCESSES COMMERCIALY AVAILABLE DIGITAL ELEVATION DATA AND PRODUCES ELEVATION DATA AND SCALING FACTOR FOR EACH RECEPTOR.

LEAD PERSON: PETE ECKHOFF

STATUS: AERMAP IS FULLY FUNCTIONAL. THE LATEST VERSION (04300) IS BEING TESTED.

USER GUIDE: THE USER GUIDE HAS BEEN REVISED AND UPDATED. WE HAVE THE GUIDE IN AN EPA REPORT FORMAT WITH AN EPA REPORT NUMBER. THIS REPORT IS COMPLETED..

TEST DATA: THERE IS A SET OF TEST DATA FOR THE USER TO DOWNLOAD AND TEST THE EXECUTABLES.

FUTURE ACTIVITIES: ALLOCATABLE ARRAYS, PROVIDE BETTER DEBUGGING TOOLS AND DEVELOP AN XYZ DATA TOOL.

WEB PAGE STATUS: THE CURRENT VERSION OF AERMAP (04300) NEEDS TO BE UPLOADED..

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3. AERMET:

FUNCTION: AERMET IS A METEOROLOGICAL DATA PREPROCESSOR. AERMET PROCESSES COMMERCIALY AVAILABLE OR CUSTOM ON-SITE MET DATA AND CREATES 2 FILES (ONE FILE FOR SURFACE DATA AND ONE FILE FOR PROFILES). THE SURFACE FILE ALSO CONTAINS THE SURFACE CHARACTERISTICS OF THE STUDY AREA.

LEAD PERSON: DESMOND BAILEY

STATUS: AERMET IS FULLY FUNCTIONAL.

USER GUIDE: THE USER GUIDE IS COMPLETED AND BEING PROOFED. HAVE AN EPA REPORT NUMBER. .

TEST DATA: THERE IS A SET OF TEST DATA FOR THE USER TO DOWNLOAD AND TEST THE EXECUTABLES.

FUTURE ACTIVITIES: 1) FINISH TESTING THE BULK RICHARDSON COMPONENT (REMOVES THE NEED FOR CLOUD COVER OBS). . 2) CONSIDER STREAMLINING THE 3 STAGE AERMET PROCESS.

WEB PAGE STATUS: THE CURRENT VERSION OF AERMAP (04300) HAS BEEN UPLOADED TO SCRAM.

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OTHER NON-REGULATORY COMPONENTS

1. AERSCREEN:

FUNCTION: AERSCREEN IS A TOOL THAT WILL PRODUCE ESTIMATES OF REGULATORY DESIGN CONCENTRATIONS WITHOUT THE NEED FOR METEOROLOGICAL DATA OR DETAILED TERRAIN DATA.

LEAD PERSON: JIM HAYWOOD, MICHIGAN (WARREN PETES IS THE EMAD CONTACT)

STATUS: AERSCREEN IS NOW A BLEND OF THE 2 VERSIONS DESCRIBED LAST YEAR. THE 1 HOUR PREDICTIONS LOOK GOOD, STILL ADJUSTING THE LONGER TERM FACTORS. CLOSE TO BETA TEST.

USER GUIDE: THE USER GUIDE HAS NOT BEEN DEVELOPED.

TEST DATA: THERE IS A SET OF TEST DATA FOR THE USER TO TEST THE EXECUTABLES.

FUTURE ACTIVITIES: ADD AREA AND VOLUME SOURCES.

WEB PAGE STATUS: THE CURRENT VERSION OF AERSCREEN HAS NOT BEEN UPLOADED.

AERMOD MODELING SYSTEM SUMMARY AND STATUS

OTHER NON-REGULATORY COMPONENTS

2. AERSURFACE:

FUNCTION: AERSURFACE IS A TOOL THAT WILL PRODUCE ESTIMATES OF SURFACE CHARACTERISTICS FOR A MODELING DOMAIN BASED ON LAND USE/LAND COVER INFORMATION AND CALPUFF PREPROCESSORS

LEAD PERSON: KAREN WESSON

STATUS: AERSURFACE HAS BEEN DEVELOPED BY WEST VIRGINIA STAFF AND A CONSULTANT. WE ARE CURRENTLY TESTING THE TOOL. WE BELIEVE THAT THIS TOOL IS VERY USEFUL.

USER GUIDE: THE USER GUIDE HAS NOT BEEN DEVELOPED.

TEST DATA: THERE ARE SETS OF TEST DATA FOR THE USER TO TEST THE EXECUTABLES.

FUTURE ACTIVITIES: FORM A WORKGROUP TO FUTHER DEVELOP THIS TOOL.

WEB PAGE STATUS: THE CURRENT VERSION OF AERSURFACE HAS NOT BEEN UPLOADED TO SCRAM

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APPLICATION GUIDE:

FUNCTION: THE GUIDE IDENTIFIES APPROACHES FOR THE PROPER USE OF AERMOD IN DIFFERENT APPLICATIONS.

LEAD PERSON: AL CIMORELLI, WARREN PETERS

STATUS: THE GUIDE HAS BEEN DRAFTED AND REVIEWED BY THE AERMIC, THE REGIONAL OFFICES AND THE IMPLEMENTATION WORKGROUP.

LOCATION: WE ARE CONSIDERING A LOCATION ON SCRAM WHERE THE GUIDE IS A DYNAMIC REFERENCE. WE HAVE CONSIDERED PUTTING IT INTO THE USER'S GUIDE.

FUTURE ACTIVITIES: FINALIZE THE LANGUAGE AND DECIDE WHERE TO PUT THIS INFORMATION.

WEB PAGE STATUS: THIS INFORMATION HAS NOT BEEN MADE AVAILABLE TO SCRAM.

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FOLLOW-ON AERMOD ACTIVITIES.

HIGH PRIORITY

1. ADDITIONAL SURFACE CHARACTERISTICS REFERENCES (UNDERWAY-SEE AERSURFACE)
2. ALLOCATABLE ARRAYS IN BPIP-PRIME (DONE)
3. AERSURFACE PREPROCESSING TOOLS (BEING REVIEWED AND TESTED)
4. CAPPED /HORIZONTAL STACKS (APPLICATION GUIDE QUICK FIX. LONG-TERM FIX IN FUTURE)
5. GUIDANCE ON REPRESENTATIVENESS OF MET DATA, SURFACE CHARACTERISTICS (APPLICATION GUIDE)
6. RELEASE OF BUG FIXES (NO FR, CONSEQUENCE ANALYSIS, PUT ON SCRAM)

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MEDIUM PRIORITY

1. GUIDANCE FOR URBAN OPTION (APPLICATION GUIDE)
2. MODEL CLEARINGHOUSE FORUM - FAQs ETC (BEING DISCUSSED)
3. FINALIZE AERSCREEN (WORK GROUP REESTABLISHED AND MAKING GOOD PROGRESS)

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FOLLOW-ON AERMOD ACTIVITIES.

LOWER PRIORITY

1. CONCURRENCE OF LAND USE DATA AND MET DATA (NOT ADDRESSED YET - PUT INTO AERMOD APPLICATION GUIDE)