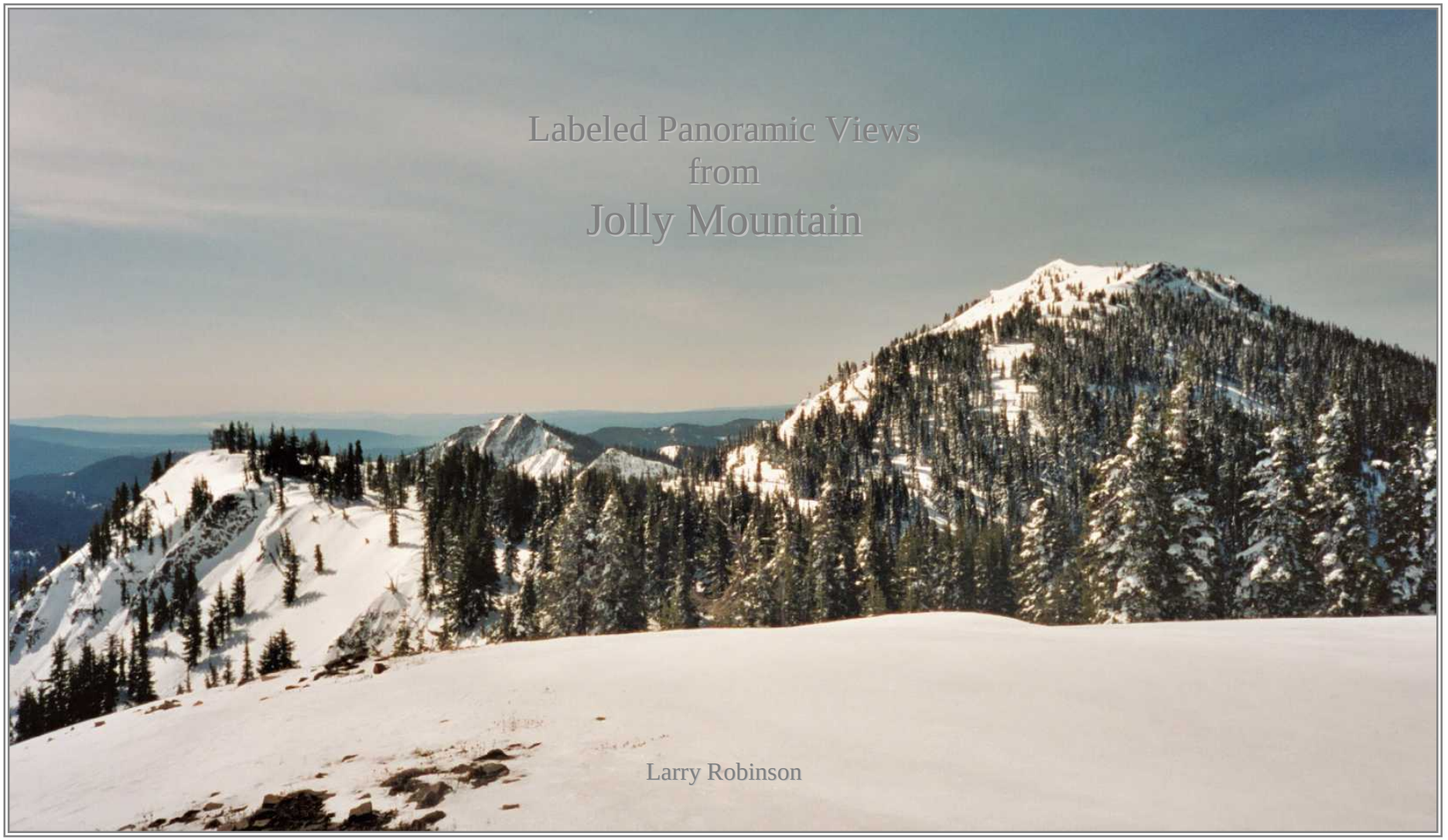

Jolly Mountain, from the north

Labeled Panoramic Views from Jolly Mountain

Revison 3 (from digital images)

Printed April 22, 2007

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I would like to thank John Morrow for his inspiration, enthusiasm, and help with this project, without which it would not have happened. Thanks also to Nancy Jones and others in the Cle Elum Ranger District office for their encouragement and for reviewing the work.

A special thanks to John Roper for his help on naming issues. Errors however are mine alone.

