

CLIMATE ATLAS OF WESTERN WASHINGTON

By Gary Morris c1986, 1991, 2010,2021

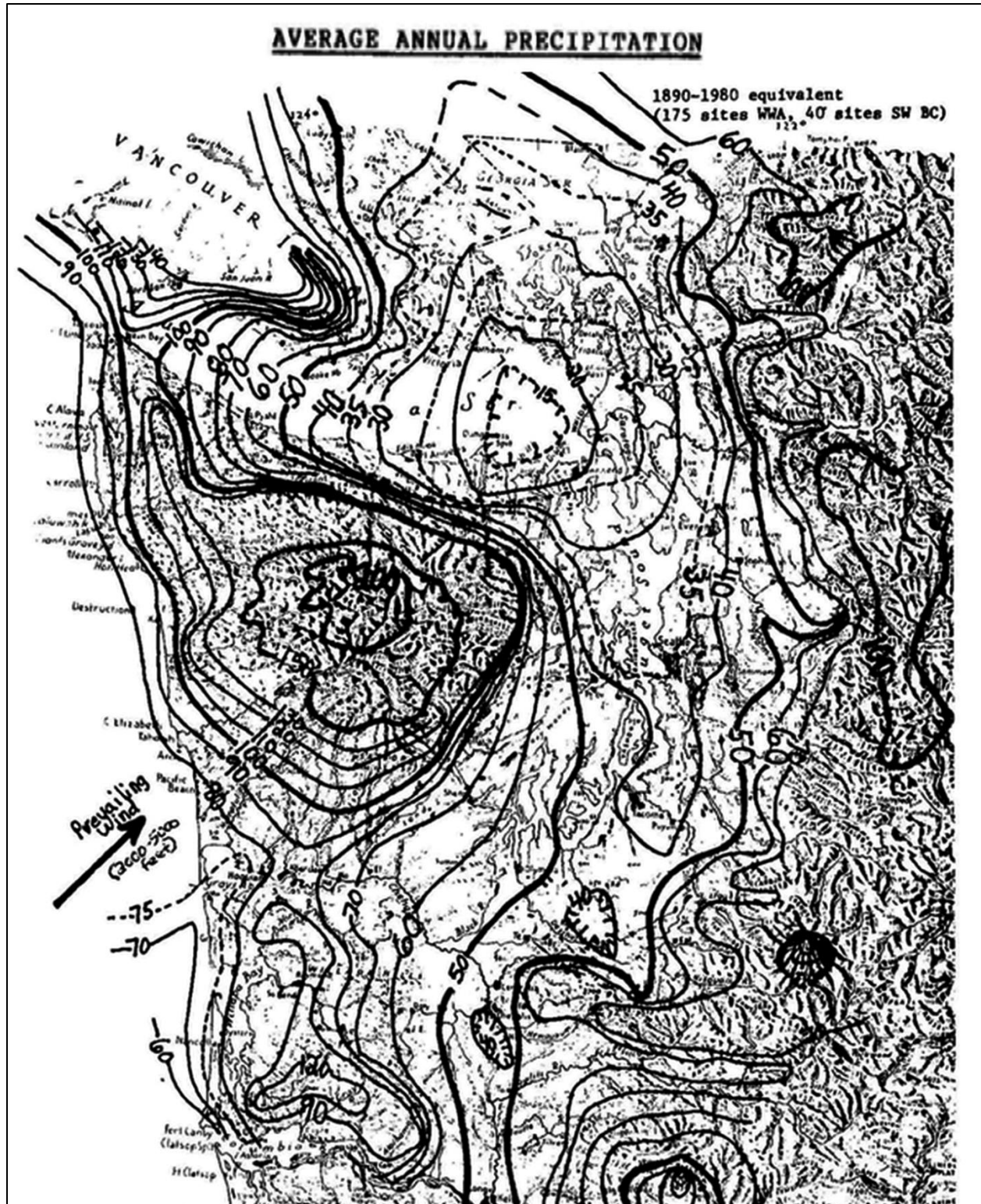
This book is the result of my research and accumulation of various climate features associated with Western Washington. The first 30 pages are basically a revised version of Western Washington Climate, completed in 1986.

