

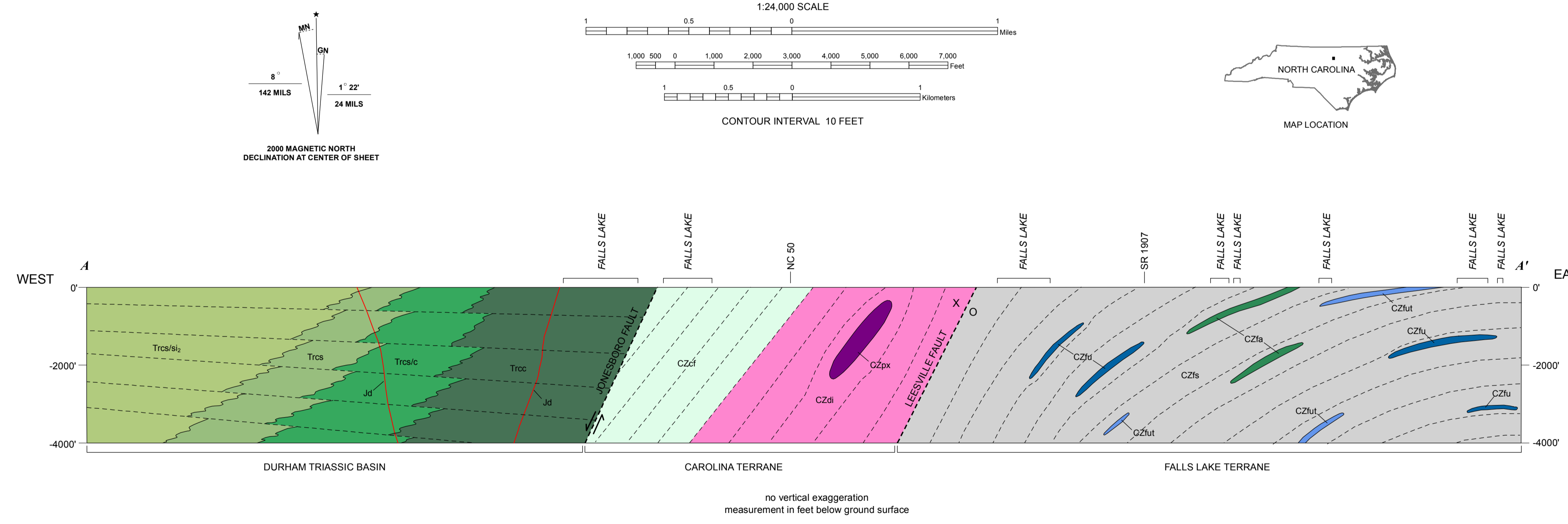
- SURFICIAL UNIT**
- Qal** - Quaternary alluvium: Unconsolidated, poorly sorted and poorly stratified, tan to light gray deposits of gravel, sand, silt, and clay. Similar to stratified terraces along streams.
- INTRUSIVE ROCKS**
- Jd** - diabase dikes and sills: Steeply dipping to vertical dikes and horizontal to shallow-dipping sills of gray to bluish-black, fine- to coarse-grained, locally porphyritic plagioclase diabases that may be olivine-bearing. Solid lines where observed, dashed where inferred, and dotted where concealed. Red circles indicate areas of abundant float inferred to be near original location.
- SEDIMENTARY ROCKS**
- Trcc** - conglomerate: reddish-brown to dark brown, irregularly bedded, poorly sorted, cobble to boulder conglomerate. Muscovite is rare to absent in the very coarse-grained to gravelly matrix. An arbitrary cut-off of greater than 50 percent conglomerate distinguishes this unit from the Trcs facies. Clasts are chiefly miscellaneous felsic and intermediate metavolcanic rocks, quartz, epidote, bluish-gray quartz crystal tuft, muscovite schist, and rare meta-granitic material. Maximum clast diameters are in excess of 2 m along Hales Branch east of the RDU airport.
 - Trccic** - sandstone with interbedded conglomerate: reddish-brown to dark brown, irregularly bedded, poorly sorted, coarse-grained to pebbly, muddy lithic sandstones with interbedded pebble to cobble conglomerate. Muscovite is rare to absent in the matrix. Well-defined conglomerate beds distinguish this unit from conglomerate basal lags of Trcc. An arbitrary cut-off of less than 50 percent conglomerate distinguishes this unit from the Trcc conglomerate facies. Conglomerate beds are channel-shaped and scour into the underlying sandstone beds. Unit grades eastward into Trcc.
 - Trcs** - interbedded sandstone and pebbly sandstone: reddish-brown to dark brown, irregularly bedded to massive, poorly to moderately sorted, medium- to coarse-grained, muddy lithic arkoses, with occasional, matrix-supported granules and pebbles or as 1.5 cm thick basal layers. Muscovite is common to abundant. Occasional bioturbation is usually surrounded by greenish-blue to gray reduction halos. Beds are tabular, 1-3 meters thick, with good lateral continuity. Unit grades eastward into Trcsic.
 - Trcsis** - sandstone with interbedded siltstone: Cyclical depositional sequences of whitish-yellow to grayish-pink to pale red, coarse- to very coarse-grained, trough cross-bedded lithic arkose that fines upward through yellow to reddish-brown, medium- to fine-grained sandstone, to reddish-brown, burrowed and rooted siltstone. Disturbance is usually surrounded by greenish-blue to gray reduction halos. Coarse-grained portions contain abundant muscovite, and basal gravel lags consist of clasts of quartz, bluish-gray quartz crystal tuft, and mudstone rip-ups.
- METAMORPHIC ROCKS**
- Carolina Terrane**
- CZcf** - felsic metagranite: Light gray, fine- to coarse-grained, locally porphyritic, weakly- to well-foliated, leucocratic (Cf less than 20), white mica metagranite to metagranodiorite.
 - CZdi** - Beavertown diorite: Grayish-white to greenish-white, coarse-grained, unfoliated to well-foliated, mesocratic (Ci less than 40) biotite hornblende metagranodiorite to metadiorite.
 - CZqd** - Beavertown blue quartz diorite: Buff to green and white, coarse-grained, unfoliated, mesocratic (Ci less than 40) biotite + hornblende metagranodiorite to metadiorite, containing conspicuous crystals of blue quartz.
 - CZgb** - Beavertown gabbro and metagabbro: Black and white to greenish black, fine- to medium-grained, unfoliated to well-foliated, melanocratic to hypemelanocratic (Ci greater than 40) gabbro to metagabbro.
 - CZgx** - Beavertown metagabbro: Greenish-black, medium- to coarse-grained, massive, hypemelanocratic (Ci greater than 90) metagabbro with minor amounts of talc, magnetite and chlorite.
- Late Proterozoic - Cambrian**
- CZfs** - Falls Lake schist: Silvery-gray to black, fine- to medium-grained, well-foliated, white mica + biotite ± garnet ± chlorite schist to gneiss.
 - CZfu** - ultramafic rocks (undivided): Variably altered ultramafic rocks including metapyroxenite, actinolite-chlorite schist, and talc schist.
 - CZft** - talc schist: White to gray talc-tremolite schist, talc-chlorite schist, and soapstone. Rhombohedral cavities suggest former presence of a carbonate mineral (ankerite?).
- Falls Lake Terrane**
- CZha** - actinolite rock and actinolite-chlorite schist: Dark green, schistose to almost massive, igneous rock composed of actinolite and varied amounts of chlorite, minor amounts of talc and magnetite octahedra are common.
 - CZfa** - amphibolite: Dark gray to black, fine- to coarse-grained, well-foliated dikes generally parallel to foliation within country rock.
 - CZfs** - serpentinite: Pale greenish-gray, fine-grained, and massive to moderately-foliated; contains fibrous tremolite, clots of magnetite, and minor amounts of talc and dark green, unfoliated, chlorite actinolite rock.
 - CZfk** - kyanite quartzite: Silver-white, fine- to medium-grained, foliated, white mica + kyanite quartzite + opaque minerals.