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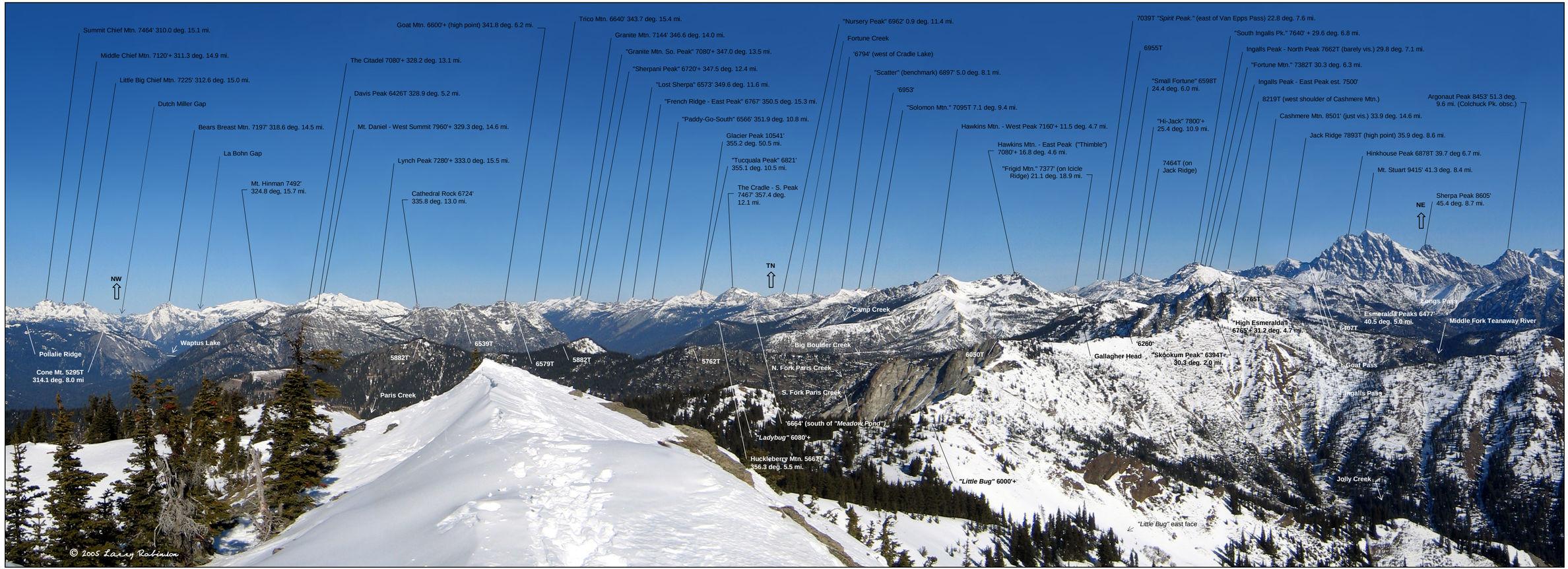
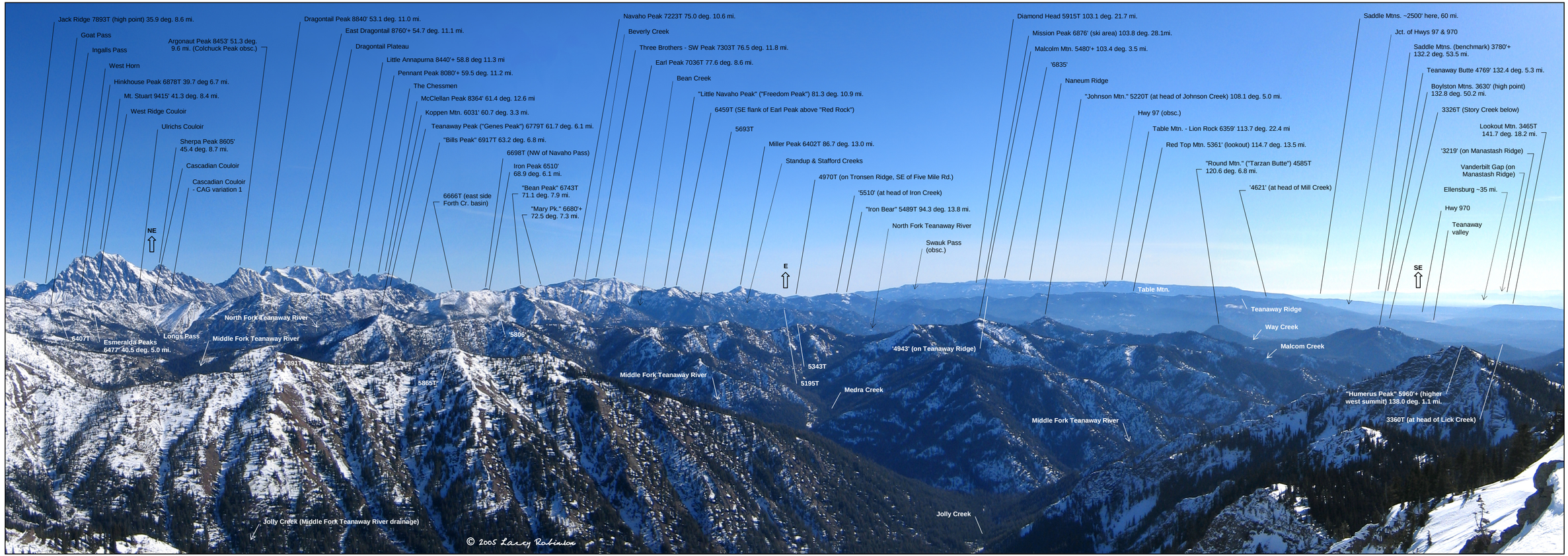


