INTERPRETATION OF SATELLITE OBSERVATIONS OVER MOUNTAINOUS AREAS

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ABSTRACT

Satellite measurements made over mountains impose a number of interpretation problems. Some of them will be addressed in this paper.

One problem is the visual discrimination of clouds against snow and the establishment of reliable cloud climatologies over mountains in connection with the International Satellite Cloud Climatology Project.

Of considerable interest is the effect of mountains as elevated heat sources on the atmosphere. Surface temperature determinations are therefore an important application of satellite measurements.

Because of the generation of orographic clouds the use of clouds as tracers for wind vector determinations has to be carefully considered in the presence of mountains.

Another interesting application is the construction of snow maps by means of radiometric microwave measurements undisturbed by clouds.

Examples of the evaluation of satellite measurements by application of interactive digital data processing methods will be presented.