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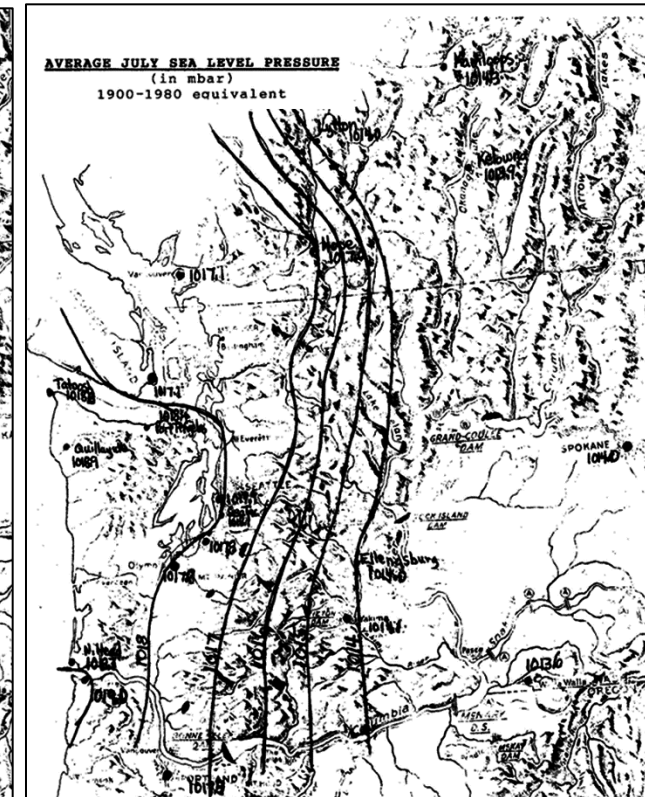
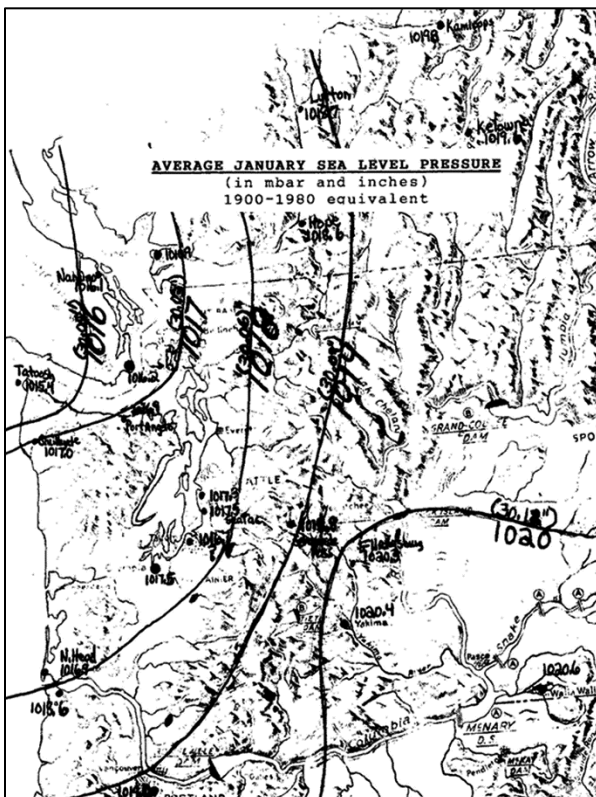
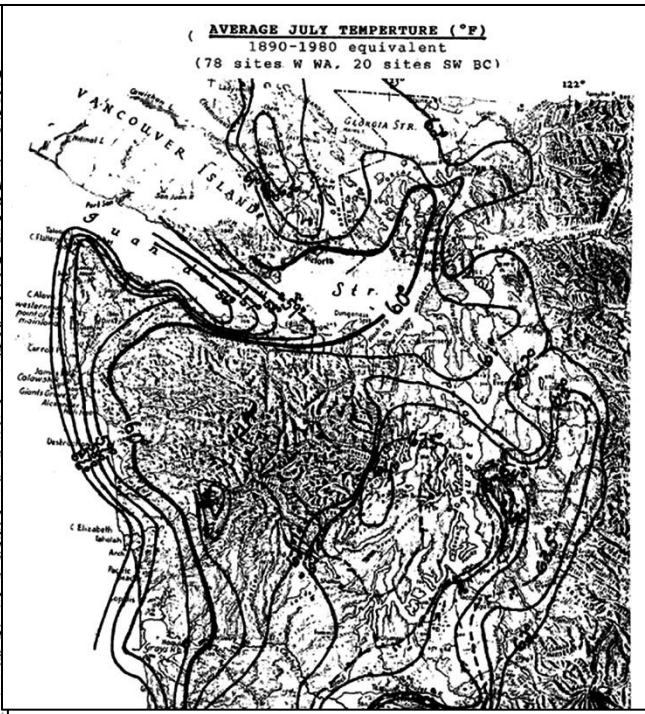
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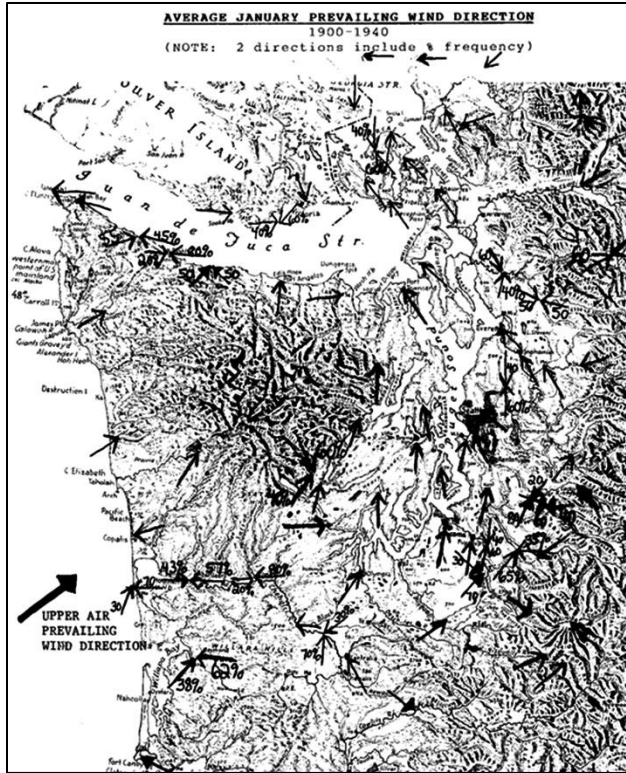
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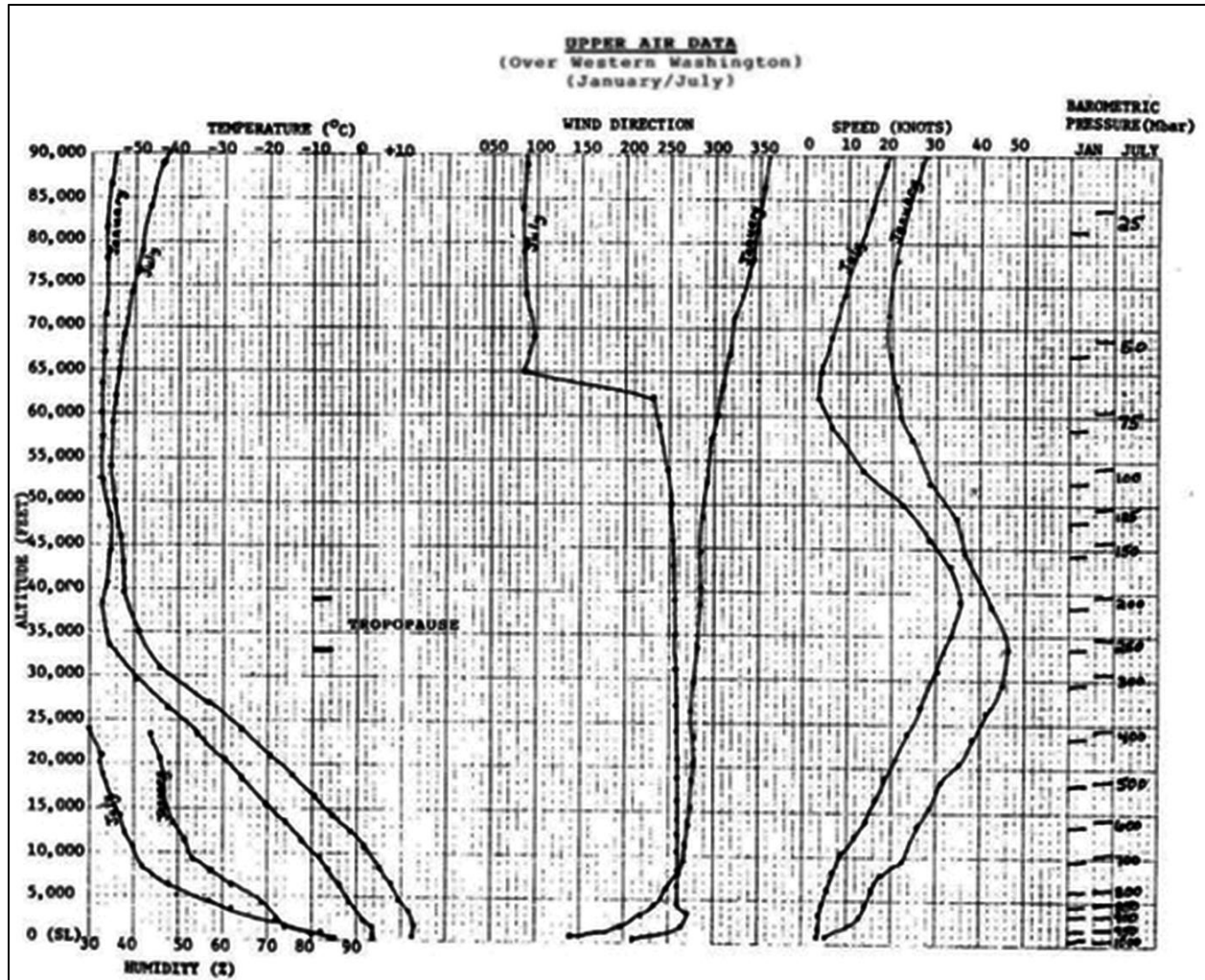
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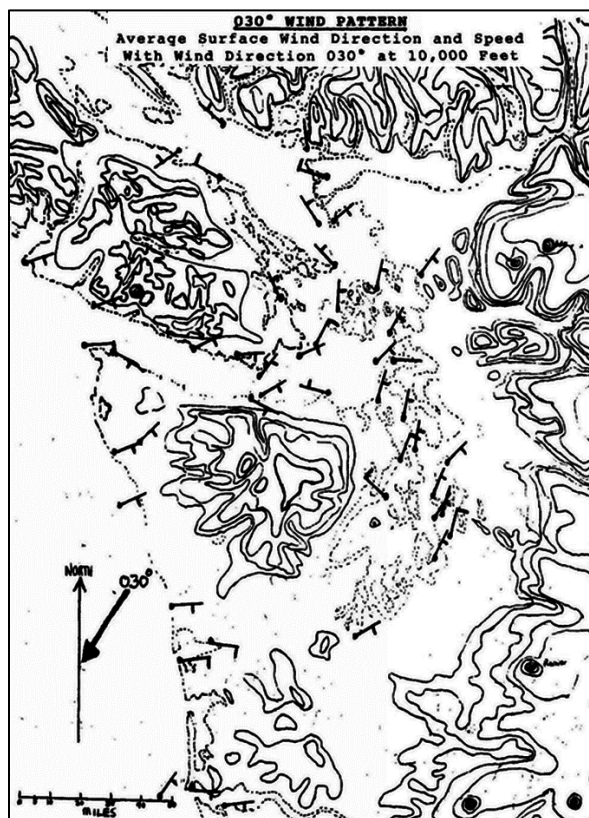


