EARTH SCIENCES

DG2 (Common subdivisions)
*Add to DG2 numbers 2/9 in Auxiliary Schedule 1, with the adjustments and expansions for science in general given at AY2.

DG2 2JM Atlases

DG2 5 Organizations in the earth sciences
For general organizations only; organizations for the study and furtherance of a specific field go with the field.

5C Conferences

5D International organizations

5E National organizations
Add to DG2-I letters D/Z in Auxiliary Schedule 2.

5L Communication & information in earth sciences

5LO Language of the earth science, terminology, nomenclature

5P Information science, documentation

5PP Data processing

5Q Computers in earth science

5R Information handling & processing

5V Bibliography

5VA Information services

5VB Automated systems, computerized information systems

6C Research]
* See DG3

6QT Exhibitions, museums, collections of specimens

6R (By place)
*Add to DG2 - 6R letters D/Z in Auxiliary Schedule 2.

7 History of earth sciences
History of the study of the earth. The history (by period and by place) of particular features of the earth (e.g. rock strata) goes with that feature; it does not necessarily use this general schedule.

7A Early works on the subject)
* For works published prior to 00 AD.

7D (By place)
* The study in particular countries.
* Add to DG2 - 7 letters D/Z from Auxiliary Schedule 2.

(By period)

DG2 8 Ancient & medieval earth sciences

8G Renaissance earth sciences

8H Modern earth sciences
*1550 to date.

DG2 9 Biography

9A Social aspects of earth sciences

9EP Science policy & the earth sciences

9R Political aspects of earth sciences

9X Earth sciences as a discipline, scientific methodology

A Philosophy of the earth sciences

M Mathematics in the earth sciences
For mathematical geography in its largely 18th sense, see earth as planet DA?

X Statistics in the earth sciences

XS Data analysis (statistical)

XSV Factor analysis

Y (Relations with other sciences) *Eg DG2 9YD A Relations to astronomy.

[EARTH SCIENCES DG]
[(Relations with other sciences) DG2Y]

(Operations & agents)

DG2 YQ Organization & management
* Of work in the earth sciences.
* Add to DG2-Y letters Q/Y following T, if applicable.

YQV J Network analysis & planning

DG3 Research (general)
*The distinction between pure & applied research is made only at the general level. For specific methods, etc. both are treated as practical investigation (see DG72).
*Add to DG numbers 3/7 following AY Science in general.

(Operations & agents)

DG3 2B Procedures & methods, scientific method
2C Methodology
2D Qualitative methods
2E Quantitative methods
2F Non-empirical methods
2G Empirical methods
2L Analytical methods

*Add to DG 3 4 letters following 8 in AY8B.

DG3 4 Theory
4BF Formulaton of theories
5I/X Theories special to a class

DG3 6 Practical work, techniques & equipment

DG3 7 Unwanted effects, hazards & safety measures

B Equipment & plant

DG4 Instruments * As AY46/V

5 Components

(Types of instruments)

X Add to DG4 X nos. & letters following DG3; eg

DG4 XPD Smart instruments

((by possession of a given component)

Y Add to DG 4Y nos. & letters 5/U following DG4; eg

YE Laser driven

YV Instruments special to a class

(Operations in scientific investigation)

* Add to DG5 nos. & letters 2/& following AY6; eg

DG5 2 Investigative techniques

((Serving all objectives))

DG5 3 Data processing

((By scale))

DG5 5 Microtechniques

9 ((Physical methods))

B Mechanical techniques

H Electromagnetic & electronic techniques

R Bulk matter techniques

XC ((Chemical methods))

XM/Y Techniques special to a class

((Actions on phenomena))

* Add to DG6 nos. & letters 2/V following AY7; eg

DG6 2N Analysis

4G Detecting & indicating

4J Detecting, sensing

4M Remote sensing

4N Satellite remote sensing, earth observation

4R Recording... Scanning...
6 Measurement
65 Measuring instruments
A Testing & evaluation
F Modelling & simulation
FXC Computer modelling
G Forecasting
H Visualizing & imaging
J Microscopy
M Spectroscopy
P Tracer techniques
S/V Special to a class
DG6 V Photogrammetry
((Special forms of enquiry & research environments))
* add to DG6 letters W/YF following AY7
*ad to DG7 nos. 2/8 following AY8
DG6 W Vacuums
DG6 XE Subsurface investigation
XF Submarine investigation
XJ Space investigation
XN ((Non-experimental research))

[(Operations & agents)]
[Practical techniques & equipment DG4]
[(Operations in earth sciences investigation)]
[Investigative techniques DG72]
[((Non-experimental research))]
[Surveys (investigative techniques) DG7XV]

DG6 YB Scientific expeditions
* For geographic exploration see DUL 6
YF Field investigation, field work
YG Identification
DG Experimental research
Fundamental research

DG7 (by period)
* Add to DG7 letters A/Y from Schedule 4, or from DJ or L/O
DG8 (by place)
* As Schedule 2 (see DU8 for detail)

DG 9 Geodesy & surveying
DG 92 Geodesy, geodetic surveying
* Allows for the curvature of the earth.
* See also Gravitational field Rotation of earth Tidal variates
DG 92M Mathematical geodesy
95)Instruments(
96V Theodolites, transits (Am.)
* See also Tacheometry
9B Practical geodesy
9C Reconaissance, preliminary survey
9D Astronomical geodesy, field astronomy (surveying)
9D8X J Satellite geodesy, satellite positioning systems (surveying)
9E Geodetic coordinates
9EG Geographic position
9EJ Latitude
9EL Longitude
9EP Azimuth

9F Triangulation, trigonometrical surveying
9FH Baselines
9FL Trilateration
)Instruments(
DG 9FL5 Tellurometers
9G Tacheometry
)Instruments(
DG 9G5 Tacheometers, tachymeters
DG 9GH Electromagnetic distance measurement
DG 9GL Optical distance meaurement
9H Traversing, traverse surveying
Uses series of straight lines rather than triangles.
DG 9HN Chain surveying
DG 9HR Curve ranging (surveying)
9J Levelling
9J5)Instruments(
9J6V Theodolites (alternative)
9J6W Level tubes, levels, spirit levels
9J6W L Level triers
9J6W P Dumpy levels
9J6W T Tilting levels
9JM Benchmarks
9JP Trigonometric levelling
9JR Barometric levelling
9K Physical geodesy
9KM Gravity surveying, gravimetry (surveying)
* See also Geoids ?
9M Marine geodesy
[Practical techniques & equipment DG4]
[(Operations in earth sciences investigation)]
[Investigative techniques DG72]
[Geodesy & surveying DG8YS]
[Geodesy DG9]
[Marine geodesy DG9M]

**assume not just surveying of marine features
DG 9P Plane surveying
*Curvature of earth is disregarded.
9P4B)Equipment(
Plane tables (surveying)
9P8H)Imaging(
9P8H J Photogrammetry
9P8H K Aerial surveying
9PR Topographic surveying
9PS Contour surveying
9PV Hydrographic surveying
*Surveys bodies of water at their boundaries with land.
9PW Soundings
9R Cartography, map-making, chart-making, mapping, maps
9RB (Relations with surveying)
*Add to DGRB letters B/P following DG9 so far as applicable.
9RD Map drawing
9RE Map projection
A particular named projection (e.g. Mercatorís) may reflect several of the characteristics governing the types below; so the preferred arrangement is to locate all the named types in one separate class (see D (see DGS).
9RG Conventional projection
9RH Perspective projection

9RJ Orthomorphic projection, conformal projection
9RK Equal-area projection, equivalent projection
9RL Conical projection
9RM Sinusoidal projection
9RP Polyconical projection
9RQ Cylindrical projection
9RR Azimuthal projection, zenithal projection
9RRS Zenithal equal-area projection
9RRV Zenithal equidistant projection
9S Named projections
* See note at DGRE; arrange alphabetically.
9SAI Aitoff projection

[EARTH SCIENCES DG]
[(operations & agents)]
[Geodesy & surveying DG8YS]
[Cartography DG9R]
[Nap projection DG9RE]
[Aitoff projection DG9SAI]

DG 9SBO Bonne projection
*See also Sanson-Flamstead projection
9SLA Lambert projection
9SM Mercator projection
9SMW Mollweide projection
9SSA Sanson-Flamstead projection
(By information mapped)
DG 9TP Isopleth maps (general)
9TT Thematic maps (general)
*Mapping particular resources, etc. (e.g. energy sources).
9U (Specific types of information)
*Alternative (not recommended) to locating special cartography under the information mapped (e.g. geological maps, pedological maps). If this option is taken, proceeed as follows:
Add to DGU letters G/Y following D if applicable.
(Processes & properties)
DG 9X (General processes & properties)
*Add to DGX letters C/R following AY, with the following additions:
9XCC Anomalies
9XCP Distribution
9XE Alteration
9XER Occurrences
9XM Effects
9XS Rate
9XT Dimensions
9XTC Reduction
9XTE Extension

DGA Origin of earth, planet earth
*Alternative (not recommended) to locating under geosphere (DGH). Although theoretically this is the more appropriate place (since the earth encompasses more than the geosphere) it is more helpfully collocated with the major studies concerned with geochronology which are found under the geosphere.
If this alternative is followed, proceed as

follows:
Add to DGA letters following DGH

[EARTH SCIENCES DG]
[(Processes & properties)]
[Origin of earth DGA]

DGB Geophysics
* Physics of all earth phenomena; for physics of specific processes, parts, etc. (e.g. earthquakes, crust) see the process, etc.
* Add to DGB letters A/Y following B; eg

DGB A Shape of the earth
B Mechanics
*For motion of earth as a celestial body, see Astronomy DA.
BH Forces
BJ Pressure, geopressure
BK Stress-strain relations
*For Seismology, see DKH; for Structural geology, see DHL-J
CH Statics, geostatics
CM Density
CN Equilibrium
* For Isostasy, see Crust
CX Dynamics, geodynamics
(Special energy interactions & forms)
DGB GP Thermal properties, geothermics
Heat transfer
Heat flow, heat flux
GR Gravitation
GY Electricity & magnetism
HI Electricity, geoelectricity
HM Electric field (earth's)
HP Electric current, earth current
Telluric current
Telluric anomaly
HU Conductivity & dielectric properties
Persistence (geoelectricity)
J Magnetism, geomagnetism, terrestrial magnetism, geomagnetic field
* For Aurora borealis, see D Atmosphere?
J9D Y Variations in terrestrial magnetism
J9E SC Palaeomagnetism
J9E SE Transient magnetic effects
J9E SG Time variations in terrestrial magnetism
J9E SH Diurnal variations in terrestrial magnetism
J9E SJ Variations with depth (terrestrial magnetism
JBM Magnetic axis & moment
(Field components)
DGB JNP Geomagnetic poles
JNQ Polarity (geomagnetism)
JNR Migration of magnetic poles
JNT Dipole field
K Electromagnetic radiation

[EARTH SCIENCES DG]
[(Processes & properties)]
[Geophysics DGBI]

[(Special energy interactions & forms)]
[Electricity & magnetism DGBGY]
[Electromagnetic radiation DGBKI

DGC Geochemistry
*For the chemistry of specific features, see the latter; eg rocks and minerals DG
Geochemical cycle
*Continuous cycle of substances passing through and between the different spheres (lithosphere, biosphere, etc.).
Chemical substances
* Abundance & distribution throughout the earth; for appearance in particular parts, etc. see latter (e.g. in barysphere).
*Add from C
(By physical form)
Isotopes
Elements & compounds

DGD A Astronomical phenomena in earth science, geoastronomy

DGE Biological phenomena in earth science, geobiology
* When treated as agents of geological processes.
* See also Biosphere

(Parts of the earth)

DGG Interactions between parts (general)
*This provision allows the qualification of one part by another when the relationship is not provided for by normal synthesis.

DGH Geosphere, solid earth, geology
*Covering the origin, composition and structure of the earth as a whole together with the processes leading to and continuing to affect its present state. Excludes hydrosphere, atmosphere and biosphere except when these act as agents of geological processes.
*Nearly all the literature at present relates to the lithosphere (which is sometimes used as synonymous with the geosphere) and the crust, and most of it will be found under these two classes.

DGI Historical geology & palaeontology
* Evolution of the earth and its environment from its origin to the present.
* An alternative to this location is given at DGA; see the note there and at DJO
)Diagrams(
Geological columns, stratigraphical columns

DGI K Origins of the earth
* Alternative to locating at DGA; see note there.
* Or see cosmogony?

[EARTH SCIENCES DG]
[(Parts of the earth)]
[Geosphere DGH]
[Historical geology & palaeontology DGI]
[Origins of the earth DGIK]

DGI N Geochronology, geochronometry
*Determination of the age of the earth and the measurement of geological time.

