

Universal Decimal Classification —

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UDC 55 Earth sciences — Geology —
Geophysics

UDC 025.45:55

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Foreword

The English version of the Universal Decimal Classification (UDC) is being prepared and published as BS 1000 by the British Standards Institution (BSI) at the original joint request of the British Society for International Bibliography (BSIB) and the Association of Special Libraries and Information Bureaux (ASLIB), now amalgamated as Aslib. It has the approval of the Lake Placid Education Foundation, New York, proprietors of the Dewey Decimal Classification, from which UDC derived. The English full edition of the UDC is authorized by the International Federation for Documentation (FID), PO Box 30115, 2500 GC The Hague, Netherlands.

This section is part of the English full edition. It should be used in conjunction with the Abridged English Edition, BS 1000A, which refers to many other subjects of interest not listed in this schedule, and provides a conspectus of the whole scheme, together with an introduction to its use. For further practical information about the principles, application and utilization of the scheme, users should refer to BS 1000C.

This edition of BS 1000[55] supersedes material published as part of BS 1000: Vol.2, Part 3:1943. It includes modifications authorized in "Extensions and Corrections to the UDC" (FIC publication no. 249) up to and including Series 11, No. 1, dated April 1981. Subsequent issues of "Extensions and Corrections to the UDC" should be consulted to keep the schedule up to date. British Standards related to this part of BS 1000 are listed on the inside back cover.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 92, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Scope

Under 55 is classed information about all the earth sciences: geophysics, seismology, terrestrial thermodynamics, electricity and magnetism, geochemistry, geobiology, prospecting; physical and dynamical geology, including vulcanology, tectonics, glaciology, geomorphology and oceanography; meteorology, stratigraphy, palaeogeography; petrology and petrography; economic geology; and hydrology. Though economic geology is essentially the study of useful deposits, class 55 generally covers the pure aspects of all these subjects; the related applied sciences are classed mainly in the divisions of class 6.

Related subjects

502.6	Inanimate nature — Conservation
52	Astronomy etc.
528	Geodesy. Surveying. Photogrammetry. Cartography
53	Physics
54	Chemistry
549	Mineralogy
56	Palaeontology
621.039	Applied nuclear science
622	Mining
624	Civil and structural engineering in general
625	Civil engineering of land transport
626/627	Hydraulic (water) construction works
66	Chemical technology. Chemical industry
679	Industries based on processable materials. Stone industry
902	Archaeology
910	Geography as a science. Exploration. Travel

Auxiliary signs and subdivisions

Full information about the common and special auxiliary signs and subdivisions (often abbreviated to “common and special auxiliaries”) will be found in BS 1000A and BS 1000C.

Colon sign of relation. For the classification of information for the public, as in abstracts and bibliographies, maximum use of colon combinations rather than of common or special auxiliaries is recommended. The use of the colon sign of relation is preferable for multiple entry systems, as it will help prevent the concealment of information. This usually results in longer notation, however, and for information for more restricted use, the application of auxiliaries, where available, may be simpler and more convenient provided that there is an adequate alphabetical subject index.

Common auxiliaries. The common auxiliaries of language = . . . , form (0 . . .), place (1/9), race and nationality (= . . .), time “. . . ”, point of view. 00 . . . , materials – 03 . . . and persons – 05 . . . are applicable throughout the UDC. However, they should be used mainly to express concepts not otherwise provided for in the schedules.

Special auxiliaries. Special auxiliary subdivisions are listed in many places through 55. It will be seen that in many cases .08 is used with a meaning analogous to 53.08, from which further subdivisions may be supplied. All special auxiliaries may be detached and applied to any subdivision of the number at which they are listed, e.g.

551.2.08	Determination, measurement and instruments — Internal geodynamics
551.242.12	Vertical tectonic movements
551.242.12.08	Determination and measurement of vertical tectonic movements. Instruments

Typographic presentation

Small type is used for cancelled numbers and text. The arrow → means either “see” or “see also” according to the context. The symbol $\cong$ “subdivide as” means that the number preceding it may be subdivided in the same way as, and with meanings analogous to the subdivisions of, the number which follows it.

SCHEDULE

55 Earth sciences. Geology. Geophysics. Seismology. Meteorology. Hydrology

Further particulars may be denoted by the common auxiliary signs and subdivisions, e.g.

55:502.4 Geological reserves, parks etc.

:502.64 Protection of geological features

55(1) Regional geology (in general)

(44) Regional geology of France

(449.3) Of the Département du Var

Principal divisions

550 Ancillary sciences

550.1	PHYSIOGRAPHY	550.34 (cont'd)	<i>(b) The non-UDC F-E regionalization code, not included here, is widely used in seismological documentation and may usefully be adopted in conjunction with this schedule to denote place or position of earthquakes and other disturbances</i>
550.2	GEOASTRONOMY. COSMOGONIC THEORIES. COSMIC INFLUENCES AND ACTIONS		
550.3	GEOPHYSICS. PHYSICAL INFLUENCES AND ACTIONS	Special auxiliary subdivisions for 550.34	
	→523.31 The Earth as an astronomical body	550.34.01	Theory, models, research and development
	523.31–423.3 Tides on the Earth	.012	Research and development: methodology, objections, requirements
	532.59 Wave motion — Hydrodynamics	.013	Theoretical investigation
	551.5 Meteorology	.2	Analysis
	556 Hydrosphere. Water (in general). Hydrology	.4	Models
	<i>Further particulars may be denoted by the common auxiliaries, e.g.</i>	.016	Experimental investigation: measurements, testing, field experiments
	550.3(100)“1957/58” International Geophysical Year, 1957–58	.03	Seismological programs, systems and equipment
		.032	Committees, hearings, conferences etc.
550.31	GENERALITIES		<i>Further particulars may be denoted by colon combination with the subdivisions of 061 and by Table I(e) Common auxiliaries of place</i>
	→551.1 General structure of the Earth		
.311	Geophysical evolution and structure	.033	Programs, special projects, training etc.
	→551.24 Geotectonics	.034	Observatories, stations, data centres, services and networks
.312	Gravity and isostasy. Distribution of specific gravity. Gravity measurement	.4	Instrument emplacement, supports, piers, platforms
	→528.27 Gravity measurement — Geodesy	.035	Calibration (of instruments and equipment)
550.32	AGGREGATES. PHASES	.036	Housing of equipment: shelters, mobile and permanent (including laboratories)
550.34	SEISMOLOGY	.037	System auxiliary equipment
	<i>Notes: (a) Suggested citation order for compound subjects:</i>	.2	Telemetering equipment: hydroacoustical, electrical (cable, telephone lines), radio etc.
	<i>event or disturbance (things);</i>	.3	Timing devices: chronometers, time-code generators etc.
	<i>type of disturbance (kinds);</i>	.4	Filters, mechanical and electronic
	<i>characteristics of disturbance (by source, depth or forms) (properties);</i>	.5	Consoles: printout devices, viewers, displays
	<i>transmission media (materials);</i>	.038	Seismograph systems
	<i>wave types (processes);</i>	.2	Operations, processes: damping, magnification
	<i>wave behaviour (properties);</i>	.3	Properties: noise, drift, response, period, frequency
	<i>detection, analysis, prediction etc. (operations);</i>	.4	Kinds (by mode of operation): automatic, multi-channel, optical, laser-maser
	<i>instruments, equipment, systems (agents)</i>	.5	Kinds (by function): for detecting, monitoring, strong motion

550.34.038.6	Amplifiers: mechanical and electronic (including galvanometers)	550.343.3	Measurement surveys: experimental networks, special field surveys
.7	Recorders: punched-tape, film, magnetic, photographic, direct-writing	.4	Seismic mapping
.8	Detectors, e.g. seismometers, accelerometers, tiltmeters, hydrophones, seismoscopes, geophones	.42	Isoseists (isoseisms)
.04	Network design and standards	.44	Homoseists (homoseisms, coseists)
.042	Standards, scales and factors	.6	Prediction methods
.4	Scales	.62	Long-range prediction
	<i>Specific magnitudes and intensities of events may be denoted by adding the scale name and value, e.g.</i>	.64	Short-range prediction
	550.34.042.42MERCALLI 3.1 Intensity of 3.1 on Mercalli scale	.344	Wave types related to seismology
	.43RICHTER 4 Magnitude of 4 on Richter scale	Special auxiliary subdivisions for 550.344	
.42	Intensity	550.344.094	Behaviour of waves. Properties. Processes
.43	Magnitude	.2	Phase (mode) changes
.44	Travel time	.3	Particle and ground motion: surface, subsurface
.6	Recording distances (epicentral distance): local, near, far, zone number	.4	Propagation (transmission through media)
.044	Network design: ocean bottom, mobile (land), established (fixed) etc.	.42	Radiation
.5	Arrays	.43	Attenuation, absorption (dissipation factor Q), scattering
.52	Buried (below 3m): three-dimensional, deep, intermediate and shallow well	.44	Diffraction, deflection
.54	Surface configurations: tripartite, crossed, circular, linear etc.	.45	Refraction and convergence
.05	Kinds of record, material, operation	.46	Reflection
.052	By operation: processing (reproduction, filtering etc.), storing	.47	Geometric spreading
.054	By materials: film, paper, punched card, punched tape, magnetic tape etc.	.5	Seismic velocity
.056	By kinds: accelerogram, seismogram, composite record	.6	Arrival and period
.06	Seismic identification, location determination, detection	.62	First arrivals (onsets)
.013.2	Seismic analysis	.63	Arrival time
.22	Station analysis	.64	Period (frequency)
.24	Fault plane solutions	.7	Wave processes
.062	Detection	.72	Acceleration
.063	Location determination	.73	First motion
.064	Identification	.74	Emergence angle
.09	Special characteristics of waves, media, disturbances	.8	Wave properties
.094	Behaviour of waves. Properties. Processes	.82	Pressure
	<i>This auxiliary is further developed under 550.344</i>	.83	Impulse
.097	Media properties	.84	Amplitude
	<i>This auxiliary is further developed under 550.347</i>	.85	Pulse
.098	Characteristics of disturbances	.9	Wave kinds by direction of motion
	<i>This auxiliary is further developed under 550.348</i>	.92	Longitudinal
Principal divisions (continued)		.93	Rotational
550.340	Technique, equipment [cancelled] → 550.34.03/.05	.94	Transverse
.341	Physical seismology. Forecasting etc. [cancelled] → 550.34.01/.06	.95	Irrotational (non-rotational)
.342	Various disturbances. Microseisms etc. [cancelled] → 550.348	.96	Dilational
550.343	Prediction of natural phenomena	Principal divisions (continued)	
.2	Prediction accuracies and results	550.344.2	Seismic signal effects (signal-to-noise, azimuthal variations, origin or epicentral time)
		.3	Special waves
		.32	Channel waves
		.33	Standing (including free oscillations, ringing)
		.34	Shock waves
		.35	T-phase waves
		.36	Flexural waves
		.37	Precursors
		.4	Marine waves (seismically caused)
		.42	Tsunamis
			→551.466.62 Seismic sea waves, tsunamis — Oceanography
		.44	Sea waves
		.5	Surface waves, ground roll
			<i>Specific wave abbreviations may be added to class number (see subdivisions 550.344.52/.58)</i>
		.52	Ground waves
		.53	G1, G2 waves
		.54	Lg waves
		.55	Love waves (L, LQ, Lq, G, Q)

Special auxiliary subdivisions for 550.347

550.347.097

.22	Isotropic
.23	Anisotropic
.24	Homogeneous
.25	Heterogeneous
.32	Elastic
.33	Non-elastic
.34	Viscoelastic
.35	Plastic
.42	Solid
.43	Liquid
.44	Frozen

Principal divisions (continued)

550.347.2	Seismic anomalies
.22	Orographic
.23	Shadow zones
.232	6° – 23° shadow zone (also sometimes called a discontinuity)
.233	103° – 142° shadow zone

550.347.24	Fault
.29	Others: fissures, cavities, low-velocity layers etc.
.4	Discontinuities
.42	Mohorovicic Discontinuity
.43	Conrad Discontinuity
.44	Gutenberg/Weichert Discontinuity
.45	Dahm Discontinuity
.46	Repetti Discontinuity
.6	Media
	→(205) Lithosphere. Earth's mantle.
	Centrosphere — Table I(e)
	Common auxiliaries of place
.62	Crust
.64	Mantle
.642	Upper mantle
.644	Lower mantle
.66	Core
.662	Outer core
.664	Inner core
.348	Disturbances, Earth (terrestrial) and

Special auxiliary subdivisions for 550.348

550.348.098	Characteristics of disturbances
.2	By depth of focus
.22	Normal
.23	Shallow
.24	Intermediate
.25	Deep
.3	By magnitude of source (energy)
.32	Macroseismic disturbances
.33	Tremors, including microtremors
.4	By source location (focus, hypocentre)
.42	Surface
.43	Underground
.44	Underwater
.45	Atmosphere
.5	By epicentral area (epicentre, epicentrum, epicentral zone)
.6	By time distribution
.62	Swarms (including earthquake clusters)
.64	Seismicity (earthquake frequency, seismic belts): aseismic, seismic regions
.7	By distance (from recording station)
.72	Local
.74	Teleseismic

Principal divisions (continued)