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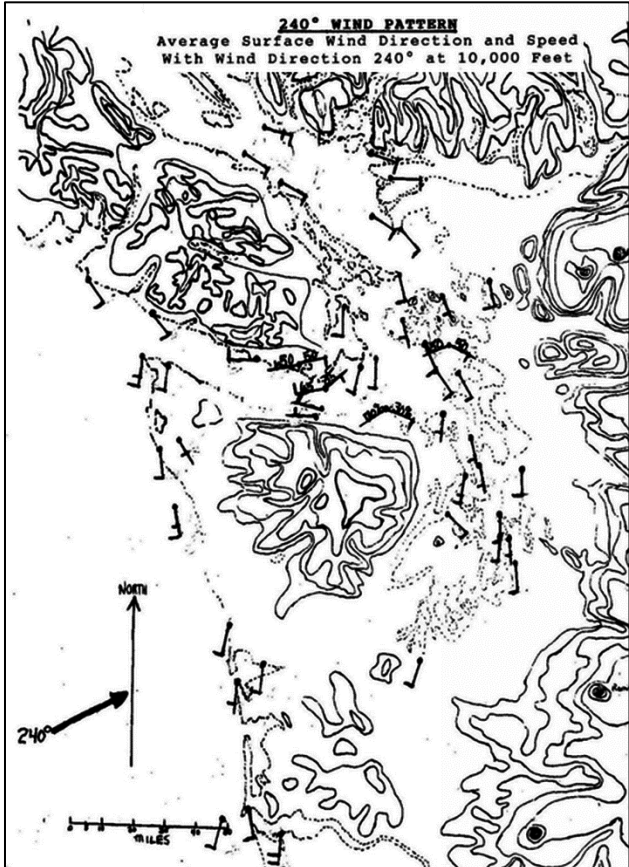
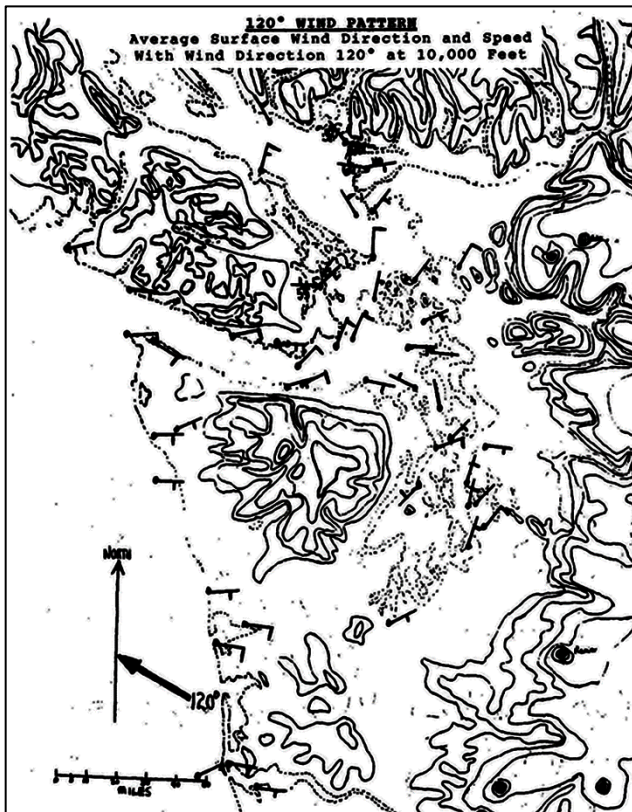
SEASONAL CLIMATE MAPS

Localized surface precipitation is governed by orographic features, and can be correlated to the wind direction at 10,000 feet. The following model maps were computed using 15 ideal days for each wind direction, and consisted of the following variables: wind direction consistent for the duration of one day, moderate winds, sufficient precipitation, and cloud height bases averaging 1500 to 2500 feet. With sufficient amounts of precipitation, station amounts could be standardized for each day, and thus, increased the data resolution.

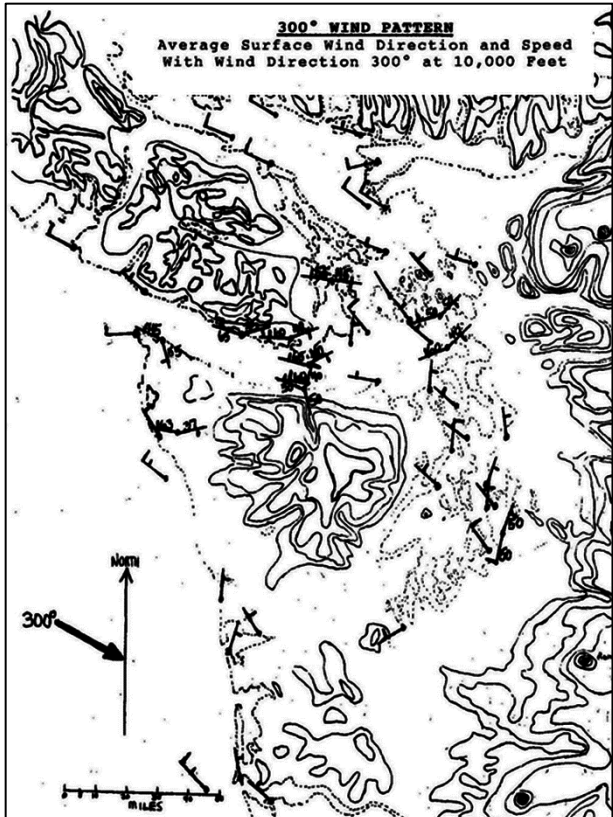
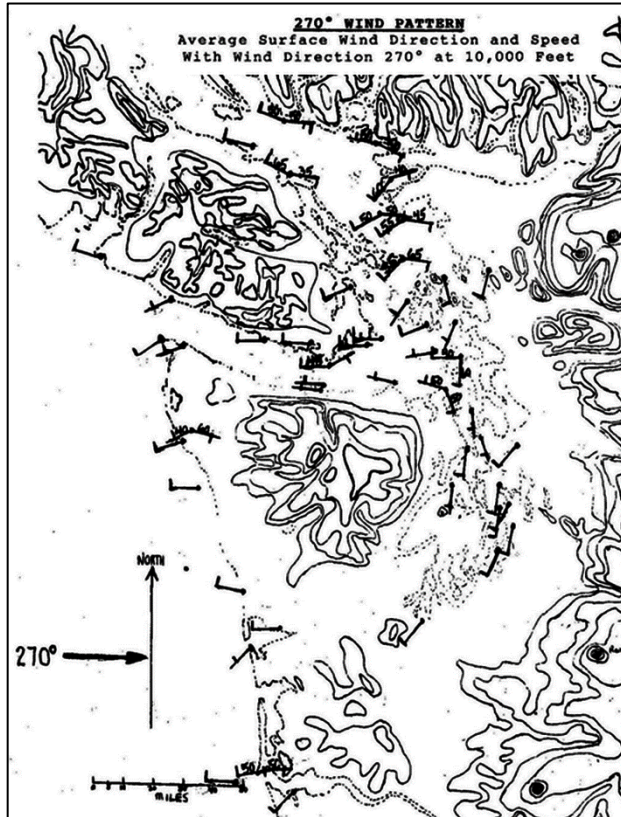
The average amount of Western Washington precipitation for all directions has been standardized so that each map can be easily cross correlated with another, and thus provides a quick reference of orographic influence. The NE Olympic "rain shadow" observed cloud density (50 observations: 2100, 240°, and 270°) follows a general migration from north of Port Discovery (210°) to south of the San Juan Islands (270°) before merging with the Vancouver Island rain-shadow.



