



PACIFIC REGION TECHNICAL NOTES

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OROGRAPHICALLY INDUCED CIRRUS

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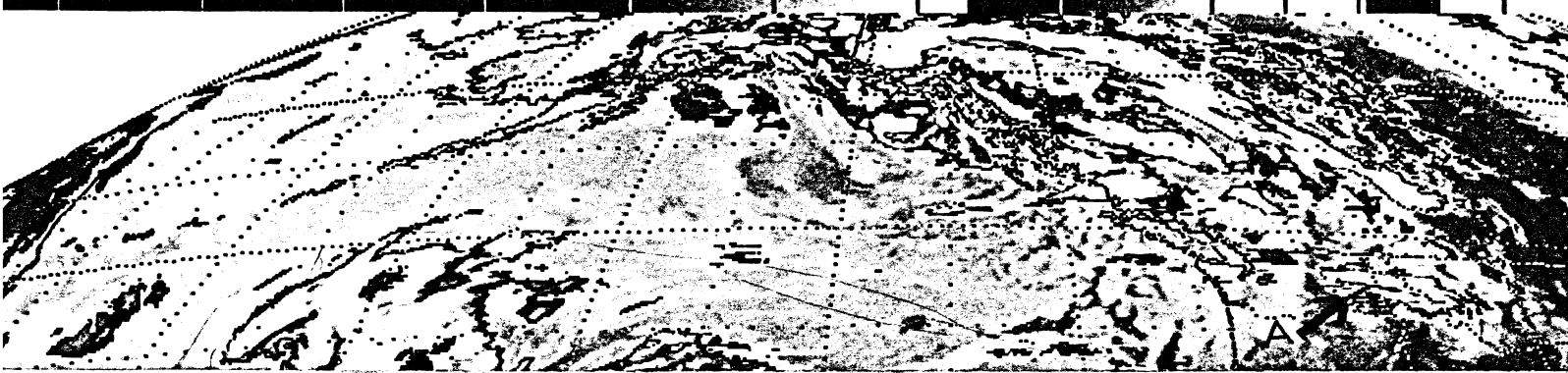
DISCUSSION.

In most cases it should be possible to determine the reason for the appearance of implied cloud features on satellite imagery. However, many times this is not immediately obvious, and some care has to be taken to associate what one sees on the imagery with the proper synoptic interpretation. For instance cirrus shields that on the satellite imagery look very much alike may be attributed to deformation zones or baroclinic zones. Orographically induced cirrus presents a similar problem. The three satellite pictures for May 28, 1978 illustrate this feature. The orographically induced cirrus is seen at the point of the arrow from position A, and appears over the state of Washington to the east of the Cascade mountains. Both the enhanced Ir imagery (1416Z) and the normal Ir imagery (1445Z) show what appears to be a relatively cold, fairly dense cloud deck, which might well hide some lower or middle clouds. The western cloud edge is fairly sharp, and could easily be confused with the appearance of a cloud edge associated with a moving short wave trof. However, the Visible imagery (1515Z) shows that the cloud is cirrus and in some areas thin enough so that the ground is visible through the cloud. Usually, clouds associated with short wave trofs will also contain some low or middle clouds unless the trof is isolated at the cirrus level. The 500 mb. and 250 mb. analyses are attached to illustrate the upper level wind patterns. Obviously, in order to produce the cirrus cloud some moisture has to be present at the level at which the cloudiness appears, and it is therefore quite possible that cirrus may be absent even though the flow patterns are similar.