550.348.2	Disturbances by mechanism (of source)
.22	Anaseismic
.24	Kataseismic
.3	Extraterrestrial disturbances
.32	Moon: moonquakes (lunar seisms)
.4	Earth disturbances (events)
.42	By man-made causes
.422	Cultural noise (microseisms)
.423	Mechanical (ground thumpers)
.424	Accidents
.425	Explosions
.2	Chemical
.4	Nuclear
.43	By natural causes
.432	Earth noise (microseisms)
.433	Shocks (ground): foreshocks, aftershocks
.434	Cavity collapse
.435	Rockbursts, landslides, volcanoes

550.348.436	Earthquakes, seaquakes	550.375	Earth-current variations, fluctuations, storms
.349	Earthquake surface effects (i.e. not generally considered a seismic disturbance by themselves)	.376	Local electric charges [<i>cancelled</i>] → 550.373
.2	Water level fluctuations (including seismic seiches, hydroseisms, water displacement)	.377	Quasi-persistence. Relation to collateral phenomena: solar, geomagnetic etc.
.4	Other displacements, topographic effects, damage	.378	Radioactivity of soil
550.35	TERRESTRIAL PHYSICS OF RAYS AND RADIATIONS	.379	Completed surveys. Results of observations
	→551.521 Radiation — Meteorology	550.38	TERRESTRIAL MAGNETISM (GEOMAGNETISM)
	551.593 Optical phenomena in the atmosphere		→537.67 Terrestrial magnetism — Physics
.36	TERRESTRIAL ENERGETICS AND THERMODYNAMICS. THERMAL INFLUENCES AND EFFECTS		<i>Further particulars may be denoted by Table 1(d) Common auxiliaries of form, e.g.</i>
	<i>For radiation emission from Earth, use 523.31–62</i>	.380	550.38(084) Pictorial and graphic documents. Maps, charts
	→551.511 Mechanics and thermodynamics of the atmosphere		Geomagnetic technique, methods, equipment
	551.52 Radiation and temperature	.1	Geomagnetic technique in general. Units.
	551.58 Climatology	.11	Coordinates. Notation. Selection etc. of data
.360	Observation and measurement methods for the energy and thermodynamics of the Earth	.12	Coordinates. Notation
	→550.34.01/06	.13	Coordination of neighbouring observations
.361	Internal heat of the Earth. Variations of temperature with depth	.14	Reduction of results to daily, monthly mean etc. Methods, tables, forms etc.
	→536.12 Temperature distribution in bodies — Thermodynamics	.2	Recording, evaluation, interpretation. Methods, charts etc.
.2	Internal heat. Intrinsic, characteristic heat of the Earth	.22	Magnetic observatories (fixed structures)
.4	Dependence of temperature on depth		<i>For observatory routine → 550.380.1</i>
.362	Thermal conductivity of rocks, of the Earth's crust	.23	Site selection. Elimination of disturbances
.367	Sources of the Earth's energy. Potential energy of the Earth	.25	Distribution of observatories
550.37	TERRESTRIAL ELECTRICITY. EARTH CURRENTS		Interpretation of results with allowance for site distribution
	<i>For electrical properties of Earth as a planet, use 523.31–334.7</i>	.3	<i>Class here only information that cannot be classed at 550.380.14 or 550.389</i>
	→551.594 Electrical phenomena in the atmosphere	.7	Ancillary operations for magnetic surveys
	<i>Further particulars may be denoted by colon combination with the subdivisions of 537</i>		Vehicles, craft, instrument-carrying and other devices for surveys
.370	Observation and measurement methods for terrestrial electricity	.8	<i>Further particulars may be denoted by colon combination with the subdivisions of 629.1</i>
	550.370 ≅ 550.34.01/09	.82	Magnetic instruments
.371	Study of the Earth's electric field in general	.83	Devices with indirect response or indication, including remote indication
.1	Potential of the Earth		Electromagnetic instruments
.2	Sources and intensity of terrestrial electricity	.84	<i>Further particulars may be denoted by colon combination with 621.317/318</i>
.3	Variations. Fluctuations		The compass and mobile magnetism.
	550.371.3 ≅ 551.571.3	.86	Deviation and compensation
.4	Fluctuations of terrestrial electric field depending on height and depth		→910.22 Equipment. Instruments — Exploration
.5	Influence of physical, chemical, biological phenomena	.87	Other non-recording instruments with movable magnet
.372	Electric conductivity and dielectric properties of rocks, of the Earth's crust		<i>Further particulars may be denoted by colon combination with the subdivisions of 537.6/.8 and 621.318</i>
.373	Regional and local aspects. Circulation, depth, prospecting, generation in bodies of water	.89	Recording instruments. Variometers.
.374	Effects of earth currents and leakage currents on underground installations	.381	Magnetographs
	<i>For protection against earth current — 621.316.973</i>	.382	Calibration. Testing. Errors etc.
			Generalities [<i>cancelled</i>] → 550.38
			Surface features of the (steady) field
			<i>Further particulars may be denoted by colon combination, e.g.</i>
			550.382:528.067.4 Plotting of results.
			Magnetic cartography
		.3	Magnetism of rocks and minerals.
			Permeability. Susceptibility. Polarization

550.382.4	Fine structure, texture of the field (including interpretation of aerial surveys) <i>For surveys → 550.389</i> <i>Further particulars may be denoted by colon combination, e.g.</i>	550.385.2	Local time and related fluctuations
	550.382.4:528.4 Field and land surveying for fine structure. Topographic surveying, levelling etc.	.21	Theories. Behaviour of currents, dynamic effects, atmospheric tides. Effect of heat, resonance, diamagnetism, drift current
	:537.6/.8 Magnetism details: poles, lines of force, induction etc.	.24	Periodic fluctuations not included elsewhere: lunar (–monthly), seasonal, annual <i>Further particulars may be denoted by “3/5” from Table I(g) Common auxiliaries of time</i>
.7	Extensive anomalies: relation to ocean basins, continents	.25	Lunar-daily variation
.8	Specific anomalies not classed elsewhere	.26	Solar-daily variation as a whole (quiet-day variations)
.383	Underlying plan. Organic conceptions	.27	Amplitude and form of daily variations in relation to disturbance
.2	General geographic character. Non-analytical treatment. Magnetic equator. Dip/latitude	.28	Disturbance-daily variations
.3	Magnetic poles of the Earth. Principal dipoles. Intensity foci. Other polar concepts →550.384.5 Migration of poles, apparent or real	.3	Fluctuations not classed elsewhere
.4	Properties of the dipole field. The uniformly magnetized sphere	.35	Crochets
.7	Numerical analysis. Earth’s magnetic axis and magnetic moment. Gaussian coefficients etc.	.36	Bays and isolated perturbations
.384	Palaeomagnetism. Origin and secular variation of the field →551.8 Palaeogeography →902.653 Palaeomagnetic dating methods	.37	Pulsations: character, measurement, records
.1	Origin of the field (and of its secular variation)	.4	Magnetic storms <i>Further particulars may be denoted by Table I(d) Common auxiliaries of form, e.g. 550.385.4(083.8) Lists of particular storms</i>
.3	Secular variation: analysis and evidence	.41	Theories. Activated corpuscle streams. Ring-current hypothesis. Ultraviolet-light theories
.31	Analysis technique	.43	Onset and subsequent course of disturbance. Precursor disturbances. Sudden onsets. Irregular fluctuations
.32	Evidence from archives and archaeological data	.44	Storm-time variations and recovery phase (including postperturbation and non-cyclic change)
.33	Evidence from natural deposits	.46	Spatial and stereometric aspects. Disturbance-vector aspects. Distribution over the globe. Zonal and interzonal currents etc.
.34	Long chains of data for particular localities	.47	Kinds of magnetic storm and disturbance. Relative magnitude, Birkeland’s categories etc.
.4	Diurnal variations [<i>cancelled</i>] → 550.385	.386	Magnetic activity, fluctuations, quasi-persistence etc.: statistical and related aspects <i>Further particulars may be denoted by Table I(g) Common auxiliaries of time. e.g. 550.386 “52” Diurnal fluctuations</i>
.5	Migration of poles, apparent or real		“54” Lunar (–monthly) and seasonal fluctuations
.6	Distribution (of secular variation) over the globe. Isoporic patterns. Migration of foci. Incidence of local irregularity		“55” Annual fluctuations
.7	Changes of magnetic axis and moment	.4	Tendency to conservation in degree of activity
.385	Transient magnetic effects: variations, fluctuations, storms <i>For statistical and related aspects → 550.386</i> <i>Further particulars may be denoted by colon combination, e.g.</i> 550.385:523.68 Relation to meteors etc.	.6	Activity scales: character numbers, K-indices etc.
	:523.9 Relation to solar phenomena	.8	Quasi-persistence (27 – day recurrence)
	:521.81 To eclipses	.387	Telluric electricity. Electromagnetic earth currents 550.387 ≅ 550.37
	:523.947 To solar corona	.388	Overhead activation phenomena of ionosphere. Luminous manifestations etc. <i>For electrical phenomena of lower atmosphere</i> →551.594, cf. 52 – 334.7, 523.31 – 852
	:523.982 To sunspots		Sounding and exploring technique and equipment, e.g. with missiles, rockets
	:523.983 To faculae	.1	Ionosphere: theories, influence, distribution etc.
	:550.37 Relation to terrestrial electricity, earth currents	.2	→ 551.510.535 Ionosphere — Meteorology <i>Further particulars may be denoted by colon combination, e.g.</i>
	:550.388 Relation to ionospheric phenomena		
	:551.5 Relation to meteorological phenomena		
.1	Analytical technique. Correlation. Prediction		

550.388.2 (cont'd)	550.388.2:551.594 Relation of ionosphere to electrical phenomena in atmosphere	550.42	OCCURRENCE AND DISTRIBUTION OF CHEMICAL ELEMENTS AND THEIR ISOTOPES
.8	Luminous manifestations. Aurora borealis. Aurora australis →52 – 628 Luminescence — Astronomy 523.31 – 852 – 35“414.22” Light of the night sky 551.593 Optical phenomena in the atmosphere 551.594.5 Aurora — Meteorology <i>Further particulars may be denoted by Table I(d) Common auxiliaries of form, e.g.</i> 550.388.8(083.8) Auroral lists		<i>Particular elements or isotopes may be denoted by colon combination with the subdivisions of 546, citing the atomic mass number after an asterisk, e.g.</i> 550.42:546.11*3 Occurrence and distribution of tritium (hydrogen isotope, atomic mass 3) <i>Particular zones, layers, rocks and deposits may be denoted by colon combination with the subdivisions of 551/553, e.g.</i>
.389	Magnetic surveys, charts, observatory results		550.42:551.14 In the lithosphere
.1	Field (survey) data <i>Further particulars may be denoted by Table I(e) Common auxiliaries of place, e.g.</i> 550.389.1(100) Worldwide scope. Hemisphere charts etc. (4/9) Continental scope or smaller. Charts of particular countries	.422	:551.15 Between the lithosphere and barysphere
.2	Extended programs of international collaboration	.423	:551.16 In the barysphere (centrosphere, core)
.21	International Polar Year 1882 – 83 <i>Alternatively, use 550.389(100)“188”</i>	.424	:552.3/.5 In particular kinds of rock
.22	International Polar Year 1932 – 33 <i>Alternatively, use 550.389(100)“193”</i>	.2 .4 .6	:553.3/.9 In particular mineral deposits
.3	Intensive observations at base stations, including expeditions and temporary observatories	.425 .426	Occurrence of chemical elements in the Earth (crust, core etc.)
.5	Magnetic-observatory results <i>Place and date may be denoted by Tables I(e) Common auxiliaries of place and I(g) Common auxiliaries of time</i>	.428	Distribution of chemical elements in the Earth (crust, core etc.)
550.4	GEOCHEMISTRY →550.84 Chemical and physical-chemical methods of geological investigation and exploration <i>Further particulars may be denoted by colon combination, e.g.</i> 550.4:519.2 Statistical methods :551.2 Geochemistry of endogenic or hypogenic processes :551.3 Geochemistry of exogenic or hypergenic processes :552.57/.58 Geochemistry of organic rock materials :552.578.2 Geochemistry of petroleum :552.578.3 Geochemistry of bitumens	550.43 550.46 550.47 550.7	Migration of chemical elements Rate of migration Migration capacity (ability) Migration route. Form of transport Crystallochemical factors Thermodynamic factors Paragenetic associations of chemical elements
	Special auxiliary subdivisions for 550.4		OCCURRENCE OF CHEMICAL COMPOUNDS AND MIXTURES
550.4.01	Theory, principles of research		GEOCHEMISTRY AND GEOCHEMICAL ACTION OF THE HYDROSPHERE (WATER GENERALLY) AND ATMOSPHERE
.02	Practical and experimental work		→551.579 Soil moisture and hydrology. Hydrometeorology
.07	Equipment, installations and apparatus		556.114 Chemical properties of water
.08	Determination, measurement and instruments		556.314 Chemical and physicochemical properties — Groundwater
	Principal divisions (continued)		Geochemical action of the hydrosphere (water)
550.41	GENERAL AND THEORETICAL PROBLEMS. PHYSICOCHEMICAL PROBLEMS	550.72	Geochemical action of the atmosphere
		550.73	BIOGEOCHEMISTRY →550.7 Geobiology
		550.74	GEOBIOLOGY. GEOLOGICAL ACTIONS, EFFECTS, OF ORGANISMS (DEPOSITS) →551.438 Relief forms caused by organic and human action
		550.75	56 Palaeontology
			581.9 Geographic botany (plant geography)
			591.9 Geographic zoology. Zoogeography
			ACTION OF LOWER ORGANISMS
			ACTION OF PLANTS
			ACTION OF ANIMALS
			ACTION OF HUMANS