Q Age of earth, absolute dating

(Special techniques)

DGI R Radioactive decay (geochronology)

S Radiocarbon dating

T Potassium-argon dating

DGJ B Relative dating, timescales

* Determining the order of geological events.

8B Sampling methods

8L Geochronometric scales

8M Orogenic age scales

)Physical methods(

C Chemical dating, fluorine dating

E Biological dating

* See also Palaeontology

F Dendrochronometry

(Special techniques)

DGJ J Palaeomagnetic dating

M Sedimentary dating

P Varves dating

DGK Palaeontology & stratigraphy

*These are special to the earth's crust and so are located at DJ. An alternative (not recommended) is to locate them here, in order to collocate them with geochronology in general. If this option is taken, proceed as follows:

*Add to DG letters K/O following DJ.

[DGH)Geosphere, solid earth, geology(]

DGR Physical geology

*Geological processes & the morphology of the resultant structures.

*For Structural geology, see Lithosphere

(Processes & properties of the geosphere)

DGS Endogenic processes (general)

*For exogeneous processes, see Surface of earth DMJ-X

DGT Tectonic forces (general)

*Tectonics usually denotes the large scale movements of the lithosphere (particularly the crust); see DJS

(Parts of the geosphere)

*Add to the classmark of any part letters A/G following DG.

DHB Barysphere, earth's interior

*All of the earth's interior beneath the lithosphere. Sometimes the term is used loosely to describe only the core or only the mantle.

DHC Core

DHD Inner core

DHE Outer core

DHF Gutenburg discontinuity

DHG Mantle

DHH Mesosphere

*Region between the base of the asthenosphere and the core/mantle boundary.

DHI Asthenosphere

Between 100 and 240 km below the surface. Thought to consist of partially

molten materials and to exhibit plastic properties. Constitutes the low velocity zone in seismic activity?

DHJ Upper mantle
* See Lithosphere DHL

DHK Mohorovicic discontinuity

DHL Lithosphere
* Uppermost region of Earth, relatively rigid and cool compared with the asthenosphere on which it rests. Extends for some 0 km beneath surface of Earth.
* The term Lithosphere is sometimes used to denote the whole geosphere.
* Add to DHL letters A/G following DG;
* Add to DHL-H letters I/Q following DG, if applicable.

DHL I (By period)
* Orogenic periods characterizing tectonic processes.

[)Geosphere DGH]
[(Parts of the geosphere)]
[Lithosphere DHLI
[(By period) DHLI]

DHL J Structural geology
*Studies the genesis, deformation and spatial distribution of rock structures and the geometry of their forms.
* See also Petrology DID

(Processes & properties of the lithosphere)
Nearly all the literature on the lithosphere relates to the crust in particular. Although the origin of many of its processes and structures lies in the upper mantle they apply overwhelmingly to the crust and as a matter of convenience they are given under the crust (at DJR/DKY). But any concept given there may be applied here if necessary, as indicated below.
* For landforms (structures) produced by these processes (eg fractures, joints), see Surface of the earth DNL.
* Add to DHM letters T/Y following DJ;
* Add to DHN letters A/C following DK;
* Add to DHP letters P/Y following DKD; a brief selection is given below to demonstrate.

DHM T Deformation
U Fracture
V Jointing
W Faulting
DHN B Folding
DHP P Deformation under higher temperature & pressure

(Parts of the lithosphere)
DIB (Constituents)
DIC Rocks & soils & minerals (together)
**This class not yet developed. The bits on deformation have been dumped here temporarily until sorted out.

DIT 79V Geological exploration, prospecting
(Techniques)
ERB CX Hydrodynamics (applied)
EKH Reflection seismics
(Deposits by chemical constitution)

DIW Metalliferous deposits, ore deposits
DIT Y Non-metalliferous deposits
DIU Petroleum & natural gas, Carbonaceous
D Diamonds
L Oil shale geology
S Tar & sand geology
DIV Solid deposits
J Coal
DIY Applied geology, Environmental & engineering geology
EB)Physics(
EBB Rock mechanics

(DHL Lithosphere)
(Parts)

DJ Crust
* Add to DJ letters A/J following DG.
DJG R)Physical geology of the crust(
DJI)Historical geology(
DJK Palaeontology
*The study of ancient life. Locate here only those studies whose primary purpose is the elucidation of geological phenomena, using palaeontogical evidence as an agent. Such studies should go with stratigraphy and if the alternative location for this at DGK is chosen palaentology should also go there (see instruction at DJM).
The preferred location of palaeontology in general is with biology; an alternative (not recommended) is to locate here. If this option is taken, proceed as follows:
* Add to DJK letters A/Y following EGF;
* Add to DJL letters A/Z followingh EGG; eg
DJK HP Petrification (palaeontology)
DJM Stratigraphy
* Deals with the composition, sequence, spatial distribution, classification and correlation of the stratified rocks of the crust.
* An alternative (not recommended) is to collocate with historical geology in general, at DGK/DGP (which would include palaeontology).
(Special attributes)
DJM LF Stratigraphic facies
((By time))
DJM N Chronostratigraphy
N88 L Chronostratigraphic scales
NS Biostratigraphy
NT Biotypes
NV Chronotypes
((By space & composition))
DJM P Lithostratigraphy

PR Lithotypes
Q ((By geological process))
* Add to DJM-Q letters R/Y following DJ;
* Add to DJM-R letters A/Y following DK; eg

[(Parts)]
[Crust DJ]
[)Historical geology(DJI]
[Stratigraphy DJM]
[(Special attributes)]
[((By geological process)) DJMQ]

DJM REQ Epeirogenesis (stratigraphy)
S Stratigraphic levels, horizon (stratigraphy)
T Unconformities, stratigraphic breaks
U Angular unconformity
V Disconformities, parallel unconformities
W Non-depositional unconformities
X Non-conformities, heterolithic unconformities, angular unconformities
DJN Regional stratigraphy
* Alternative (not recommended) is to cite region before period (see DJQ).
* Add to DJN letters A/Z from Auxiliary Schedule 2
DJO B Palaeogeology, stratigraphic periods
* Add to each stratigraphic period as follows (where the hyphen represents the classmark of the period):
* Add to - letters A/J following DG; eg -JB Relative dating;
* Add to - letters K/N following DJ; eg -NY North America;
* Add to - letters P/Y for sub-periods if necessary.
)Cartography(
DJO B9R Palinspastic maps
C Pre-Cambrian era, azoic era
D Pre-Archean era
E Archean era, archaezoic era
F Proterozoic era
H Palaezoic era
J Lower Palaeozoic era
K Cambrian system
L Ordovician system
M Silurian system
P Upper Palaezoic era
Q Devonian system, old red sandstone system
R Carboniferous system
S Permian system
SX Mesozoic and Cenozoic
T Mesozoic era
V Triassic system
W Jurassic system
X Cretaceous system
DJP C Cenozoic era
D Tertiary period
F Paleocene system
DJP G Eocene system
DJP H Oligocene system
J Miocene system
K Pliocene system

[Crust DJ]
[)Historical geology(DJI]
[Stratigraphy DJM]
[Palaeogeology DJOB]
[Cenozoic era DJPC]
[Tertiary period DJPD]
[Pliocene system DJPK]

DJP M Quaternary period
N Pleistocene system, glacial period
P Glacial periods, ice ages
T Interglacial periods
V Late Pleistocene period
W Holocene system, recent period (stratigraphy), post-glacial period
X Add to X letters from Aux. Sched. 4A
XFH A.D.1000-
XG Little Ice Age (c.1500-1850)

DJQ Regional (structural) geology
** Heather: this could be used as regional geology? see covering letter (2.98)
* Alternative (not recommended) to locating at DJN; if this option is taken, proceed as follows:
* Add to DJQ letters A/Z from Auxiliary Schedule 2.

(Processes & properties)
* The preferred arrangement is to use this class for general work on the processes and properties and for qualifying subsequent classes where necessary (mostly the landforms in DNL).
* An alternative (not recommended) is to locate here those structures which result from a process. Many of these are enumerated below. If this option is not taken, they should be deleted from here.
* Each process may be qualified if necessary as follows (where the hyphen represents the classmark added to):
* Add to - letters A/J following DG;
* Add to -K letters R/Y following DJ;
Add to -L letters A/Y following DK (in the case of processes in DK or later)

DJR F Non-tectonic processes]
* See also Igneous processes DKM

G Gravity-controlled processes
*Gravity affects all natural deformation processes. This class takes only those processes & resultant structures which are due primarily to gravity rather than to applied external stress.

(Gravity structures in general)

DJR GX Large-scale gravity controlled structures
* See also Cratons DLH

H Basins
I Uplifts

K Gravity-collapse
KS Cascading
KV (Structures)
eg flaps.

[Crust DJ]
[(Processes & properties)]
[Non-tectonic processes] DJRF]

[Gravity-controlled processes DJRG]
[Gravity-collapse DJRK]
[(Structures) DJRKV]

DJR L Mass movement, mass wasting
LV Flow (mass movement)
(Structures)
DJR M Avalanches
NT Creep
N Gravity sliding, landslides
(Structure)
DJR NV Nappes
*Result of displacement along a basal fault plane.
P Rockslide, rock fall
* See also petrology DI
Q Diapirism, intrusion (diapirism)
* Dome formation.
(Structures)
DJR QP Diapirs
QR Domes
QS Salt domes
QT Mantle gneiss domes
S Isostatic movements, gravitational balance movements
Impact structures, meteorite craters
DJS Tectonic processes (crustal)
*Deformation of large-scale structures.
For tectonic processes generally, see
DJT Deformation
*Any change in rocks or rock masses produced by tectonic forces.
DJT B)Physics(
*Synthesis by Class B is interrupted when it comes to enumerating the various types of deformation (beginning at DHL-KL Elastic deformation).
BBJ Pressure
BBJ W External forces
BBL Stress
BBP Shear stress
BBQ Load
BBT Strain
BCH Statics
BCX Dynamics
(Forms of deformation)
**the indent codes for classes DJTN/DKX should all, strictly speaking, be increased by 2 but can't be bothered!
DJT N Elastic deformation (general), folding and fracture
DJU Fracture
*Add to DJU letters A/L following DJT

[Lithosphere DHL]
[(Parts)]
[Crust DJ]
[(Processes & properties)]
[Tectonic processes (crustal) DJS]
[Fracture DJU]

DJU 3D Theory(
3L Griffith theory
N Cataclasis

*Fracture with rotation of mineral grains, without chemical change.

(Properties)

NR Orientation (fracture)

S Shear fracture

U Conjugate fracture

DJV Jointing, joints

* Fracture without significant displacement.
* See also Veins (filled joints) D
* Add to DJV Letters A/L following DJU
* Add to DJU - M letters following DJU if applicable.

(Processes & properties of jointing)

*Processes which define a type of joint go with the type.

DJV BJ Fluid pressure

NE Unloading, release

*Pressure and stress relief, usually as a result of the removal of overlying layers by erosion.

NG Cooling (jointing)

(Types)

DJV P Joint sets

* Series of parallel joints.

PR Longitudinal joint sets

PT Transverse joint sets

PV Diagonal joint sets

Q Open joints

R Closed joints, latent joints, blind joints, incipient joints

S Systematic joints, regular joints

SP Columnar joints

*Usually imply igneous processes.

SR Plumose joints

ST Non-systematic joints, irregular joints

SU Dilatation joints, dilatation

SV Sheeting, sheet jointing

*Usually implies large-scale igneous joints.

SW Hydraulic joints

* Formed at great depth.

T Fold & fault related joints, tectonic joints

Formed during brittle folding

[(Processes & properties)]

[Tectonic processes (crustal) DJS]

[Fracture DJU]

[Jointing DJV]

[(Types)]

[Fold & fault related joints DJVT]

DJW Faulting, faults

* Fracture with significant displacement.
* Add to DJW letters A/M following DJU
* Add to DJW-N letters following DJV if applicable; eg

DJW NN)Cataclasis, cataclasides(

(Components of displacement)

DJW PD Dimensions of displacement

PF Fault plane

PG Attitude of fault plane, orientation of displacement

PJ Vertical displacement, throw

PL Upthrow, uplift?

PN Downthrow
PQ Horizontal displacement, heave
Q Dip, hade
R Strike

(Elements in faults)

* Usually diagnostic of fault type.
* For Fault scarps, see Tectonics

DJW S Fault breccia, crush breccia
T Mylonite
V Slickensides

* Smooth surfaces resulting from friction between opposing sides in a fault.

(Types of faults)

* Add to DJX letters A/N following DJW
* Add to DJX-0 letters following DJW if applicable.

DJX B Splay faults

* Often terminating in branching.

C Transfer faults ?
D Normal faults, gravity faults, extensional faults
E Collapse structures ?
F Step faults
G Reverse faults
H Slide faults
J Thrust
JR Imbricate thrusts
JV Lag faults
K Oblique slip

* Combines dip and strike.

L Dip-slip

* Vertical movement.