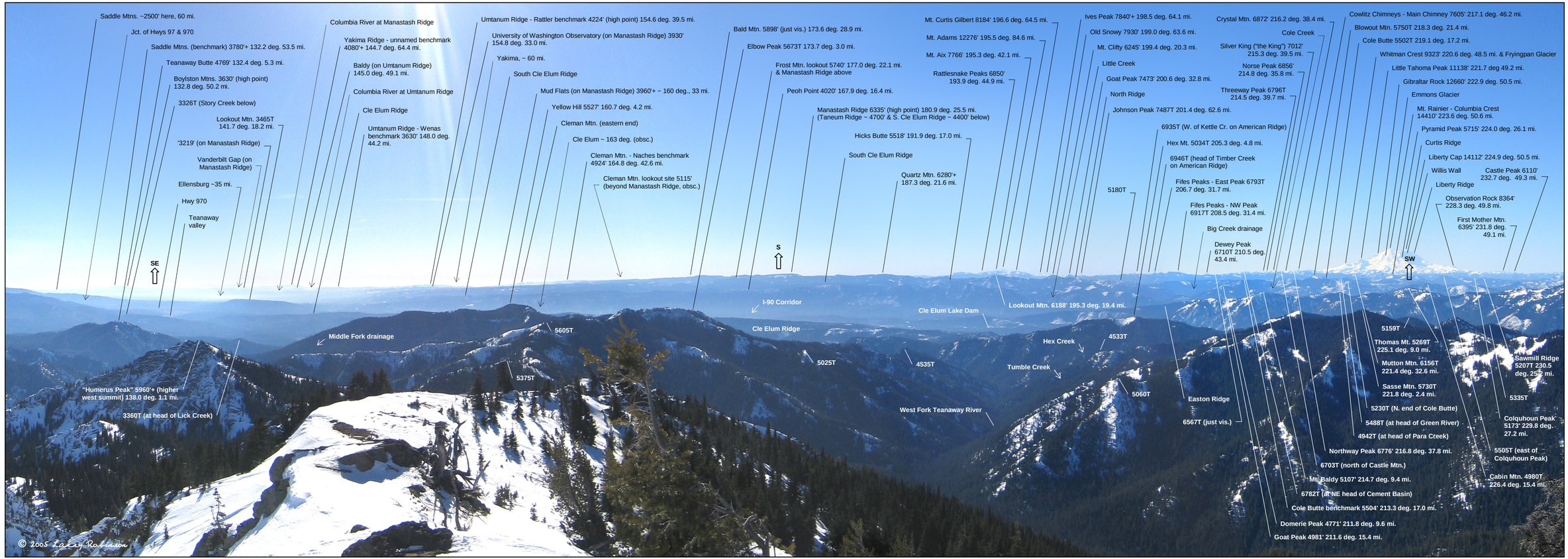
Looking north from summit of Jolly Mountain, 6443'