550.8	APPLIED GEOLOGY AND GEOPHYSICS. GEOLOGICAL PROSPECTING AND EXPLORATION, AND INTERPRETATION OF RESULTS	550.8.053 (cont'd)	:681.3 Computer processing of results
	→622.1 Preliminary investigation. Mine surveying and mapping.	.054	Preliminary (field) treatment
	Exploration of mineral deposits	.055	Final results (laboratory treatment)
	<i>Further particulars may be denoted by colon combination, e.g.</i>	.056	Determination of physical parameters from geophysical data
	550.8:528 Geological surveying, mapping details	.07	Equipment, installations and apparatus generally
	<i>For actual maps, use 55(084.3) or 912(084.3):55</i>	.072	Models. Analogy and simulation apparatus
	:528.067 Graphical representation of geological survey results		→550.8.013 Theoretical investigation, use of models etc.
	:528.067.4 Plotting of geological survey results		550.8.072 $\cong$ 53.072
	:528.94 Compilation and reproduction of geological survey maps and their evaluation	.08	Measurement: principles and instruments. Geophysical units, accuracy, precision etc.
	<i>Scale may be denoted by (084.3 – 1...) from Table I(d) Common auxiliaries of form, or (084.3M...) followed by the scale divided by 1 000, e.g.</i>		550.8.08 $\cong$ 53.08
	550.8:528.94(084.3 – 13) Maps to scale of 1:20 000 to 1:75 000	Principal divisions (continued)	
	(084.3M50) Maps to scale of 1:50 000	550.81	GEOLOGICAL PROSPECTING: SIMPLEST EXPLORATION METHODS. GEOMORPHOLOGICAL INVESTIGATIONS WHILE PROSPECTING
Special auxiliary subdivisions for 550.8		.812	Prospecting
550.8.01	Theory. Principles of research and investigation	.1	Exploration and related work
.011	Theoretical principles of prospecting and exploration	.12	Preliminary survey
.012	Research and investigation methodology	.14	Exploration work
.013	Theoretical investigation, use of models etc.	.2	Inspection work
	→550.8.072 Models. Analogy and simulation apparatus	.813	Application of topographic maps
.014	Experimental investigation principles		→528.93 Topographic and chorographic (landscape) cartography
	→550.8.02 Practical work: organization, programs, projects etc.	.814	Application of (aerial) photographs. Aerial methods in geology
.015	Geophysical field		→528.7 Photogrammetry (aerial and terrestrial). Methods and instruments
.02	Practical work: organization, programs, projects etc.	550.82	778.35 Aerial photography
	<i>Further particulars may be denoted by colon combination, e.g.</i>	.822	GEOLOGICAL (GEOMECHANICAL) EXPLORATION TECHNIQUE
550.8.02:061	Details of organizations, cooperation		Geological drilling
:65	Management details		→622.143 Exploration drilling — Mining
.023	Laboratories. Laboratory research	.1	622.24 Drilling (boring). Drilling technique. Drilling technology
.024	Organization of stations, field work	.2	Bore profiles
.025	Services and networks	.3	Drilling data. Seam pitch and strike measurements. Core sample studies
.028	Combined methods and techniques of investigation	.5/.7	Core samples
.04	Observation and observations. Geophysical field survey	.5	Kinds of drilling
	<i>This auxiliary is further subdivided under 550.83.04</i>	.6	Hand drilling
.05	Treatment of investigation results and interpretation of data	.7	550.822.51/.53 $\cong$ 550.822.1/.3
.052	Qualitative interpretation		Structure drilling
.053	Quantitative interpretation. Analytical and graphical methods and processing	.823	550.822.61/.63 $\cong$ 550.822.1/.3
	<i>Further particulars may be denoted by colon combination, e.g.</i>		Exploratory drilling
550.8.053:519.2	Mathematical-statistical interpretation	.824	<i>Machines and methods may be denoted by colon combination with the subdivisions of 622.24, e.g.</i>
			550.822.7:622.24.05 Drilling tools, drilling equipment etc.
			:622.243 Deep boring methods, techniques
			550.822.71/.73 $\cong$ 550.822.1/.3
			Measurements of fissures [cancelled]
			→ 551.442
			Examinations of boulders [cancelled]
			→ 551.311.551.438

550.83	GEOPHYSICAL EXPLORATION METHODS	550.832.43	Differential logging
	<i>Further particulars may be denoted by colon combination, the (2) place auxiliaries from Table I(e), and the special auxiliary subdivisions listed under 550.8, further developed as follows:</i>	.44	Acoustic logging
	550.83:550.814 Aerogeophysical exploration	.441	Acoustic logging in accordance with speed
	:553.3/.9 Geophysical exploration of economic mineral deposits	.442	Acoustic logging in accordance with attenuation
	:556.3 Geophysical exploration applied to hydrogeology	.46	Ultrasonic logging
	550.83(26) Marine, offshore, geophysical exploration	.5	Nuclear-geophysical methods of well examination
			→539.1.06 Application. Utilization — Nuclear, atomic and molecular physics
			550.835 Radiometric (nuclear-geophysical) prospecting and surveying methods
Special auxiliary subdivisions for 550.83		.52	Gamma logging
550.83.01	Theory and principles	.53	Neutron logging
.015	Geophysical field and field potential	.532	Neutron logging with thermal neutrons
.016	Geophysical anomalies, including transformations and recounts	.533	Neutron logging with superthermal neutrons
.017	Direct and reverse problems of geophysics	.535	Neutron-neutron logging
.04	Observation and observations. Geophysical field survey	.54	Pulse-neutron logging
.042	Methods: continuous, separate	.542	Pulse-neutron-neutron logging
.044	Field excitation	.543	Pulse-neutron-gamma logging
.045	Field recording and records	.55	Gamma-gamma logging
.048	Factors preventing observation, and their elimination	.552	Density logging (gamma-gamma)
		.553	Differential gamma logging
		.554	Spectral gamma-gamma logging
		.555	Spectrometric selective gamma-gamma logging
Principal divisions (continued)			Photonuclear and X-ray (radiometric) logging
550.831	Gravimetric exploration and survey. Measurements with variometers, gravity meters, pendulums, gradiometers	.56	Application of radioactive isotopes to geophysical study of wells
	<i>Further particulars may be denoted by the special auxiliary subdivisions listed under 550.8 and 550.83, e.g.</i>	.57	→ 621.039.8 Applications of isotopes generally
	550.831.01 Gravitational field theory	.58	Magnetic-resonance logging
	.015 Gravitational field	.582	Nuclear-magnetic logging
	.015.072 Models and analogues	.59	Other nuclear-geophysical methods of well study, e.g. based on Mössbauer's effect
	.016 Gravitational anomalies, including transformations and recounts	.6	Thermal study of wells
	.017 Direct and reverse problems of gravitational exploration	.7	Electrometric study of wells. Electrical logging
.2	Surveying with instruments on a fixed base	.72	→550.837 Electrical prospecting, sounding and profiling methods
.22	Surveying with pendulums	.73	SP logging (spontaneous polarization method)
	<i>For geodetic pendulums → 528.026.1, 528.561</i>	.74	Electrical logging with normal probes
.23	Surveying with gravity meters	.75	Lateral electrical logging
	<i>For geodetic gravimeters — 528.026.3, 528.563</i>	.76	Induction logging
.24	Surveying with variometers	.77	Microlog with normal and focussed probes
	<i>For geomagnetic variometers, magnetographs →550.380.87</i>	.79	Induced polarization logging
.3	Surveying with measurements of the field and its component in motion	.8	Dielectric-one, slide-contact, electric-potential and other electrical logging methods
.832	Geophysical methods of well examination. Logging	.8	Magnetic logging
.1	Gravimetric study	.9	→550.838 Magnetic prospecting and surveying methods
	→550.831 Gravimetric exploration and survey		Other kinds of geophysical investigation of wells
.12	Density logging		<i>Further particulars may be denoted by colon combination, e.g.</i>
.2	Mechanical logging		550.832.9:622.245.142 Perforation in wells
.4	Seismic study of wells		:622.245.512 Clearing of well with explosives
	→550.34 Seismology	.92	Gas logging
	550.834 Seismic and acoustic methods of exploration etc.	.833	Piezoelectric prospecting or exploration methods
.42	Interval seismic logging		

550.834	Application of elastic waves for investigating the Earth's uppermost strata. Seismic and acoustic methods of exploration, prospecting and sounding	550.835.6	Nuclear-geophysical prospecting based on Mössbauer's effect
Special auxiliary subdivisions for 550.834		.7	Nuclear-geophysical prospecting based on use of cosmic rays
550.834.01	Seismic method theory	.8	Other nuclear-geophysical prospecting methods
.015	Elastic-force field	.836	Geothermal exploration, prospecting and survey methods
.2	Elastic (seismic) waves	.2	Natural-thermal-field method
.22	Useful waves	.3	Artificial-thermal-field method
.24	Interference waves	.837	Electrical prospecting, sounding and profiling methods
.018	Geometrical seismics	→550.832.7	Electrometric study of wells. Electrical logging
.04	Observation and observations of seismic waves	.2	Natural-field methods
.042	Methods of observation	.21	Electromagnetic prospecting using natural fields
.048	Factors preventing excitation and recording of elastic waves	.211	Magnetotelluric sounding (MTS)
.05	Interpretation of seismic prospecting data	.212	Magnetotelluric profiling (MTP)
.08	Seismic measurement: principles and instruments	.213	Telluric currents method (TCM)
550.834.08 $\cong$ 53.08		.214	Magneto-variational sounding (MVS)
→550.34.038 Seismograph systems — Seismology		.215	Magneto-variational profiling (MVP)
Principal divisions (continued)		.217	Amplitude-phase magnetic method
550.834.3	Refracted-wave method	.218	Stray-current method
.32	Abyssal seismic soundings (ASS)	.22	Spontaneous polarization method (SPM)
.33	Correlation method of refracted waves (CMRW)	.3	Direct-current (DC) methods, including variations of methods classed above in which low-frequency variable fields are used
.5	Reflected-wave method	.31	Resistance (sounding and profiling) method
.52	Basic modification	.311	Electrical (vertical) sounding method
.53	Specific modifications of the reflected-wave method	.312	Electrical profiling method
.532	Methods of variable beam reception (MVBR)	.32	Charged-body method
.533	Plane-front method. Controlled plane front	.6	Electromagnetic methods using artificial field source
.534	Plane-print method	<i>except radio methods, for which → 550.837.7</i>	
.535	Vibroseis	.61	Frequency sounding
.536	Method of recording traffic waves, transverse waves	.62	Geometrical sounding
.7	Diffracted-wave method	.63	Amplitude-phase methods
.8	Methods using natural earthquakes, tremors etc.	.64	Infinitely-long-cable method
.835	Radiometric (nuclear-geophysical) prospecting and surveying methods	.65	Loop methods
→550.832.5 Nuclear-geophysical methods of well examination — Logging		.652	Ungrounded loop method
<i>Further particulars may be denoted by colon combination, e.g.</i>		.653	Methods using grounded field source (intensity method)
550.835:553.98 Radiometric methods of search for oil-fields, gas-fields		.7	Radio prospecting methods
.2	Alpha-ray, beta-ray, gamma-ray, radon (emanation) and ionometric methods	.71	Translucence method
.21	Alpha-method	.74	Comparator and direction-finding method (radiokip)
.212	Alpha-spectrometry	.75	Radio-wave method
.22	Beta-method	.76	Radar (radiolocation) methods
.23	Gamma-method	.8	Methods using non-stationary fields
.232	Gamma-spectrography	.81	Induced-potential method (IP)
.24	Radon (emanation) surveying	.82	Method of soundings by means of field formation (SFF)
.25	Ionometric method	.83	Transient method (TM)
.4	Gamma-gamma method	.9	Other electrical prospecting methods
.41	Gamma-X-ray (X-ray radiometric) method	.838	Magnetic prospecting and surveying methods
.42	Gamma-electronic (emission) method	.2	Magnetic surveying with measurement of the relative values of the magnetic field total vector and its Z and H components
.5	Neutron prospecting and surveying methods	.22	Micromagnetic surveying
.51	Neutron-absorption method	.3	Magnetic surveying with measurement of the absolute values of the magnetic field total vector and its Z and H components
.52	Neutron-activation method	.4	X-metric method
.53	Neutron-gamma method	.5	Palaeomagnetic method
		.6	Geomagnetic-field variation method