M Strike faults

* Strike is parallel to the slide.

N Tear faults, strike slip, wrench faults, transcurrent faults
P Transform faults

[Tectonic processes (crustal) DJS]
[Fracture DJU]
[(Types of faults)]
[Strike faults DJXM]
[Tear faults DJXN]
[Transform faults DJXP]

* Massive tear faults, on continental scale, which terminate where movement transfers to another structural type.
** reserve XQ for DKF-0 Transcurrent faults

DJX R Hinge faults
S Pivot faults
T Riedel faults, branching faults
U Flexures accompanying faults
V Echelon faults
W Radial faults
X Concentric faults
DJY G Grabens, tathrageosynclines

* For rift valleys, see Tectonics
* Add to DJY letters A/0 following DJX;
* Add to DJY-P letters following DJX is applicable.

H Horsts
L Ductile deformation
S Shear zone

* Between two undeformed blocks which have moved relative to each other. Faults may develop during folding.

DKB Folds, folding

* Add to DKB letters A/P following DJY
* Add to DKB-Q letters following DJY if applicable.

(Properties & parts)

DKB R Amplitude
RS Orientation, attitude
RX Axial surface, axial plane
S Hinge
T Dip
V Vergence
* See also Asymmetric folds
WC Crest
WE Trough
WL Limbs

(Types)

((By scale))

DKB WN Microscopic folds (general)
WS Mesoscopic folds (general)
WV Macroscopic folds (general)

((By profile))

DKB XB Parallel folds
XC Concentric folds
XE Similar folds
XG Chevron folds

[Tectonic processes (crustal) DJS]
[Ductile deformation DJYL]
[Folds DKB]
[(Types)]
[((By profile))]
[Chevron folds DKBXG]

DKB XK Kink folds

((By inter-limb angle))

DKB XL Gentle folds, flexures (gentle folds)
XO Open folds
XT Tight folds
XV Isoclinal folds

((By attitude of axial surface))

DKC C Monoclincal folds
* For Asymmetrical folds, see
D Upright folds
E Inclined folds
F Overfolds, overturned folds
* For Isoclinal folds, see
G Recumbent folds

((By closing direction))

DKC J Antiforms, anticlines, arches
L Synforms, synclines, troughs
* For Geosynclines, see Tectonics
N Domes
P Basins
R Neutral folds

((By symmetry))

DKC S Symmetric folds
T Asymmetric folds
V Parasitic folds
X Harmonic folds

Y Disharmonic folds
DKD C Conjugate folds
D Box folds
E Polyclinal folds
F Supratenuous folds
((By number of dimensions))
DKD H Cylindrical folds, cylindroidal folds
J Non-cylindroidal folds
K Periclines
* Usually large-scale.
L Sheath folds?

P Deformation under higher temperature & pressure
*The conditions increase ductility; so deformation is characterized by folding rather than faulting and usually implying igneous and metamorphic rock.
Q Fabric
* Relationship between rock structures and texture. Usually implies a petrographic scale; if implies a larger scale, prefer here.
* Add to DKE-D letters following DI in Petrology.

[(Parts)]
[Crust DJ]
[(Processes & properties)]
[Tectonic processes (crustal) DJS]
[Deformation under higher temperature & pressure DKDP]
[Fabric DKDQ]

DKD S Foliation
* Usually treated as a structure. If treated as process, amplify with details from petrology, so far as applicable.
* Add to DKE-G letters following DI; eg Penetration foliation
V Cleavage
*For cleavage on a petrological scale, see DI
WB Slaty cleavage
WD Fracture cleavage
WF Crenulation cleavage
WH Solution cleavage
* With compositional banding.
WK Axial plane cleavage
WM Strain-slip cleavage
WN Flow cleavage
X Lineation
* Properties usually imply a structure (see DI Petrology).

DKE L Lateral tectonics
N Vertical tectonics
Q Epeirogenesis
*Uplift or depression without significant deformation.
R Cymatogenesis
*Uplift or depression with warping (deformation without faults or folds).
DKF Plate tectonics
*Add to DKF letters A/KE following D so far as applicable.
DKF B)Physics(
BGR Thermal convection (plate tectonics), earth convection
BJ)Magnetism(
BJA BE Palaeomagnetism (plate tectonics)

BJN P Magnetic poles movement (plate tectonics)
BJN Q Magnetic stripes (plate tectonics)
BJN R Reversal of polarity, geomagnetic reversal (plate tectonics)
)Palaeontology(
DKF JL Fossil evidence (plate tectonics)
JM)Stratigraphy(
JOC Precambrian plate tectonics
(Processes & properties)
DKF LC Wilson cycle
LD Continental drift
LG Geometric fit

[Crust DJ]
[(Processes & properties)]
[Tectonic processes (crustal) DJS]
[Plate tectonics DKF]
[(Processes & properties)]
[Geometric fit DKFLG]

* Of opposing coastlines, for example.
DKF LGB JAB E)Palaeomagnetism(
LH Fossil evidence (plate tectonics)
(Structures)
*These may be regarded variously as agents, patients and products of tectonic processes.
DKF M Palaeogeography
* Add letters for place from Aux. Schedule 2
DKF N Plates
O Boundaries, margins, zones of activation
OJX N)Tear faults(
OJX P)Transform faults(
[Tectonic processes (crustal) DJS]
[Plate tectonics DKF]
[(Structures)]
[Plates DKFN]
[Boundaries DKFO]
[Reversal of polarity (plate tectonics) DKFBJNR]
[Transform faults DKFOJXP]

DKF OJX Q Transcurrent faults
OP Constructive plate margins, divergent margins, spreading edge
* Adjoining plates move apart as new material is added.
* See also continental rift zones D; Mid-ocean ridges D
OR Destructive plate margins, convergent plate boundaries, subduction zone boundaries, edge of consumption, edge of subduction
*See also Ocean trenches D ; Young mountain ranges D Island arcs D
OS Subduction
OSB CX)Fluid dynamics(
OU Collision margins
* See Continental crust DLF
OV Conservative plate margins, transform fault margins
* See also San Andreas Fault?
** reserve FOW for passive continental margin DLP-K
P Regional plates

Q Eurasian plate
R African plate
S Antarctic plate
T Indo-Australian plate
U Pacific plate
V American plate
W Other plates
X Mobile belts
*Long, linear parts of the crust in which intense deformation occurs during orogeny. Sites of future fold mountains; e.g. Tethys (Mesozoic) which divided Gondwanaland from Laurasia.

DKG Diastrophism (general)
*Large-scale deformations of the crust. Most of the literature relates to these processes in the continental crust.

DKH Earthquakes, seismology
DKH 4)Investigatory procedures(
* As AY4.
(Agents)
DKH 4X Seismological stations, observatories
5)Instrumentation(
57 Computers in seismology
57N Networks (seismology)
[Earthquakes DKH]
[)Investigatory procedures(DKH4]
[(Agents)]
[)Instrumentation(DKH5]
[Computers in seismology DKH57]
[Networks (seismology) DKH57N]

**Has special meaning in seismology? Can't trace.
(operations)

DKH 84J)Detecting, sensing(
84N Telemetry (seismology)
84P Echo probing (seismology), reflection seismics
84R)Recording(
84R S Seismography
86)Measurement(
885)Timing devices(
8XU Seismic surveys
DKH 8YP Seismic prediction
DKH 9R Seismic mapping
* For isoseists, isoseismal lines, see DKH-MR.
B)Geophysics(
BCB Elasticity of earth
BF Seismic waves, wave behaviour
BF8 6)Measurement(
BF8 8L Seismic scales (general)
*For specific scales, see phenomenon measured; eg disturbances DKJ-88L.
BFA DC Velocity (seismic waves)
BFA DD Acceleration (seismic waves)
BFC Propagation, wave transmission through media
BFC M Attenuation (seismic waves)
BFE Y Phase changes
BFM Refraction (seismic waves)
BFU P Geometric spreading (seismic waves)
(Special processes & properties)

DKH MD Distance from recording station (earthquakes)
MF Direction of seismic waves
MH First motion ?
MJ Emergence angle ?
ML Arrival & period ?
MN Focus (seismology), hypocentre?
* Source of earthquake.
MP Epicentre (seismology)
*Point on surface lying directly above focus.
MR Isoseismic lines, isoseists, homoseists, homoseisms
P Transmission media (seismology)
Q Discontinuities (seismic media)
RB Earthquake belts
RHC Core (seismology)
RHG Mantle (seismology)
RHI Asthenosphere (seismology), low velocity zone, LVZ
RJ Crust (seismology)
[Diastrophism (general) DKG]
[Earthquakes DKHI
[)Geophysics(DKHBI
[Seismic waves DKHBF]
[Transmission media (seismology) DKHPI
[Crust (seismology) DKHRJ]

(Types of waves)
DKH SB Seismic anomalies, shadow zones
** or really element in media?
SD Long waves, L-waves
SF Love waves, Q-waves
SH Rayleigh waves, R-waves
SJ Surface waves, groundroll
SL Body waves
SN Primary waves, P-waves
SQ Secondary waves, S-waves
SS Foreshock
ST Aftershock
DKI Seismic disturbances
(Processes & properties)
DKJ Seismicity, magnitude & intensity
DKJ 86)Measurement(
88L Seismic scales
* If required, add number in scale; eg DKJ-P8N3 Magnitude of 3 on Richter scale.
** allow 88M/0 for special enumerated scales.
DKJ 88P (Named scales)
* Other than enumerated ones (eg Richter).Arrange A/Z.
P Magnitude
* Total energy released.
P86)Measurement(
P88 N Richter scale
Q Intensity
*Effects of the disturbance at a particular place.
Q86)Measurement(
Q88 M Mercalli scale, modified Mecalli scale
Q88 N Rossi-Forel scale
R Time distribution (earthquakes)

RP Frequency of earthquakes
RS Swarms (earthquakes), clusters (earthquakes)
?
(Types of disturbances)
DKK C Microseismic disturbances, tremors, Earth noise
E Macroseismic disturbances
G Aseismic disturbances
[(Processes & properties)]
[Tectonic processes (crustal) DJS]
[Earthquakes DKH]
[Seismic disturbances DKI]
[(Types of disturbances)]
[Aseismic disturbances DKKG]

*Extremely slow moving (e.g. mm per year).
DKK J Earthquake surface effects (general)
L Water level changes (seismology)
M Tsunamis ?
P Human made disturbances (seismology)
Q Explosions (seismic effects), nuclear explosions (seismology)

DKM Igneous processes, igneous cycle, magmatic cycle
* For petrology of igneous rocks, see DI
DKM JW)Faults(
JXY Crystalline thrust
KEF)Foliation(
M Magmatism, magma
*Magma is molten rock, very gaseous and mobile, formed under great pressure at depths below km from the surface. It may consolidate to form an igneous rock. The resulting structures are formed through a range of conditions; so it is often difficult to distinguish magmatic structures from tectonic ones.
(General structures)
DKM N Magmatic chambers
O Volatiles (magma)
OP Juvenile volatiles (magma)
* original constituents.
OR Resurgent volatiles (magma)
*Resulting from contamination by country rock.
(Processes & properties)
DKM P Magmatic differentiation
PP Gas streaming (magma)
PR Liquid immiscibility
Q Thermal diffusion (magma)
R Cooling (magma)
S Crystallization (magma)
SP Fractional crystallization (magma)
SS Solidification (magma)
DKN Intrusion (process)
*Injection of molten magma into existing crustal rocks, which on cooling become intrusions (intrusive rock).
(Intrusion processes)
DKN P Emplacement
PQ Active emplacement
PR Dilatational emplacement
PS Forceful emplacement

Q Passive emplacement, permitted intrusion

[Magmatism DKMMI

[(Processes & properties)]

[Intrusion (process) DKN]

[(Intrusion processes)]

[Emplacement DKNP]

[Passive emplacement DKNQ]

DKN QS Stoping

QV Melting & assimilation (igneous processes)

R Replacement (igneous processes)

(Intrusion structures)

DKN V Country rock

* Rock penetrated by intrusion.

X Composite intrusions

Y Multiple intrusions

DKO H Hyperabyssal rock (general)

*Crystallized under conditions intermediate between plutonic and volcanic.

K Plutonic rock (general)

* Deep-seated in origin.

P Plutons (general)

Usage has changed from a large-scale body of igneous rock to the narrower concept of a cylindrical mass of granitic rock.

R Apophyses

V Veins (igneous intrusions)

DKP B Dykes & sills

D Dykes, dikes

DP Dyke swarms

DQ Cone-sheaf dykes

DR Ring dykes, radial dykes

DT En-echelon dykes

F Sills

H Batholiths

J Stocks

L Plugs

N Bosses

P Lopoliths

Q Laccoliths

T Cedar-tree laccoliths

V Diapirs (igneous rock)

DKR Extrusion, volcanic action, vulcanicity

*Emission of magma from vents, fissures, etc. to the earth's surface, where it forms lava flows.

