



93 P/NE

CLIMATIC CAPABILITY FOR AGRICULTURE

1. Explanatory Notes

A Climatic Capability for Agriculture map shows a system of classification which describes the agricultural capability as influenced by climate. The capability classes are designated by letters, numbers, and symbols. The letters indicate the limiting factor which affects the capability of the land to support agriculture. The numbers indicate the degree of limitation. The symbols indicate the type of limitation. The first letter indicates the limiting factor, the second letter indicates the degree of limitation, and the symbol indicates the type of limitation. The first letter indicates the limiting factor, the second letter indicates the degree of limitation, and the symbol indicates the type of limitation. The first letter indicates the limiting factor, the second letter indicates the degree of limitation, and the symbol indicates the type of limitation.

2. Example

Limiting Subclass (see box 6)
2A(3Fb-4Fb)
Unimproved (dry-land) rating
Improved (irrigated) rating

3. Map Boundaries and Symbols

— Climatic Capability for Agriculture class boundary
--- Approximate capability class boundary
△ Atmospheric Environment Service - Base Station

4. Station Information

| Base Station | Symbol | Period of Record Used |
|--------------|--------|-----------------------|
| FORT ST JOHN | | 1951-80 |
| BEAVER LODGE | | 1951-80 |

5. Limiting Subclasses

A - Drought or aridity occurring between May 1st and September 30th resulting in moisture deficits which are limiting to plant growth.
F - Minimum temperature near freezing adversely affecting plant growth during the growing season.
G - Insufficient accumulation of heat units above 5°C during the growing season.
C - Excess winter temperatures occurring during the winter season resulting in killing or dormant fruit trees.
V - Excess precipitation between May 1st and September 30th causing flooding, poor trafficability and generally poor yield and harvest conditions.

6. Summary of Limitations

| CLASS | GDD ABOVE 5°C (°C-DAYS) | GDD ABOVE 5°C (°C-DAYS) | FFP (DAYS) | | CHD (mm) (negative PP1-PP2) | CHD/FE ratio |
|-------|-------------------------|-------------------------|------------|---------|-----------------------------|--------------|
| | | | INTERIOR | COASTAL | | |
| 1d | >2225 | - | >150 | - | - | - |
| 1c | 2000-2225 | - | >150 | - | - | - |
| 1b | 1750-2000 | - | >150 | - | - | - |
| 1a | 1500-1750 | 100-150 | - | - | - | - |
| 2 | 1250-1500 | >825 | 90-119 | >150 | < 40 | <0.36 |
| 3 | 1000-1250 | 750-825 | 75- 89 | 100-119 | 40 to 115 | 0.36 to 0.55 |
| 4 | 750-1000 | 650-750 | 60- 74 | 100-119 | 116 to 190 | 0.56 to 0.75 |
| 5 | 500-750 | 450-650 | 50- 59 | 80- 99 | 191 to 265 | 0.76 to 1.00 |
| 6 | 250-500 | 425-450 | 30- 49 | 60- 79 | 266 to 340 | >1.00 |
| 7 | < 250 | < 425 | < 30 | < 60 | > 341 | >1.00 |

7. Base Station Statistics-Frequency of Climatic Capability for Agriculture Class (%) by Parameter

| CLASS | Name: | | | | Name: | | | | Name: | | | |
|-------|----------|-----|-----|-----|----------|-----|-----|-----|----------|-----|-----|-----|
| | GDD/1000 | FFP | CHD | CHS | GDD/1000 | FFP | CHD | CHS | GDD/1000 | FFP | CHD | CHS |
| 1d | | | | | | | | | | | | |
| 1c | | | | | | | | | | | | |
| 1b | | | | | | | | | | | | |
| 1a | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | |

This table shows complete Climatic Capability for Agriculture evaluations based on yearly values of each parameter (GDD/1000, FFP, CHD and CHS) for the period of record. The number of years each parameter fell within a particular class is expressed as a percentage of the period of record at the base station.

8. Base Station Statistics-Frequency of Climatic Capability for Agriculture Class (%) by Thermal and Moisture Limitation

| CLASS | Name: | | | | | Name: | | | | | Name: | | | | |
|-------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--|--|--|
| | Thermal Limitation | Moisture Limitation | Thermal Limitation | Moisture Limitation | Thermal Limitation | Moisture Limitation | Thermal Limitation | Moisture Limitation | Thermal Limitation | Moisture Limitation | Thermal Limitation | Moisture Limitation | | | |
| 1d | | | | | | | | | | | | | | | |
| 1c | | | | | | | | | | | | | | | |
| 1b | | | | | | | | | | | | | | | |
| 1a | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |

This table shows the frequency of occurrence, expressed as a percent, of Climatic Capability for Agriculture classes as determined by the limitations (A and/or F) influencing each individual year for the period of record at the base station.

9. Base Station Statistics-Frequency of Climatic Capability for Agriculture Class (%) by Limitation

| CLASS | Name: | | | | | Name: | | | | | Name: | | | | |
|-------|-------|---|---|---|---|-------|---|---|---|---|-------|---|---|---|---|
| | A | F | G | E | V | A | F | G | E | V | A | F | G | E | V |
| 1d | | | | | | | | | | | | | | | |
| 1c | | | | | | | | | | | | | | | |
| 1b | | | | | | | | | | | | | | | |
| 1a | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |

This table shows the frequency of occurrence, expressed as a percent, of Climatic Capability for Agriculture classes independently determined by thermal (A and/or F) and moisture (G and/or V) limitations for the period of record at the base station.

10. Abbreviations Used in Legend

CHD - Climate moisture deficit (PP1-PP2 is negative)
CHS - Climate moisture surplus (PP1-PP2 is positive)
GDD - Effective growing degree days
FFP - Freeze free period
CHD - Growing degree days
CHS - Potential evapotranspiration
PP1 - Precipitation

11. Legend Statistics

Tabular data will be added to the legends as the appropriate data become available.

12. Comments

1) Dashed lines generally indicate areas of probable cold air flow and pooling which will limit the climatic capability due to lower freeze-free periods.
2) An aridity rating (A) is only indicated if it is the limiting factor, however the aridity class may be the same as the thermal class under 2 150 feet elevation.
3) The longer days in this region may result in an under-estimation of the climatic capability for certain crops that do not have high heat and light intensity requirements.

13. References

R.A.B. Technical Paper #1
Climatic Capability Classification for Agriculture
in British Columbia,
B.C. Ministry of Environment, 1978.

Climatology Unit
Waste Management Branch
Ministry of Environment
Parliament Buildings
Victoria, B.C. V8V 1C5

Additional climatological maps and reports available from:
The Map Library
Assessment and Planning Division
Ministry of Environment
Victoria, B.C. V8V 1A6

14. Credits

Maped by G.E. Cheeseman
Date mapped July 29, 1983
Duration of topographic network 1977-80
Normals used 1951-80
Correlated by
Drafted by Cartography Section, Terrestrial Studies Branch,
Ministry of Environment
Date drafted August 1983
Revision dates
Base map provided by Surveys and Mapping Branch, Ministry of Environment.