550.839	Other geophysical exploration or prospecting methods		Principal divisions (continued)	
		550.841		Heavy concentrate, boulder
550.84	CHEMICAL AND PHYSICAL-CHEMICAL METHODS OF GEOLOGICAL INVESTIGATION AND EXPLORATION. GEOCHEMICAL METHODS (COMPLEX METHODS)	.842		Lithogeochemical (metallometric) method, using primary or secondary halves
		.845		Hydrochemical method
		.846		Biochemical method
		.2		Geobotanic method
		.3		Florometric (high-ash) method
		.5		Microbiological method
	<i>Further particulars may be denoted by colon combination with the subdivisions of 543, 631.42 etc., and by the special auxiliary subdivisions listed below and at 550.8, e.g.</i>	.847		Atomic-chemical methods
		.849		Other geochemical investigation, exploration or search methods
	550.84:543 Analytical-chemical techniques	550.85		SAMPLING IN GEOLOGICAL INVESTIGATION AND EXPLORATION WORK. PETROGRAPHIC INVESTIGATION
	:543.25 Electrolytic and electrometric methods			→552 Petrology. Petrography
	:543.27 Gas-analysis techniques	.853		Borehole sampling
	:543.5 Physical-chemical techniques: mass spectrometry; radiometric, radiochemical analysis	.854		Prospecting shafts. Sampling during placer exploration
	:631.42 Soil-analysis techniques	.855		Sampling of surface holes during exploration of original deposits
		.856		Sampling of underground holes
Special auxiliary subdivisions for 550.84		550.86		PALAEONTOLOGICAL EXPLORATION WORK
550.84.02	Practical geochemical work: organization etc. (laboratory, field)			→56.07 Experimental studies.
.04	Geochemical observation(s)			Determination of fossils —
.08	Geochemical measurement: principles, apparatus, instruments			Palaeontology
		.861		Larger foraminifera
.09	Haloes, anomalies and indicators	.862		Smaller foraminifera
.092	Haloes of dispersion	.863		Standard palaeontological methods
	→535.348 Pleochroic haloes — Physics			
.1	Primary haloes	550.87		BIOLOGICAL AND PSYCHIC METHODS. DIVINING. DOWSING
	→553.261 Primary zoning of mineralization			→159.961.323 Divining rods —
.2	Secondary haloes			Parapsychology
	→553.262 Secondary zoning of mineralization	550.89		Experimental geology etc. <i>[cancelled]</i>
				→ 550.8.013/.014, 550.8.072
.21	Mechanical	550.9		OTHER GENERAL MATTERS
.22	Saline	550.93		GEOCHRONOLOGY. GEOLOGICAL
.23	Residual			DATING. ABSOLUTE GEOLOGICAL AGE
.24	Superimposed			— OR TIME-DETERMINATION
.093	Anomalies			TECHNIQUES
.1	Primary			→ 551.7 Historical geology. Stratigraphy
.2	Secondary			621.039.86 Geological and
.094	Geochemical indicators			archaeological dating —
.1	Direct			Applied nuclear science
.2	Indirect			902.66 Geochronological dating
				methods

551 General geology. Meteorology. Climatology. Historical Geology. Stratigraphy. Palaeogeography

		551.11 (cont'd)	<i>For the shape and dimensions of the Earth from an astronomical point of view, use 523.31 – 33; for astronomical geodesy → 528.2</i>
	<i>Further particulars may be denoted by colon combination, e.g.</i>		Theories of the origin of the Earth
	551:712(2) Geological basis of physical characteristics of landscape	.12	Lithosphere
551.1/.4	GENERAL GEOLOGY. PHYSICAL AND DYNAMICAL GEOLOGY	.14	Layers between lithosphere and baryosphere
551.1	GENERAL STRUCTURE OF THE EARTH	.15	Core. Baryosphere
	→550.312 Gravity and isostasy	.16	→528.27 Gravity measurement — Geodesy
.11	Generalities on the shape of the Earth	551.2	INTERNAL GEODYNAMICS (ENDOGENOUS PROCESSES)
			→502.64 Conservation and protection of geologic and geomorphologic features

Special auxiliary subdivisions for 551.2

551.2.01	Theories and principles of endogenous processes	551.226
.02	Practical and experimental work →551.2.08 Determination, measurement and instruments	.227 .228
.03	Genetic, development and activity aspects of endogenous processes, structures and formations <i>For details</i> → 551.21, 551.263	551.23
.05	Forms and features of endogenous processes <i>For details</i> → 551.24	.231 .232 .233
.08	Determination, measurement and instruments 551.2.08 ≅ 53.08 →551.2.02 Practical and experimental work	.234 .235 .236

Principal divisions (continued)

551.21	VULCANICITY (VULCANISM, VOLCANISM). VOLCANOES. ERUPTIVE PHENOMENA. ERUPTIONS →550.34 Seismology 551.432.7 Volcanic relief	.237 .239
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Special auxiliary subdivisions for 551.21

551.21.03	Degree of activity of volcanoes	
.032	Active	
.033	Dormant	
.034	Extinct	

Principal divisions (continued)

551.211	Areal eruptions	
.212	Fissural eruptions	
.213	Central eruptions	
.1	Effusive (shield volcanoes)	
.2	Intermediate, mixed type	
.3	Plosive eruptions (Maare)	
.214	Submarine volcanoes and eruptions	
.215	Volcanic systems	
.2	Volcanic chimneys	
.4	Volcanic pipes	
.6	Craters. Calderas	
.217	Volcanic products →551.432.7 Volcanic relief	
.1	Lava	
.2	Loose products	
.21	Blocks and bombs of authigenic material	
.22	Blocks and bombs of allogenic (allothigenous) material	
.23	Lapilli	
.24	Sands. Ashes	
.3	Mudstreams [cancelled] → 551.311.8	
.4	Descending incandescent clouds (nuees ardentes)	
.5	Gases	
551.22	FORMS OF INTRUSIVE AND VOLCANIC BODIES →550.3 Geophysics. Physical influences and actions 552 Petrology. Petrography 553 Economic geology. Mineral deposits	
.221	Batholiths (bathyliths). Stocks	
.222	Veins. Dykes. Sills	
.223	Apophyses. Tongues, offshoots	
.224	Volcanic necks. Subvolcanic bodies	
.225	Sills [cancelled] → 551.222	

551.226

Laccoliths. Phacoliths

Lopoliths

Protective covers. Sheet bodies

551.23

FUMAROLAS. GEYSERS. HOT SPRINGS ETC.

Further particulars may be denoted by colon combination, e.g.

551.23:502.64 Protection of hot springs etc.

Fumaroles

Solfataras

Geysers

Hot springs

→553.78 Pure hot springs — Economic geology. Mineral deposits

Mofettes

Carbon dioxide vents

Soffioni (suffioni)

Gas-filled valleys

551.24

GEOTECTONICS. CRUST MOVEMENTS. TECTONIC STRUCTURES AND THEIR ELEMENTS. FAULTS. FOLDS. UPLIFT. SUBSIDENCE. COMPRESSION. TECTOGENESIS. OROGENESIS

→551.4 Geomorphology. Study of the Earth's physical forms

Special auxiliary subdivisions for 551.24

551.24.01	Geotectonic theories	
.02	Practical, experimental tectonics. Simulation of processes	
.03	Tectogenesis. Tectonophysics	
.031	Tectogenesis: epochs, cycles	
.035	Tectonophysics. Fault and fold mechanisms	
.05	Forms and features of tectonic processes →551.242.3 Geosynclines and folded belts, regions or zones 551.242.5 Platforms 551.243 Structural geology. Fracture disturbances etc.	
.052	Dimensional features (angle, displacement etc.), e.g. fault plane and hade, throw (upthrow, downthrow), lateral shift and heave	
.053	Arch or crest of folds and flexures. Anticlinoria. Anticlines etc.	
.054	Trough of folds and flexures. Synclinoria. Synclines etc.	
.055	Median massives. Shields	
.056/.058	Platforms, bars, uplifts <i>For details</i> → 551.242.5	
.08	Determination, measurement and instruments	

Principal divisions (continued)

551.240	Orogenesis in general [cancelled] → 551.24, 551.24.01/.08	
551.241	Tectosphere. Thickness (depth) and structure of Earth's folding and faulting crust layers → 551.14 Lithosphere	
.242	Tectonic movements, fluctuations etc. Tectonic structures of the Earth and their elements <i>Further particulars may be denoted by the special auxiliaries listed under 551.24, e.g.</i> 551.242.03 Structural stages (of tectonic structures etc.)	
.1	Tectonic movements	

551.242.11	Horizontal, lateral movements <i>Further particulars may be denoted by the special auxiliaries listed under 551.24, e.g.</i> 551.242.11.052 Dimensional features. Lateral shift and heave	551.243.7 .8	Simple shearing [<i>cancelled</i>] → 551.252; for tilting (mistranslation in BS 1000: Vol. 2, Part 3:1943) → 551.24.052 Lineaments. Structural seams. Plutonic fractures. Crumpling zones
.12	Vertical movements <i>Further particulars may be denoted by the special auxiliaries listed under 551.24, e.g.</i> 551.242.12.052 Dimensional features. Throw	.244 .1	Uplift. Subsidence. Compression. Tension →551.35.061 Marine transgression — Exogenous processes Uplift. Upcast
.122	Oscillatory movements (epeirogenic)	.2	Subsidence. Compression
.2	Ocean tectonics	.3	Tension
.21	Troughs. Trenches	.245	Jointing of rocks
.22	Island arcs	.1	Massive
.23	Median-oceanic ridges	.2	Laminate, bedded
.24	Arched uplifts and block ridges	.3	Columnar and cylindrical
.25	Thalassocrathons (oceanic platforms)	.4	Spheroidal
.3	Geosynclines. Folded belts, regions, zones <i>Further particulars may be denoted by the .05 special auxiliaries listed under 551.24, e.g.</i> 551.242.3.053 Anticlinoria .054 Synclinoria .055 Median massives	.5 .6 .247 .1 .2 .3 .248	Parallelepipedal and cuboid Irregular Saline tectonics Salt domes (salt plugs) Cap rocks Salt breccia Palaeotectonics. Neotectonics
.31	Folded regions	.1	Palaeotectonics
.32	Modern geosyncline regions	.2	Neotectonics →551.4 Geomorphology. Study of the Earth's physical forms
.4	Zones of activation		PETROTECTONICS. DYNAMIC, CHEMICAL AND THERMAL CHANGES OF ROCKS
.5	Platforms	551.25	→552 Petrology. Petrography Metamorphism in general →552.16 Metamorphism — Petrology
Special auxiliary subdivisions for 551.242.5 551.242.5.05 ≅ 551.24.05 with the addition of .056/.058			Fractured rocks. Cleavage Dynamo-thermal metamorphism (dynamic metamorphism) Crushing and plastic deformation of rocks Schistosity
551.242.5.053	Anticlisles	.251	
.054	Synclisles	.252	
.055	Shields	.253	
.056	Shelves (ledges)	.254	
.057	Bars, ridges	.255	
.058	Uplifts		
Principal divisions (continued)			
551.242.51	Old platforms	551.26	STRUCTURAL-FORMATIVE ZONES AND GEOLOGICAL FORMATIONS
.52	Recent platforms	.262	Structural-formative zones. Structural-facies zones
.7	Marginal (frontal) depressions	.263	Geological formations →551.7 Historical geology. Stratigraphy
.243	Structural geology. Fracture disturbances. Plutonic fractures. Faults. Folds etc.		Special auxiliary subdivisions for 551.263
.1	Faults	551.263.03	Formations according to origin
.11	Horsts	.036	Sedimentary
.12	Grabens. Rift valleys (taphrogeosynclines)	.037	Volcanogenic
.13	Kettle holes (kettles)	.038	Intrusive
.17	Slickensides (frictional striations)		Principal divisions (continued)
.18	Fault breccias	551.263.1	Formations of the platform regions
.2	Flexures. Isoclines. Monoclines	.12	Trappean (terraced) formations
.21	Isoclinal folding. Isoclines	.2	Formations of geosynclinal and intermediate regions
.22	Monoclines	.22	Molassic formations
.3	Folds. Elements of folds	.23	Flyschic formations
.31	Synclines	551.3	EXTERNAL GEODYNAMICS (EXOGENOUS PROCESSES)
.32	Anticlines		Special auxiliary subdivisions for 551.3
.33	Depressions (basins). Intermontane depressions	551.3.051	Sedimentation and stratification in general
.34	Gravitational folds	.1	Intersecting stratification
.35	Disharmonious folds	.3	Ripple marks
.4	Thrusts. Tectonic covers. Overthrust sheets. Nappes (recumbent folds). Tectonic flakes. Windows. Outliers	.4	Conformable bedding
.5	Lumps (blocks)		
.6	Displacements		

