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三

# INTERNATIONAL STRATIGRAPHIC CHART

International Commission on Stratigraphy



## Subdivisions of the global geologic record are

ormally defined by their lower boundary. Each unit

of the Phanerozoic (~542 Ma to Present) and the

base of Ediacaran are defined by a basal Global Standard Section and Point (GSSP) (Fig. 1).

Stalagmitic and Fumí (G33-3). Wilcoxas  
Brecambrian units are formally subdivided by

Recalibration of the Global Standard Stratigraphic Age

GSSA). Details of each GSSP are posted on the

CS website ([www.stratigraphy.org](http://www.stratigraphy.org)).

## International chronostratigraphic units, rank,

Names and formal status are approved by the International Commission on Stratigraphy (ICS).

International Commission on Stratigraphy (ICS)

Sciences (UGS).

## Numerical ages of the unit boundaries in the

*Phanerozoic* are subject to revision. Some stages

within the Ordovician and Cambrian will be formally

marked upon International agreement on their GSS.

limits. Most sub-*Selles* boundaries (e.g., Middle and Upper Antian) are not formally defined

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Geological Map of the World ([www.cgmw.org](http://www.cgmw.org)).

The listed numerical ages are from 'A Geologic

Time Scale 2004, by F.M. Gradstein, J.G. Ogg,  
G. Smith (2004). Cambridge University Press.

A.G. Smith, et al. (2004, Cambridge University Press)

Phanerozoic						Eonothem Eon
Mesozoic			Cenozoic			Erathem Era
Cretaceous		Paleogene		Neogene		System Period
Series	Epoch	Stage	Age	Ma	GSSP	
Holocene	Upper	0.0118				
Pleistocene	Middle	0.126				
	Lower	0.781				
Gelasian		1.906				
Piacenzian		2.988				
Zanclean		3.500				
Messinian		5.932				
Tortonian		7.246				
Serravallian		11.608				
Langhian		13.65				
Burdigalian		15.97				
Aquitanian		20.43				
Oligocene	Chattian	23.03				
Rupelian		28.4 ± 0.1				
Prabonian		33.9 ± 0.1				
Eocene	Bartonian	37.2 ± 0.1				
Lutetian		40.4 ± 0.2				
Ypresian		48.6 ± 0.2				
Thametican		55.8 ± 0.2				
Paleocene	Selandian	58.7 ± 0.2				
	Daniian	61.7 ± 0.2				
Mastrichtian		65.5 ± 0.3				
Campanian		70.6 ± 0.6				
Santonian		83.5 ± 0.7				
Coniacian		85.8 ± 0.7				
Turonian		89.3 ± 1.0				
Cenomanian		93.5 ± 0.8				
Albian		99.6 ± 0.9				
Aptian		112.0 ± 1.0				
Barremian		125.0 ± 1.0				
Hauterivian		130.0 ± 1.5				
Valanginian		136.4 ± 2.0				
Bernesian		140.2 ± 3.0				
		145.5 ± 4.0				

Phanerozoic						Eonothem Eon
Paleozoic			Mesozoic			Erathem Era
Carboniferous		Permian		Triassic		System Period
Series	Epoch	Stage	Age	Ma	GSSP	
Pennsylvanian	Upper					
	Middle					
	Lower					
Kasimovian		275.9 ± 0.9				
Artinskian		284.4 ± 0.7				
Sakmarian		294.6 ± 0.8				
Asselian		299.0 ± 0.8				
Gzhelian		303.9 ± 0.9				
	Upper					
	Middle					
	Lower					
Besuchitan		311.7 ± 1.1				
		318.1 ± 1.3				
Serpukhovian		326.4 ± 1.6				
Visean		345.3 ± 2.1				
Toomajian		359.2 ± 2.5				

\* proposed by ICS

This chart was drafted by Gabi Ogg. Intra Cambrian unit ages with \* are informal, and awaiting ratified definitions.