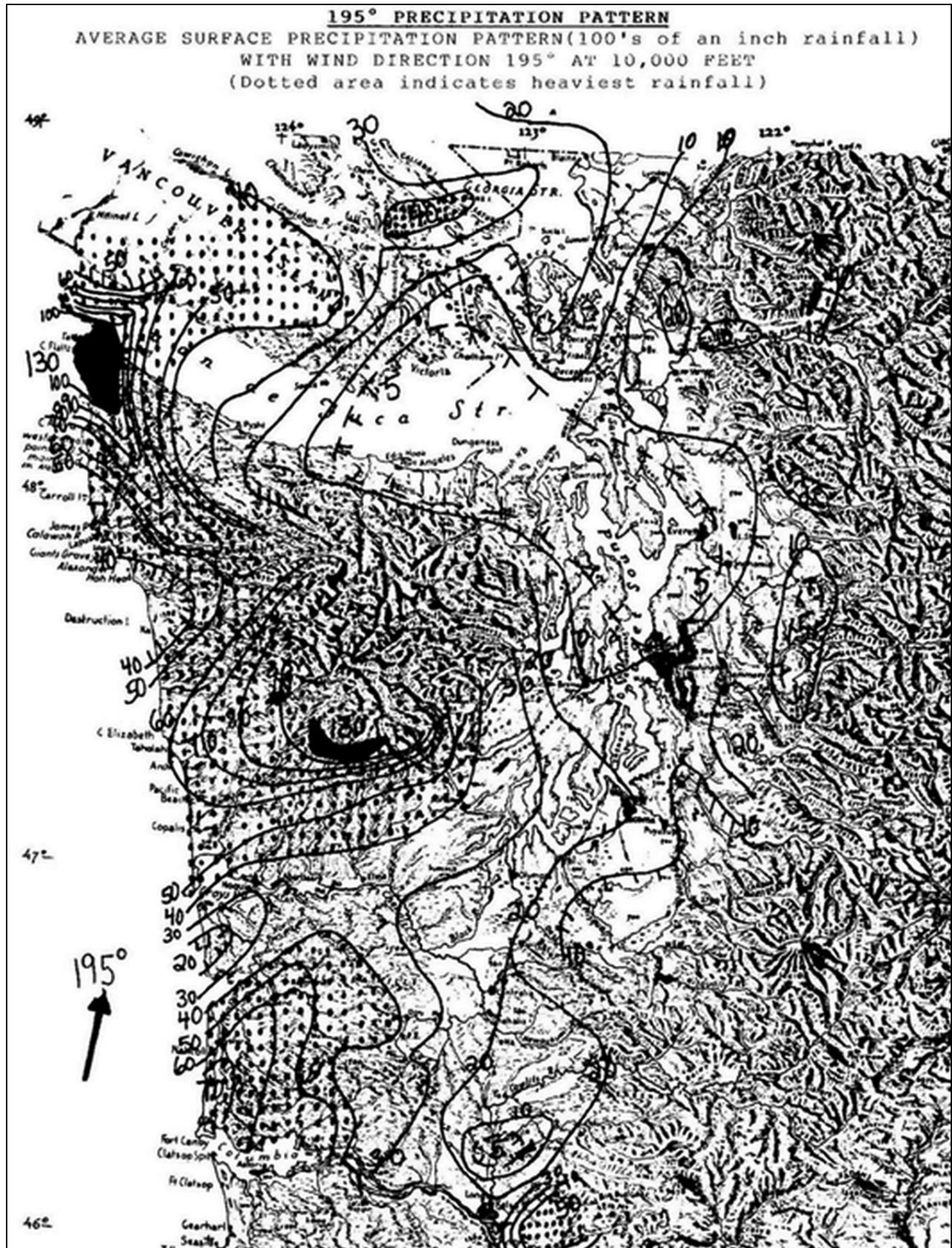
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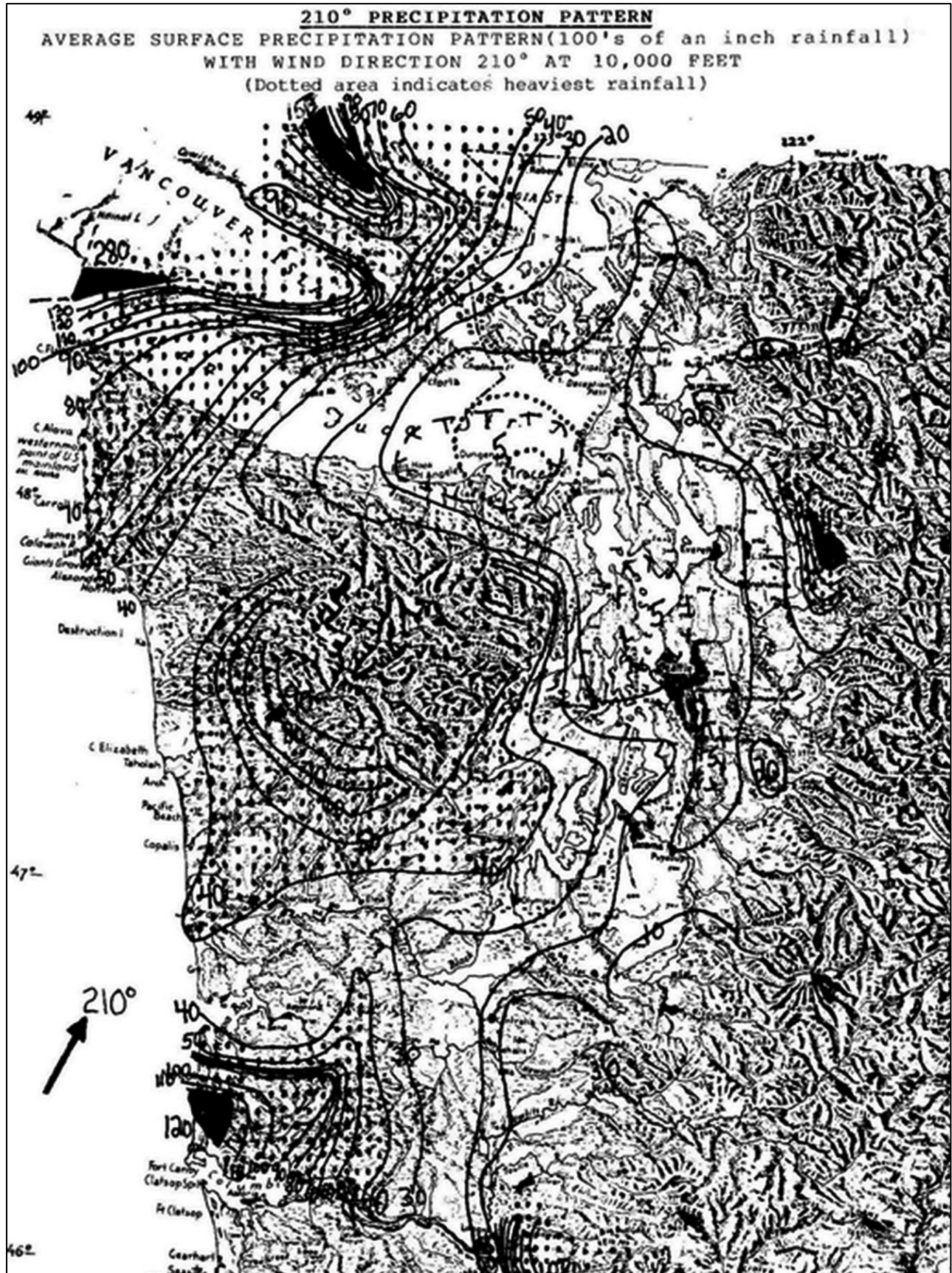
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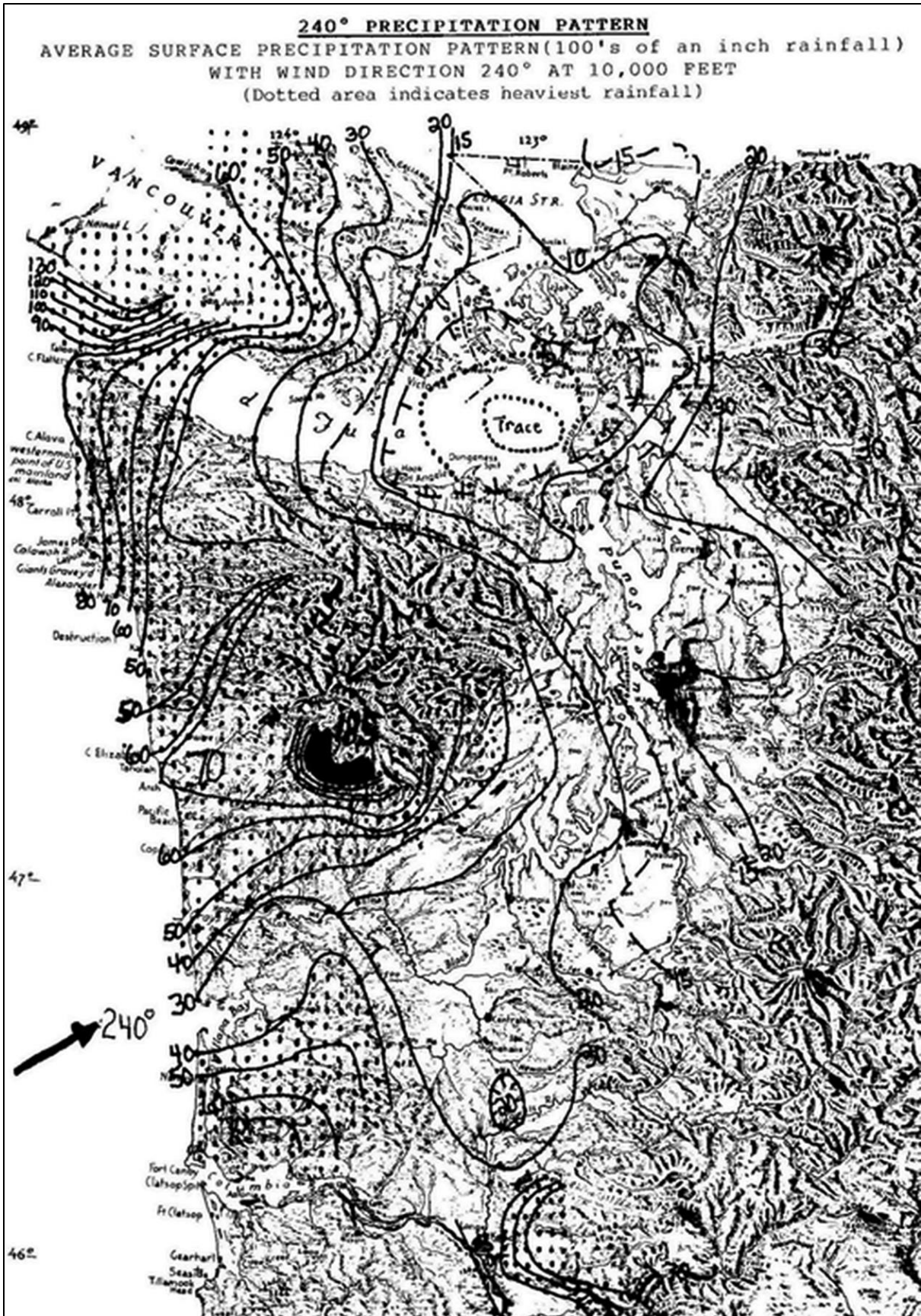
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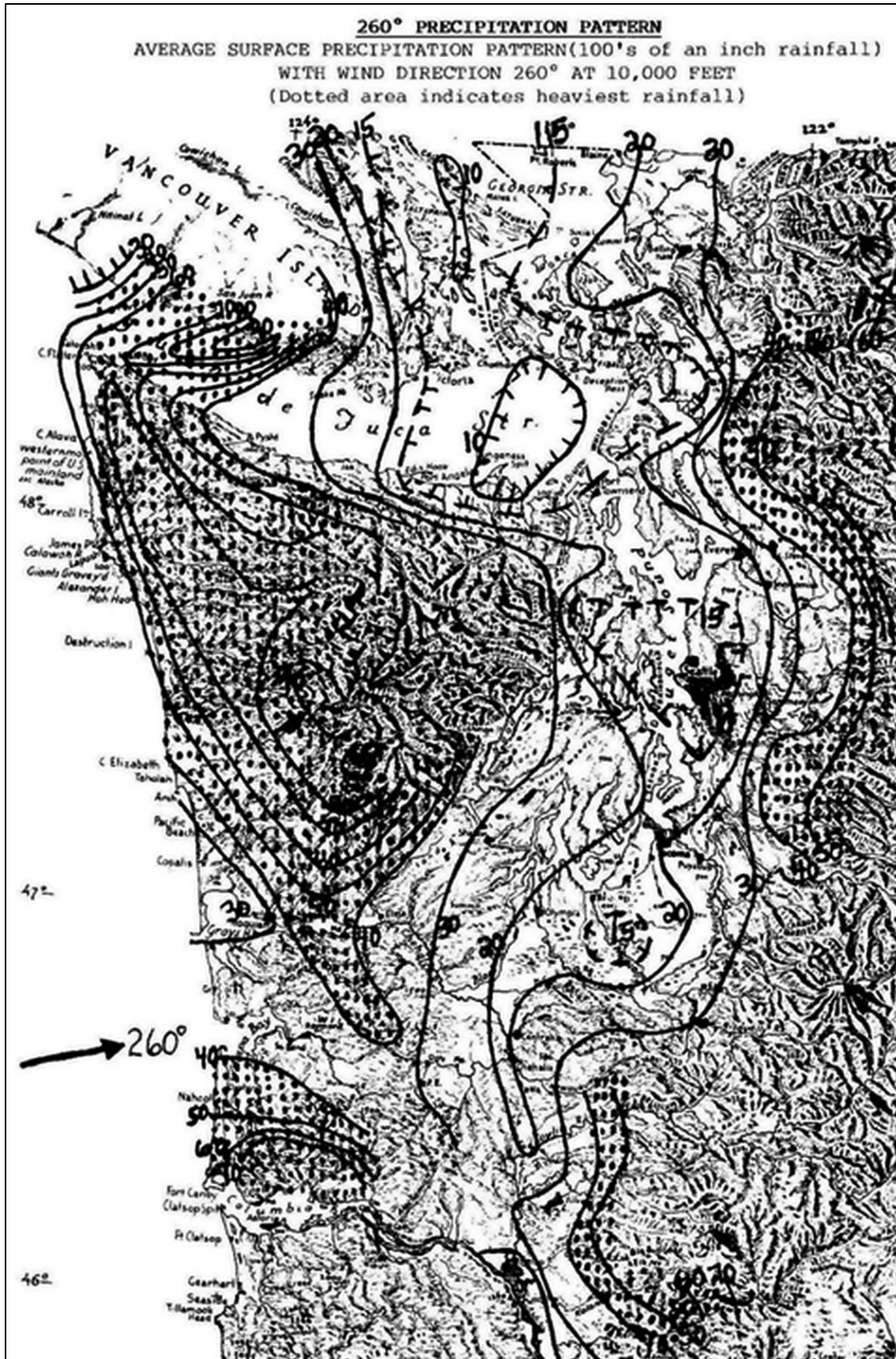