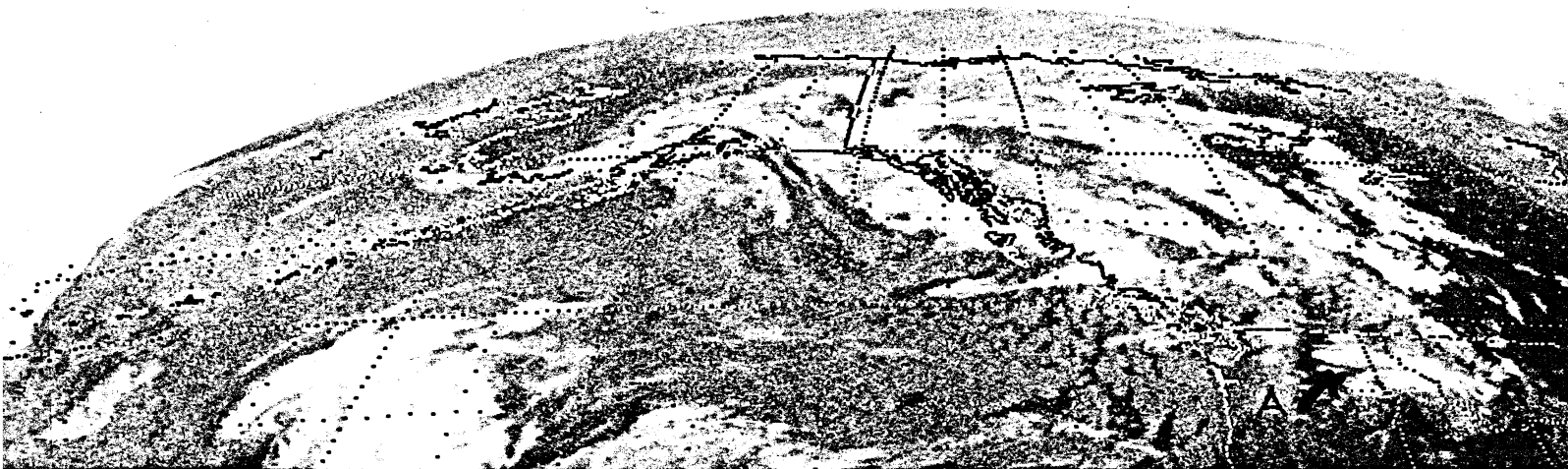
CONCLUSION.

1. If sufficient moisture is present and the wind flow is nearly perpendicular to the mountain range orographically induced cirrus will be noticable on the satellite imagery to the lee of the mountain range.
2. In such cases the sharp cloud edge that is produced should not be confused with that produced by a travelling short wave.
3. Subsequent satellite pictures should indicate very little motion to the back edge of the cloud deck (some distortion may occur) if indeed the cloud deck is orographically induced.

