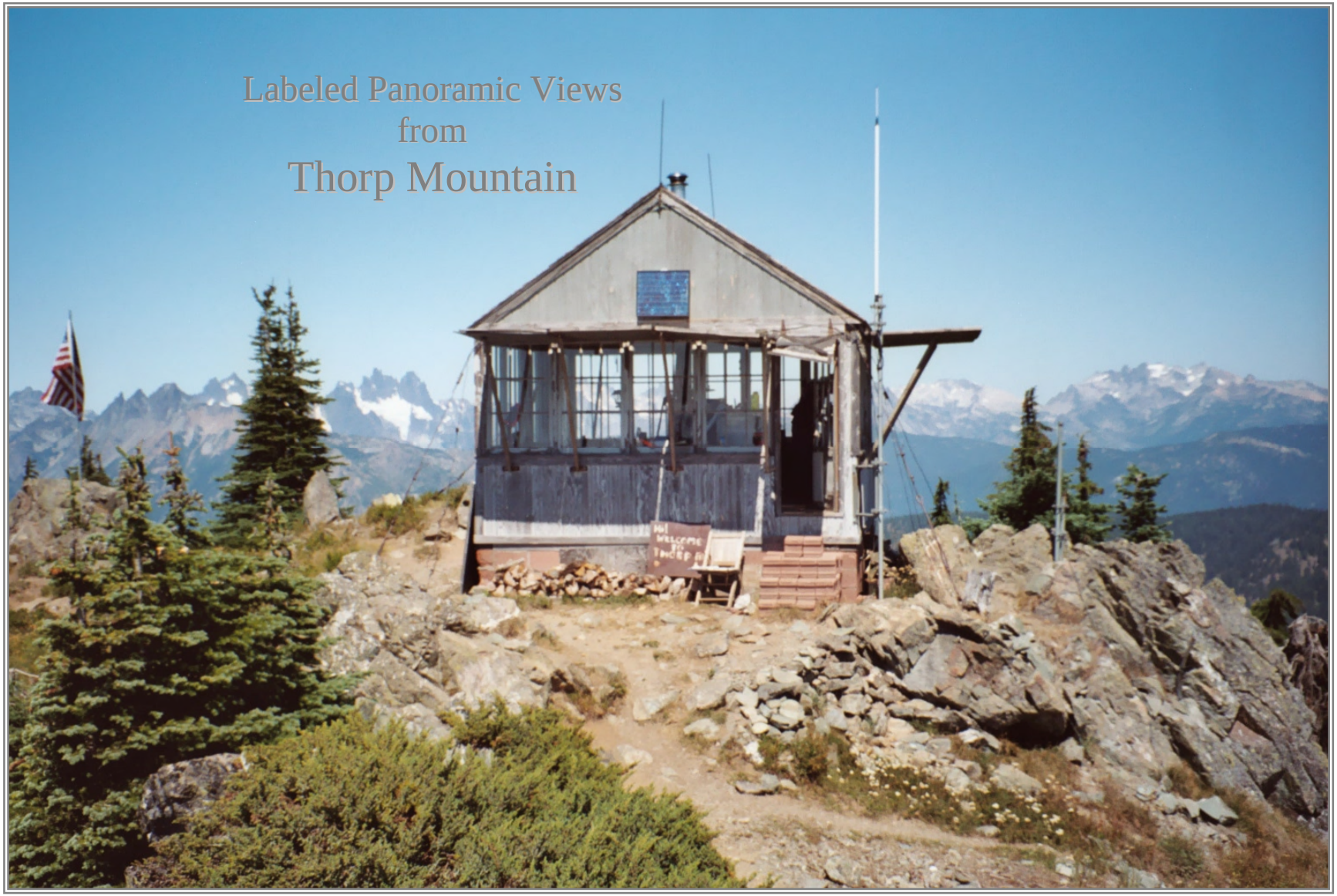
Labeled Panoramic Views from Thorp Mountain



Old Thorp Mountain Lookout, from the south

Larry Robinson

Labeled Panoramic Views from Thorp Mountain Lookout

These panoramas were done for the USFS as a visual aid for the fire lookouts.

