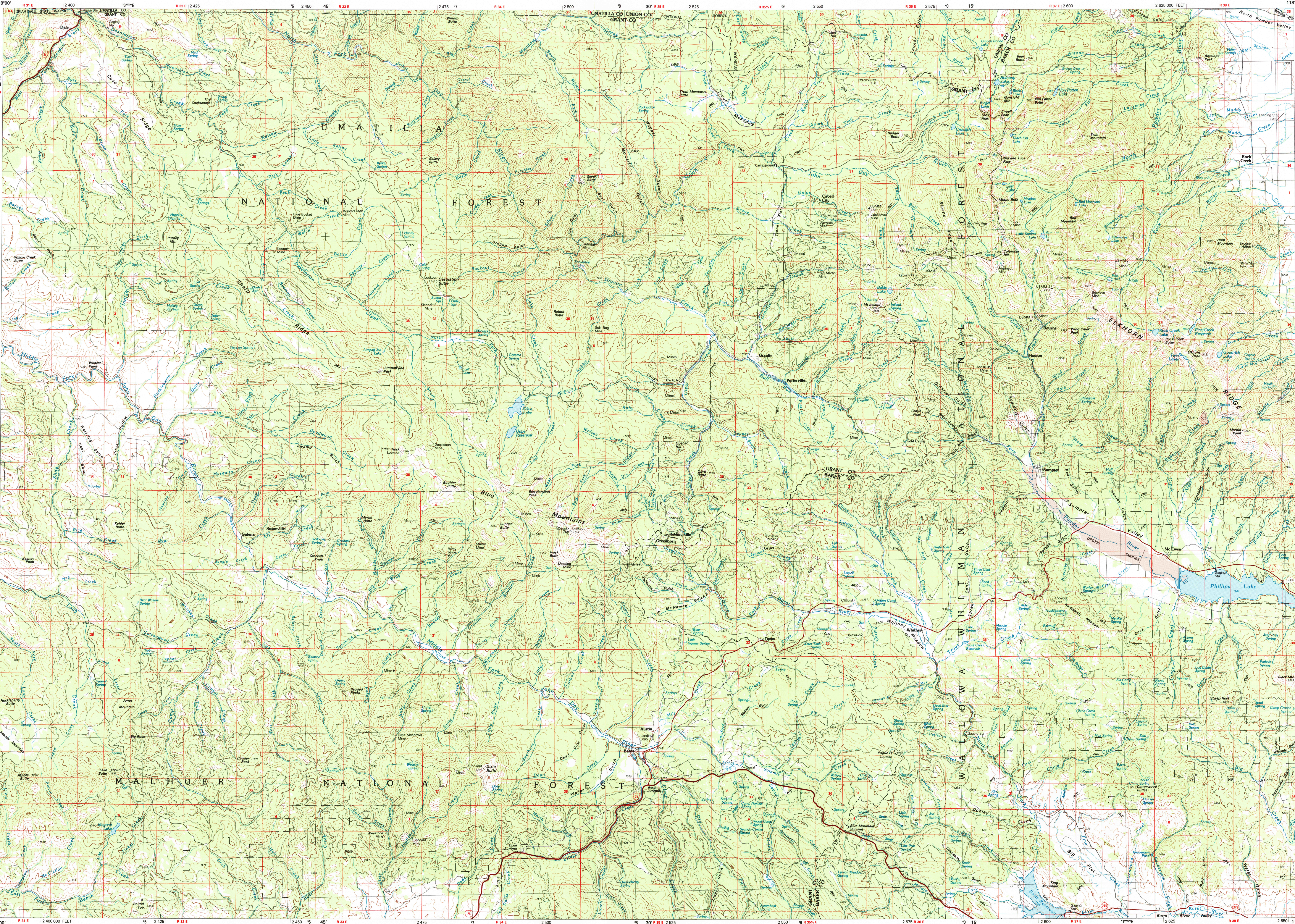




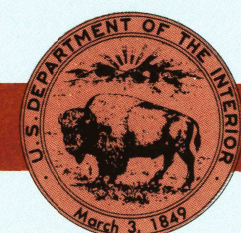
Bates
OREGON

1:100 000-scale metric
topographic map



30 X 60 MINUTE QUADRANGLE
SHOWING

- Contours and elevations in meters
- Highways, roads and other manmade structures
- Water features
- Woodland areas
- Geographic names