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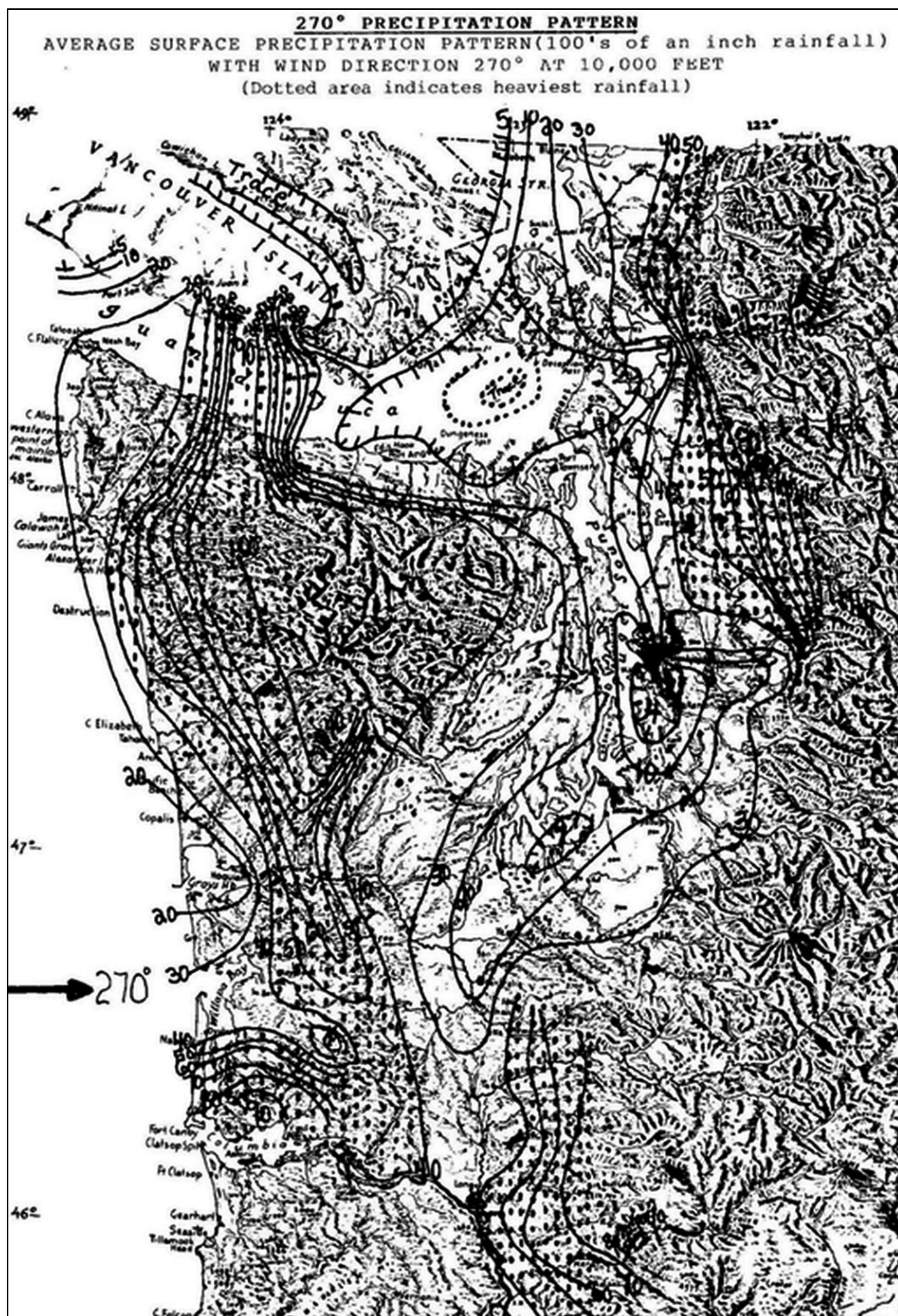
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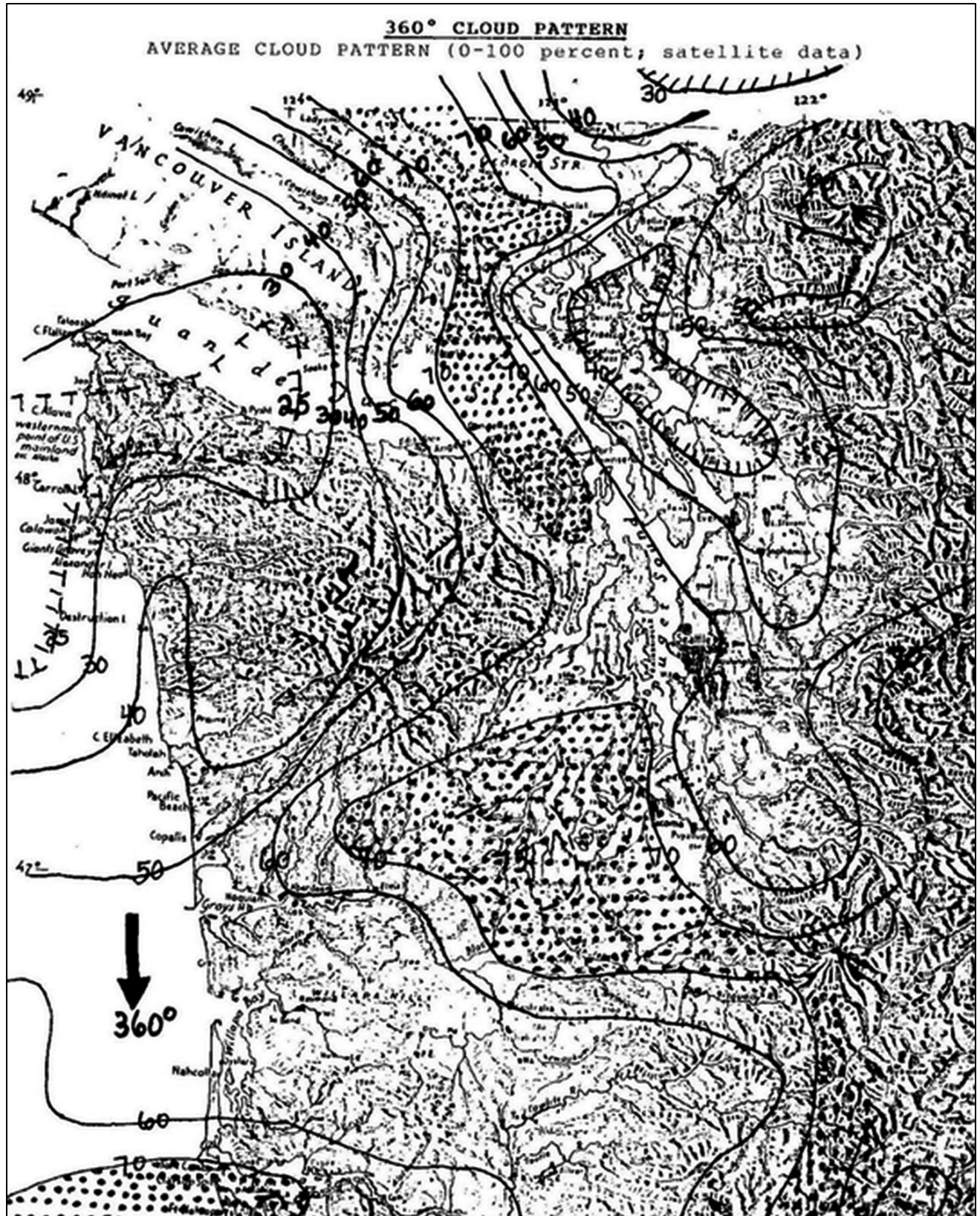
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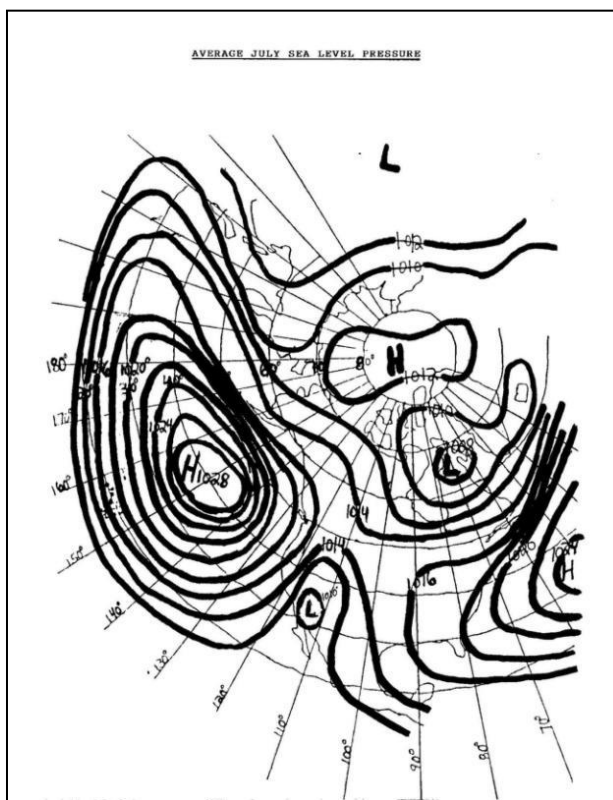
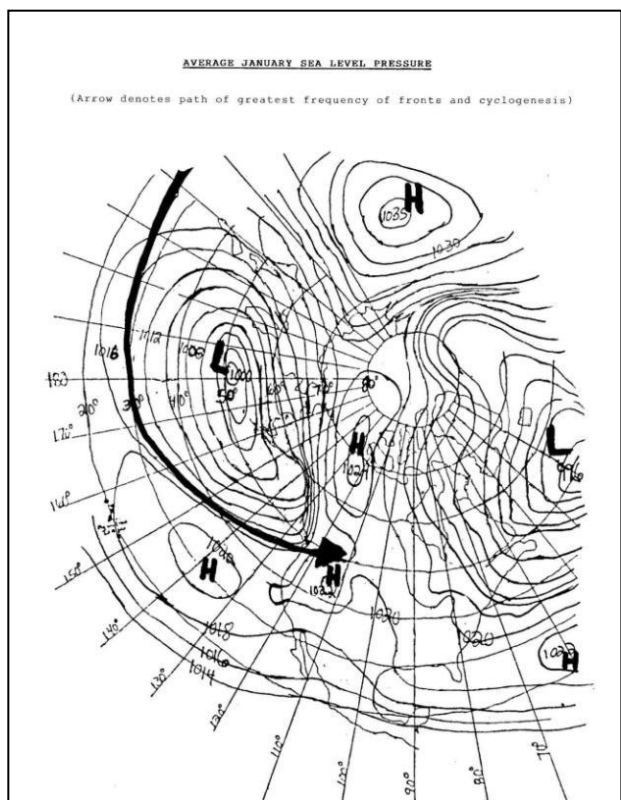