* See also Orogeny D

(Extrusion processes & properties)

DKR P Tumescence

R Eruption

S Areal eruption

T Central eruption

U Fissure eruption

V Hawaian eruption

*Least explosive kind, usually produces shield volcanoes.

W Strombolian eruption

X Paroxysmal eruption

[Magmatism DKMM]

[(Processes & properties)]

[Extrusion DKR]

[(Intrusion structures)]

[Eruption DKRR]

[Paroxysmal eruption DKRX]

* Most explosive kind.

DKS B — Plinian eruption
C — Pelean eruption
E — Vulcanian eruption
*With rapidly solidifying lava, generating high pressures and strong explosions.
G — Vesuvian eruption
H — Solfataric activity
* Escape of gases after eruption.
JP — Nuees ardentes
*Incandescent cloud of gases, ashes, etc. accompanying eruption.

(Products of extrusion)

DKS L — Lava
LP — Vesicular lava
LQ — Pumice
LS — Scoriae
M — Pyroclastic deposits
N — Tephra, volcanic ash
* Unconsolidated material.
NP — Lapilli
NPP — Peleís hair
NPT — Pele's tears
NR — Lava bombs
NT — Tuff
NW — Ignimbrite, welded tuff

DKT B — Lava flows
D — Lava domes
F — Lava fields
H — Lava fountains
L — Lava blisters

(Types of lavas)

DKT N — Basic lava
P — Viscous lava
R — Intermediate lavas
S — Aa lava
V — Pahoehoe lava, ropy lava

(Extrusion structures)

DKU — Volcanoes

(Parts of volcanoes)

DKV E — Vents, pipes (volcanoes), chimneys (volcanoes)
G — Craters
H — Tholoids
J — Calderas
K — Fumaroles
*Vents from which steam, gases, etc are ejected.

[Igneous processes DKM]
[Magmatism DKMM]
[(Extrusion structures)]
[Volcanoes DKU]
[(Parts of volcanoes)]
[Vents DKVE]
[Fumaroles DKVK]

DKV L — Necks (volcanoes), plugs (volcanoes)
M — Puys
O — Cones (volcanoes)
OP — Engulfment, collapse of cone

OR Basic cones
OT Cinder cones
(Types of volcanoes)
DKV P Extinct volcanoes
Q Dormant volcanoes
R Active volcanoes
S Central vent volcanoes
T Submarine volcanoes ?
V Mofettes
W Geysers
WQ)Periodicity(
X Hot springs
DKW Metamorphism
*All the changes in mineral assemblage and rock structure which take place in the solid state within the crust as a result of changes in temperature and pressure and of chemically active fluids. See also Diagenesis
DKW KEF)Foliation(
P Textural change (metamorphism)
Q Mineralogical change (metamorphism)
R Metamorphic differentiation
* See also Foliation
(Properties)
DKW T Grade, rank (Am.)
*Degree of metamorphism experienced by a rock.
TP Low grade (metamorphism)
TQ High grade (metamorphism)
U Metamorphic facies
* See also Petrology
(Products)
DKX B Metamorphic aureole
*Zone around igneous mass in which metamorphism occurs.
(Types of metamorphism)
DKX E Regional metamorphism, dynamothermal metamorphism
*Usually large-scale action, associated with orogeny.

[Crust DJ]
[(Processes & properties)]
[Igneous processes DKM]
[Metamorphism DKW]
[(Types of metamorphism)]
[Regional metamorphism DKXE]

DKX G Dynamic metamorphism, dislocation metamorphism
J Cataclastic metamorphism
* Effects are purely mechanical.
L Isochemical metamorphism
*No introduction of material from external source.
M Metasomatism
P Contact metamorphism, thermal metamorphism
R Autometamorphism
T Pneumatolysis
*Chemical changes due to hot gases.
(Parts of the crust)
* Any part may be qualified as follows (where the

hyphen represents the classmark added to):
*Add to - letters A/I following DG;
*Add to -K letters following DJ;
*Add to -L letters following DK.

DLE Extensional structures (general)

DLF Terranes, suspect terranes, exotic terranes
*Large pieces of crust with distinctive geology.

DLF KF)Plate tectonics(

KFO X Accreted tectonic margins

P Low grade terranes

Q High grade terranes

S Allochthonous terranes

T Island arcs

DLH Cratons, kratons, cratogenic processes
*Large sections of crust which are relatively stable and unaffected by mountain building.

DLI Continental shields

DLJ Orogens, orogenic belts, mobile belts
Unstable, elongated regions of the crust which have been intensely folded and faulted during mountain-building processes.
* For mountains as landforms, see Geomorphology

DLJ HI)Historical geology(
* For orogenesis, see DLJ-N.

KF)Plate tectonics(

KFL Wilson cycle
** Primarily associated with ocean basins

N Orogenesis, orogeny

O Orogenetic periods (general)
*Use stratigraphic periods, expanded where necessary; eg scourian, Laxfordian and Charnian under pre-Cambrian Britain.

[(Parts)]
[Crust DJ]
[(Parts of the crust)]
[Orogens DLJ]
[Orogenesis DLJN]
[Orogenetic periods (general) DLJO]

(By place)

DLJ P (By mountain system)
*In Auxiliary Schedule 2, there is no enumeration of mountain systems analogous to that of oceans, etc. at AEY. A pity! But if a separate array of these is wanted (i.e., not intercalated with Schedule 2 D/Z below) it could be done by adding the letters from the latter; eg DLJ_PQE-H Himalayas.

Q (By geographical place)
*Add to DLJ-Q letters D/Z from Schedule 2.

((By scale))

DLJ RC Mountain chains

RE Mountain systems

RG Mountain ranges

((By origin))
* For Volcanoes, see DKU

DLJ S Fault-block mountains
* Relatively isolated ranges.

T Fold-&-thrust mountains

* See also subdection

DLK Geosynclines, orthogeosynclines, geotectoclines
*Major structural and sedimentational downfolds on subcontinental scale; subsequently subject to orogenic processes.

DLN Oceanic crust, sima, lower crust

DLN J)Strike-slip faults(

J)Transform faults(

K)Plate tectonics(

P Mid-ocean ridges

Q Seafloor spreading, seabed spreading

S Ocean deep, ocean trenches, marginal trenches, seafloor trenches

Foredeeps

* For Island arcs, see Continental crust

DLP Continental crust, sial, upper crust

)Tectonics(

DLP J)Transform faults(

)Grabens(

Rift valleys

KE)Fabric elements(

KE)Lineaments(

Megalineaments

KF)Plate tectonics(

KFN)Plates(

)Margins(

[(Parts of the crust)]

[Continental crust DLP]

[)Tectonics(]

[)Plate tectonics(DLPKF]

[)Plates(DLPKFN]

[)Margins(]

DLP KFO Continental margins
* For Accretal terrane margins, see Terranes

KFO N Active continental margins

* Corresponding to plate boundaries.

KFO P)Constructive margins(

KFO R)Destructive margins(

)Subduction(

DLP KFO S Continental subduction margins

*For example, the Andean coast of South America.

KFO U Continental collision margins

*For example, Himalayan and Alpine chains.

)Conservative margins(

DLP KFO V Continental transform fault margins

* For example, the San Andreas fault.

KFO W Passive continental margins

*Lie within continental plates; e.g. Atlantic margins of America/Europe/Africa.

[EARTH SCIENCES DG]

[GEOGRAPHY DM]

DM GEOGRAPHY
(Alternative to DU)
Biosphere viewed as the physical environment (physical geography) & behavioural environment (human geography) of humans, together

with the interactions between the natural & the human world,
especially the spatial distribution of these.

DM2/6 (as DG)
DM2 7 History of geography as a discipline
DM3 2E Quantitative methods
DM3 4 Theory
DM3 5 Special to the discipline
Space and time
Space
Time
DM7 (by period)
DM8 (by place)
Regional geography
An alternative (not recommended) is provided at DX for libraries preferring to cite region first.
DM8 A5 ((By orientation & hemisphere)) As Schedule 2
66 ((By longitude & latitude)) As Schedule 2
B ((By physiographic factors)) As Schedule 2
EG Oceanic regions... Indian Ocean...
DM8 B ((By longitude & latitude)) Polar region...
DM8 D/Z ((By country)) [As Schedule 2)
(Systematic geography)

DMF Physical geography, physiography
DMF 8 Regional physical geography
DMF 8AB V Mountains

DMG Surface of earth, land surface, geomorphology, landscape (geomorphology)
*Geomorphology is the study of the surface features (landforms) resulting mainly from the exogenic processes below but also, to a lesser degree, the endogenic ones above (which determine the original structures).
In the UK, geomorphology is usually treated as a branch of physical geography. An alternative (not recommended) is provided at DVN for libraries wishing to follow this practice.
Add to DMG letters A/G following DG.
(General properties/processes)
DMG A Formation, genesis
)Physics(
DMG B)Mechanical processes in general(
DMG BGP)Thermal processes(
BGRR Low temperature
BGRX High temperature
)Chemistry(
DMG C)Chemical processes in general(
DMH)Historical geomorphology(
* Add to DMH letters I/Q following DG.
DMI)Constituents(
* See DNJ and the note there.
DMJ (Processes) Process geomorphology
*Locate here only those works which dealwith these processes per se. When considered in relation to particular landforms to which they contribute, see the landform (eg glacial depositional forms D
An alternative (not recommended) is to cite the process first. The main problem in implementing this option is whether to

attempt to subordinate a structure to the most specific process thought to define it or to file all structures produced by a broad process after all its specific processes; eg to subordinate varves to layered deposits or to deposits in general (under Proglacial landforms DPV - L). There is also the problem of observing the principle of the inverted filing order, which (strictly) demands that structures defined by the process in general should file before the specific processes. The notational problems of scheduling

[Lithosphere DHL]
[Crust DJ]
[Surface of earth DM]
[(Processes) Process geomorphology DMJ]

such provisions are severe ie time consuming).
* Each process may be divided retroactively as follows so far as is required (the hyphen representing the classmark added to):
* Add to - letters A/H following DM;
* Add to - letters J/K and MJR/NH following D.

((Processes by origin))

DMJ R)Endogenic processes(
*The endogenous processes (non-tectonic, tectonic and igneous) involve both crust and surface inextricably, and classes DJR/DK should be taken to include their surface manifestations. Provision is made here for qualifying surface phenomena by DJ/DK when these are treated narrowly in their role as elements in geomorphological change. If retroactive compounding is required between the classes involved, follow the instructions given at DJ.
* Add to DMJ letters R/Y following DJ.
* Add to DMK letters A/Y following DK.

DML E Exogenic processes, external geodynamics
* These are special to the earth's surface.
* Each process may be qualified as follows (where the hyphen represents the classmark added to):
* Add to - letters A/H following DM
* Add to - letters JR/L following D, where applicable.

G Morphological cycle, cycle of erosion
For erosional processes narrowly, see DMM

((By locale of process))

J Subterranean processes (general)
L Submarine processes (general)
N Subaerial processes (general)
* Occurring on Earth's surface.

((By nature of action))

DML U Multiple action (exogenic processes)
* Combined action in which no

particular type of process is dominant.

X Denudation, degradation
*Laying bare by wearing away surface material. Now includes all causes of degradation, including erosion & mass movement.

DMM Erosion, wear
[(Processes) Process geomorphology DMJ]
[((Processes by origin))]
[Exogenic processes DMLE]
[((By nature of action))]
[Denudation DMLX]
[Erosion DMM]

* If distinguished from denudation in general.
* For cycle of erosion, see morphological cycle, DLJ.
* For erosion by a particular agent, see latter; eg glacial erosion

DMM Q Corrasion, abrasion, scour
** reserve R/T for glacial action

DMN Weathering
* Breaking down of rock materials on or near surface whereby a mantle of waste (regolith) is created which remains until it is transported by an agent of erosion.
* For weathered crust, see sedimentation D for soil formation, see Petrology DI; for weathering by a particular agent, see agent; eg water weathering DMQ LM.

DMN 86)Measurement(
9X)Rate(
B)Mechanical weathering in general(
C)Chemical weathering(
Solution (weathering)
Corrosion
((Types of weathering by action))
R Differential weathering
S Deep weathering
T Block weathering, block disintegration
U Basal surface of weathering

DMO Transportation (of regolith)
*Movement of material by a natural agent between a point of erosion and a site of deposition. This should be distinguished from deformation of crust by non-tectonic force, particularly in jointing (see DJR G).
* For transportation by a particular agent, see the agent; eg water transportation DMQ LO.
* See also lithological action DMS ?