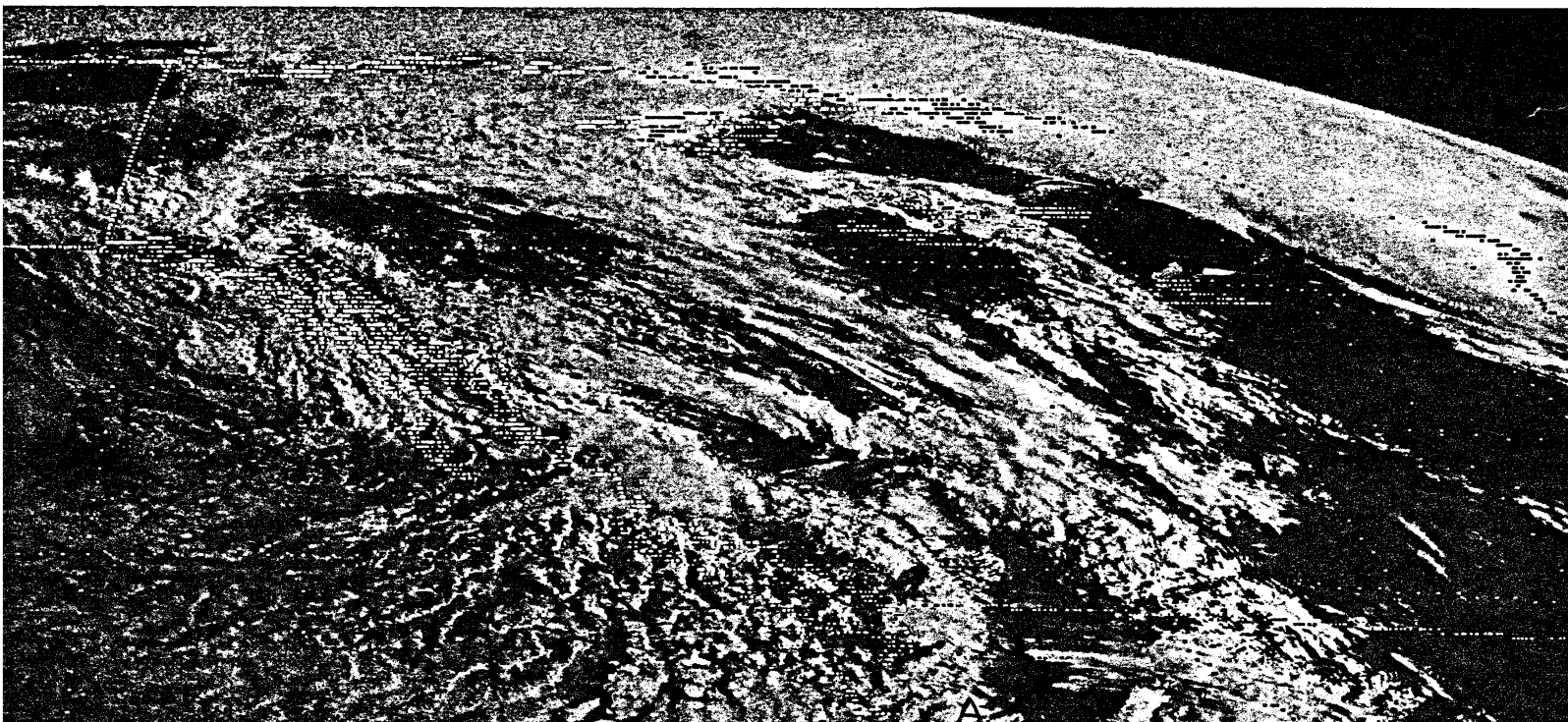
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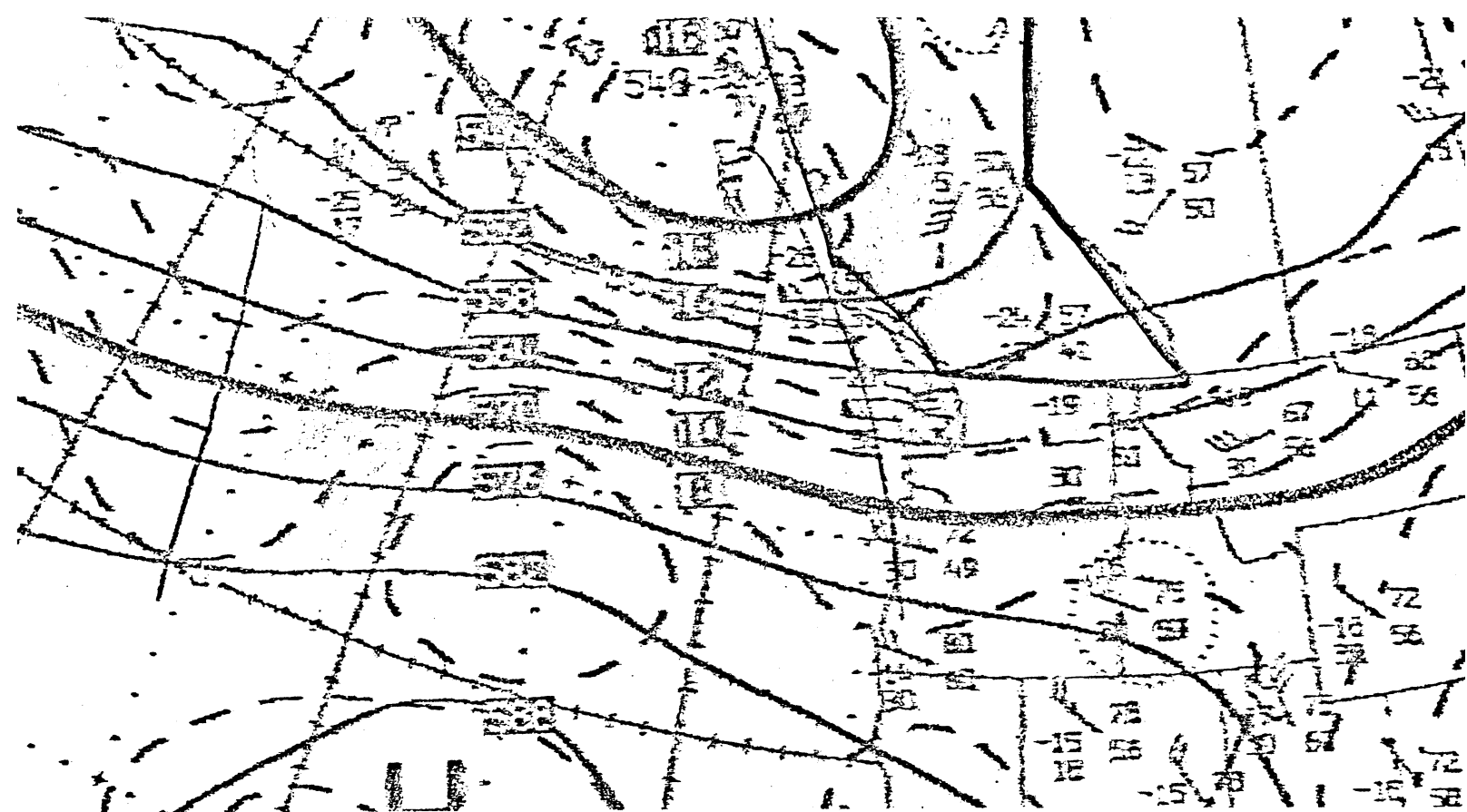