50 km

BLACK SEA

day 1

day 2

二

12

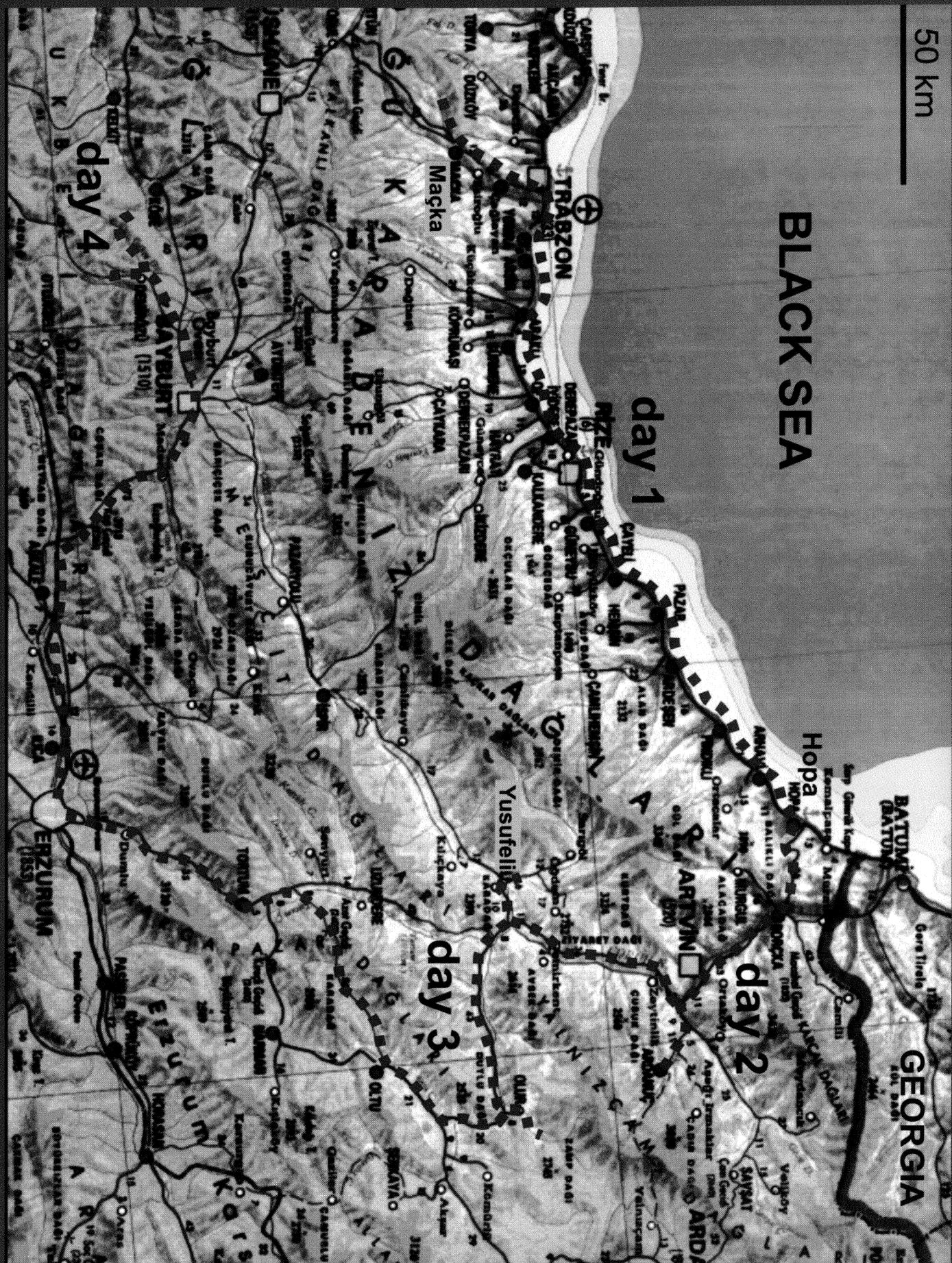
2

# GEORGIA

day 4

Maçka

day  
3



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