DMO R Load, transported material
(Processes)

DMO RPH Settling velocity of load
RPJ Capacity
RPL Competence
*Ability of agent to move particles of a particular size.
RR Grading of particles

RS Sorting of particles
RT Attrition of particles

[((By nature of action))]
[Denudation DMLX]
[Transportation (of regolith) DMO]
[Load DMOR]
[(Processes)]
[Attrition of particles DMORT]

DMO S Particles (transportation)
SPQ Particle size
SPS Particle failure
*Deformation leading to loss of cohesiveness & to resistance to stress.
SQ Fines (transportation)
* Smaller particles, fine fraction.
SS Saltation (general), traction (general)
* Small particle transportation in jumps, leaps, etc.
* See also Running water DMR J; Aeolian saltation DMS LOQ
ST Suspension
SU Unconsolidated loads
SV Clastic sediment (transportation)
T (Specific materials transported)
* Add [as DMI] if necessary.
UG Gravity transportation
* See also Slope DMJ
UI Gravitational flow
* Transportation of largely single grains.
UK Creep (transportation)
UL Solifluction, soil creep (solifluction)
UP Mass movement
* Of large quantities of material downhill, assisted by gravity, buoyancy, etc.
** allow for specials eg Surface waters - Wash
UR Earthflow
US Mudflow
V Slide (transportation), landslides, landslips, debris slide
*Material moves en masse, not in individual pieces. as in fall.
VR Rotational slip, rotational slide
VS Slumping
** reserve UT/UY for structures DPOT
WF Fall (transportation), rock-fall
DMP Sedimentology - deposition, sedimentation, accumulation (deposition)
DMP B Physical sedimentation
DMP C Chemical sedimentation
*Formed by precipitation from solutions in water.
(Properties)
DMP NIP)Rate of sedimentation(
NIQ Sedimentation yield
(Forms of deposition)
(By agent of action)
See agent; e.g. marine deposition DMR PLT C.
DMP R Diagenesis
[Exogenic processes DMLE]
[((By nature of action))]

[Transportation (of regolith) DMO]
[Deposition DMP]
[(Forms of deposition)]
[Diagenesis DMPR]

*Post-depositional changes in sediments at low temperature & pressure leading to consolidation of the loose sediments into sedimentary rock.
*See also metamorphism (changes at high temperature & pressure).

DMP S Compaction
T Cementation
W Aggradation
DMQ Layering (sedimentation), sedimentary stratification
DMQ Q Sorting (sedimentation)
Intersecting stratification (sedimentation)
DMR Bedding (process)
*Laying down of smallest layer in a stratified sedimentary rock.
(Properties)
DMR NIP Strike, direction strike
(Elements)
DMR SR Bedding plane
(Types)
DMR TC Conformable bedding
TE Unconformable bedding
TH Horizontal bedding
TJ Angle of dip (bedding)
TL Vertical bedding
V Concordant layering, parallel layering
W Discordant layering

((Processes by agent of action))
*Locate here a work dealing with an agent only when it is considered solely in its role as agent of the processes) concerned. When the subject is a type of landform specified by the agent (ie the product of the process, such as river valleys) see the landform.
*For atmosphere per se, see DS; for hydrosphere per se, see DQ.
DMS Lithological action, rock as a geomorphological agent
** inserted here purely to complete consistent synthesis. But does the subject exist independently?
* See materials transported D
DMT Water action (geomorphology)
* Includes liquid water action in general (as distinct from snow and ice action).
DMT MM)Water erosion(

[(Processes) Process geomorphology DMJ]
[((Processes by origin))]
[Exogenic processes DMLE]
[((Processes by agent of action))]
[Water action (geomorphology) DMT]
[)Water erosion(DMTMM]

DMT MN)Water weathering(

	MO	)Water transportation(
		((Water action by form of water))
DMT	R	Snow & ice action
		(By multiple causes)
DMT	RS	Nivation
	S	Freezing & thawing, freeze-thaw
	T	Frost action
	TMN	)Weathering(
	TMO	)Transportation(
	U	Congeliturbation, cryoturbation
		*For gelifluction, see frozen soils
	US	Congelifraction, gelifraction
		(By forms of snow & ice)
DMT	V	Floating-ice action
	W	Ice-sheet action
	X	Ice-cap action
DMU		Glacial action (general)
DMU	MM	)Glacial erosion(
	MMQ	Glacial abrasion, glacial scour
	MMR	Exaration
		*When glacier ice is unladen with debris.
	MMS	Ice-plucking
	MMT	Joint-block removal
	MMU	Friction cracks
	MO	)Glacial transportation(
	MP	)Glacial deposition(
		**reserve VB/VE for glacial forms DPU
	MPW	)Aggradation(
DMV	F	Subglacial action
		*Processes of the environment beneath a glacier, by which the glacier moves over its floor and the meltwater moves at the base of the ice.
		**keep DMVA/G for use under glacial
	FS	Basal melting, bottom melting
	H	Englacial action
		*Within the interior of the glacier.
		Supraglacial action
		*Resulting from the environment at the surface of the glacier.
	[Water action (geomorphology) DMT]	
	[((Water action by form of water))]	
	[Snow & ice action DMTR]	
	[(By forms of snow & ice)]	
	[Glacial action (general) DMU]	
	[Supraglacial action DMVJ]	
DMV	L	Proglacial action
		*From environment in front of glacial margin.
	N	Periglacial action
		*Resulting from wide range of cold but non-glacial conditions, regardless of proximity to glaciers.
	P	Permafrost action

*Permanently frozen ground.

R Glaciofluvial action

((Actions by elements of waters))

*Most of the literature on features like waves, tides, etc. goes under marine action.

DMW C Water currents (geomorphological agents), water circulation (geomorphological agents)

F Water waves (geomorphological agents)

T Tidal action (geomorphological agents)

((By waters according to salinity))

DMX F Freshwaters action

H Permanent waters action

L Intermittent waters action

R Running waters action

*For standing waters action, see bodies of water DNE.

RMM)Erosion(

RMO)Transportation(

T Hydraulic action (geomorphology)

*Force of moving water, regardless of load.

DMY Groundwater action, underground waters action

*Action of water occupying spaces (cavities, cracks, etc.) in the crustal rocks.

DMY V Springs (geomorphology)

DNA Surface waters action

DNA MO)Transportation(

S Surface wash

*For rainsplash, see Precipitation action

T Overland flow, surface flow, storm runoff, quickflow, sheetflow

DNB Fluvial action, river action

DNB MO)Fluvial transportation(

)Load(

DNB MOR Bedload, traction load

MOR L)Competence(

MOR LS Sixth-power law

[((Processes by agent of action))]

[Water action (geomorphology) DMT]

[((Actions by elements of waters))]

[Freshwaters action DMXF]

[Fluvial action DNB]

[)Fluvial transportation(DNBMO]

[)Load(]

[Bedload DNBMOR]

[Sixth-power law DNBMORLS]

DNB MOS S)Saltation(

MOS T)Suspended load(

V Fluviomarine action

DNC Bodies of water (geomorphological agents), standing waters action

* For marine action, see DMR P

DND Limnic processes, lacustrine processes, lake water action

DNE Marine action, coastal action

DNE MM)Marine erosion(

MO)Marine transportation(

MP)Marine deposition(
MPR Longshore drift
)Currents(
DNE MWC Longshore current
MWF)Wave action(
MWG Nearshore
MWH Breakers
MWJ Surf
MWL Swash
MWN Backwash
MWT)Tidal action(
** Reserve DNF for landforms DQE/G
DNG Atmospheric action (geomorphology)
DNG MN)Atmospheric weathering(
MO)Atmospheric transportation(
R Aeolian action, wind action
RMM)Aeolian erosion(
RMO Aeolian transportation
RMO W Deflation
S Precipitation action
T Rainsplash
V Climatic action (geomorphology)
DNH Biological action, organogenic action, biogeomorphology
*See also ecology E ; organogenic landforms
DOT X
DNH MN)Organic weathering(
MP)Organic deposition(

[Surface of earth DM]
[(Processes) Process geomorphology DMJ]
[Exogenic processes DMLE]
[((Processes by agent of action))]
[Biological action DNH]
[)Organic deposition(DNHMP]

(Processes/properties special to a landform)
**Reserve DNI/J to allow enumeration (particularly under landforms specified by the action); eg DMP - NIQ Deposition---Sedimentation yield.
(Parts of the surface)
DNI)Soil(
* Use DNK.
DNJ Y Constituents of the surface
DNK Soil
*As a constituent of the surface specifically, this is the logical place for this class (following processes, preceding structures). But in practice, a more helpful collocation is to place it with rocks and minerals, at DI, and this is the order recommended.
*An alternative (not recommended) is to locate here; if this option is taken, proceed as follows:
*Add to DNK letters following DI

DNL Landforms, morphostructures, lithogeomorphology
*Each landform may be qualified & specified as follows (where - represents the landform):
*Add to - letters A/H following DM;
*Add to - letters JR/K following D (endogenic

processes)
*Add to - letters L/NH following D (exogenic processes)
*Add to - letters NIINJ (processes/properties special to the landform concerned)
*Add to - letters NL/QJ (Types specified by processes)
*Add to - letters R/Y (Types special to the landform)

DNL H)Geological history(
* Add to DNL-H letters I/Q following DJ
I Structural regions
*From classification of landforms by R.E.Murphy (68).
**not sure where this shd locate or how far its contents clash with other provisions.
IC Alpine systems
IE Caledonian, Hercynian remnant
IG Gondswana shields
IL Laurasian shields
IR Rifted shields
IS Isolated volcanic areas
IV Sedimentary covers
(Processes)

[Lithosphere DHL]
[Crust DJ]
[Surface of earth DMI
[(Parts of the surface)]
[Landforms DNL]
[(Processes)]

DNL J)Endogenetic(
* Add to DNL letters J/K following D.
LE)Exogenetic(
* Add to DNL-M letters LE/Y following DM;
* Add to DNL-N letters A/I following DN.
NI (Processes/properties special to the landform)
** reserve NIP/NIW; eg DPP-NIW Deposited forms--- Competence.
(Types of landforms)
* Any landform in DNM/DQI may be specified retroactively by another type filing earlier; eg Erosion platforms DPM - PIR.
((Landforms by time-dependence in development))
DNM D Time-independent landforms
F Time-dependent landforms
H Relict landforms
*Created by processes which are no longer operative, or only in a minor role.
K Non-relict landforms
)Landforms of endogenetic origin(
* For works dealing with geomorphological aspects only.
*Add to DN letters RF/Y following DJ;
*Add to DO letters A/Y following DK.
DNM N Initial landforms (general)
*Relatively unaltered by geomorphological processes; starting point of the geographic cycles (W.M.Davis).
((Landforms by rock form))
R Crust (lithogeomorphology), duricrust
*Hard layer over unconsolidated sediments, etc.
S (By chemical solution)

* Add

T Layered rockforms, stratified rockforms

U Massive rockforms

* Without stratification, very thin.

V Combined rockforms

W Outcrops

X Inselbergs

DNN ((Landforms by composition of rock)

* Add [as DI Petrology]; eg

DNN L Limestone

*Most of the literature on limestone geomorphology relates to karst - ie to the forms resulting from groundwater action (including its chemistry); see

DNR F Non-tectonic structures

[Crust DJ]

[Surface of earth DM]

[(Parts of the surface)]

[Landforms DNL]

[)Landforms of endogenetic origin(]

[Non-tectonic structures DNRF]

DNR G Gravity-controlled structures

*Gravity affects all natural deformation processes. This class takes only those processes & resultant structures which are due primarily to gravity rather than to applied external stress.

K Gravity-collapse structures

KS Cascades

KV Flaps

L Gravity sliding, landslides (non-tectonic processes)

* For nappes, see overfolds DOC-F.

QP Diapirs

* For domes in general, see DOC-K

QS Salt domes

QT Mantle gneiss domes

DNR R Large-scale gravity controlled structures

*See also Cratons Basins DOC-P; Uplifts

DNR S Isostatic movements, gravitational balance movements

T Impact structures, meteorite craters

DNS Tectonic structures (landforms)

*For tectonic processes generally and the non-surface structures which are generated by them and participate in them (eg plates, mobile belts), see Crust DJ

DNT Deformation structures

*For deformation processes in general, see lithosphere

(Properties)

DNT NIF Fabric

*Physical arrangement of particles and minerals in a rock.

NIN Texture

NIS Structures (fabric)

DNU Fractures

DNU S Shear fractures
U Conjugate fractures
DNV Joints
* Fractures without significant displacement.
* See also Veins (filled joints) D
DNV R Joint sets, joint systems
* Series of parallel joints.
RR Longitudinal joint sets
RT Transverse joint sets

[-Tectonic structures (landforms) DNS] [-Deformation structures DNT] [-Fractures DNU]
[-Joints DNV]
[-Joint sets DNVR]
. [-Transverse joint sets DNVRT]

DNV RV . Diagonal joint sets
S Open joints
T Closed joints, latent joints, blind joints, incipient joints
U Systematic joints, regular joints
US . Columnar joints
* Usually imply igneous processes.
UT . Plumose joints
VB Non-systematic joints, irregular joints
VD Dilatation joints, dilatation
VF Sheeting, sheet jointing
* usually implies large-scale igneous joints.
VH Hydraulic joints
* Formed at great depth.
W Fold & fault related joints, tectonic joints
* Formed during brittle folding.