Third Revision

June 24, 2009

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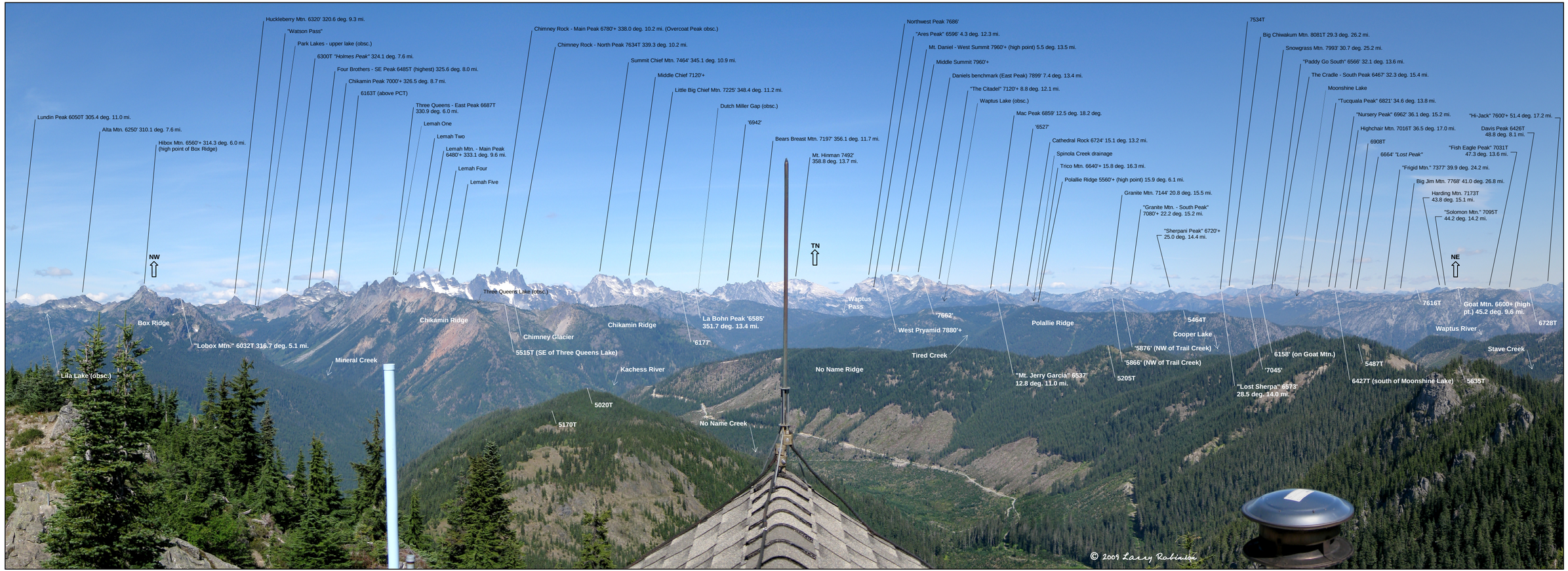
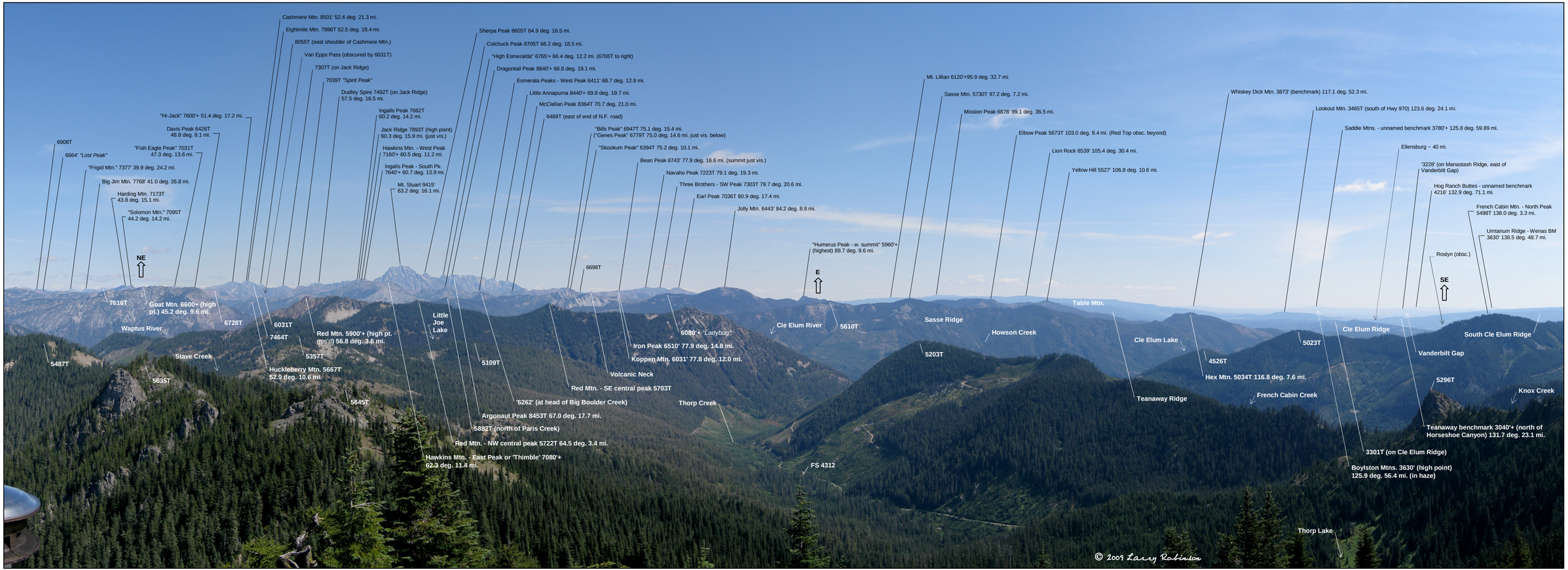
Acknowledgement
I would like to thank John Morrow for his inspiration, enthusiasm, and help with this project, without which it would not have happened. Thanks also to Nancy Jones and others in the Cle Elum Ranger District office for their encouragement and for reviewing the work. And thanks to Rod Skoglund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

