



# **PACIFIC REGION TECHNICAL NOTES**

80-033

September 29, 1980

## THE PACIFIC WEATHER CENTRE SATELLITE PROGRAM

October 1, 1980

John Spagnol, Satellite Development Meteorologist  
Pacific Weather Centre, Vancouver

---

### INTRODUCTION

Pacific Weather Centre involvement in satellite imagery analysis activity accelerated after the reception of GOES-WEST imagery began in February, 1978. An experimental satellite program from February, 1978 to November, 1978 (PRTN 79-005) demonstrated the value of a duty operational satellite meteorologist. Since this time, the Satellite Program at PWC was formalized as one of the components of the Ship Papa Replacement Program. The formal program began operations on October 1, 1979 and has evolved considerably. The outline below briefly describes the program as it exists on its first anniversary.

### STAFFING

The satellite group consists of four Operational Satellite Meteorologists and one Satellite Development Meteorologist.

### PRODUCTS AND SERVICES

#### (1) Satellite AIDS Program (PRTN 80-016)

Description: Production of animated videoloops from still imagery. A Sony Auto Search Control unit allows the automatic repetition of the same videotape segment. This system is the equivalent of a conventional film loop.

Purpose: Much more information may be inferred from animated images than from still imagery.

Update: At present, the videotape is updated once daily. In the near future, the videotape will be updated about four times daily.

#### (2) Satellite Interpretation Message

Description: Written message containing technical description of meteorological features as inferred from satellite imagery and videoloops.

Purpose: Information is designed to support PWC forecasters, regional field offices, downstream weather centres and CMC.

Issue: Three times daily at six hour intervals over the AES teletype network.

(3) Satellite Analysis Chart (PRTN 80-006)

Description: A schematic depiction of the meteorological features discussed in the satellite message.

Purpose: This chart is designed to support PWC forecasters, regional field offices, downstream Weather Centres and CMC.

Issue: Three times daily at six hour intervals over the AES teletype network.

(4) Cloud Analysis Chart (PRTN 78-038)

Description: A regional cloud analysis based on cloud patterns seen or inferred from satellite imagery.

Purpose: The chart is intended to support the Aviation Forecaster at PWC and the Aviation briefers at the Pacific Region field offices.

Issue: Three times daily at six hour intervals over the regional Weather Circuits.

(5) Twelve Hour Cloud Prognosis (PRTN 80-021)

Description: A short range forecast of cloud patterns as seen on the cloud analysis chart.

Purpose: This chart is designed to support the PWC Aviation forecaster and the Aviation briefers in the Pacific Region field offices.

Issue: Three times daily at six hour intervals over the regional Weather Fax Circuits.

(6) Satellite Fire Weather Message (PRTN 80-008)

Description: A brief description of satellite imagery and trends as they affect fire weather conditions over the province.

Purpose: This message is intended to support the Fire Weather Forecaster stationed at PWC and the Fire Weather Presentation Technicians located in the field offices.

Issue: Two times daily. One message is issued in the morning. The other message is issued in the afternoon.

(7) PWC 500mb Analysis (PRTN 79-031)

Description: A 500mb contour and thickness chart is constructed using all conventional data, a synoptic satellite data and the

subjective skill of the satellite meteorologist in imagery interpretation.

Purpose: This chart was used as a reference field by the Prognostician-Analysts to assess the validity of the model initial fields.

Issue: This chart was constructed based on 12Z data and used internally at PWC. Unfortunately the loss of the TOVS data centered about 12Z resulted in a suspension of the program.

#### (8) Forecast Investigation Technical Notes

Description: This category of Pacific Region Technical Notes is intended to investigate all instances of "very good" or "very poor" forecasts. Heavy emphasis is placed on satellite imagery interpretation as an analysis tool.

Purpose: These Notes serve two purposes. Firstly, they are a quality control measure on PWC forecasts. Secondly, they serve as a means of documenting meteorological patterns resulting in very good or very poor forecasts.

Issue: These investigations are undertaken if the satellite meteorologist's schedule permits. The program had to be suspended temporarily because of the lack of staff resources.

#### DEVELOPMENT PROJECTS

##### (1) Expansion of Cloud Analysis Chart and Cloud Prognosis Chart

Development work is underway to expand the above programs to include such fields as precipitation fields and type, icing in cloud fields and cloud top heights.

##### (2) Satellite Frost - Forecast FX

This message is intended to support the PWC frost forecast program which in turn supports the agricultural community of the southern B.C. Interior.

#### CONCLUDING REMARKS

The continued advancement of the satellite program as a factor in the PWC forecasts depends mainly on two major developments.

- (1) The arrival of the Vancouver GOES station;
- (2) The restructuring of duties within the PWC operational procedures to allow a more logical and efficient analysis, prognosis and forecast cycle.

#### ACRONYMS

PRTN - Pacific Region Technical Notes