- CONTACTS**
- Lithologic contacts - Solid where location known, dashed where inferred, dotted where concealed.
- FAULTS**
- Faults - Solid where location known, dashed where inferred, dotted where concealed. For ductile strike-slip faults, X indicates movement away from the observer, O indicates movement towards the observer. For normal brittle faults, D indicates downthrown side, U indicates upthrown side.

- STRUCTURAL SYMBOLS**
- Observation sites are centered on the strike bar or are at the intersection point of multiple symbols.
- strike and dip of inclined regional foliation
 - strike and dip of ductile fault surface
 - strike and dip of inclined bedding
 - strike and dip of inclined joint surface
 - horizontal joint surface
 - strike and dip of brittle fault surface
 - strike and dip of inclined dike
 - bearing and plunge of mineral lineation
 - observation station location
 - strike of vertical regional foliation
 - horizontal bedding
 - strike of vertical joint surface
 - strike and dip of quartz vein
 - strike of vertical brittle fault surface
 - strike of vertical dike
 - bearing and plunge of slickenside
 - bearing and plunge of fold hinge
 - contact

Base topographic map is digital raster graphic image of the Credmoor 7.5-minute USGS quadrangle (1987).
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Disclaimer:
 This Open-File report is preliminary and has been reviewed for conformity with the North Carolina Geological Survey editorial standards or with the North American Stratigraphic Code. Further revisions or corrections to this map may occur.



GEOLOGIC MAP OF THE CREEDMOOR 7.5-MINUTE QUADRANGLE, GRANVILLE, WAKE AND DURHAM COUNTIES, NORTH CAROLINA
 By Timothy W. Clark, Cindy M. Phillips and David E. Blake
 Digital representation by Cindy M. Phillips and Michael A. Medina
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