551.3.051.5	Unconformable bedding	551.311.236	Mechanical action
.6	Horizontal bedding		→551.311.22 Alteration of rocks and minerals
.7	Angle of dip		551.435.2 Relief forms created by weathering, overland flow (wash) and mass movement of waste
.8	Vertical bedding		
.9	Direction of strike		
.053	Erosion, corrosion and weathering in general		
	→551.435.11 Relief forms created by erosive action of permanent water courses	.1/.3	Rain grooves. Fissures, crevices. Earth pillars, pyramids <i>[cancelled]</i> → 551.435.162, 551.435.246, 551.435.81
	551.435.16 Relief forms created by erosive action of intermittent water courses	.24	Denudation processes. Transport
			→551.435.2 Relief forms created by weathering, overland flow (wash) and mass movement of waste
Principal divisions (continued)			
551.31	TERRESTRIAL FORMATIONS		
	→551.4 Geomorphology. Study of the Earth's physical forms	.241/.243	Results of denudation. Peneplains etc. <i>[cancelled]</i> → 551.435.2, especially 551.435.21/.22
.311	Aeolian type and continental erosion	.3	Aeolian effects. Action of wind
	→551.435 Morphosculptures. Relief forms created by exogenous processes. Dynamic and climatic geomorphology		→551.435.7 Relief forms created by aeolian processes
.1	Erosion phenomena due to temperature	511.311.31	Dunes (as deposits)
	→551.311.23 Weathering phenomena		→551.435.74 Relief forms created by aeolian accumulation of sand
	551.34 Effects of frost on rocks and soils. Frozen soils. Permafrost	.33	Loess (as a deposit)
.11	Phenomena due to the action of cold in general		→551.435.76 Relief forms created by aeolian accumulation of loess
.12	Glaciers <i>[cancelled]</i> — 551.324, cf 551.322, for avalanches → 551.578.48	.34	Wind-polished rocks. Windkanters
.13	Theories of the causes of glacial periods <i>[cancelled]</i> → 551.336/.338		→551.435.72 Relief forms created by deflation processes
.14	Moraines <i>[cancelled]</i> → 551.324.83, 551.332.52/.53	.35	Aeolian "Zeugenberge" (= monadnocks) <i>[cancelled]</i> → 551.435.285, 551.435.722
.15	Ancient glacial deposits <i>[cancelled]</i> → 551.332	.36	Wind-made hollows. Shardangs <i>[cancelled]</i> → 551.435.723
.16	Phenomena of glacial corrosion <i>[cancelled]</i> → 551.331, cf 551.243.1, 551.324.87	.4	Ossilerous facies, other zoogenous terrestrial formations <i>[cancelled]</i> → 551.438
.17	Icebergs. Pack ice. Ice-banks <i>[cancelled]</i> → 551.324.2, 551.326	.5	Meteoric facies (fulgurites) <i>[cancelled]</i> → 551.439
.18	Icelfloes. Ground ice <i>[cancelled]</i> → 551.326, 551.328	.6	Clastic deposits <i>[cancelled]</i> → 551.435.2; for anthropogenic debris → 551.438.5
.19	Phenomena due to the action of heat	.7	Volcanic formations <i>[cancelled]</i> → 551.311.8, 551.432.7
.2	Geological effects of continental waters. Weathering. Floods. Relations between climate and continental erosion	.8	Mud volcanoes (paint pots). Mudstreams (mudflows, lahars)
.21	Erosive action of flowing water. Erosion processes	.312	Limnic type (formation by fresh water)
	→551.435.1 Relief forms created by erosive action of permanent and intermittent water courses	.1	Crenitic deposits (from springs). Tufas, travertines
			→552.545 Calc-sinter, travertine — Petrology
.22	Alteration of rocks and minerals	.11	Calc-sinter
.23	Weathering phenomena	.12	Iron sinter
.231	Weathered crust	.13	Siliceous sinter
.232	Block weathering	.14	Amygdaloidal infillings
.233	Weathering to small particles	.15	Dendrites
.234	Soil formation	.16	Mineral and ore deposits
	→631.4 Soil science. Soil research — Agriculture		→552.5 Sedimentary rocks — Petrology
.1	Rocky soils		553 Economic geology. Mineral deposits
.2	Sandy soils	.2	Marshes. Moors. Peat. Groundwater deposits
.3	Loess (silty) soils		→551.438.22 Phytogenic forms (created by vegetable action, decay etc.). Peat formations. Peat bogs. Peat hummocks
.4	Loams		556.56 Swamps and marshes — Hydrology
.5	Clay soils		
.6	Limy (calcareous) soils	.22	High moorland
.7	Humic soils	.23	Low moorland
.235	Alteration in land form due to weathering <i>[cancelled]</i> → 551.435.2, 551.435.6, cf 551.435.4/.5	.24	Geest (sandy heath)

511.312.3	Geological action of flowing water. Fluvatile facies	551.321.35	Ice picks →685.727 Ice axes or picks — Mountaineering equipment
	→551.435.1 Relief forms created by erosive action of permanent and intermittent water courses	.37	Snow shovels →621.865.15 Implements for lifting. Shovels. Forks
	556.51/.54 River systems etc. — Hydrology	.4	Methods of measuring snow, ice and glacier temperature →551.324.412 Temperature of glaciers 551.578.46 Snow cover, including depth, temperature and density
.33	Terrace formation →551.435.116 Relicts of river erosion 551.435.132 Fluvial terraces	.5	Methods of measuring snow, ice and glacier movement →551.324.5 Glacier flow
.4	Geological action of lakes. Lacustrine facies →556.55 Lakes, reservoirs and ponds. Limnology	.6	Methods of measuring ice thickness →551.324.3 Measurement of dimensions of particular glaciers. Depth measurements
.46	Salt-lake facies	.61	Geophysical methods of ice sounding
.48	Freshwater-lake facies	.62	Seismic sounding
.313	Estuarine type	.63	Gravity sounding
.1	Brackish facies	.7	Methods of measuring properties of snow cover. Snow survey equipment →551.578.42 Snow surveys 551.578.46 Snow cover, including depth, temperature and density
.2	River-mouth (fluvio-marine) facies	.8	Glaciological model experiments
.314	Lagoonal type	.81	Analogues of ice
.1	Gypso-saliferous facies	.82	Analogues of snow. Artificial snow
.2	Gypseous facies	.84	Glacier models
551.32	GLACIOLOGY	.86	Model experiments on control of snow drifting →624.144.4 Control of snow drifting — Civil engineering
	→551.5 Meteorology (e.g. 551.578.4, 551.579.3)		Solid water substance. Ice and snow <i>This section includes the properties of snow where these are the same as those of ice. For snow as a meteorological element, snow cover on ground and avalanches → 551.578.4 and subdivisions Further particulars may be denoted by colon combination, e.g.</i>
	624.14 Snow and ice engineering		551.322:53 Physics of ice
	<i>Further particulars may be denoted by colon combination and common auxiliary subdivisions, e.g.</i>		:534.2 Propagation of mechanical vibrations in ice
	551.32:57 Biology of ice and snow. Glacial biology. <i>cf 574.2; 581.52 especially 581.522.632, 581.526.55; 581.9; 591.52; 591.9 with (211), (23.075), (7-013)</i>		:535 Optical properties: refraction, absorption etc.
	:579 Microbiology, bacteriology of ice and snow. Glacial microbiology		:536 Thermal properties: conduction, radiation etc.
	551.32(091) History of glaciology		:536.4 Effect of heat input: expansion, melting, freezing, sublimation
.321	Glaciological methods and instruments <i>For detailed methods of determining properties, see under the property measured (at subdivisions below)</i>		:536.6 Calorimetry: specific and latent heats
	→551.50 Practical meteorology (methods, data, forecasts and other applications)		:537 Electrical and magnetic properties: conductivity etc. Propagation of electromagnetic radiation (radio frequencies) in ice
.1	Methods of investigating snow and ice crystals		:539 Physical nature: molecular structure, mechanical properties, strength, fragility, adhesion etc.
.12	Preparation of snow and ice specimens		:539.42 Tensile strength, breaking strength of ice
.13	Preservation of snow and ice specimens		:548 Crystallography of ice
.14	Replicas and casts of snow and ice crystals		
.142	Ice-crystal rubbings		
.2	Methods of excavating in snow and ice <i>Further particulars may be denoted by colon combination with the subdivisions of 622, e.g.</i>		
	551.321.2:622.143.1 By core sampling :622.25 By shafts and shaft sinking		
.3	Tools for cutting, breaking, excavating snow and ice <i>For details of tools → 621.9</i> →624.144.5 Snow and ice removal. Snow melting — Civil engineering		
.31	Snow knives		
.32	Ice saws		
.33	Ice spears and chisels		

551.322 (contd.)	:548.2	Granular structure: shape and orientation of grains	551.324.83	Moraine material as a glacial feature. Lateral moraines. Surface (supraglacial) moraines. Rock flour
	:548.5	Formation, growth and solution of ice crystals: nuclei, recrystallization, development, habit etc.		<i>For till (boulder clay) → 551.332.212</i>
	:548.54	Habit, appearance of ice crystals		<i>For moraines as deposits → 551.332.52/.53</i>
.324		Land ice. Glaciers. Ice shelves		<i>For moraines as relief forms → 551.435.44</i>
		<i>Further particulars may be denoted by colon combination, e.g.</i>	.84	Other impurities in glacier ice
	551.324:001.4	Terminology of land ice	.85	Crevasses. Bergschrunds. Randklufts
	:535.345	Transmission of light through land ice	.86	Glacier streams. Flowing water in and on glaciers
Special auxiliary subdivision for 551.324			.862	Sudden increases in water flowing from glaciers. Jökullhlaups (glacier floods)
551.324.05		Effects on glaciers of exogenous phenomena, e.g. volcanoes, earthquakes	.87	Glacial pot-holes, sinks. Glacier mills (moulins). Glacier arches, snouts. Natural tunnels in glaciers. Ice caves. Ice grottoes
Principal divisions (continued)				<i>For glacial pot-holes as relief forms → 551.435.476</i>
551.324.2		Types of land ice	.88	Ablation phenomena. Dirt cones. Ice pyramids, séracs. Penitentes. Ice tables
.22		Valley glaciers. Cirque glaciers. Hanging glaciers. Ice aprons	.326	Floating ice
.24		Ice sheets. Ice caps		<i>Further particulars may be denoted by colon combination, e.g.</i>
.26		Piedmont glaciers. Ice piedmonts		551.326:001.4 Terminology of floating ice
.28		Ice shelves		:535.345 Transmission of light through floating ice
.29		Other forms of land ice		
.292		Ice-feet	Special auxiliary subdivisions for 551.326	
.294		Stagnant glaciers. Dead ice	551.326.02	Methods of observing and reporting floating ice
.296		Cave ice. Ice in caves	.022	Aerial observation
		<i>For climate of ice caves → 551.584.65</i>	.025	Detection by echo sounding. Echolocation
.298		Icicles	.027	Coding
.3		Measurements of dimensions of particular glaciers. Depth measurements	.03	Forecasting of floating ice
		→551.321.6 Methods of measuring ice thickness	.032	Principles and methods
.4		Mass and energy balance of glaciers	.034	Forecasts and prognostic charts
.41		Thermal balance of glaciers	.036	Administration of forecasting. Forecasting networks
.412		Temperature of glaciers	Principal divisions (continued)	
		→551.321.4 Methods of measuring snow, ice and glacier temperature	551.326.1	Distribution and movement of floating ice
.414		Radiation to and from glaciers	.12	Seasonal distribution of floating ice
		→551.578.46 Snow cover, including depth, temperature and density	.124	Synoptic bulletins, charts and diagrams
.43		Regime of glaciers	.13	Secular change in distribution of floating ice
.431		Accumulation	.14	Movement of floating ice
.433		Ablation	.2	Formation and decay of floating ice
.435		Firn (névé) line. Snow line, including variations	.3	Structure and surface features of floating ice
		→551.578.463 Changes in the nature of snow cover. Firnification	.4	Erosion by floating ice
.5		Glacier flow	.5	Extraneous matter in floating ice: transport etc.
		→551.321.5 Methods of measuring snow, ice and glacier movement		<i>For deposits from floating ice → 551.332.24</i>
.51		Theory of glacier flow	.6	Icebergs
.54		Measurements of flow of particular glaciers	.62	Tabular bergs. Ice islands
.6		Glacier fluctuation	.7	Sea ice. Pack ice. Drift ice. Floes
.61		Cycle of glacier growth and decay	.8	Ice on the surface of inland waters
.63		Response of glaciers to climatic change.	.83	River ice
		Advance and retreat	.85	Lake ice
		→551.583 Variations of climate	.328	Anchor ice. Frazil ice
.65		Sudden glacier advances. Catastrophic changes	.2	Anchor ice (ground ice)
.8		Structure and surface features of glaciers	.4	Frazil ice
.81		Glacier bands. Lamination	551.33	GLACIAL GEOLOGY
.82		Bubbles in glacier ice		→551.435.4 Relief forms created by the action of continental and mountain glaciations — Geomorphology