Contents



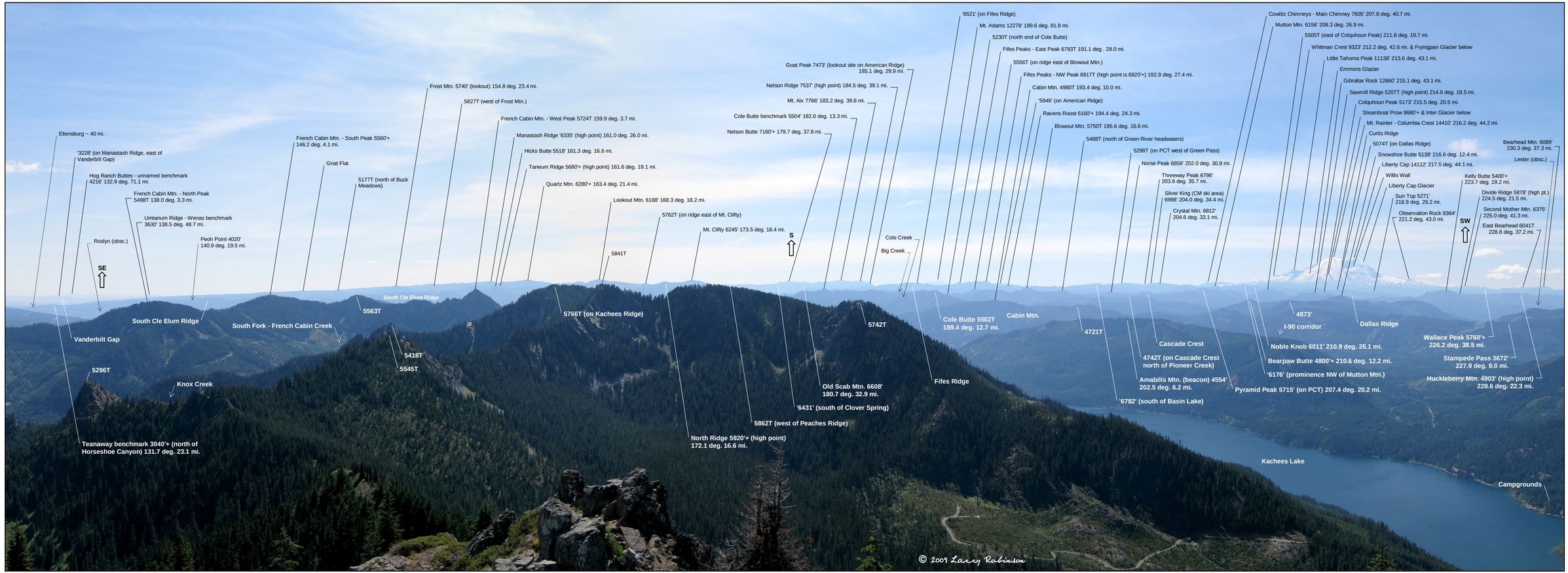
Looking north from Thorp Mountain Lookout, 5854'

