WASHINGTON'S 50 HIGHEST MAJOR* MOUNTAINS ARE AMONG THE WORLD'S MOST BEAUTIFUL AND FAMOUS.

WASHINGTON'S HIGHEST MAJOR MOUNTAIN, MOUNT RAINIER (ELEVATION 14410 FEET), IS KNOWN THROUGHOUT THE WORLD FOR ITS EXTREME PROMINENCE, EXTENSIVE GLACIER SYSTEM, AND COLORFUL ALPINE MEADOWS. MOUNT SAINT HELENS, FORMERLY THE 5TH HIGHEST MAJOR MOUNTAIN IN WASHINGTON (ELEVATION 9677 FEET), BLASTED ITSELF INTO THE WORLD SPOTLIGHT WITH ITS DEVATSTATING SUMMIT-LEVELING VOLCANIC ERUPTION ON MAY 18TH, 1980.

THE ERUPTION SHEARED OFF MORE THAN 1300 FEET OF SAINT HELENS' HEIGHT, WHICH DROPPED ITS STANDING TO 49TH PLACE (SEE TABLE A). TO THE NORTH OF SNOQUALMIE PASS LIE THE NORTH CASCADES, THE HOME OF ALMOST ALL OF WASHINGTON'S HIGHEST MAJOR MOUNTAINS. THE NORTH CASCADES, WHICH REACH THEIR ALPINE CLIMAX IN THE NORTH CASCADES NATIONAL PARK, ARE OFTEN REFERRED TO AS AMERICA'S ALPS, DUE TO THEIR RUGGED MOUNTAIN FACES, GLACIATED SLOPES, AND DEEP FORESTED U-SHAPED VALLEYS.

ALL OF WASHINGTON'S 50 HIGHEST MAJOR MOUNTAINS ARE LOCATED IN THE CASCADE RANGE. WASHINGTON'S OTHER NOTABLE MOUNTAIN RANGES: OLYMPIC MOUNTAINS, OKANOGAN HIGHLANDS, AND BLUE MOUNTAINS, CONTAIN MANY SPECTACULAR MAJOR MOUNTAINS, BUT NONE ARE HIGH ENOUGH TO TAKE A PLACE ON THE LIST OF "TOP 50".

THE MOUNTAINS IN THE CASCADE RANGE CONSIST OF TWO MAIN TYPES: 1. VOLCANIC MOUNTAINS; 2. NONVOLCANIC MOUNTAINS. FIVE OF THE "TOP 50" ARE VOLCANOES, WHILE THE REMAINING 45 MOUNTAINS ARE NONVOLCANIC. HOWEVER, THE FOUR HIGHEST MAJOR MOUNTAINS IN WASHINGTON ARE THE VOLCANOES: MOUNT RAINIER, MOUNT ADAMS, MOUNT BAKER, AND GLACIER PEAK. THE FIRST THREE ARE WITHOUT QUESTION THE MOST PROMINENT AND VOLUMINOUS MOUNTAINS IN WASHINGTON. RAINIER, ADAMS, AND BAKER ARE THE ONLY ULTRA-MAJOR** MOUNTAINS IN THE STATE (** MOUNTAINS WITH AT LEAST 5000 FEET PROMINENCE). FURTHERMORE, THESE THREE HUGE PEAKS ARE MORE THAN 20 TIMES GREATER IN VOLUME, ON THE AVERAGE, THAN THE 45 NONVOLCANIC MOUNTAINS (133 CUBIC MILES VERSUS 6.3 CUBIC MILES RESPECTIVELY), SEE TABLE B TO COMPARE INDIVIDUAL MOUNTAINS.