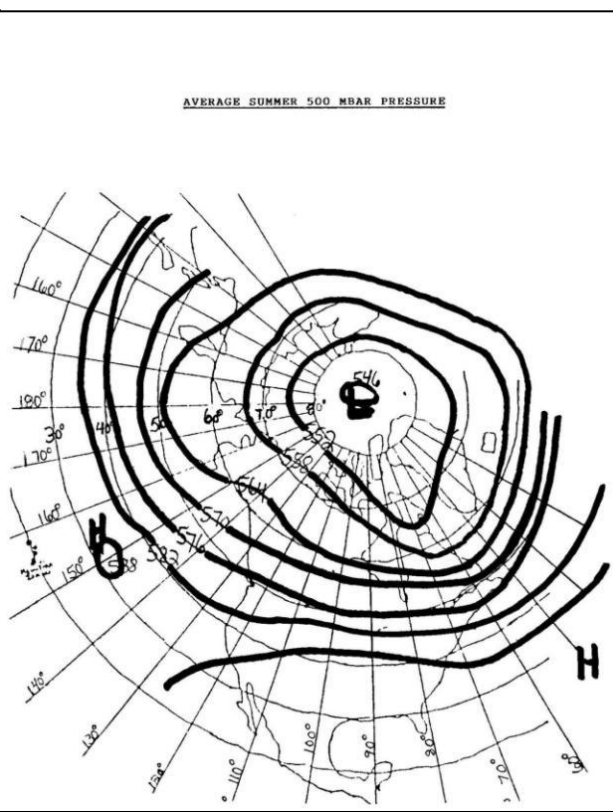
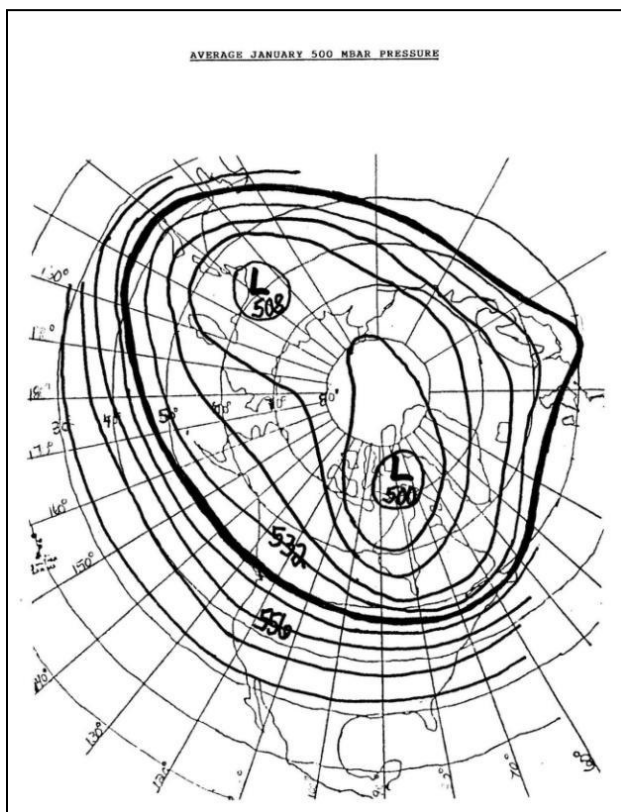
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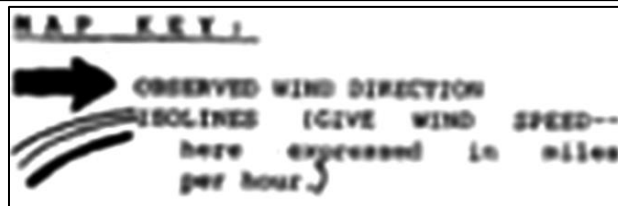
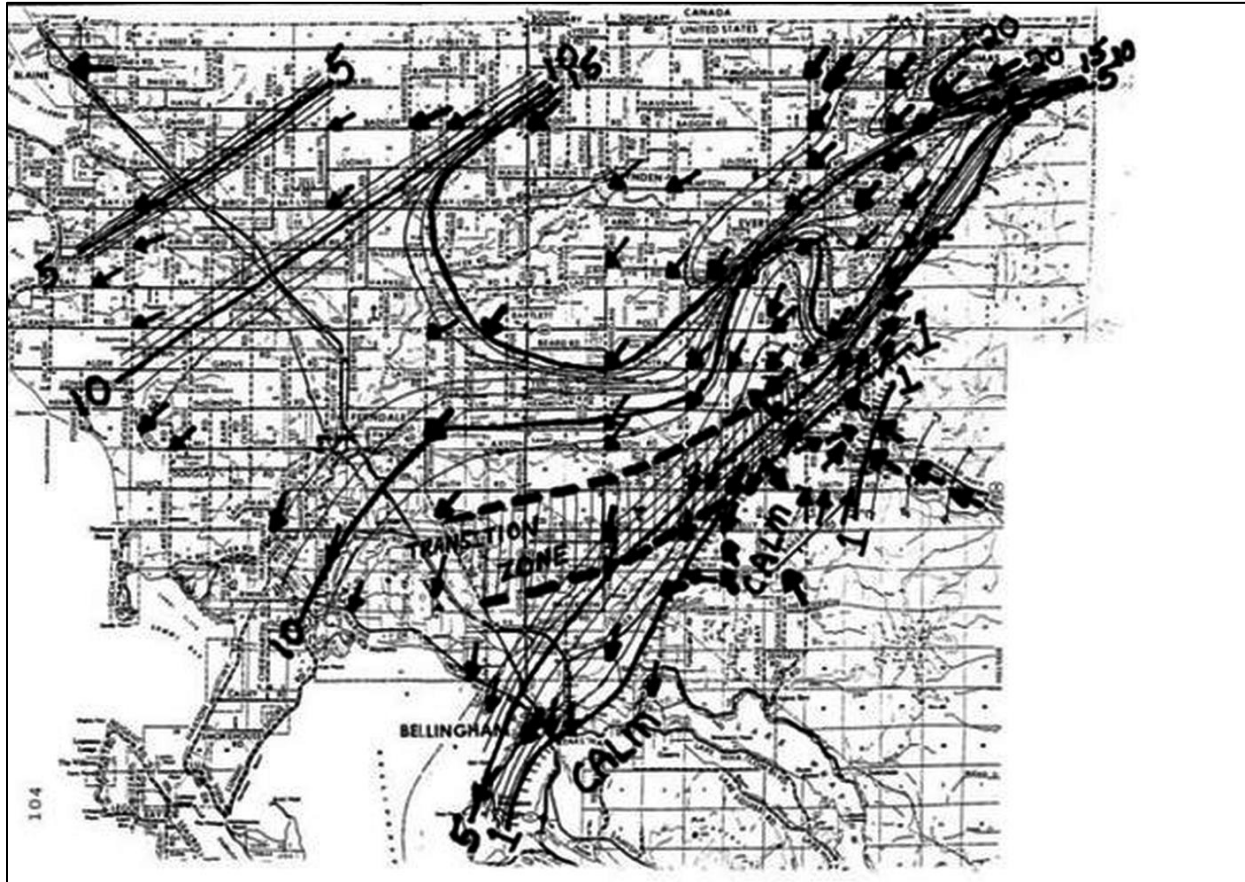
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FRASER WIND OUTBREAK OVER WESTERN WHATCOM COUNTY

