United States Geological Survey
J. W. Powell Director

Atlas
to accompany
The Tertiary History
of the
Grand Cañon District

Dutton
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
J.W. POWELL, DIRECTOR

ATLAS
TO ACCOMPANY THE MONOGRAPH
ON THE
TERTIARY HISTORY
OF THE
GRAND CAÑON DISTRICT

BY
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LIST OF ATLAS SHEETS.

**SHEET I.** Title page and Table of Contents.

**SHEET II.** Sketch map showing the approximate distribution of the strata in the western part of the Southern Plateau Province. Scale, 1 inch = 1 mile. The topography of the colored portion is compiled by J. H. Renshawe, from data and surveys by the U. S. Geographical and Geological Survey of the Rocky Mountain Region, J. W. Powell in charge, and by the United States Geological Survey, Clarence King, Director. The topography of the uncolored portion is compiled largely from surveys under the direction of Capt. George M. Wheeler, U. S. Engineers. Geology by C. E. Dutton.

**SHEET III.** Sketch map showing the approximate arrangement of the principal faults and displacements in the District of the High Plateaus, and in the Grand Canyon District. The topography is the same as that of the preceding sheet.


**SHEET V.** View of the Toroweap Valley looking north from Vulcan’s Throne, and view of the Uinkaret Plateau looking northwest from the same standpoint. The two views are continuous. Drawn by William H. Holmes.

**SHEET VI.** View looking eastward from Vulcan’s Throne disclosing the Inner Gorge of the Grand Canyon, the great esplanade, and the upper or outer walls on either hand. Drawn by William H. Holmes.

**SHEETS VII and VIII.** Map of the Uinkaret Plateau. Topography by J. H. Renshawe. Geology by C. E. Dutton. Scale, one mile to the inch.

**SHEET IX.** Panoramic views from the summit of Mount Trumbull, on the Uinkaret Plateau, looking eastward and southward, with distant glimpses of the Kanab division of the Grand Cañon and some of its lateral gorges.

**SHEET X.** Two views—one looking northward from the summit of Mount Trumbull, the other looking north and northeast from the summit of Mount Emma—exhibiting the basaltic cinder cones of the Uinkaret Plateau. Drawn by William H. Holmes.

**SHEETS XI, XII, XIII, and XIV.** Map of the southern portion of the Kaibab Plateau, and of the Kaibab division of the Grand Cañon, and of the lower portion of the Marble Cañon. Topography by Sumner H. Bodfish, and geology by C. E. Dutton. Scale, one mile to the inch. The inner gorge, designated as an Archæan area, contains remnants of Silurian strata, the extent and distribution of which are not at present accurately known.

**SHEETS XV, XVI, and XVII.** The Panorama from Point Sublime in the Kaibab. The three sheets form one continuous panorama. Drawn by William H. Holmes.

**SHEET XVIII.** The Transect. View of a lateral gorge opening into one of the branches of the Bright Angel Amphitheatre in the Kaibab. Drawn by Thomas Moran.

**SHEET XIX.** View looking from the eastern brink of the Kaibab, and overlooking the Marble Cañon Platform. Drawn by William H. Holmes.

**SHEETS XX, XXI, XXII, and XXIII.** Sheets from the General Topographic and Geologic Atlas of the United States Geological Survey.

It is to be regretted that the survey of this portion of the country is not yet sufficiently advanced to admit of the construction of two additional sheets required to complete the cartography of the Grand Cañon District. It was desired that this atlas should contain the two sheets lying west of Sheets XXII and XXIII of this atlas, but although much material has been obtained for their construction, much more is still required. No attempt to supply the defect has, therefore, been made in the present work.
SKETCH MAP
OF THE
WESTERN PART OF THE PLATEAU PROVINCE
SHOWING
THE FAULTS OF THE GRAND CÁNOÉ DISTRICT
AND
HIGH PLATEAUS

1. Grand Wash
2. Barlow
3. Copper
4. Reed
5. Wilson Wash
6. Echo Cliffs
7. Yampa
8. No. 2 Wash
9. South Wash
10. No. 1 Wash

This is a sketch map showing the western part of the Plateau Province, highlighting the faults of the Grand Canyon District and high plateaus. The map includes various geographical features and landmarks, but the specific details and their significance are not immediately clear from the image.
In the center of the picture is the eastern temple. To the right of it is the Mukuntuweap Fork, and across it is the western temple of the Inner Canon of the Nile. On the extreme right is the opening of the Inner Canon. On the middle distance to the left is the Little Zion Valley.
In the upper View the great, lava streams are seen descending from the Plateau wrapping around the fine gable of Carboniferous strata and reaching to the brink of the inner gorge where they plunge into the bottom of the chasm.

The two Views are continuous. On the left are seen the cascades of lava descending from the Craters upon the heights of the Umkaret with intervening pediments of upper Carboniferous strata. The effect of the fault is shown by the greater height of the eastern wall in the lower view.
THE GRAND CAÑON AT THE FOOT OF THE TOROWEAP-LOOKING EAST
Upper View looking east; the Grand in the distance - Upon the horizon is the sum total of the Kaibab Glimpses of the Canon in the Kaibab are given at distances varying from 45 to 85 miles.

The opening of Kanab Canon is seen on the left. On the right Cataract Canon is seen coming from the South. In the foreground is the upper part of the Toroweap Valley.

Lower View looking south from a different standpoint; the Grand Canon in the distance with the opening of the inner gorge - Upon the brink of the gorge stands the Crater Vulcan's Throne. The lower Toroweap Valley is on the left. South of the Canon is another lateral Valley along which runs the Toroweap fault dropping the platform on west fright. The foreground and middle grounds are filled with many basaltic craters. The darkly shaded spots are very recent outpours of basalt.
In the foreground and middle-ground are basaltic cinder cones. In the distance on the left is the northern part of the Sheavwits Plateau and the Hurricane-Ledge is between it.

In the middle background, is the cliff terminating part of the main Permian terrace. In the right background are the Vermilion Cliffs, 40 to 50 miles dial and 2000 feet high.

To the left of Trumbull is a basaltic plateau with Permian beds beneath the lava cap. On the extreme right, in the middle distance, is the Toroweap. In the round and middle distances are numberless tasiilti, cinder cones.

At the base of Trumbull is the black field of very recent lava. In the far beyond on the right the Vermilion Cliffs disappearing a hundred miles away.

Views from My Trumbull and My Emma.
The areas designated as Archaean, contain numerous irregularities.
PANORAMA FROM POINT SUBLIME
THE TRANSAP'T KAHABA DIVISION, GRAND CANYON
AN AMPHITHEATER OF THE SECOND ORDER
Upper View looking east

Lower View looking south

The two Views are continuous. The East Kaibab is seen in the middle distance and the Echo Cliffs in the background.

The Triassic monocline is immediately in front of the observer carrying the same geological horizon on which the Cliffs terminating the Paria Plateau are seen in the background, on the extreme left of the upper view.
GEOLAGIC MAP SHOWING THE SOUTHWESTERN PORTION OF THE MESAZOIC TERRACES
This region has been well surveyed topographically but has been reconnoitered on the basis of the field observations. The colors here shown are to be regarded only as an approximation to the distribution of the strata.

Archaean
Lower Carboniferous
Upper Carboniferous
Permian
Trias
Volcanic

Geology

by

C. E. Ditto

United States Geological Survey

Scale 1:650,000, about 4 miles to one Inch.

Geologic Map of the Colorado Plateau and San Francisco Mountains

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