February 23, 2005, 10:30 am



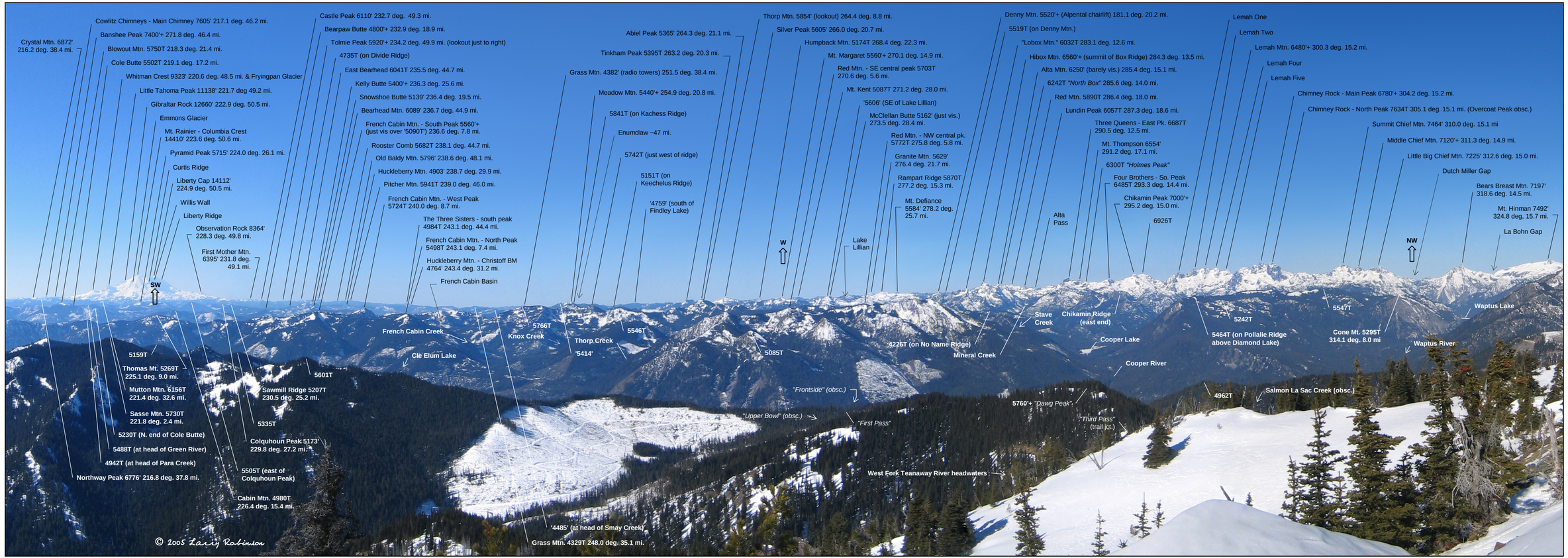
Looking east from summit of Jolly Mountain, 6443'

February 23, 2005, 10:30 am



Looking south from summit of Jolly Mountain, 6443'

