



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ATMOSPHERIC SCIENCES RESEARCH LABORATORY
RESEARCH TRIANGLE PARK
NORTH CAROLINA 27711

MEMORANDUM

DATE: October 13, 1987
SUBJECT: Portland Grid Model
FROM: Robert E. Eskridge, Meteorologist *REE*
Terrain Effects Branch, MD/ASRL (MD-80)
TO: Joseph A. Tikvart, Chief
Source Receptor Analysis Branch, OAQPS (MD-14)

The Portland Grid Model is a Eulerian Grid Model of the type developed in the 1970's for urban areas such as St. Louis in the RAPS Program. In fact, this model uses physical parameterizations that were old in the 1970's. It requires a lot of data to solve for the wind field and does not include important concepts such as the dividing streamline height in computing the wind field. The report does not discuss how the model physics are applicable to solving stagnant conditions in valleys or how the top boundary is set up for stagnant conditions. I think the reason for this lack of detail is, in part, due to the fact that this model was not developed to solve this type of problem.

I do not recommend the use of this model for valley stagnation problems.