DNW Faults
* Fracture with significant displacement.
(Components of displacement)
DNW NJD Dimensions of displacement
NJF Fault plane
NJG Attitude of fault plane, orientation of displacement
NJJ Vertical displacement, throw
NJL Upthrow, uplift?
NJN Downthrow
NJQ Horizontal displacement, heave
NJR Dip, hade
NJS Strike
(Elements in faults)
* Usually diagnostic of fault type.
* For Fault scarps, see Tectonics
DNW NJT Cataclasites
NJU Fault breccia, crush breccia

NJV .. Mylonite
NJX Slickensides
Smooth surfaces resulting from friction between opposing sides in a fault.

(Types of faults)
DNX B Splay faults
.. * Often terminating in branching.

C Transfer faults ?
D Normal faults, gravity faults, extensional faults
E Collapse structures ?
F Step faults
G Reverse faults
H Slide faults
J Thrust
JR Imbricate thrusts

<>

[-Deformation structures DNT]
[-Fractures DNU]
[-(Types of faults)]
∑ . . [-Reverse faults DNXG]
∑ . . . [-Slide faults DNXH]
. . . . . [-Thrust DNXJ]
. . . . . .[-Imbricate thrusts DNXJR]

DNX JV Lag faults
K Oblique slip
* Combines dip and strike.

L 'Dip-slip
* Vertical movement.
M Strike faults
* Strike is parallel to the slide.
N Tear faults, strike slip, wrench faults, transcurrent faults
P Transform faults
Massive tear faults, on continental scale, which terminate where movement transfers to another structural type.
R Hinge faults
S Pivot faults
T Riedel faults, branching faults
U Flexures accompanying faults
V Echelon faults
W Radial faults
X Concentric faults
DNY G Grabens, tathrageosynclines
* For rift valleys, see Tectonics
H Horsts

L Ductile deformations
S Shear zone
Between two undeformed blocks which have moved relative to each other. Faults may develop during folding.

DOB Folds, folding
(Properties & parts)
DOB NJD Amplitude
NJF Orientation, attitude
NJG Axial surface, axial plane
NJH Hinge
NJJ Dip

NJK Vergence
See also Asymmetric folds
NJN Crest
NJQ Trough
NJS Limbs
(Types)
((By scale))
DOB WN Microscopic folds (general)
WS Mesoscopic folds (general)
WV Macroscopic folds (general)
* See Tectonics
((By profile))

[-Tectonic structures (landforms) DNS]
[-Deformation structures DNT]
[-Ductile deformations DNYL]
[-Folds DOB]
[-(Types)]
[-((By profile))]

DOB XB Parallel folds
XC Concentric folds
XE Similar folds
XG Chevron folds
XK Kink folds
((By inter-limb angle))
DOB XL Gentle folds, flexures (gentle folds)
XO Open folds
XT Tight folds
XV Isoclinal folds
((By attitude of axial surface))
DOC C .. Monoclincal folds, monoclines
* For Asymmetrical folds, see
D 'Upright folds
E Inclined folds
F Overfolds, overturned folds
* For Isoclinal folds, see
G Nappes
H Recumbent folds
((By closing direction))
DOC J Antiforms, anticlines, arches, upward folds
K Domes
N Synforms, synclines, troughs, downward folds
* For Geosynclines, see Tectonics
P Basins
R Neutral folds
((By symmetry))
DOC S .. Symmetric folds
T Asymmetric folds
V Parasitic folds
X Harmonic folds
Y Disharmonic folds
DOD C Conjugate folds
D Box folds
F Polyclinal folds
H Supratenuous folds
((By number of dimensions))
DOD J Cylindrical folds, cylindroidal folds
K Non-cylindroidal folds

L Periclines
* Usually large-scale.
M Sheath folds?
Q Fabric elements
* See also Petrology T-
* Structures contributing to the fabric (the sum of all the textural and structural features of a rock).

[-Landforms DNL]
[-)Landforms of endogenetic origin( ] [-Tectonic structures (landforms) DNbi [-Deformation structures DNT] [-Ductile deformations DNYL] [-Fabric elements DODQ]

DOD S Foliation (landforms)
* Laminated structure (usually metamorphic) caused by separation of different minerals into parallel layers following the schistosity of the rock.
* See also foliation in petrology
(Properties)
DOD SNG Gneissosity
SNS Schistosity
Tendency to split along weak planes.
(Types of foliation)
DOD TB Penetrative foliation
TD Non-penetrative foliation
TF Shape fabric foliation
TH Compositional layering, banded foliation
TI Intrafolial folds
TK C-surface foliation, shearband foliation
TM S-surface foliation
TP Pillow structures?
V Cleavage
Sometimes used as synonymous with foliation; if used in this way, use foliation.
WB Slaty cleavage
WD Fracture cleavage
WF Crenulation cleavage
WH Solution cleavage

. . * With compositional banding.
WK Axial plane cleavage
WM Strain-slip cleavage
WN Flow cleavage

XE Lineations, linear structures
XF Lineaments
* Large-scale linear topographical features reflecting underlying structure, giving a structurally controlled landform.
* See also Megalineaments [continental crust]
XG Penetrative lineation
xi Intersection lineation
xi Mineral lineation
XK Mullions
XL Rodding structures
XN Boudins, boudinage
XP Non-penetrative lineation
See also Slickensides

[-)Landforms of endogenetic origin( ]
[-Tectonic structures (landforms) DNS]
[-Deformation structures DNT]
[-Fabric elements DODQ]
. [-Lineations DODXE]
. . . . . [-Non-penetrative lineation DODXP]

DOE L Lateral tectonic structures (general)
N Vertical tectonic structures (general)
DOF N Plates
See Plate tectonics DKF - N; Oceanic crust DLN; Continental crust DLP.
DOG Diastrophic landforms, earthquake landforms

DOM Igneous structures
* For igneous processes, see crust DKM.
DON V Country rock
* Rock penetrated by intrusion.
X Composite intrusions
Y Multiple intrusions
DOO H Hyperabyssal rock (general)
Crystallized under conditions intermediate between plutonic and volcanic.
K Plutonic rock (general)
* Deep-seated in origin.
P Plutons (general)
Usage has changed from a large-scale body of igneous rock to the narrower concept of a cylindrical mass of granitic rock.
R Apophyses
V Veins (igneous intrusions)
DOP B Dykes & sills

D . Dykes, dikes
DR Dyke swarms
DS Cone-sheaf dykes
DT Ring dykes, radial dykes
DV En-echelon dykes
F . Sills

H Batholiths
J Stocks
L Plugs
N Bosses
P Lopoliths
Q Laccoliths
R . Cedar-tree laccoliths
V Diapirs (igneous rock)
DOR Volcanoes
* See also Orogeny DKU (Processes & properties)

DOR J .. Extrusion, volcanic action, vulcanicity
(Products of volcanic eruption)
DOS L Lava
LR Vesicular lava
LS Pumice

LT Scoriae
M Pyroclastic deposits
N Tephra, volcanic ash

<>

[-)Landforms of endogenetic origin( ]
[-Igneous structures DOM]
∑ [-Volcanoes DOR]
∑ [-(Poducts of volcanic eruption)] [-Lava DOSL]
[-Pyroclastic deposits DOSM]
. . . . . [-Tephra DOSN]

* Unconsolidated material.
DOS NR Lapilli
NRS Pele's hair
NRT Pele's tears
NS Lava bombs
NT 'Tuff
NW Ignimbrite, welded tuff
DOT B Lava flows
D Lava domes
F Lava fields
H Lava fountains
L Lava blisters
(Types of lavas)
DOT N Basic lava
p Viscous lava
R Intermediate lavas
S Aa lava
v Pahoehoe lava, ropy lava

(Parts of volcanoes)
DOV E Vents, pipes (volcanoes), chimneys (volcanoes)
G Craters
H Tholoids
i Calderas
K Fumaroles
Vents from which steam, gases, etc
are ejected.
KR . : Mofettes
L Necks (volcanoes), plugs (volcanoes)
m Puys
0 Cones (volcanoes)
OP Engulfment, collapse of cone
OR Basic cones
OT Cinder cones
6 (Types of volcanoes)
DOV P Extinct volcanoes
Q Dormant volcanoes
R Active volcanoes
S Central vent volcanoes
T Submarine volcanoes ?
v Geysers
VNI P .)Periodicity(
W Hot springs

DOW Metamorphic structures

* Resulting from metamorphism (see DKW).

DOW X Metamorphic aureole
Zone around igneous mass in which
metamorphism occurs.

<>

lo(Part of surface)

DNL		Landforms
DNM	N	((By endogeneous origin))
		((By largely endogenous origin))
		file dnew41.sch (2nd half of old dnew4.sch)
		.2.98; 1.3.98
		((Landforms by landmass))
DPC	C	Continents
	E	Islands
	G	Archipelagoes
	K	Coasts [
		coastal formations are primarily the
		result of marine action & are
		collocated with the latter, at DQF.
	N	Peninsulars
	R	((Landforms by relief, elevation, etc.))
		For fault structures in general, see D
		for folded structures, see DOB-W/DOD-M.
DPD		Mountains
		* For volcanoes, see igneous structures
DPD	R	Widely-spaced mountains
	S	Mountain ranges
	v	Ridges
	W	Saddles, cols
		Joining two or more ridges.
DPF		Hills
DPF	R	Monadnocks
	S	Inselberg
	SS	Bornhardt, shield inselberg
	T	Mesa
DPG		Slopes, hillslopes
		(Properties)
		These may be used to qualify any
		given type of slope; eg DPG_QPN - IO
		Accumulation slopes--- Formation.
		'(Processes)
DPG	NIF	Formation, evolution, genesis
	NIL	Slope decline
	NIP	Parallel retreat of slopes
		* See also mesa DNI Q
	NIR	Slope replacement
	NJE	Slope equilibrium
	NJF	Slope stability
	NJH	Slope angle, slope gradient
		(Elements)
DPG	NJR	Free face, fall face
		((Types of slopes by nature of action))
DPG	QL	Denudation slopes
	QO	Transportation slopes
	QP	Accumulation slopes
	R	((Types of slopes by agent of action))

((Types by time in development))
DPG SD Time dependent slopes
SF Time-independent slopes
((Types of slopes by stage))
DPG SH Waxing slope, crest
<1>

[-Landforms DNL]
[-((By largely endogenous origin))] [-((Landforms by relief DPCR] [-Slopes DPG]
[-((Types of slopes by stage))]
. [-Waxing slope DPGSH]

DPG SJ . Constant slope, debris slope, talus slope
SL . Waning slope, pediment, wash slope
((Types of slopes by profile))
DPG SR . Repose slopes
ST . Concave slopes
TR . Rectilinear slopes
TV . Convex slopes
v Escarpments, scarps
W Cliffs (general)
Most of the literature is on coastal cliffs
DOR P
y Depressions

DPH . Valleys
For valleys defined by the specific agent
of a process, see the process-agent; eg
. river valleys DQC-PH.

DPH RE . Transverse valleys
RG . . Longitudinal valleys
RU . U-shaped valleys
RV V-shaped valleys
S Hanging valleys (general)
* Typical of glaciated uplands, with which
most of the literature is concerned; see
DOQ P.
** reserve HT/V for rivers DQC, HW for
fjords DPU
X . Basins (general)
)Slopes(
DPH XPG Bahada, bajada
XR Bolson, intermontane basins
xs Playa
Level area in centre of bolson in
which temporary lakes form
periodically.

XT - . . Sebkha, sabkha
: 1 See also arid regions
DPI Plains
DPI Q Plateaux, upland plains, elevated plains, tableland
* For mesa, see DNI Q.
R Platforms (general)

* See also Abrasion platforms DOR P
S . Tectonic platforms ?