551.331	Exaration (glacial erosion). Glacial scour. Glacial plucking →551.435.42 Relief forms created by exaration	551.336 (cont'd) .337 .338	<i>but cf 551.7</i> Chronology of the Pleistocene and Recent Periods Theories of the causes of glacial periods
.4	Processes of exaration	551.34	EFFECTS OF FROST ON ROCKS AND SOILS. CRYOTURBATION. FROZEN SOILS. PERMAFROST →551.435.5 Relief forms created by periglacial processes
.332	Glacial deposition	.341	Methods and equipment for investigating frozen ground
.2	Glacial deposits	.342	Effects of frost on hard rocks. Freezing in fissures (freeze-thaw), frost-shattering. Gelation →551.435.52 Forms created by frost-shattering
.21	Till (boulder clay). Tillite	.343	Effects of frost on surface deposits. Solifluction (soil flow), soil creep. Frozen-soil karst phenomena (thermokarst) →551.435.55 Forms created by solifluction
.212	Till (boulder clay)		631.436.6 Effect of cold. Frost — Soil science
.214	Tillite	.2	Periglacial patterned ground. Stone polygons. Stone circles. Stone networks. Banded ground →551.435.53 Forms created by sorting and arrangement of soil materials by freezing and thawing, by congeliturbation
.24	Fluvioglacial (glaciofluvial) deposits →551.326.5 Extraneous matter in floating ice: transport etc.	.4	Rock glaciers →551.435.587 Rock streams — Geomorphology
.26	Glacial lake deposits. Varves	.7	Alteration of wet soils and of surface waters as result of frost. Congeliturbanation <i>For relief forms created by congeliturbanation</i> →551.435.53
.5	Accretionary formations as deposits <i>For glacial accretions as relief forms → 551.435.43/.44</i>	.72	Frost-heaving. Turf hillocks. Hummocks. Peat mounds, palsas. Hydrolaccoliths <i>For hydrolaccoliths as relief forms → 551.435.536</i>
.51	Marginal ice features in general	.74	Icings
.52	Terminal and push moraines (as deposits). Depositional moraines →551.435.442 Terminal moraines. End moraines — Geomorphology 551.435.444 Push moraines — Geomorphology	.345	Frozen soils. Permafrost. Cryopedology <i>For geomorphological aspects → 551.435.53</i> <i>For meteorological aspects → 551.525.5</i> →624.139 Frozen ground engineering <i>Further particulars may be denoted by colon combination, e.g.</i> 551.345:53 Physical properties of frozen ground :536 Thermal properties :537 Electrical and magnetic properties :539.3 Elastic and deformation properties :539.42 Tensile strength. Breaking strength :57 Biology of frozen ground (but → references under 551.32:57) :579 Microbiology, bacteriology of frozen ground
.53	Ground moraines (as deposits). Migrating moraines <i>For ground-moraine features as relief forms → 551.435.446/.448</i>		Distribution of frozen ground. Permafrost surveys
.54	Drumlins (as deposits) →551.435.434 Drumlins — Geomorphology	.1	Formation and decay of frozen ground
.55	Englacial deposits. Åsar. Ice ramparts. Eskers. Kames. Morainic lakes. Kettles <i>For kettles as faults → 551.243.13</i> →551.435.484 Åsar. Eskers — Geomorphology 551.435.485 Kames — Geomorphology	.2	Composition and structure of frozen ground
.56	Ice-dammed lakes. Glacial lakes. Disruption of water drainage	.3	
.57	Boulder trains. Erratic blocks		
.58	Outwash plains, sandar (sands). Valley trains. Proglacial valleys. Urstromtäler (as deposits) →551.435.474 Proglacial valleys — Geomorphology 551.435.482 Outwash plains — Geomorphology 551.435.483 Alluvial fans — Geomorphology		
.333	Glacial deformation		
.2	Deformation structures in glacier bedrock		
.3	Deformation structures in drift		
.5	Deformation of beaches by floating ice		
.334	Glacial isostasy, eustasy and other effects of ice cover		
.2	Glacial isostasy. Effects of ice cover on the Earth's crust		
.4	Glacial eustasy. Effects of ice cover on the level of the sea		
.336	Former ice cover. Ice Ages →551.8 Palaeogeography <i>Further particulars may be denoted by Table I(g) Common auxiliaries of time, e.g.</i> 551.336 "611" Precambrian "6136" Permian "624/627" Quaternary		

551.35	MARINE DEPOSITS →551.435.3 Relief forms created by wave and tide action etc.	551.4 (cont'd)	<i>Further particulars may be denoted by colon combination and common auxiliary subdivisions, e.g.</i>
Special auxiliary subdivisions for 551.35			551.4:061 Geomorphological organizations (see especially 061.6)
551.35.054	Destructive action of the sea		:528.067.4 Plotting (survey results) (but → 528.94:551.4)
.1	Effects of surf		:911.5 Geomorphological landscape types
.11/.12	Channels. Holes. Caves etc. <i>[cancelled]</i> → 551.435.31		:911.6 Geomorphological regionalizations
.13	Raised beaches <i>[cancelled]</i> → 551.435.322		551.4 (084.3) Geomorphological maps etc.
.2	Erosion by tidal flow		(084.3 – 14) Topographic survey maps
.3	Chemical effects of seawater		(084.3 – 36) Structural maps
.4	Destructive effect of marine plants		551.4(1/9) Regional geomorphology
.5	Destructive effect of marine animals		
.06	Transgression, elevation, regression etc. →551.244 Uplift. Subsidence etc. — Geotectonics		
.061	Marine transgression	Special auxiliary subdivisions for 551.4 551.4.01	Theory. Principles of investigation. Research methodology, models etc. <i>Further particulars may be denoted by colon combination, e.g.</i>
.062	Elevation		551.4.01:001.4 Terminology of geomorphology
.063	Marine regression		:006 Standardization in geomorphology
Principal divisions (continued)			:168.2 Division, analysis, classification in geomorphology
551.351	Coastal deposits. Littoral deposits. Reef formation. Shelf formation. Beach-drifting. Coast-displacement →551.438.2 Organogenic relief forms (created by organic action)		.011 Theoretical bases
.1	Gravel, shingle, pebble facies	.012	Research methodology
.2	Shelf deposits. Sand facies	.013	Theoretical investigation, use of models →551.4.025 Laboratory models
.25	Quicksands	.014	Experimental investigation (principles)
.3	Marinocalcareous facies	.02	Practical, field and laboratory work
.4	Oolitic facies	.022	Fieldwork
.5	Coral reefs (as marine deposits) <i>For coral reefs as relief forms</i> → 551.438.232	.023	Stationary work
.6	Facies with Bryozoa	.024	Laboratory work
.7	Bone beds. Facies with shell remains	.025	Laboratory models
.8	Dolomitic facies	551.4.03	Morphology. Basic forms of relief, regardless of their origin →551.432.8 Relief of platform plains
.352	Bathyal type. Pelagic deposits		551.435 Morphosculptures. Relief forms created by exogenous processes
.1	Argillaceous (clay) facies (dark silt)		<i>Further particulars may be denoted by colon combination and common auxiliary subdivisions, e.g.</i>
.2	Calcareous facies (calcareous sand and silt)		551.4.03:528.067.4 Plotting (survey results)
.3	Glauconitic facies (greensand, green mud)		551.4.03(084.3) Morphographic and morphometric maps
.4	Organogenic facies (organic slime)		
.41	Facies with Foraminifera (globigerina ooze)		Plains
.42	Facies with sponges (sponge reefs)		→551.432.8 Relief of platform plains
.43	Facies with graptolites (graptolite schists)		551.435.138 Alluvial plains
.44	Facies with Brachiopoda		551.435.2 Relief forms created by weathering, overland flow (wash) and mass movement of waste
.45	Facies with Pteropoda (pteropod ooze)		551.435.318 Abrasion plains. Abrasion terraces
.46	Facies with Pelecypoda (Lamellibranchia, Bivalvia) (shelly limestone)		551.435.328 Marine accumulation plains
.47	Facies with Cephalopoda (goniatite and ammonite limestones)		551.435.427 Karlings. Exaration plains
.48	Facies with diatoms (diatom ooze)	.032	551.435.446 Hilly plains of ground moraine
.353	Abyssal type		551.435.482 Outwash plains, sandar (sands)
.1	Rubiginous facies (red deep-sea clays)		
.3	Siliceous facies (radiolarian ooze)		
551.4	GEOMORPHOLOGY. STUDY OF THE EARTH'S PHYSICAL FORMS →528.425 Tacheometry. Topography — Field and land surveying 911.2 Physical geography :551.4 Geomorphology (in the context of geography) <i>For general structure of the Earth, geological deposits and actions → 551.1/.3</i> <i>For morphology of sea bottom → 551.462</i>		

551.4.032 (cont'd)	551.435.483 Outwash fans	551.037 (contd.)	551.435.55 Forms created by solifluction
	551.435.768 Loess plains		551.435.57 Forms created by combined action of solifluction and overland flow (wash)
.033	Plateaus		551.435.6 Relief forms created by gravitation
	→551.433 Morphostructures formed by exposure of old passive geological structures		551.435.76 Relief forms created by aeolian accumulation of loess
.034	Elevated plains	.038	Coasts
	→551.432.88 Elevated plains, plateaus		→551.435.3 Relief forms created by wave and tide action etc.
.035	Mountains		Dynamic geomorphology
	→551.432.2 Mountainous relief of geosynclinal areas	.04	Exogenous processes and forms
	551.432.3 Mountainous relief of activated platforms	.042	Endogenous processes and forms
	551.432.4 Faulted mountainous relief, with forms created by epeirogenetic movements	.044	Inverted relief: processes and forms
	551.432.5 Mountain and ridge relief created by dislocations in plicative (folding) process and saline tectonics	.05	Positive inversion of relief
	551.432.7 Volcanic relief	.053	Negative inversion of relief
	551.435.27 Inselbergs	.054	Inversions in cuestas (escarpments)
	551.435.285 Outliers. Monadnocks	.055	Climatic geomorphology
	551.435.428 Mountain and rock forms created by glacial sculpture. Ridges, arêtes. Cols, saddles. Horns	.06	Palaeogeomorphology
	551.435.72 Relief forms created by deflation	.07	Fossil forms
	551.435.76 Relief forms created by aeolian accumulation of loess	.072	Buried forms
	551.435.866 Karst relicts (hums, mosore)	.075	Excavated forms
.036	Valleys and terraces	.077	Applied geomorphology
	→551.435.1 Relief forms created by erosive action of permanent and intermittent water courses	.08	Principal divisions (continued)
	551.435.284 Backslopes	551.41/.42	DISTRIBUTION OF SEA AND LAND: CONTINENTS AND OCEANIC BASINS
	551.435.318 Abrasion plains. Abrasion terraces	.41	Shape (outline) of continents
	551.435.322 Beaches. Shore terraces		→551.4.07 Paleogeomorphology
	551.435.342 Marine terraces	.417	551.8 Palaeogeography
	551.435.42 Relief forms created by exaration	.42	Coasts and beaches [<i>cancelled</i>]
	551.435.47 Relief forms created by erosive action of fluvio-glacial streams	.422	→ 551.435.3, 551.4(1/9)
	551.435.48 Relief forms created by accumulative action of fluvio-glacial streams and lakes	.426	Islands. Archipelagoes. Peninsulas
	551.435.554 Solifluction terraces	551.43	Islands. Archipelagoes
	551.435.584 Altiplanation terraces		Peninsulas
	51.435.8 Relief forms created by chemical dissolution and suffosion. Karst (geomorphology and topography)		RELIEF FORMS OF THE EARTH'S SURFACE. LANDFORMS. MORPHOSTRUCTURES. MORPHOSCULPTURES
.037	Slopes		→551.24 Geotectonics. Crust movements. Tectonic structures and their elements
	→551.435.2 Relief forms created by weathering, overland flow (wash) and mass movement of waste	.432	Morphostructures formed by most recent tectonic movements and volcanic processes (endogenous). Mountain and platform-plain relief
	551.435.4 Relief forms created by the action of continental and mountain glaciations etc.		<i>For orogenesis → 551.24, 551.24.01/.08 Particulars of movements and processes may be denoted by colon combination with the subdivisions of 551.21/.28 and by the .05 special auxiliaries listed under 551.4</i>
		.2	Mountainous relief of geosynclinal areas
		.22	Mountain ranges: central and frontal uplifts
		.24	Intermontane depressions and foredeeps
		.26	Monoclonal piedmont plains
		.3	Mountainous relief of activated platforms
		.32	Mountain ranges with folding of basement
		.34	Basins of activated platforms
		.36	Monoclonal plains at foot of mountain ranges, with folding of bedrock
		.4	Faulted mountainous relief, with forms created by epeirogenetic movements
		.42	Positive montane relief forms. Horsts
			→551.243.11 Horsts — Internal geodynamics
		.422	Step-horsts
		.424	Horst-anticlines

551.43.426	Oblique horsts	551.435	Morphosculptures. Relief forms created by exogenous processes. Dynamic and climatic geomorphology
.44	Cuestas (escarpments) <i>For border forms (faults, flexures) → 551.243.1/.2</i>		<i>For exogenous processes themselves → 551.3</i>
.442	Fault scarps	.1	Relief forms created by erosive action of permanent and intermittent water courses
.444	Flexure scarps		→551.312.3 Geological action of flowing water. Fluvial facies
.447	Gaping tectonic fractures		556.5 Surface-water hydrology (especially 556.51/.54 for rivers and river systems)
551.432.46	Basins. Valleys. Negative relief forms →551.243.12 Grabens. Rift valleys (taphrogeosynclines) — Internal geodynamics		627 Natural waterway, port, harbour and shore engineering
.462	Step-grabens	.11	Relief forms created by erosive action of permanent water courses
.464	Graben-synclines	.112	Gorges. Ravines
.466	Oblique grabens	.113	Pot-holes
.5	Mountain and ridge relief created by dislocations in plicative (folding) process and saline tectonics →551.243.3 Folds. Elements of folds — Internal geodynamics	.114	V-shaped valleys. Canyons
	551.247 Saline tectonics — Internal geodynamics	.115	Box-shaped valleys
.52	Mountains and ridges →551.243.32 Anticlines — Internal geodynamics	.116	Relicts of river erosion
.522	Anticlinal mountain and ridge relief	.117	Basins of reaches
.524	Brachyanticlines	.118	Bluffs
.54	Salt domes (as mountainous relief) →551.247.1 Salt domes (salt plugs) — Internal geodynamics	.12	Relief forms created by the accumulative action of permanent water courses
.56	Basins →551.243.31 Synclines — Internal geodynamics	.122	Floodplains
.562	Synclinal basins	.123	Levees (elevated banks), crests of floodplains
.564	Brachysynclinal basins	.124	Spits. Shallows. Midstream islets (aits, eyots)
.567	Sedimentation troughs	.125	River-bed relief. Shoals. Underwater dunes.
.7	Volcanic relief →551.311.8 Mud volcanoes (paint pots). Mudstreams (mudflows, lahars)		Sand ripples
	<i>Further particulars may be denoted by colon combination, e.g.</i>	.126	<i>For sand ripples in oceanography →551.465.78</i>
	551.432.7:502.64 Protection of volcanic features	.13	Deltas
	:551.21/.23 Details of eruptive processes and phenomena	.132	Relief forms created by combined erosion and accumulative action of permanent water courses
	:551.217.1 Lava as volcanic relief. Lava plains	.133	Fluvial terraces
.8	Relief of platform plains	.134	Dry valleys (dead valleys)
.82	Elevated plains of median massifs	.136	Ox-bow lakes (cut-offs)
.83	Anticlinal elevations	.138	Alluvial plains
.84	Monoclinical elevations	.14	Genetic types of river valley
.85	Elevations with large domal anticlinal structure		<i>Particular types may be denoted by colon combination with the other subdivisions of 551.43</i>
.86	Domes as elevations	.141	Trunk valleys (between two mutually inclined slopes), e.g.
.87	Synclinal lowland basins		551.435.141:551.432.466 Trunk valley following an oblique graben
.88	Elevated plains, plateaus	.142	:551.432.87 Trunk valley following a synclinal lowland basin
.433	Morphostructures formed by exposure of old passive geological structures 551.433 ≅ 551.432	.143	Antecedent valleys, e.g.
	<i>Particulars of intrusive forms may be denoted by colon combination with the subdivisions of 551.22; other particulars by the .05 special auxiliaries listed under 551.4</i>		551.435.142:551.432.524 Antecedent valley crossing a mountain brachyanticline
.434	Terraces [cancelled] → 551.435.132, 551.435.312, 551.435.342	.144	Valleys of slope (Abdachungsflüsse), e.g.
			551.435.143:551.432.426 Abdachungsflüsse on the flank of an oblique horst
			Epigenetic valleys, e.g.
			551.435.144:551.433.522.055 Epigenetic valley crossing a cuesta ridge on the flank of a mountain with an exposed anticline