Quite often, during the winter, Arctic Air blows from the NE, through the Fraser River Canyon, and over much of Western Whatcom County. The pattern expressed here persisted for a period of several weeks during January and February 1992. There is clearly a "wind shadow" that develops below the Sumas Mountain wind boundary, and produces calm winds on a SE to NW gradient.

Also, there is a precipitation boundary zone, about 2 miles in width (quite noticeable on the Guide, between Bakerview and Smith Road), forming (1) very cold, dry air North of the Boundary, and cool moist (snow) to the south, or (2) cold, moisture-mixed Fraser air (snow) to the North, and mild wet (calm) to the south of the boundary.



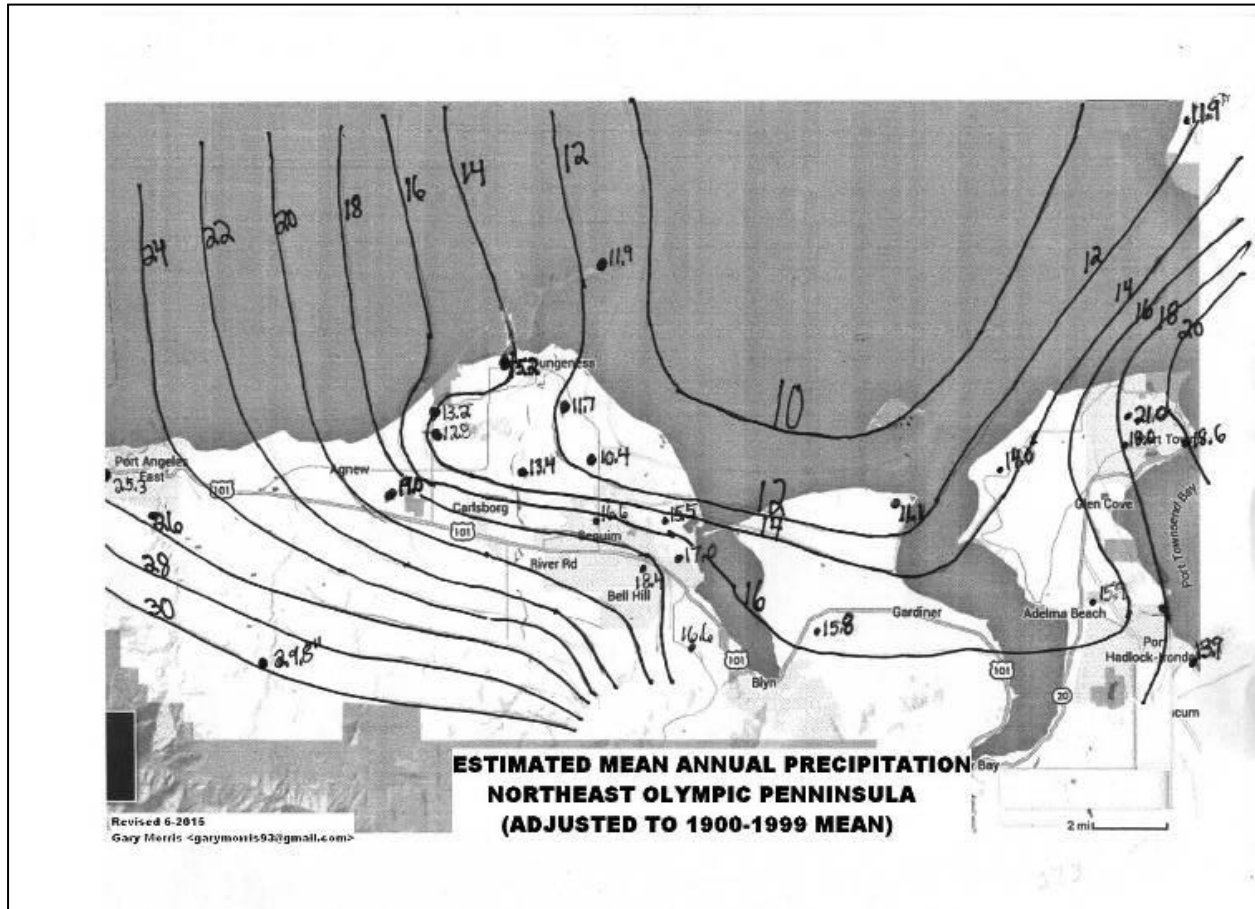
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Station Response Correlation to Western Washington Weather Patterns. Shows where orographic features are least disturbed to rainfall amounts.