WASHINGTON'S HIGH VOLCANOES ARE NOT FOR EVERYONE THOUGH. MANY PEOPLE PREFER THE LESS VIOLENT AND LESS VISITED NONVOLCANIC MOUNTAINS OF THE NORTH CASCADES, BECAUSE THESE MOUNTAINS ARE JUST AS BEAUTIFUL AS THE VOLCANOES. THE PHOTOS WHICH ACCOMPANY THIS EXHIBIT WILL PROVE THAT POINT. ADDITIONALLY, ROCK CLIMBERS PREFER THE SOLID GRANITE OF NORTH CASCADE PEAKS LIKE MOUNT STUART (#6), OVER THE CRUMBLING VOLCANIC ANDESITE OF MOUNT RAINIER (#1). ALSO, SOME OF THE NORTH CASCADES' NONVOLCANIC MOUNTAINS SUCH AS OVAL PEAK (#22) AND OSCEOLA PEAK (#33), CONTAIN GENTLE SNOW-FREE SLOPES WHICH ARE MUCH MORE EASILY ASCENDED THAN THE STEEP, HEAVILY CREVASSED, DEATH-DEALING GLACIERS THAT GUARD THE SUMMITS OF THE VOLCANOES MOUNT RAINIER (#1) AND MOUNT BAKER (#3).

THE NORTH CASCADES CAN BE DIVIDED INTO WESTERN AND EASTERN REGIONS (SEE THE LOCATION MAP). THE WESTERN SECTIO DOMINATED BY A MOIST MARITIME CLIMATE WHICH RESULTS IN ABUNDANT GLACIERS, DENSE VEGETATION, AND MATTERHORN-TYPE PE CLASSIC EXAMPLES OF MOUNTAINS IN THIS SECTION ARE MOUNT SHUKSAN (#9), MOUNT REDOUBT (#15), AND ELDORADO PEAK (#18) (SEE PHOTOGRAPHS). IN THE EASTERN SECTION A RELATIVELY DRY CONTINENTAL CLIMATE PREDOMINATES, AND THEREFORE RESULT LESS GLACIERS AND VEGETATION, AND OFTEN MORE ROUNDED MOUNTAINS THAN THOSE FOUND IN THE WESTERN SECTION OF THE NORT CASCADES. PRIME EXAMPLES OF MOUNTAINS IN THE EASTERN SECTION ARE MOUNT STUART (#6), OVAL PEAK (#22), AND REMMEL MOUNTAIN (#27), (SEE PHOTOGRAPHS).

* THE LIST OF WASHINGTON'S 50 HIGHEST MAJOR MOUNTAINS WAS DETERMINED BY UTILIZING STEPHEN FRY'S DEFINITION OF A MA MOUNTAIN (SEE MOUNTAINS DEFINED). EVERY HIGH MOUNTAIN IN THE STATE WAS CHECKED TO ASSESS WHETHER IT WARRANTED INC SION IN THE LIST OF THE "TOP 50" MAJOR MOUNTAINS. CURRENT USGS TOPOGRAPHIC MAPS WERE THE SOLE SOURCE FOR ESTABLIS WHICH MOUNTAINS SATISFIED THE DEFINITION OF A MAJOR MOUNTAIN.

FURTHER INFORMATION

THE DATA AND IDEAS PRESENTED IN THESE EXHIBITS REPRESENTS THE FIRST TIME THAT THIS INFORMATION HAS BEEN MADE PUBLIC. MY IDEAS REGARDING THE DEFINITION OF A MOUNTAIN AND THE MOUNTAIN MEASUREMENT DATA HAS BEEN PRESENTED TO SEVERAL PROFESSORS AT THE UNIVERSITY OF WASHINGTON, SUCH AS: PROFESSOR STEPHEN PORTER (GEOLOGY), PROFESSOR JOHN SHERMAN (GEOGRAPHY), PROFESSOR MARION MARTS (GEOGRAPHY), PROFESSOR DARREL COWAN (GEOLOGY) AND PROFESSOR JOSEPH COLCORD (CIVIL ENGINEERING); AND THEIR RESPONSES HAVE BEEN VERY POSITIVE. MOST OF THIS DATA IS INTENDED TO BE A SMALL BUT IMPORTANT PART OF A FUTURE BOOK I PLAN TO HAVE PUBLISHED ABOUT WASHINGTON'S HIGHEST MAJOR MOUNTAINS. THE AMERICAN CARTOGRAPHER HAS ASKED ME TO SEND MY COMPLETE MANUSCRIPT TO THEM REGARDING A FUTURE ARTICLE ON "MOUNTAINS DEFINED AND MEASURED", WHICH GIVES ME THE OPPORTUNITY TO PUBLISH MY WORK IN A SCIENTIFIC JOURNAL.