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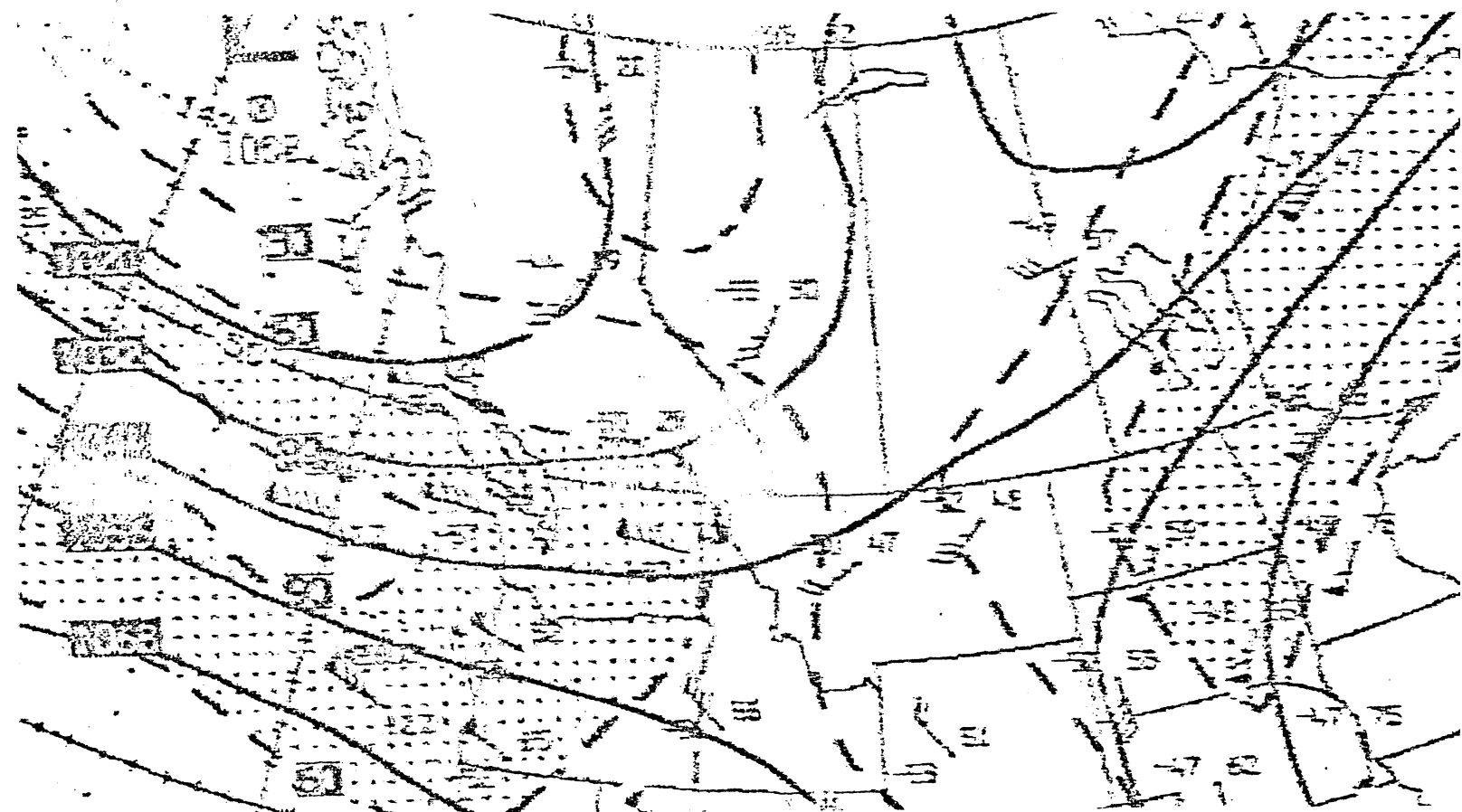
1515 28MY78 33A-1 00601 22291 SB6





500 MB ANALYSIS

MAY 28, 1200Z, 1978



250 MB ANALYSIS

MAY 28, 1200Z, 1978