GEOLOGICAL SURVEY

1987

Produced by the United States Geological Survey

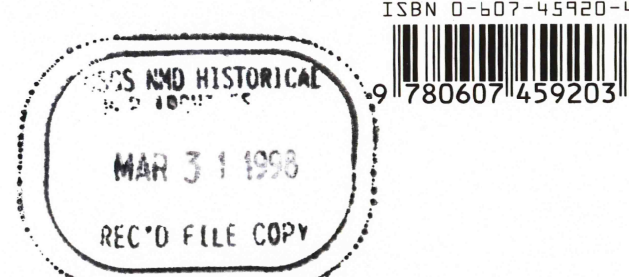
Compiled from USGS 1:24 000 and 1:62 500-scale topographic maps dated 1949-1972. Planimetry revised from aerial photographs taken 1981 and other source data. Revised information not field checked. Map edited 1987. Projection and 10 000-meter grid, zone 11 Universal Transverse Mercator. 25 000-foot grid ticks based on Oregon coordinate system, north zone. 1927 North American Datum. To place on the predicted North American Datum 1983 move the projection lines 18 meters north and 83 meters east. There may be private inholdings within the boundaries of the National or State reservations shown on this map.

CONTOUR INTERVAL 50 METERS
NATIONAL GEODETIC VERTICAL DATUM OF 1929
ELEVATIONS SHOWN TO THE NEAREST METER

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS

FOR SALE BY U.S. GEOLOGICAL SURVEY,
P.O. BOX 25286, DENVER, COLORADO, 80225

CONVERSION TABLE		DECLINATION DIAGRAM		ADJOINING MAPS			
Meters	Feet			1	2	3	
1	3.2808		320 MILS	4	5		
2	6.5617						
3	9.8425						
4	13.1234						
5	16.4042						
6	19.6850						
7	22.9659						
8	26.2467						
9	29.5276						
10	32.8084						
To convert meters to feet multiply by 3.2808		UTM grid convergence (GN) and 1987 magnetic declination (M) at center of map. Diagram is approximate.		1 Heppner 2 Le Grande 3 Enterprise 4 Monument 5 Mendenhall 6 Dayville 7 John Day 8 Brogan			
To convert feet to meters multiply by 0.3048							



Topographic Map Symbols

Primary highway, hard surface	
Secondary highway, hard surface	
Light duty road, principal street, hard or improved surface	
Other road or street; trail	
Route marker: Interstate; U. S. State	
Railroad: standard gage; narrow gage	
Bridge; overpass; underpass	
Tunnel: road; railroad	
Built up area; locality; elevation	
Airport; landing field; landing strip	
National boundary	
State boundary	
County boundary	
National or State reservation boundary	
Land grant boundary	
U. S. public lands survey: range; township; section	
Range, township; section line: protracted	
Power transmission line: pipeline	
Dam; dam with lock	
Cemetery; building	
Windmill; water well; spring	
Mine shaft; adit or cave; mine; quarry; gravel pit	
Campground; picnic area; U. S. location monument	
Ruins; cliff dwelling	
Disturbed surface: strip mine, lava; sand	
Contours: index; intermediate; supplementary	
Bathymetric contours: index; intermediate	
Stream, lake; perennial; intermittent	
Rapids, large and small; falls, large and small	
Area to be submerged; marsh; swamp	
Land subject to controlled inundation; woodland	
Scrub; mangrove	
Orchard; vineyard	

A pamphlet describing topographic maps is available on request