MY RECENT ARTICLES IN SIGNPOST (SEE ABOUT EXHIBITOR) PROVIDE EXAMPLES OF OTHER FACETS OF MY ORIGINAL MOUNTAIN RESEARCH, AND MORE OF MY PHOTOGRAPHY.

TWO VERY THOROUGH BOOKS ABOUT MOUNTAINS WHICH I CAN ENTHUSIASTICALLY RECOMMEND FOR ADDITIONAL READING ARE: 1. MOUNTAINS AND MAN, A Study of Process and Enviroment, BY LARRY W. PRICE, 1981, (443 pp); AND 2. THE 1980 ERUPTIONS OF MOUNT ST. HELENS, WASHINGTON, GEOLOGICAL SURVEY PROFESSIONAL PAPER 1250, EDITED BY PETER W. LIPMAN AND DONAL R. MULLINEAUX, 1981, (844 pp).

ABOUT THE EXHIBITOR

STEPHEN FRY IS A 29 YEAR OLD MOUNTAIN SPECIALIST WHO LIVES IN WOODINVILLE, WASHINGTON. HE RECEIVED HIS BACHELOR OF SCIENCE DEGREE IN GEOLOGY FROM THE UNIVERSITY OF WASHINGTON IN 1977. STEVE HAS WORKED PROFESSIONALLY AS A EXPLORATION GEOLOGIST IN ALASKA. FOR THE LAST THREE AND ONE HALF YEARS STEVE HAS BEEN WORKING EXTENSIVELY TOWARDS PUBLISHING A SCIENTIFIC, HISTORICAL, AND PHOTOGRAPHIC BOOK ABOUT WASHINGTON'S 50 HIGHEST MAJOR MOUNTAINS. IN ORDER TO PRODUCE A LIST OF WASHINGTON'S HIGHEST MOUNTAINS, STEVE FOUND IT NECESSARY TO PRECISELY DEFINE A MOUNTAIN. THE OUTGROWTH OF HIS MOUNTAIN DEFINITIONS AND INTEREST IN STATISTICS LED TO THE UNPRECEDENTED MOUNTAIN STATISTICS PRESENTED IN THESE EXHIBITS.

SOME OF STEVE'S MOST RECENT MOUNTAIN RELATED ARTICLES INCLUDE: "WASHINGTON PLACE NAMING" (WASHINGTON MAGAZINE, NOVEMBER/DECEMBER, 1984); "WASHINGTON'S STEEPEST MOUNTAIN FACES" (SIGNPOST, APRIL, 1984); AND "NORTH CASCADES BY HELICOPTER" (WINTER HELICOPTER CAMPING) (SIGNPOST, FEBRUARY, 1984). IN MARCH OF 1984, STEVE ALSO GAINED OFFICIAL STATUS FOR THE NAMES OF THREE OF WASHINGTON'S HIGHER MOUNTAINS (INCLUDING #20 DRAGONTAIL PEAK AND #47 SOUTH SPECTACLE BUTTE), BY WINNING THE APPROVAL OF THE WASHINGTON STATE BOARD ON GEOGRAPHIC NAMES.