September 6, 2008 12:30 pm



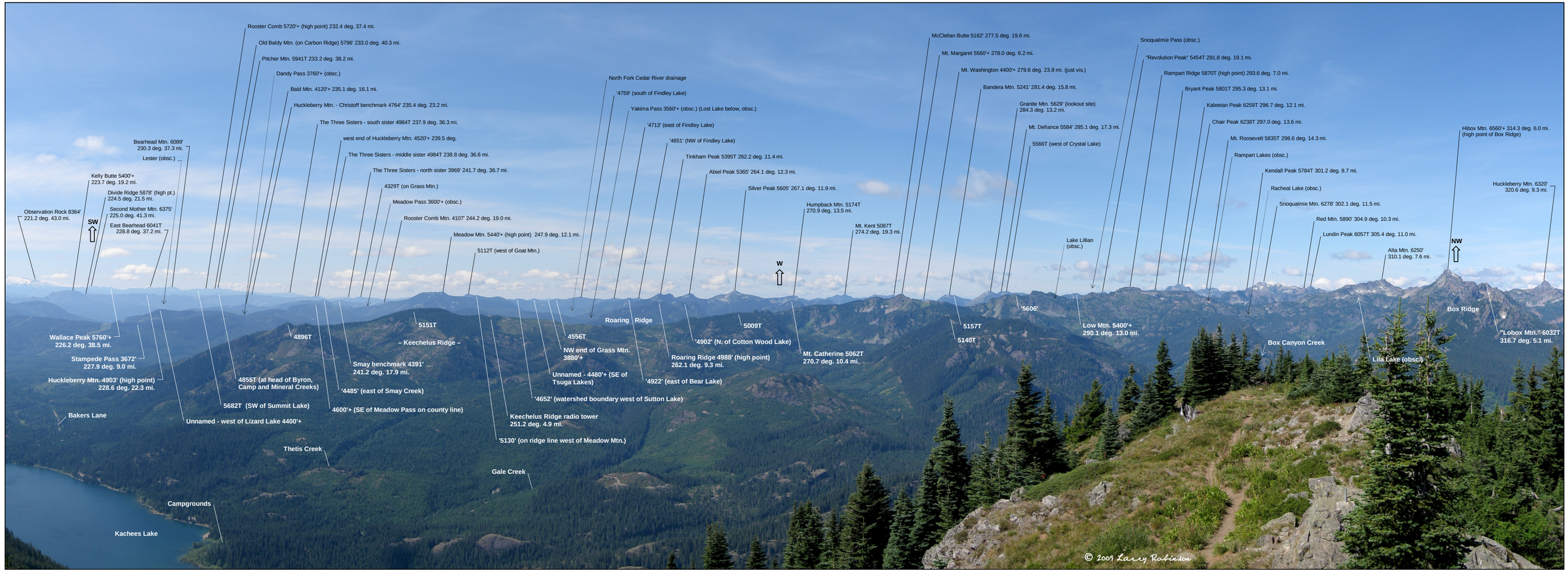
Looking east from Thorp Mountain Lookout, 5854'

September 6, 2008 12:30 pm



Looking south from Thorp Mountain Lookout, 5854'