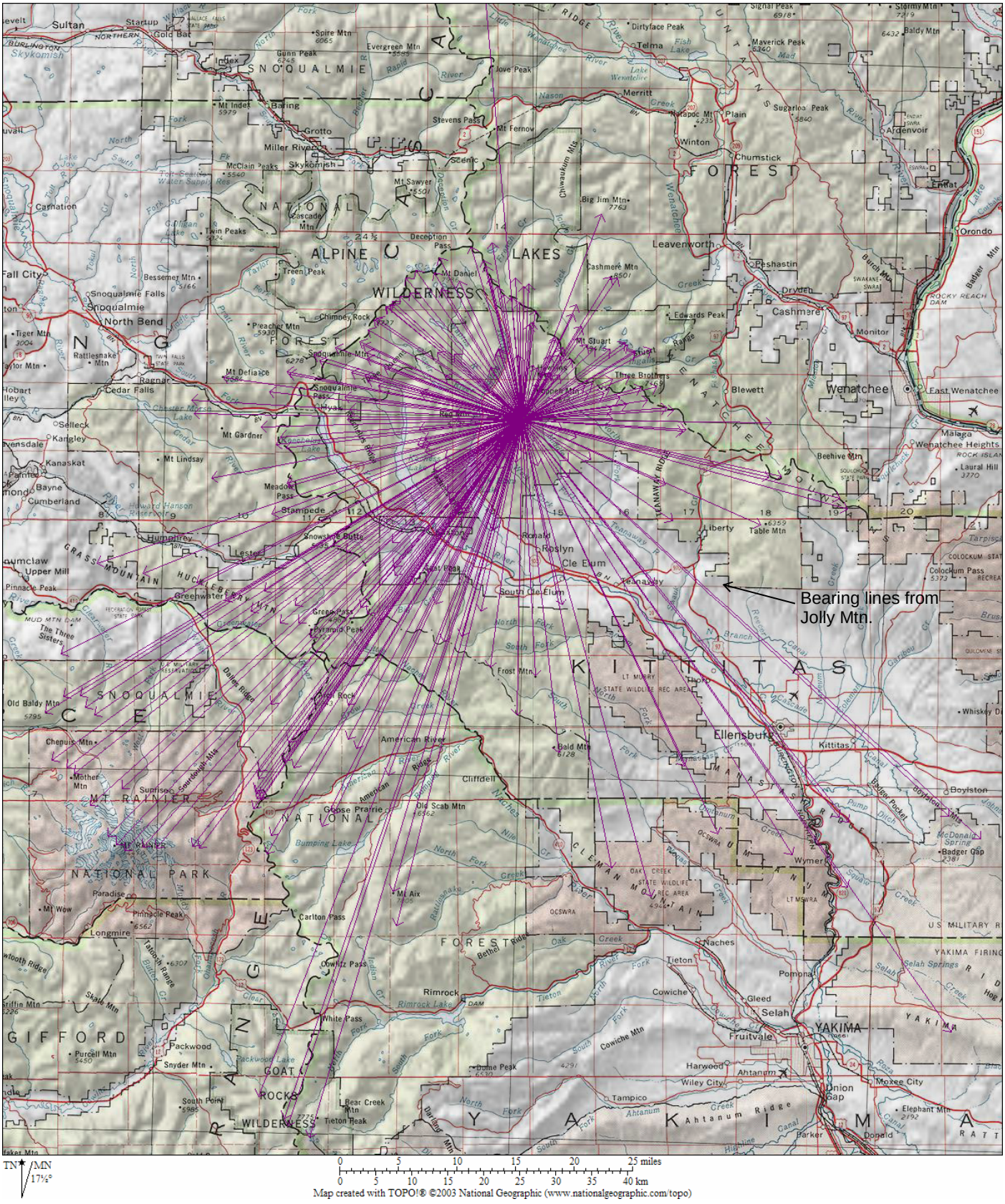
February 23, 2005, 10:30 am



Looking west from summit of Jolly Mountain, 6443'

February 23, 2005, 10:30 am

Identification Overview



Notes:

These notes accompany panoramic photos from Bald Mountain (above Spada Lake), Bean Peak, Chikamin Peak, Earl Peak, Mac Peak, Miller Peak, Mt. Daniel, Mt. McCausland, Mt. Roosevelt, Red Top Mountain, Silver King, Silver Tip Mountain (south peak), South Ingalls Peak, Jolly Mountain, Thorp Mountain, Tucquala Peak, Point 7039, and other locations in preparation.

Abbreviations:

deg: degrees from true north

DEM: indicates that the elevation was determined from the USGS Digital Elevation Model

elv: elevation in feet

mi: distance in statute miles

obsc: obscured, either by fog, cloud, or by an intervening feature, in some cases as determined from an elevation profile along the bearing line using NGS Topo! software.

T: (as in '4589T') elevation determined by transit.

Conventions:

Callout lines with arrowheads indicate that the feature either is not visible because of an intervening feature, or because it is obscured by fog, cloud or haze.

Quotation marks indicate unofficial names, in most cases taken from Jeff Howbert's Home Court and Back Court lists, or from what I understand is common local usage. Names from USGS topographic maps, Green Trails maps, or from Fred Beckey's *Cascade Alpine Guide* (CAG) are used without quotation marks. In addition, names from the now out of print *Teanaway Country* by Mary Sutliff, published in 1980 by Signpost Books were used in a few cases, and are enclosed in quotation marks. A special thanks to John Roper for his help on naming issues.

When locations are identified only by the elevation, and the USGS 7.5 minute maps note the elevation without a 'T' (for transit) the elevation is enclosed by single quotation marks (e.g. '6755').