STEVE IS A NATIVE OF WASHINGTON, WHO BEGAN HIKING IN THE CASCADES AND OLYMPICS AT THE AGE OF FIVE. IN 1969 HE PRODUCED HIS FIRST LIST OF WASHINGTON'S 50 HIGHEST MOUNTAINS (FOR HIS WASHINGTON STATE HISTORY CLASS), AND HAS BEEN FASCINATED WITH THE HIGH MOUNTAINS OF WASHINGTON AND THE WORLD EVER SINCE THEN. STEVE'S HOBBIES OF HIKING, CLIMBING, AND PHOTOGRAPHY HAVE FIT IN WELL WITH HIS INTEREST IN MOUNTAINS. OVER THE PAST 15 YEARS STEVE HAS CLIMBED NEARLY 100 MOUNTAINS (INCLUDING THE FOUR HIGHEST MAJOR MOUNTAINS IN WASHINGTON) AND TAKEN SEVERAL THOUSAND MOUNTAIN PHOTOGRAPHS. STEVE ALSO HAS HIKED EXTENSIVELY THROUGHOUT MOST EVERY SECTION OF WASHINGTON'S CASCADE RANGE, WITH SPECIAL EMPHASIS ON AREAS IN WHICH WASHINGTON'S "TOP 50" MOUNTAINS EXIST. IN ADDITION, HE HAS VENTURED INTO THE CASCADE RANGE OUTSIDE OF WASHINGTON, THE ROCKIES, APPALACHIANS, SIERRA NEVADAS, ALASKA'S KIGLUAIK, BENDELEBEN, AND DARBY MOUNTAINS, AND AMONGST THE HIGH VOLCANOES OF MEXICO AND THE ISLANDS OF HAWAII AND KAUAI.

TABLE B: SELECTED MOUNTAIN STATISTICS FOR WASHINGTON'S 50 HIGHEST MAJOR MOUNTAINS

AS DETERMINED BY: STEPHEN J. FRY

NAME	RISE ABOVE BASE (FEET)	VOLUME ($MILES^3$)
MOUNT RAINIER	12740	116
MOUNT ADAMS	10806	185
MOUNT BAKER	10378	97
GLACIER PEAK	8131	30.5
BONANZA PEAK	6281	7.0
MOUNT STUART	5085	3.3
MOUNT FERNOW	6069	5.4
GOODE MOUNTAIN	7170	8.0
MOUNT SHUKSAN	8442	28.5
BUCKNER MOUNTAIN	6449	5.3
MOUNT LOGAN	7157	12.0
JACK MOUNTAIN	7791	10.6
MOUNT SPICKARD	5544	2.3
BLACK PEAK	5095	3.3
MOUNT REDOUBT	6106	5.2
NORTH GARDNER MOUNTAIN	5891	4.8
DOME PEAK	6150	4.1
ELDORADO PEAK	6795	7.0
SILVER STAR MOUNTAIN	6486	13.7
DRAGONTAIL PEAK	5120	2.4
FORBIDDEN PEAK	6757	7.1
MESAHCHIE PEAK	5245	3.4
OVAL PEAK	6530	11.6
MOUNT LAGO	3635	1.35
ROBINSON MOUNTAIN	5216	6.1
STAR PEAK	3680	3.3
REMMEL MOUNTAIN	3705	4.6
FORTRESS MOUNTAIN	5994	8.6
CHILLIWACK PEAK*	7085	20.9
KIMTAH PEAK	5390	4.3
CARDINAL PEAK	4660	3.1
MONUMENT PEAK	4532	3.1
OSCEOLA PEAK	4397	4.5
RAVEN RIDGE*	6195	12.7
CLARK MOUNTAIN	6181	5.0
BUCK MOUNTAIN	5993	8.3
CASHMERE MOUNTAIN	6605	15.8
REYNOLDS PEAK	3797	1.06
MARTIN PEAK	5411	4.9
BIG CRAGGY PEAK	4670	1.73
LOST PEAK	4754	6.3
CHIWAWA MOUNTAIN	5764	8.1
TOWER MOUNTAIN	3559	0.88
DUMBELL MOUNTAIN	4336	2.7
AZURITE PEAK	4665	1.83
PINNACLE MOUNTAIN	4657	4.7
SOUTH SPECTACLE BUTTE	4447	2.3
DEVORE PEAK	4255	1.69
MOUNT SAINT HELENS	7902	51.6
GOLDEN HORN	3876	1.10