T . Activated platforms ?
U . Benches

v Pediplains
W Peneplains
X Terraces
For kame terraces, see DOQ PNL T

<2>

[-(Part of surface)]
[-Landforms DNL]
[-((By largely endogenous origin))] * [-((Landforms by relief DPCR] * . [-Plains DPI] * . . [-Terraces DPIX]

)Landforms of erogenous origins(
((By nature of action))
General works only on landforms defined by the
action per se. If the,action is spee
the result of a particular agent (atmosphere,
water, etc.) class with that; eg Glaciofluvial
forms Eske
*Add to DP letters L/Y following DM;
*Add to DQ letters A/H following DN.
DPL U (By multiple action)
* See note at DLK.
X 'Denudation landforms (general)
XR Residuals
DPM Erosional landforms, eroded landforms
)By multiple agents action(
DPM PIR Erosion platforms, planation surfaces
See also Abrasion platforms D
Pediplain D ; Peneplain D
DPN Weathered landforms
DPN B)Mechanical weathering in general(
R Block disintegration
S Blockfields, felsenmeer
DPO Transportational forms
DPO U Landslides, landslips
* For avalanches, see Snow & ice forms
UT Hillside debris
UV Scree, talus slopes
DPP Depositional landforms, sediments, sedimentary
structures, deposits
(Properties)
DPP NID Particle size (detritus)
NIL Settling velocity of load
NIM Capacity
NIN Competence
PIR Platforms (sedimentational forms), sedimentation
platforms
Areas of thinner sediments adjoining thicker geosynclinal areas.
RI Initial deposits
Not result of transportation from denudation site.
RL Eluvial deposits, placer deposits
* Deposited above or near source rock.
RP Primary sedimentary structures
S Superficial deposits, unconsolidated deposits

<3>

[-(Part of surface)]
[-Landforms DNL]
[-)Landforms of erogenous origins( ] [-((Landforms by relief DPCR] [-Depositional landforms DPP]
[-Superficial deposits DPPS]

diluvium, drift (superficial deposits)
Formed independently of the underlying
bedrock & implying previous
transportation.

DPP SR Ripple marks
Patterns made in unconsolidated
sediment by wind, waves, currents, etc.

ss Colluvium
ST Solifluction deposits
su Head (deposits)
T Clastic sediment, detritus
TMO ..)Transportation(
TR . Debris
TT Exotic blocks
Node of deposition is incongruous with the
sediment.
TV Allochthonous materials
v Allogenic forms
DPQ Layers, sedimentary strata
DPQ R Intersecting sedimentary strata
v Varves (general)
Pairs of sedimentary layers, one
coarse, one fine, deposited annually.
DPR Beds
(Elements)
DPR NJP Bedding planes
NJR Cross beddings
NJU unconformities

((Landforms by agent of the formation process))
For the processes per se defined by these
agents, see DLL & the note at DLA.
DPS Lithogeomorphology ?
Although conceptually belongs here, doesn't
exist as a subject separate from landforms
' themselves? Theoretically, = study of
' landforms resulting from action of solid
' matter. Same as transportation, erosion,
' etc. by solids?
DPT ' Hydrogeomorphology
' Study of landforms resulting from action of
' water.
((By form of water))
DPT R Snow & ice forms
For snow & snow cover, see Atmosphere
Precipitation DS.
RMO)Transportation(
RMO V Avalanche tracks
S)Freezing & thawing forms(
SMN)Weathering(
<4>

[-((Landforms by agent of the formation process))] [-Hydrogeomorphology DPT] [-((By form of water))]
[-Snow & ice forms DPTRI
[-)Freezing & thawing forms(DPTS]
[-)Weathering(DPTSMN]

DPT T Frost landforms
TR Patterned ground
)Materials(
DPT TRS)Sorting(
TS Circles
TT Nets
TU Polygons (patterned ground)
TV Steps
TW Stripes
V Ice sheets
W Ice caps
* If distinguished from ice sheets

DPU Glaciated forms, glacial forms
DPU MM)Erosion(
MO)Transportation(
PDV Aretes
* Ridge dividing walls of two adjacent cirques.
* For cols, see Ridges DNI D.
PH Glaciated valleys
PHV)Hanging valleys(
PHW Fiords, fjords
Better with coastal forms?
PHX cirques
. * Basin with steep walls.
PP . Glacial depositional forms

R Last ice age glaciated forms (general)
S Drumlins, basket of eggs terrain
SR . Rock drumlins
US Pyramidal peaks, horns
UV Kame terraces
YS Superficial deposits (glaciated)
DPV B Glacial drift
For glaciofluvial deposits, see DOQ Y; for drumlins, see DPU S
C Till, boulder clay
CS Flow till
CV Roche moutonee
D Moraines
DR . Terminal moraines
DS . Push moraines
DT . Ground moraines
E Boulder trains, boulder fans
EV Erratics, erratic blocks

. 1 * See also Exotic blocks
F Subglacial landforms
FPV C .)Till(
FPV CT Lodgement till
FPV CV Deformation till
<5>

[-Hydrogeomorphology DPT] [-((By form of water))] [-Snow & ice forms DPTR]
[-Subglacial landforms DPVF]
∑ . . . . [-Lodgement till DPVFPVCT]
∑ . . . . . [-Deformation till DPVFPVCV]

DPV J	Supraglacial landforms The environment at the surface of the glacier.
JPV C	)Till(
JPV CS	Sublimation till
L	Proglacial landforms * Area between glacier & adjacent high ground. * See also Outwash D
LPP	)Deposits(
LPQ V	)Varve(
N	Periglacial forms
NS ..	Hummocks
p	Permafrost environment
R	Glaciofluvial forms, fluvioglacial forms
RMM	)Erosion(
RMM R	)Fluvioglacial exaration(
RMO	)Transportation(
RMP	Glaciofluvial depositional forms
RS	Eskers, osar, asar
RSV	Urstromtaler, proglacial valleys
RT	Outwash, proglacial deposits Sediments laid down in water after transportation by meltwater stream beyond the limit of the glacier or ice-sheet.
RTS	Sandar, outwash plains
RTT	Kettled sandar, pitted sandar
RV	Meltwater channels
RVV L	Proglacial channels

((By	salinity))
DPX F	Freshwater forms For marshes, swamps, etc. see ecological forms
i	Intermittent water forms * Including temporary lakes.
is	Alluvial fans
JT	Dry deltas
iv	Takyr
iw	Saltpans
DPY	Groundwater forms, underground water forms
DPY R	(By environmental rock)
RL	)Limestone(For limestone regions acted on by groundwaters, see Karst DPY_Q
S	Karst (landforms)

[-((Landforms by agent of the formation process))] [-Hydrogeomorphology DPTI
[-((By salinity))]
[-Freshwater forms DPXF] [-Groundwater forms Drxj [-Karst (landforms) DPYS]

DPY TC Karren, lapies
. Group of solutional features on limestones
. surfaces, from shallow runnels to deep
. fissures.
TD . Kluftkarren, grikes

TK Karrenrohren, lapies well
-Is Sinkholes, dolines
TW Swallowholes, swallets, water sinks (USA)
TX . Potholes
U D Dripstone, speleothem, flowstone
U L . Stalagmites
U T . Stalactites
v Springs
VC)Chemical action in general(
VT Tufa
* Deposit around spring of calcareous groundwater.
* See also Dripstone DOR L; Sinter (hot springs) D

DQB)Surface waters landforms(
DQB PXJ)Intermittent(
RE Channels (surface water landforms), erosional channels
RG . Gullies
RJ . . . Arroyos, wadis
RL . Rills
RN . Catchment basins
RT Badlands terrain
S Surface wash forms
T . Sheetflow forms
TR . . . Earth pillars, earth pyramids

DQC River landforms, fluvial landforms
DQC MM)Fluvial erosion(
MP)Fluvial deposition(
* For Estuaries, see
MPR)Fluviatile facies(
PH River valleys
PHT C Trunk valleys?
PHT G Gorges
PHT R Ravines
PHU Canyons
RD Deltas
RF Alluvial fans
RH Floodplains
RK Oxbow lakes
RM Fluvial terraces, river terraces

RN . . . Meander terraces
<7>
[-Hydrogeomorphology DPT]
[-((By salinity)) 1
[-)Surface waters landforms(DQB]
[-River landforms DQC]
[-Fluvial terraces DQCRM]
[-Meander terraces DQCRN]

DQC RQ Alluvial terraces
If these are distinguished from river terraces.
S Drainage basins
v Fluviomarine forms
W Estuaries
** Or better under tidal rivers?
X Drowned estuaries

DQD Bodies of water, standing waters
* Class here only those works which deal with inland water & marine forms together. Most of the literature relates to marine forms DQF (where most of the concepts are enumerated).
*Add [from marine] Q/U following DQF
DQD PP)Deposits(
PQV . Varves, rhythmite
S Shorelines (general)
Line of contact between a body of water & the land surface. Most of the literature relates to coastal shorelines (beaches) DQG R
SMM)Erosion(
SMP)Deposition(
SR (By historical factors)
Add to DQD_S letters R/W following DQF_S; eg bays
TB Banks (general), sandbanks (general)
* For spits, see
** reserve DU for lakes DQE
(Formations primarily relating to marine action)
Add to DQD-V letters following DQF; eg tidal formations DQD-VV.
DQD Y Littoral zone
* Add to DQD_Y letters R/Y following DQG; eg
YR Beaches (general)
YTS Spits (general)
DQE Lakes, limnic landforms
Add letters R/Y following DQF when applicable, with the additions noted below.
DQE PP)Deposits(
PQV Varves (lakes)
U Lacustrian plain
The lake is completely infilled with its sediment.

DQF Marine action forms
. Add to DQF letters R/X following DQD with the
. additions indicated below.
DQF S Coasts, shoreline (marine), coastline
SMM . . .)Coastal erosion forms(

<8>

[-((Landforms by agent of the formation process))]
[~Hydrogeomorphology DPT]
[-Bodies of water DQD]
[-Marine action forms DQF]

[-Shoreline (marine) DQFS]
. [-)Coastal erosion forms(DQFSMM]

DQF SPP)Coastal depositional forms(
(by historical factors)

DQF	SR	Compound shoreline, composite coast
	ss	Neutral shoreline
	ST	Emergent shoreline
	su	Submergent shoreline
	SW	Bays, bights

Coastal formations

	TR	Raised beaches
	TT	Marine terraces
	TV	Raised benches, wave-cut benches
	TW	Abrasion platforms, shore platforms
		* See also Marine built terraces
	TX	Raised beach platforms
	U	Marine built terraces, shore terraces, continental terraces
		Accumulated during cutting of abrasion platform.
	v	Tidal formations
	VT	. Tidal trenches, tidal mudflats, Watten
	WC	Coastal cliffs
	WE	Stacks, rock pillars (stacks)
DQG		Littoral zone
DQG	PP	Littoral deposits
	..	* Between high & low watermarks.
	R	Beaches
		((By composition))
DQG	RR	Sandy beaches
	RS	Quicksands ?
	RT	Shingle beaches, pebble beaches
		((By beach profile))
DQG	SB	Backshore
	SD	Berms
	SF	Foreshore
	SI	Inshore
	SO	Offshore
	T	Marine built terraces, shore terraces, continental terraces
		* For Abrasion platforms, see DOR QNL R
	TS	'Marine spits
		* See also longshore-drift DMR PMR DLT
	TT	Tombolos
	TV	Beach cusps
	TW	Beach ridges
	U	Sandbanks, bars (marine)
	UR	Submerged bars
	US	Harbour bars

<9>

[-((Landforms by agent of the formation process))]
[-Hydrogeomorphology DPT]

[-Coastal formations DQFT]
. [-Littoral zone DQG]
[-Sandbanks DQGU]
. [-Submerged bars DQGUR]
. . . . . [-Harbour bars DQGUSI

DQG UT Tidal bars
UV Barrier beaches, barrier islands
UW Bay-bars
v Reefs

DQH Atmospheric geomorphology
Study of landforms resulting from action of atmosphere.
DQH MN)Atmospheric weathering(
R Aeolian geonorphology, wind-action landforms
RMM)Erosion(
RMP)Deposition(
RS Wind-polished rocks
RT Wind-blown landforms

RU .. Dunes
** lots of types in PG
RW Loess
... * See also Brickearth

S Climatic geomorphology
SE Humid areas
SG Arid zones, dry zones
W Deserts
WS Stony deserts, hamada, hammada, reg
WY Yardang

DQI)From biological action (Organogenic landforms
DQI MP Organic depositional forms
* For ecological forms (eg peat-bogs), see E
RF Fossiliferous strata
RH Bonebeds
SC Ooliths
Rock produced by accretion of matter around a nucear particle (inorganic or organic).
SE Oolitic limestone. oolite
SG Oolitic ironstone
T Phytogenic landforms
U Zoogenic landforms
UT)Marine forms(
UV Coral reefs
UW Atolls
W Anthropogenic landforms, man-made landforms
Add following U/V respectively; eg water dams

X Extraterrestrial action landforms
XR Meteor craters

<>

DR Hydrosphere, hydrology
file dnew6.sch 3.3.98; 3.98; 3.98
Add to DR numbers & letters 2/9,A/E following DG.