In a few instances, a name I use as a memory aid follows the elevation in italics and/or quotation marks. These should not be taken as suggested names.

Elevations:

With a few exceptions, elevations are listed as they are on the USGS 7.5 minute map series. For some major peaks where there is a discrepancy between the USGS quads and Becky's guides, the information from Becky is used. (The elevation of The Citadel listed in the CAG is in error. The value of 7280'+ is used here instead of 7020'). Elevations followed by a plus sign (+) represent the "height of the highest contour of the associated topographic map".

Where no elevation is noted on the 7.5 minute map series or in the Cascade Alpine Guide, the maximum elevation indicated by Topo! (using the USGS Digital Elevation Model) may be listed instead of the height of the highest contour and a plus sign. Such elevations are followed by 'DEM'.

Photos:

Earlier photographs were taken with a Cannon Elph film camera using a polarizing filter, and developed in panoramic format. A Kodak Picture CD served as the source for the digital images. Individual pictures were merged in Adobe Photoshop Elements to create each 90-degree view.

The original process was as follows:

Based on bearings to known peaks and measurements taken off prints, a series of 9 scales on transparency film covering 360 degrees in 55-degree increments was devised. When placed over a photo, bearings to unknowns could be estimated based on known bearings. In the center of the field, the scale was accurate to a few tenths of a degree, but increasing errors occurred towards the edges.

The next improvement was a drag and drop scale that is adjustable to agree with known bearings has made the procedure much easier, and has resulted in more certainty with difficult identifications. When used with scanned APS film images, this scale is accurate to ~0.2 degrees for short distances and greatly helped in case of doubt about an ID. In addition, the entire process could be done on the computer without the need to examine printed photos under the magnifying glass.

The newest panoramas are now done with merged images taken with a Cannon digital Elph shot at maximum resolution. Each 90-degree view consists of 4 or 5 merged images, portrait layout. Merged pictures are in the order of 9 megapixels. Besides greater clarity, the digital scale is now often accurate to 0.1 degree over a considerable range of bearings, making even distant identifications that much more certain.

Ranges and bearings:
Ranges and bearings were determined with National Geographic Topo!, using the 7.5 minute map series. For less than obvious identifications, an overly long bearing line was drawn based a bearing estimated from the scale. An elevation profile of this line allowed narrowing the choices, which could then be examined in more detail. Features such as multiple summits, ridges, cliffs, or the general configuration would often allow definite identification. For confirmation, an elevation profile was done on the final bearing line to the feature. Holding a ruler across the elevation display on the monitor would indicate if the feature would be visible. With the drag and drop scale, the number of candidates for an ID are greatly reduced.

Accuracy:
Estimating ultimate accuracy is problematic. Errors may result from inaccuracy in locating a feature seen in the photographs on the map or in locating the origin of the bearing line, or inaccuracies in the map itself.

In some cases the precise location of a feature, such as the exact true summit, is not clear from the topographic map. In addition, bearings to nearby features as reported by Topo! change in an incremental fashion. For distances less than a mile or two, this increment can be significant, unless the map is used with a magnification of 200 or 300%. However in the majority of cases, and baring mis-identification, bearings should be accurate to one or two tenths of a degree. Likewise distances should be accurate to one or two tenths of a mile. Although Topo! displays these values to 1/100 of a mile and 1/100 of a degree, they were rounded to the nearest tenth on this basis.

USGS topographic maps use Lambert Conformal Conic projections. Distances and directions (bearings) are considered to be 'reasonably accurate' by the USGS, but the error increases with the distance from the standard parallels used in making the map. For 7.5 and 15 minute USGS topographic maps, standard parallels vary between mapping locations. A first approximation of the magnitude of error for this projection suggests that for distant identifications (e.g. Mt. Adams) specifying distances to a hundredth of a mile would not be appropriate, but reporting to a tenth of a mile is. More information is available on the USGS website at http://mac.usgs.gov

Errors:
With every proofreading, a few typos and other errors continue to pop up. There are certain to be more, and I would be most grateful to hear of any errors you find so that they may be corrected. There are also some inconsistencies in naming from one location to another because additional information was available, or because naming criteria evolved.

Larry Robinson

April 22, 2007

Bearing Scale:

The bitmap scale below can be used as is to get approximate bearings. For greater accuracy, say to within 0.2 degrees, it should be scaled up or down so that it agrees with known features. For the digital images, start with a 103 to 104% enlargement.