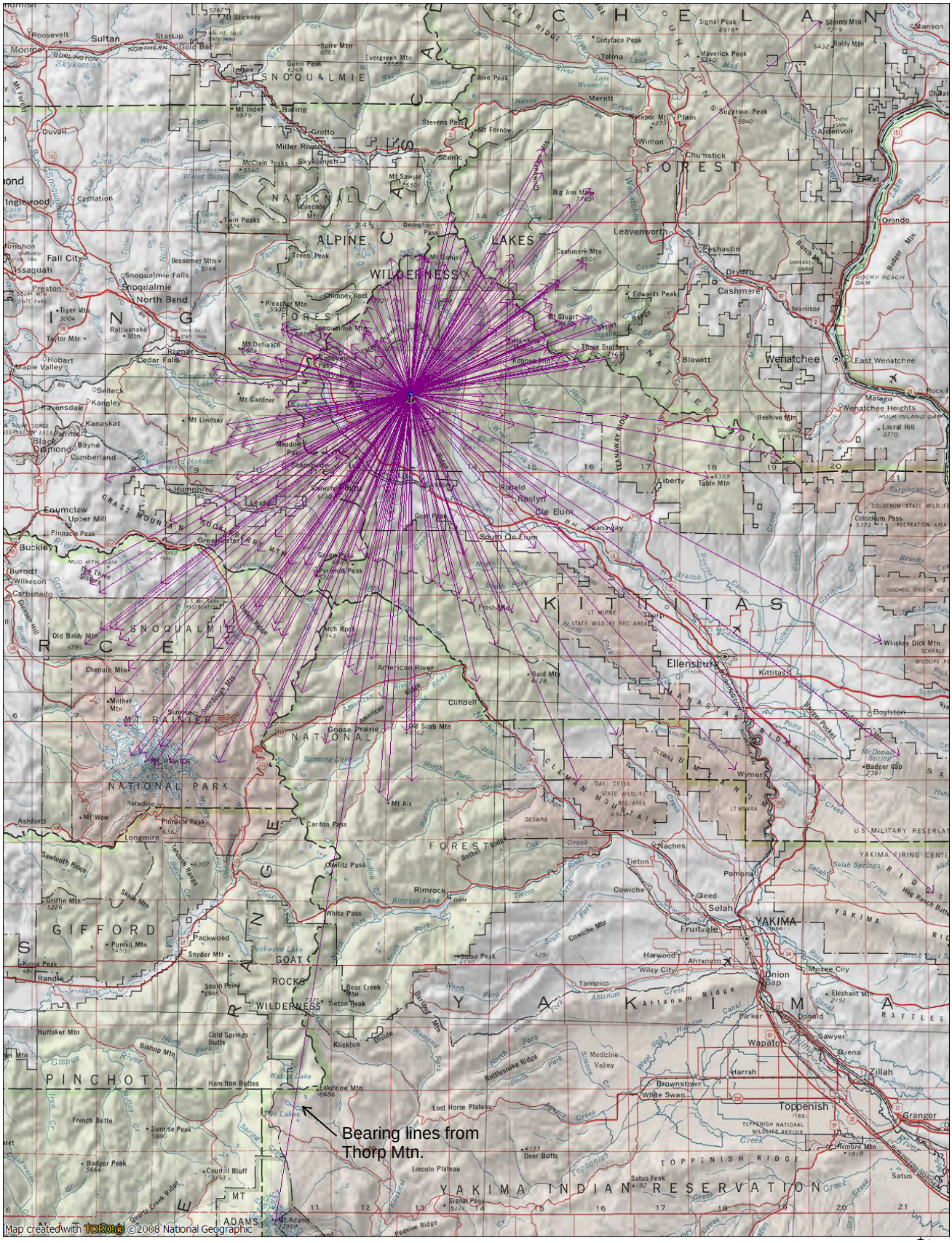
September 6, 2008 12:30 pm



Looking west from Thorp Mountain Lookout, 5854'

September 6, 2008 12:30 pm

Identification Overview



Notes:

These notes accompany panoramic photos from ***Bald Mountain*** *(above Spada Lake), Bean Peak,* ***Cadet Peak, Chikamin Peak, Earl Peak, Mac Peak, Miller Peak, Mt. Daniel, Mt. McCausland, Mt. Roosevelt****, Point 7039; Red Top Mountain,* ***Silver King****, Silver Tip Mountain (south peak),* ***South Ingalls Peak, Jolly Mountain, Thorp Mountain, Tucquala Peak, French Cabin Mtn. - West Peak****, and other locations in preparation. (Panoramas from digital images in bold.)*

Abbreviations:

BM: benchmark

deg: degrees from true north

elv: elevation in feet

mi: distance in statute miles

obsc: obscured, either by fog, cloud, or by an intervening feature

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 Master Peak List, or from what I understand is common local usage. Unofficial names (in quotes) not on the Master Peak List, or not common local usage are what I understand to be first ascent names. 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'). Callouts for ridges are usually placed at the high point on the ridge unless it extends to a higher feature. If a ridge has 2 or more callouts, the high point is usually so indicated.

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 those used on USGS 7.5 minute maps. Elevations followed by a plus sign (+) represent the "height of the highest contour of the associated topographic map". More recently, elevations from Jeff Howbert's amazingly accurate master peak list have been used.

Photos:

The earliest photographs were taken with a Cannon Elph film camera using a polarizing filter. 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. It made the procedure much easier, and resulted in more certainty with difficult identifications. When used with scanned APS film images, this scale was accurate to ~0.2 degrees but only for short distances. 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. Merged 90 degree images are in the order of 5000 x 2000 pixels. Besides greater clarity, the digital scale is now usually accurate to 0.1 to 0.2 degrees over a considerable range of bearings, making even distant identifications that much more certain. When doubt remains, a profile of the bearing line in NGS Topo! can reveal with considerable accuracy whether or not a feature is visible, as mentioned below.

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 can be drawn on the NGS Topo! map based a bearing estimated from the drag and drop scale. An elevation profile of this line can then narrow the choices, which can then be examined in more detail. Features such as multiple summits, ridges, cliffs, or the general configuration often will allow a definite identification. For confirmation, an elevation profile can be done on the final bearing line to the feature. Holding a straight edge across the elevation display on the monitor will indicate if the feature would be visible. With the drag and drop scale now accurate to 0.1 to 0.2 degrees, 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 NGS 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 I can correct them. There are also some inconsistencies in naming from one panorama to another because additional information became available, or because my naming criteria evolved.

Larry Robinson, June 24, 2009

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Bearing Scales:

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.