551.435.145	Valleys in depressions of destructive origin, e.g. 551.435.145:551.435.423 Valley in a trough	551.435.3 (cont'd)	551.468.6 Estuaries
.146	Valleys in depressions of accumulative origin, e.g. 551.435.146:551.435.443 Valley in a depression between two moraine ridges	.31	Coastal forms created by abrasion
.147	Neutral valleys	.312	Raised benches
.148	Compound valleys	.314	Coastal cliffs
.16	Relief forms created by erosive action of intermittent water courses	.315	Stacks, rock pillars
.162	Gullies. Rills. Erosion channels	.316	Sea gates, channels formed by breakers
.164	Catchment basins	.317	Notches. Washed-out depressions
.166	Wadis (arroyos, nullahs)	.318	Abrasion plains. Abrasion terraces
.17	Relief forms created by the accumulative action of intermittent water courses	.32	Coastal forms created by accumulation →551.468 Marine geography. Areas of sea bordered by coasts
.172	Alluvial fans	.322	Beaches. Shore terraces
.174	Mounds and mudflow conglomerations →551.311.8 Mud volcanoes (paint pots). Mudstreams (mudflows, lahars) 551.432.7 Volcanic relief	.323	Spits. Tongues
.176	Dry deltas. Proluvial piedmont trains	.324	Hooks. Double spits. Compound spits. Recurved spits
.18	Relief forms created by the accumulative action of intermittent water courses and temporary lakes	.326	Bay bars. Tombolos, spits linking former island to mainland
.184	Takyrs. Salt pans	.327	Barrier beaches. Barrier islands
.2	Relief forms created by weathering, overland flow (wash) and mass movement of waste →551.311.23 Weathering phenomena — External geomorphology	.328	Marine accumulation plains
.21	Peneplains	.33	Forms created by abrasive and accumulative action of tides →551.468 Marine geography. Areas of sea bordered by coasts
.22	Pediains. Pediments. Glacis	.332	Tidal beaches
.223	Erosion pediments and glacis	.334	Tidal cliffs
.226	Accumulative pediments and glacis	.336	Tidal trenches
.23	Conoplain (pediplains in areas with a development of horizontal beds)	.338	Tidal mud-flats (Warren)
.24	Slopes and forms created by overland flow (wash) and mass movement of waste	.34	Relief forms created by combined abrasive and accumulative action
.242	Destructive slopes (created by erosion)	.342	Marine terraces
.244	Tors	.36	Types of coast. Coastlines. Shorelines <i>Genetic types may be denoted by colon combination, e.g.</i> 551.435.36:551.435.423 Fiord-type coastline
.246	Earth pillars and pyramids	.362	Abrasive submergent coastlines
.25	Diluvial trains	.364	Abrasive emergent coastlines
.27	Inselbergs	.366	Accumulative submergent coastlines →551.468 Marine geography. Areas of sea bordered by coasts
.28	Forms of tableland and escarpment <i>Further particulars may be denoted by the special auxiliaries listed under 551.4, e.g.</i> 551.435.28.04 Dynamic geomorphology of table mountains and escarpments: exogenous and endogenous processes	.368	Accumulative emergent coastlines
.282	Cuestas. Escarpments	.37	Bays
.283	Scarps (scarp-slopes)	.38	Lake basins, e.g. 551.435.38:551.213.3 Maar craters
.284	Backslopes	.4	Relief forms created by the action of continental and mountain glaciations and their meltwaters, by exaration, accumulation and fluvialglacial processes →551.33 Glacial geology
.285	Outliers. Monadnocks	.42	Relief forms created by exaration <i>Action of particular types of land ice may be denoted by colon combination with the subdivisions of 551.324.2</i>
.286	Sedimentary basins	.422	Nunataks
.287	Types of sedimentary basin	.423	Troughs, fiords (fjords) etc.
.288	Tablelands	.2	Glacial troughs
.3	Relief forms created by action of waves, tides, littoral processes, currents etc. in seas and lakes →551.35 Marine deposits 551.42 Islands. Archipelagoes. Peninsulas 551.466.78 Tides near the coast. Shallow-water tides etc.	.3	Glacial shoulders
		.424	Riegels (rock barriers)
		.425	Roches moutonnées
		.426	Glacial cirques. Kars (corries, cwms)
		.427	Karlins. Exaration plains
		.428	Mountain and rock forms created by glacial sculpture. Ridges, arêtes. Cols, saddles. Horns
		.43	Relief forms created by combined exaration and accumulative action of glaciers

551.435.43 (cont'd)	→551.332.5 Accretionary formations as deposits	551.435.5 (cont'd)	→551.34 Effect of frost on rocks and soils.
	<i>Action of particular types of land ice may be denoted by colon combination with the subdivisions of 551.324.2</i>		Cryoturbation. Frozen soils.
.432	Basin terminals	.52	Permafrost
.433	Forms in areas of former foreland glaciation		Forms created by frost-shattering
.434	Drumlins		→551.342 Effects of frost on hard rocks.
	→551.332.54 Drumlins (as deposits)	.522	Freezing in fissures
.44	Relief forms created by accumulative action of glaciers	.53	(freeze-thaw). Frost-shattering.
	→551.324.83 Moraine material as a glacial feature. Lateral moraines. Surface (supraglacial) moraines. Rock flour		Gelation
	<i>Action of particular types of land ice may be denoted by colon combination with the subdivisions of 551.324.2</i>		Polygonal or block relief
.442	Terminal moraines. End moraines	.532	Forms created by sorting and arrangement of soil materials by freezing and thawing, by congeliturbation
	→551.332.52 Terminal and push moraines (as desposits). Depositional moraines	.534	→551.343.2 Periglacial patterned ground. Stone polygons. Stone circles. Stone networks. Banded ground
.443	Hollows between end moraines	.536	551.345 Frozen soils. Permafrost. Cryopedology
.444	Push moraines		Stone circles and polygons
	→551.332.52 Terminal and push moraines (as desposits). Depositional moraines	.537	Banded ground
.445	Lateral moraines. Flank moraines	.55	Hydrolaccoliths (bulgunniakhi, pingos)
.446	Hummocky plains of ground moraine		<i>For hydrolaccoliths as frost effect → 551.343.72</i>
	→551.332.53 Ground moraines (as desposits). Migrating moraines		Sölles, alassy ^a
.447	Hills of ground moraine	.552	Forms created by solifluction
.448	Hollows in ground moraine	.554	→551.343 Effects of frost on surface deposits. Solifluction (soil flow), soil creep. Frozen-soil karst phenomena (thermokarst)
.47	Relief forms created by erosive action of fluvioglacial streams	.557	Solifluction trains
.472	Ice-dammed lake basins	.57	Solifluction terraces
.473	Meltwater channels	.572	Solifluction streams
.474	Urstromtäler. Proglacial valleys	.574	Forms created by combined action of solifluction and overland flow (wash)
	→551.332.58 Outwash plains, sandar (sands). Valley trains. Proglacial valleys — Glacial deposition	.58	Dells. Deration grooves
.475	Marginal channels	.582	Slopes with cover of grèzes litées (bedded rock fragments)
.476	Glacial pot-holes	.584	Forms created by frost weathering and altiplanation
	<i>For glacial pot-holes as features of glacier structure → 551.324.87</i>	.587	→551.311.23 Weathering phenomena — External geodynamics
	→551.435.82 Sink holes. Swallow-holes. Pot-holes. Ponors — Karst (geomorphology and topography)	.6	Nivation hollows, cirques
.48	Relief forms created by accumulative action of fluvioglacial streams and lakes	.62	Altiplanation terraces
.482	Outwash plains, sandar (sands)	.622	Rock streams
	→551.332.58 Outwash plains, sandar (sands). Valley trains. Proglacial valleys — Glacial deposition	.624	→551.343.4 Rock glaciers
.483	Outwash fans	.626	Relief forms created by gravitation
.484	Åsar. Eskers	.627	Destructive forms created by gravitation
	→551.332.55 Englacial deposits. Åsar. Ice ramparts. Eskers. Kames etc.	.628	Stripping niches (scars)
.485	Kames	.64	Avalanche tracks
.486	Kame terraces	.642	→551.578.48 Avalanches
.487	Fluvioglacial terraces	.644	Fractures and depressions caused by subsidence
.488	Lake-glacial terraces	.646	Landslides
.5	Relief forms created by periglacial processes	.7	Genetic types of landslide
		.72	Accumulative forms created by gravitation
		.722	Accumulations of hillside debris. Debris slopes
		.723	Accumulations from rock-slides and avalanches. Rock-slide tongues
			→551.578.48 Avalanches
			Scree. Talus slopes
			Relief forms created by aeolian processes
			→551.311.3 Aeolian effects. Action of wind
			Relief forms created by deflation
			→551.311.34 Wind-polished rocks. Windkanthers
			Aeolian relicts. Ghourds
			Stone mushrooms. Balmas. Yardangs

^a Meaning unknown

551.435.725	Aeolian niches. Honeycomb cliffs	551.438.22	Phytogenic forms (created by vegetable action, decay etc.). Peat formations
.727	Deflation basins. Fuldjs		Peat bogs
.728	Stone deserts (hammadas)	.222	Peat hummocks
.74	Relief forms created by aeolian accumulation of sand	.223	Zoogenic forms (created by animal action)
.742	Sand mounds, hummocks. Incipient dunes	.232	Coral reefs. Kinds of coral formation
.743	Coastal dunes, fore-dunes		→551.351.5 Coral reefs (as marine deposits)
.744	Transverse dunes. Crescent dunes (barkhans, barchans). Barkhan belts	.2	Barrier reefs
.745	Longitudinal dunes (seif dunes)	.3	Atolls
.746	Rake-form dunes	.4	Fringing reefs
.747	Conical dunes	.5	Crustose reefs
.748	Parabolic dunes		Anthropogenic relief forms (created by human agency: disposal, engineering works etc.)
.749	Sand deserts (ergs)		<i>Further particulars may be denoted by colon combination, e.g.</i>
.76	Relief forms created by aeolian accumulation of loess		551.438.5:622.2 By mining operations: blasting etc.
	→551.311.33 Loess (as a deposit)		:624.13 By geotechnics, earthwork
.762	Loess ridges		:625.7 By highway, road, street construction
.764	Loess mounds		:628.3 By sewage and refuse (garbage) disposal
.765	Loess hills		:631.6 By rural engineering: land reclamation, drainage, irrigation
.768	Loess plains		
.77	Types of desert		Relief forms caused by bodies of extraterrestrial origin. Meteor craters
	<i>Genetic types may be denoted by colon combination, e.g.</i>		SPELEOLOGY. CAVES AND FISSURES. UNDERGROUND WATERS
	551.435.77:551.432.24 Desert in intermontane depression		→551.435.8 Relief forms created by chemical dissolution and suffosion. Karst (geomorphology and topography)
.8	Relief forms created by chemical dissolution and suffosion. Karst (geomorphology and topography)	.439	556.3 Groundwater hydrology. Geohydrology. Hydrogeology
	→556.332.46 Karst formations — Hydrology	551.44	Fissures. Grottoes. Caves, caverns. Cavings (funnelled sinkings)
.81	Karren (lapiés)		→551.435.8 Relief forms created by chemical dissolution and suffosion. Karst (geomorphology and topography)
.82	Sink holes. Swallow-holes. Pot-holes. Ponors		551.555 Winds of special localities
.83	Dolines (dolinas, karst funnels)		<i>Use (24) from Table I(e) to denote "underground"</i>
.832	Saucer-shaped, patelliform dolines		551.584.65 Climates of caves, mineworks, tunnels, ice grottoes
.834	Open pits. Ghylls (jamas)		581.9(24) Underground flora (of caves etc.)
.836	Vertical caves		591.9(24) Underground (e.g. cave) fauna
.837	Uvalas	.442	<i>Genetic details of caves etc. may be denoted by colon combination, e.g.</i>
.838	Poljes		551.442:551.21 Volcanic caverns. Lava caverns
.84	Caves. Grottoes		:551.312.1 Tufa caverns
.842	Stalactites		:551.351.5 Caverns in reefs
.843	Stalagmites		:551.438.5 Caverns created by human agency
.85	Siphons. Underground channels. Spring pots		Primary caves
	→556.36 Springs — Hydrology		Secondary caves
.852	River sinkage. Underground streams		Stalactites, stalagmites and other formations [cancelled] →551.435.842/.843
.853	Seawater sinkage. Underground saltwater seepage		
.855	Re-emergent water. Karst springs		
.857	Spring pots		
.858	Underground lakes		
.866	Karst relicts (hums, mosore)		
.87	Cone karst (Kegelkarst)		
.872	Sugarloaves. Mogotes		
.874	Karst peneplains		
.88	Types of karst		
.436	Valleys [cancelled] → 551.4.036, 551.435.11, 551.435.14, also 551.243.12, 551.432.46		
.437	Basins [cancelled] → 551.432.46, 551.432.56; also 551.243.33. For watersheds → 556.51		
.438	Relief forms created by human and other organic action	.2	
	→550.7 Geobiology. Geological actions, effects, of organisms	.3	
.2	Organogenic relief forms (created by organic action)	.4	