THE ABOVE LIST OF MOUNTAIN STATISTICS WERE DETERMINED BY UTILIZING THE GEOGRAPHICAL BOUNDARIES, AS DEFINED BY STEPHEN FRY, FOR THE MOUNTAINS IN QUESTION. ALTHOUGH MOUNT RAINIER'S VOLUME ABOVE ITS BASE IS LESS THAN MOUNT ADAMS (SEE ABOVE), THE VOLUME OF MOUNT RAINIER WHICH RISES ABOVE 2000 METERS (17.6 $MILES^3$) IS MORE THAN TWICE AS LARGE AS MOUNT ADAMS' VOLUME ABOVE 2000 METERS (8.6 $MILES^3$). NOTE: 2000 METERS EQUALS ABOUT 6500 FEET.

* NAME UNOFFICIAL $MILES^3$ = CUBIC MILES

EXPLANATION OF LOCATION MAP

CIRCLED NUMBERS 1-50 REPRESENT THE LOCATIONS OF WASHINGTON'S 50 HIGHEST MAJOR MOUNTAINS. SEE TABLE A FOR THE CORRELATION OF NUMBERS TO MOUNTAIN NAMES.

SPECIAL CASES: 15a = MOUNT REDOUBT
15b = NORTH GARDNER MOUNTAIN
22a = MESAHCHIE PEAK
22b = OVAL PEAK

NOTICE THAT OVER 75% OF THE "TOP 50" MOUNTAINS ARE LOCATED IN THE EASTERN SECTION OF THE NORTH CASCADES. THIS APPARENT BIAS MAY BE EXPLAINED BY A DIFFERENCE IN CLIMATE, ROCK TYPES, AND/OR UPLIFT RATES FOUND IN THE TWO OPPOSING SECTIONS.

CIRCLED LETTERS A-E REPRESENT THE LOCATIONS OF THE HONORABLE MENTION MOUNTAINS, SEE TABLE B.

A = LITTLE TAHOMA PEAK
B = MOUNT MAUDE
C = MOUNT DANIEL
D = MOUNT OLYMPUS (MOUNT OLYMPUS IS NOT SHOWN ON THE MAP. OLYMPUS IS LOCATED ABOUT 65 MILES WNW OF SEATTLE)
E = THREE FINGERS

THE LOCATION MAP IS BASED UPON THE GEOGRAPHY REPRESENTED IN:
STATE OF WASHINGTON PICTORIAL LANDFORM MAP, BY DEE MOLENAAR, 1976.

TABLE C: FIVE WASHINGTON MOUNTAINS WORTHY OF HONORABLE MENTION

(FIVE HIGH, BEAUTIFUL, AND NOTEWORTHY MOUNTAINS IN WASHINGTON THAT DID NOT WARRANT INCLUSION IN THE LIST OF WASHINGTON'S 50 HIGHEST MAJOR MOUNTAINS (SEE TABLE A).)

NAME	HEIGHT FEET	RAB* FEET	VOLUME@ CUBIC MILES	REASON NOT ON "TOP 50" LIST
LITTLE TAHOMA PEAK	11138	8958	16.7	SUBMAJOR MOUNTAIN**
MOUNT MAUDE	9082	6457	11.7	SUBMAJOR MOUNTAIN**
MOUNT DANIEL	7980#	5017	5.9	TOO LOW
MOUNT OLYMPUS	7965	6875	12.8	TOO LOW
THREE FINGERS	6854	5704	5.2	TOO LOW

* RAB = RISE ABOVE BASE

@ VOLUME AS DETERMINED BY STEPHEN J. FRY, 1983-1984

** SEE MOUNTAINS DEFINED AND MEASURED EXHIBIT, TABLE 1

HEIGHT IS CLOSE ESTIMATE, THE GIVEN VALUE IS DERIVED FROM INTERPOLATION OF USGS (1:24,000) TOPOGRAPHIC MAP CONTOURS.

NOTE: THERE ARE A MULTITUDE OF OTHER SPECTACULAR AND REVERED MOUNTAINS IN WASHINGTON, BUT FOR BREVITY ONLY FIVE "HONORABLE MENTION" MOUNTAINS WERE CHOSEN.