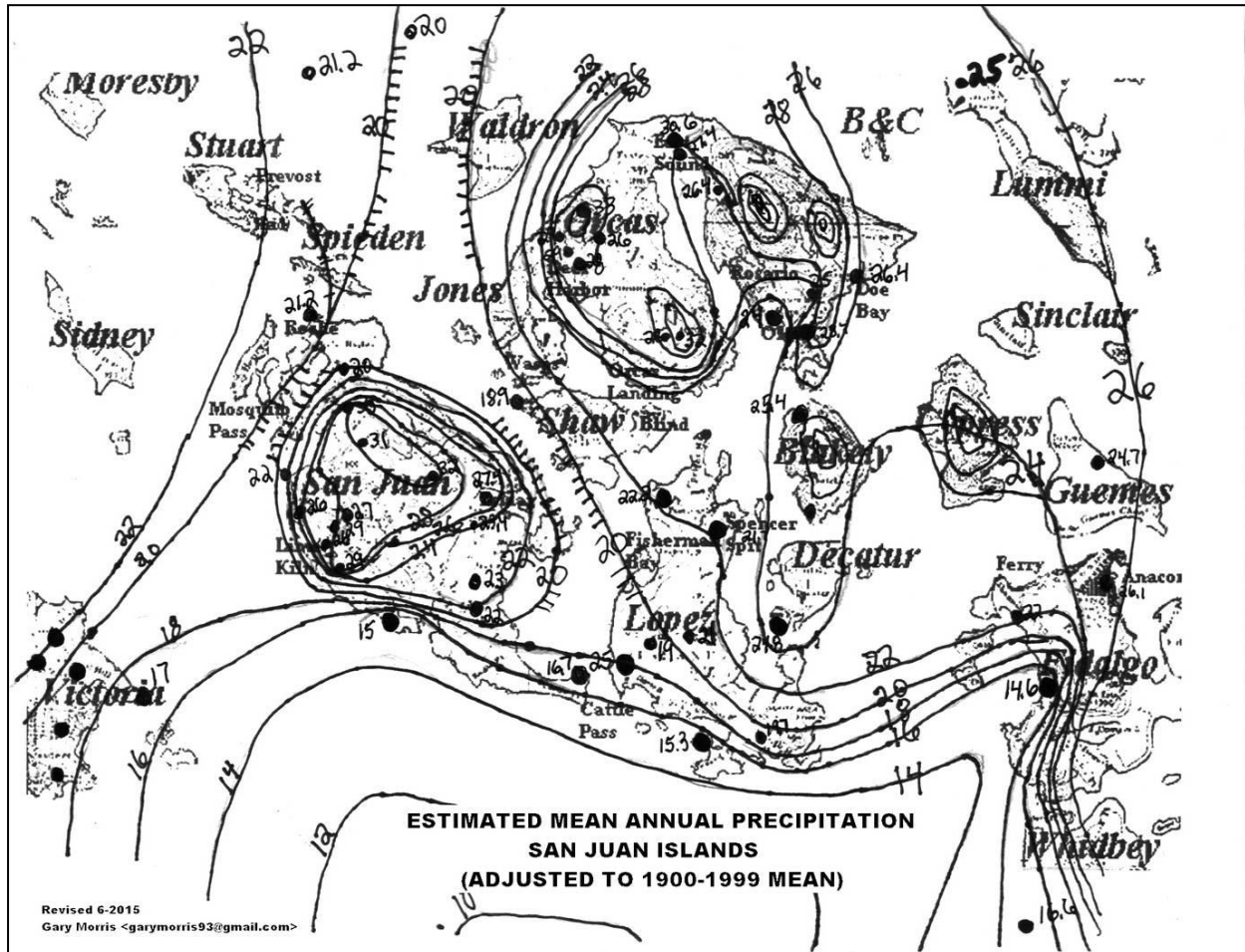


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ESTIMATED ANNUAL PRECIPITATION NORTHEAST OLYMPIC PENNINSULA



SAN JUAN ISLANDS
ANNUAL PRECIPITATION



BELLINGHAM AND VICINITY
ANNUAL PRECIPITATION