551.442.6	Entrances, apertures of caves (open to daylight)	551.46.062	Periodically collected observations. Lists referring to regular stations or lines
.444	Underground (subterranean) waters, channels etc. →556.3 Groundwater hydrology. Geohydrology. Hydrogeology	.1	Sea-level heights
.2	Places where seepage occurs [<i>cancelled</i>] → 551.435.82, 551.435.85, 551.448	.2	Depths
.3	Subterranean rivers and streams	.3	Sound, acoustics. Submarine illumination. Transparency. Other physical properties of seawater <i>except those classed at 551.46.062.5</i>
.4	Subterranean lakes	.4	Chemical data, except salinities and chlorinities
.5	Karst springs [<i>cancelled</i>] → 551.435.855	.5	Temperatures. Salinities. Chlorinities. Densities. Dynamic depths
.6	Subterranean permanent ice. Ice caverns →551.324.296 Cave ice. Ice in caves 551.324.87 Glacial pot-holes etc. Ice caves. Ice grottoes — Glaciology	.6	Sea waves
.448	Sink holes. Swallow-holes. Pot-holes. Karst funnels. Dolines etc. <i>For sink holes etc. as karst topography</i> →551.435.82/.83 →556.36 Springs	.7	Ice
551.45	PLAINS. DESERTS. STEPPES. PAMPAS. PRAIRIES [<i>CANCELLED</i>] → 551.4.032 AND REFERENCES THERE. 551.435.7	.8	Currents
	SUBDIVISIONS	.065	Incidentally collected observations. Data of expeditions, cruises, individual voyages 551.46.065 ≅ 551.46.062
.46	PHYSICAL OCEANOGRAPHY. SUBMARINE TOPOGRAPHY, OCEAN FLOOR →527 Nautical and aeronautical astronomy. Navigation 528 Geodesy. Surveying. Photogrammetry. Cartography 551.326 Floating ice — Glaciology 551.435.3 Relief forms created by the action of waves, tides, littoral processes, currents etc. in seas and lakes 551.5 Meteorology 574 General ecology. Biocenology. Hydrobiology. Biogeography 581.526.32 Aquatic formations — Botany 581.9 Geographic botany (plant geography), e.g. 581.9(26) 591.9(26) Marine fauna 623.8/.9 Naval engineering 626/627 Hydraulic (water) construction works 639.2 Fishing 91 Geography. Exploration of the Earth, e.g. 91(26) 913(26) Regional geography of oceans and seas	.068	Periodically appearing synoptic (or quasi-synoptic) oceanographic charts
		.07	Oceanographic laboratories and field work. Expeditions, cruises →551.46.08 Instruments for oceanographic field observation and their use
		.071	General aspects of oceanographic laboratory and field work <i>Further particulars may be denoted by colon combination, e.g.</i> 551.46.071:656.6 Navigational aspects
		.072	Models. Model experiments →53.072 Models — Physics
		.073	Floating establishments for oceanographic research. Oceanographic research vessels <i>Details of craft, structure etc. may be denoted by colon combination with the subdivisions of 629.12 and by the hyphen auxiliaries listed under 62, e.g.</i> 551.46.073 – 52 Automatic floating stations
		.077	Diving apparatus and vehicles →626.02 Underwater work in general. Divers' work 629.127 Submarines
		.078	Apparatus for taking samples of seawater
		.079	Auxiliary equipment <i>Further particulars may be denoted by colon combination, common auxiliary subdivisions etc., e.g.</i> 551.46.079:621.397(26.03) Undersea television in oceanography :77.058.2 Underwater photography :778.5.058.2 Underwater cinematography
Common auxiliary subdivisions		.08	Instruments for oceanographic field observation and their use
551.46(1)	Regional oceanography [<i>cancelled</i>] → 551.46(26)	.081	Instruments for measuring sea level. Tide gauges →551.46.086 Instruments for measuring waves. Wave meters
551.46(26)	Oceanography of particular sea regions or oceans, specified geographically <i>The subdivisions of (26) are listed in Table I(e)</i>	.082	Instruments for measuring depth and pressure. Bathymeters <i>Further particulars may be denoted by colon combination, e.g.</i> 551.46.082:531.719.31 Wire sounding. Use of plummets
Special auxiliary subdivisions for 551.46			
551.46.0	General aspects of physical oceanography		
.01	General theory		
.018	Instruments and methods [<i>cancelled</i>] → 551.46.08		
.06	Observational data		

551.46.082 (cont'd)	:531.719.35 Echo sounding	551.461.2 (cont'd)	<i>Further particulars may be denoted by Table I(d) Common auxiliaries of form, e.g.</i>
	:531.787 Pressure meters, for measuring depth		551.462.2(084.3/.4) Bathymetric maps and atlases
	:778.35 Depth determination by aerial photography		
.083	Instruments for measuring physical quantities in seawater	.3	Continental blocks. Insular blocks
	<i>Further particulars may be denoted by colon combination, e.g.</i>	.32	Continental shelves. Insular shelves
	551.46.083:531.756 Density meters in oceanography	.33	Continental slopes. Insular slopes
	:531.756.4 Pycnosondes	.34	Submarine canyons
	:534 For measuring acoustic phenomena in the sea		→551.462.543 Submarine canyons in abyssal plains
	:535 For measuring optical properties of, radiation in, the sea	.5	Depressions in the ocean floor
	:621.317.7 For measuring electrical properties, measuring salinity in situ electrically. Cf. 537, 537.08	.52	Basins
.085	Instruments for measuring currents, including drift bottles etc.	.54	Troughs, trenches, deeps
.086	Instruments for measuring waves. Wave meters	.543	Submarine canyons in abyssal plains
.087	Instruments for measuring sea temperatures	.55	Greatest depths
.088	Suspension meters and samplers	.6	Elevations of the ocean floor
.09	Applied oceanography	.62	Submarine ridges, rises, seascarps, sills
	<i>Further particulars may be denoted by colon combination, e.g.</i>	.63	Plateaus
	551.46.09:621.221 Hydraulic energy from the sea	.64	Sea highs
	:621.483 Thermal energy from the sea	.65	Seamounts, sea peaks and oceanic bancs
	:628.5 Pollution, fouling of the sea	.652	Tablemounts (guyots) and oceanic bancs
		.66	Seaknolls
		.67	Deep-sea terraces
		.8	Smaller ocean-floor features (from the morphological point of view)
		.463	Seawater. Physical properties of seawater
			→551.46.083 Instruments for measuring physical quantities in seawater
		.1	Mechanical properties of seawater (including surface films)
			<i>Further particulars may be denoted by colon combination, e.g.</i>
			551.463.1:532.12 Compressibility of seawater
			:532.13 Viscosity of seawater
			:532.14 Density of seawater
			:532.6 Surface tension, capillarity of seawater
		.2	Compression waves. Underwater sound
		.21	General features of acoustics of the sea
		.22	Velocity of propagation in seawater
		.24	Reflection at boundary surfaces of the sea. Reverberation
		.25	Refraction patterns. Sound range
		.256	Sound channels
		.26	Diffraction. Internal scattering in the sea
		.262	Sonic scattering layer. Phantom bottom
		.27	Absorption
		.28	Various phenomena of compression waves and sound
		.284	Sound transmission in shallow water
		.285	Compression waves coupled with seismic waves
		.286	Explosive sound. Shock waves
		.288	Underwater noise
		.3	Phase properties. Colligative properties
			<i>Further particulars may be denoted by colon combination, e.g.</i>
			551.463.3:532.712 Osmotic pressure of seawater
			:532.72 Diffusion in seawater
			:532.73 — 1 Physical behaviour of air, of gases, in seawater. Bubbles
			:536.421.4 Freezing point of seawater
			:536.423.15 Vapour pressure of seawater
Principal divisions (continued)			
551.461	General features. Sea level. Horizontal extent		
.2	Sea level (regardless of tides)		
	→551.334.4 Glacial eustasy. Effects of ice cover on the level of the sea		
	551.466.7 The tide		
.21	Sea-level datum planes		
.22	Annual (seasonal) variations in sea level		
.24	Secular variation in sea level		
.25	Irregular variations in sea level. Frequency distributions		
	<i>For atmospheric effect on sea level → 551.465.75</i>		
.28	Measurements of sea-level differences (sea-surface slopes) between different points		
.6	The oceans as a whole: phenomena on a planetary scale. Influence of oceanic circulation on Earth's rotation		
.7	Horizontal extent. Geographical divisions and nomenclature of sea areas		
.8	Palaeo-oceanography		
.462	Submarine topography. Sea-floor features, bottom forms		
	<i>Further particulars may be denoted by colon combination, e.g.</i>		
	551.462:001.4 Terminology of sea-floor features		
.2	Depths of the sea (abyssal zone), general and regional information		

551.463.5	Radiation. Optical properties <i>Further particulars may be denoted by colon combination, e.g.</i> 551.463.5:535.31 Geometrical optics of seawater. Reflection. Refraction. Radar sea clutter :535.34 (Optical) absorption in seawater :535.341 Extinction coefficient. Submarine illumination. Transparency of seawater :535.36 Diffusion, light scattering in seawater :535.371 Fluorescence of seawater :535.51 Polarization of seawater :535.6 Colours, composite optical phenomena, of seawater <i>For individual colours → 535 – 2</i>	551.464.1 (cont'd)	<i>Further particulars may be denoted by colon combination, e.g.</i> 551.464.1:541.13 Electrochemistry of seawater. Seawater as an electrolyte :541.132.3 Hydrogen-ion concentration (pH) of seawater :541.14 Photochemistry of seawater. Photochemical actions :541.18 Colloid chemistry of seawater. Colloid-chemical actions :541.28 Radiochemistry of seawater. Nuclear chemistry. Radioactivity →551.464.6 Special elements and inorganic compounds :543.242 Oxidation-reduction potential of seawater :543.319 Alkalinity of seawater
.6	Thermal properties of seawater <i>Further particulars may be denoted by colon combination, e.g.</i> 551.463.6:536.2.022 Thermal conductivity of seawater :536.6 Calorimetric properties of seawater :536.632 Specific heat of seawater :536.65 Latent heat of seawater. Heat of melting, evaporation, sublimation :536.7 Energetics of seawater. Adiabatic temperature changes	.3 .31 .32 .33 .34 .38	Composition of seawater Artificial and standard seawater. Units and definitions Composition (ratios of dissolved constituents) in particular places (geographic localities) <i>Further particulars may be denoted by Table I(e) Common auxiliaries of place</i> Average composition of seawater Dissolved gases Budgets of dissolved matter. Biochemistry and geochemistry of the sea. Composition of bottom water
.7	Electrical properties of seawater <i>Further particulars may be denoted by colon combination, e.g.</i> 551.463.7:537.226 Seawater as a dielectric :537.31 Seawater as an electrical conductor <i>Cf.</i> 551.46.083:621.317.7, 551.464.5:543.275.5 :537.8 Electromagnetic behaviour of seawater	.5 .6	Salinity determination in the laboratory <i>Further particulars may be denoted by colon combination, e.g.</i> 551.464.5:531.756 Densitometric methods <i>For field instruments</i> →551.46.083:531.756 :543.21 Gravimetric methods :543.24 Titration methods :543.257.5 Conductometric methods <i>For field instruments</i> →551.46.083:621.317.7 :543.4 Optical methods
.8	Suspensions, suspended particles, in seawater		Particular elements and inorganic compounds. Methods and results <i>Isotopes in general may be denoted by adding .02 to any subdivision of 551.464.6 Cf 546.027</i> 551.464.6 ≅ 546, e.g.
.464	Chemical properties of seawater. Chemistry of seawater →543.3 Water sampling and analysis <i>Further particulars may be denoted by colon combination, the special auxiliaries listed under 551.46, etc., e.g.</i> 551.464:543.05 Seawater samples. Protection, storage 551.464.09 Applied chemistry: extraction of chemical substances, including H ₂ O, from seawater. Desalination		551.464 .611 Hydrogen .612 Halogens .613 Chlorine .614 Bromine .615 Iodine .616 Fluorine .617 Nitrogen .618 Phosphorus .619 Arsenic .621 Oxygen
.1	Physical chemistry of seawater		