DR2	(Common subdivisions)
DR2 M	. Mathematics in hydrology(
X	. Statistical hydrology
	(operations & agents)
DR3	)Research(
DR4	)Practical techniques & equipment(
DR5	)Instrumentation(
DR5 2	)Investigative techniques(
DR7 3	)Data processing(
DR8 4J	)Detecting & sensing(
6	)Measurement(
6A	)Testing & evaluation(
6F	)Modelling & simulation(
6G	Prediction, forecasting
6GJ	Seasonal forecasting
6GR	Regional forecasting
6F	)Modelling & simulation(
6H	)Visualizing & imaging(
6M	)Spectroscopy(
6XF	Submarine investigation, underwater investigation
6XF5	)Instrumentation(
6XU	)Surveying & charting(
DR9 W	(By place)
	* For qualification of any phenomenon by place when no special provision for this has been made.
	* Add to DRW letters A/Z in Auxiliary Schedule 2.
	(General processes & properties)
	These are provided for those cases where the concepts are not enumerated as especially relevant to the context. Enumerated concepts always over-ride synthetic ones; eg DRI-FR Duration of precipitation.
	Add to DRX letters C/R following AY when applicable (with some additions): eg
DR9 XB	Regime
XCP	Distribution
XD	Systems characteristics
XG ..	Structure (general)
XT	Physical dimensions
	* Add to DRX letters T/W following B9
XTC	Contraction
XTE	Expansion
XV	Time dimensions
XVF	Rate
XVI	Duration
XW	Space dimensions
XWC	Direction
XWG	One-dimensional, length
XWP	Two-dimensional, area
XWQ	Three dimensional, volume

DRB)Physics(

<1>

[Hydrosphere DR]
[)Physics(DRB]

DRB BJ Pressure
CX Hydrodynamics
For flow and hydraulics (study of water flow), see
DC Velocity
GH Acoustic properties
GP Thermal properties
GR Temperature
L Optical properties
LM Colour

DRC)Chemistry(
DRC FH Hardness of water
FS Salinity of water
DRD)Astronomy & earth science(
This seems a better location for the relations of these with DG/DY than that at DGH?
Add to DRD letters A/Q following D if applicable.
DRE)Biology(
Taste of water
Odour of water
DRF (Regional qualification of a phenomenon)
Possible alternative to DRW when this filing
order seems to be more appropriate.
DRG (Historical geology)
Add to DRG letters I/Q following DJ where
applicable.
DRG X (Interactions between parts) (Processes & properties)
DRH G Hydrological cycle
H Water balance (hydrology), global water balance (hydrology)
* See also water balance (meteorology) DS
HL Hydrological balance budget
I Developmental stages
** gaps allow addition of specials
K Formation, propagation
For propagation of wave forms, see
DRJ EDM.
m Initiation, birth, infancy, incipient stages
p Growth, youth
Q .. Expansion, accumulation, extension, advance
T Stabilization, maturity
v Decline, senility, decay, retreat, decrease

W . . Ablation
(Constituent processes in hydrological cycle)
DRI B Evapotranspiration
B86)Measurement(
B86 5 Evapotranspirometers
BP Potential evapotranspiration, PE
BT Actual evapotranspiration
C Evaporation
D Transpiration

[Hydrosphere DR]
[Processes & properties]

[Constituent processes in hydrological cycle]
[Evapotranspiration DRIB]
[Transpiration DRID]

DRI	E	Condensation
	F	Precipitation
	FQ	Quantity of precipitation
	FR	Duration of precipitation
	G	Infiltration
		*Entry into a porous substance in a downward direction
	H	Percolation
		*Flow through a substance
	HP	Gravity percolation, drainage (general)
		**reserve rest of DRI for special processes, etc e.g. freezing & thawing DRO IK
DRJ		Flow, flow systems
DRJ	DM	Orbital motion
	DU	Oscillation
	E	Waves
	F	(Wave) properties and types)
		*Add to DRJ F letters A/Y following BF; eg.
		**reserve DRJ G/Y for oceanography
	FC	Propagation (waves)
	FR	Interference
	FYF	Standing waves
		(Flow elements)
		*Add to DRK G letters F/P following BSG (Physics of bulk matter, eg
DRK	GNG	Eddies
	GNX	Bubbles
		(Types of flow)
		*Add to DRK letters GR/M following BS, eg
DRK	GQC	Lateral flows (general)
		*For Interflow, see DRT KX
	GQE	Vertical flows
	GT	Shear flow
	GTQ	Secondary flow
	HS	Steady flow
	HU	Unsteady flow
	I	Laminar flow
	J	Turbulent flow, turbulence
	JQ	Quasi-geostrophic turbulence
		*See ocean currents; for geostrophic flow, see winds (airflow)
	KB	Bodies flow
		*Flow determined by immersed, etc. bodies
	LH	Conduits
	N	(Types of flow special to hydrology)
		**reserve DRK N/Q; eg Interflow (surface water)
	R	Circulation, currents

<2>
[Hydrosphere DR]
[(Processes & properties)]
[Flow DRJ]
[(Types of flow special to hydrology) DRKN]
. [Circulation DRKR]

* For detailed schedule, see oceanography
** reserve DRK-R/DRL for oceanography

DRL (Processes & properties special to hydrology)
** reserve DRL...

DRM (Interactions & relations with hydrosphere generally)
* These are treated as quasi-processes & properties. This position is reserved for retroactive qualification by preceding features of the hydrosphere.
* Add to DRM letters G/Q when applicable; eg DRU-NP.

DRN (Parts, elements, constituents)
* For chemical constituents, see DRC; for organic constituents, see DRE. Other parts are special to particular forms of water, q.v. eg DRT-OH.
** this is an insurance-like provision; when the specials in K/L demand even more room, this Parts facet will be moved down to allow for it; eg oceanography DRO...

(Forms of water)

Classes DRO/DRQ form a group of classes between which retroactive synthesis may be necessary on occasions. This relationship is interpreted as a quasi-process facet and files after all other processes. Letter N is used as a facet indicator.

DRO Snow & ice, glaciology, cryology, solid water
DRO G)Historical periods(
GP Ice ages (general)
GPM Quaternary ice ages
GPN Pleistocene ice ages
GPQ Glaciation
When this is used in reference to present formation processes, see glacierization
GPQ R Glacial maximum
GPR Deglaciation
When this is used in reference to present wastage processes, see deglacierization DR
GPT Interglacials
GPW Holocene ice ages
(Special processes)
DRO HK Formation
HQ Glacierization
Special to large formations; see ice-sheets DR; glaciers DR
HV Decay, change of state
IK Freezing & thawing
<4>

[Hydrosphere DR]
[(Forms of water)]
[Snow & ice DRO]
[(Special processes)]
[Freezing & thawing DROIK]

* For freeze-thaw weathering, see geomorphology
DRO IKP Freezing index
IKR Freezing point
IKT Freezing front
* Limit of freezing in ground surface under periglacial conditions.
* See also patterned ground (geomorphology)
IL Layering, lamination
IM Active layer
Sesonally thawed surface layer lying above the permafrost permafrost in a periglacial environment.
IP Tjaele, taele, frost table
* For permafrost table, see

(Interactions & relations with other forms)
Add to DRO-N letters NIO following DR if applicable.
(Forms of snow & ice)
DRO P Frost
PP . Frost heave
PQ . Frost pull & push
Q Snow
)Sampling(

DRO Q83 B .. Snow samplers
(Processes & properties)
DRO Q9X)Duration(
QHQ Accumulation
QHW)Ablation(
QIF)Precipitation(
QIL Stratification (snow), lamination (snow)
QR Snow drifts
QV Avalanches
See also Mass wasting (general) in geomorphology D
QW Wet snow avalanches
(Formations of snow)
DRO R Neve
* New snow.

S Firn
* Old snow
* For firnification, see glacier formation DR
T Snow cover

U Permanent snow cover
UP Snow line
UR Snowfields
DRP Ice
DRP BY)Crystallography(
(Processes & properties)

. . . For firnification, see glaciers
<5>

[Hydrosphere DR]
[(Forms of water)]

[Snow & ice DRO]
[(Forms of snow & ice)]
[Ice DRP]
[(Processes & properties)]

DRP IK)Freezing & thawing(
IQ Sublimation
IR Regelation
N (Interactions & relations with other forms)
Add to DRP-N letters N/P following DR if applicable.

(Forms of ice)

((Small scale))
DRP PH Hoar frost
PL Glazed frost, glaze
PM Rime
PQ Icicles
PS Icings
PV Cave ice

((Medium & large scale))
DRP R Land ice (general), glacial environments
* If disinguished from floating ice.
* For glaciers, see DRQ.
S Ice sheets

(Processes)
DRP SHP Glacierization
Gradual advance over ice-free terrain. For this process in past times, see glaciation.
SHV Declacierization
Gradual wastage or shrinkage of existing ice sheet. For this process in past times, see deglaciation, DR
SLW)Watersheds(
SLX)Divides(
SLX LT Glacial transfluence
SLX LU Glacial diffluence
(Pats') '
DRP SQ Ice streams, ice streaming
SR Ice fronts

(Types)
DRP T Ice shelf
U Ice caps
v Permafrost
I assume that the processes involved are the core subject & locate it here rather than in geomorphology.
W Continuous
X Discontinuous
XT Sporadic permafrost
DRQ Glaciers, glaciology
* For land ice, see DRP-R.
DRQ 9XB Glacial regime
* Processes of gain and loss of bulk.

<6>

[(Forms of snow & ice)]

[Ice DRP]
[(Forms of ice)]
[((Medium & large scale))]
[-Glaciers DRQ]
[-Glacial regime DRQ9XB]

DRQ 9XT ll)Dimensions(
B ll)Physics(
BAE Mass & energy balance
* See also glacial regime
BBK Deformation processes
* See also glacial flow DR
** several terms in Peng., esp plastic deformn. & rheidity
BGP Thermal balance

c ll)Chemistry(
ii(Processes & properties)
DRQ HP)Glacierization(
HQ)Accumulation(
)Deglacierization(
DRQ HV .. Glacier retreat
HW)Ablation(

)Flow(
Including complex mechanisms of downslope movements
KGT)Shear flow(
KI)Laminar flow(
KN Basal slip, basal sliding
* Of the glacier over its rock floor.
* For extrusion flow, see ice sheets DR
KO Compressing flow
KP Extending flow
KS Glacial surge
KT Ice fall, ice cataract
KV Ice avalanche
(Environmentally defined processes)
DRQ LB Subglacial processes
Processes of the environment beneath the glacier.
LC Basal melting
LD Glacial melt-water
LDR Glaciofluvial processes
LDS Meltwater channels
LDT Subglacial streams
LDU Glacier milk
LDV Ice barriers
LE Englacial processes

.. * Within interior of glacier.
LG Supraglacial processes
.. * At surface of glacier.
LH Proglacial processes
.. At front of glacier.

<7>

[(Forms of ice)]
[((Medium & large scale))]
[-Glaciers DRQ]
[-(Processes & properties)]
[-(Environmentally defined processes)]
. [-Proglacial processes DRQLH]

DRQ LJ . Periglacial processes . . . * Resulting from non-glacial conditions.
LY Glacial drainage
Add to DRQ_M letters following DRU-M so far as applicable.
MX Glacial floods, glacial streams (flooding). Glacial outbursts
ii(Interactions & relations with other forms)
Add to DRQ-N letters N/Q following DR if applicable.
ll(Parts of glacier)
DRQ OE Surface features
OF Firn line
OH Equilibrium line (glaciers)
OK Seracs
** better with ice pinnacles?
OL Crevasses
OM Moraine materials

ll(Types of glaciers)
((By temperature))
DRQ PC Cold glaciers, polar glaciers
PD Subpolar glaciers
PE Ice sheet glaciers, ice-cap glaciers, continental glaciers
PG Warm glaciers, temperate glaciers
((By morphology))

DRQ Q Valley glaciers, Alpine glaciers, mountain glaciers
R Piedmont glaciers, ice piedmonts
RP outlet glaciers, valley glaciers (outlet)
RQ Hanging glaciers
RT Transection glaciers
RW Wall-sided glaciers

SC . Cirque glaciers
SE . Glacierets

[Hydrosphere DR]
[(Forins of water)]
[(Forms of ice)]
[((Medium & large scale))]
[-(Types of glaciers)]
[-((By morphology))]
. . . . . [-Glacierets DRQSE]

DRQ SG Rock glaciers, talus glaciers
better as geomorphology (scree)?
SJ Ice shelf glaciers
SK Stagnant glaciers
ST Tidal glaciers

T Floating ice

TR Ice shelves. shelf ice
TS Ice banks
TT Anchor ice, frazil ice
Forms on bed of a moving water.
U Ice floes
UR Drift ice
US Ice jam, ice dam
UX Pressure ridges (ice floes)
V Icebergs
VQ Ice-caps (icebergs)
VT Tabular icebergs
VX Ice islands
W Ice on inland waters
X Ice in the sea
(Processes)
DRQ XI Ice rafting
Transportation of eroded debris by floating ice.
Agent in geomorphology, shnlt be here?
(Types)
DRQ XQU)Ice floes(
XS Sea ice, frozen seawater
XT Fast ice
* Attached to shore.
DRQ XV 'Pack ice

DRR Water on land, land hydrology
Classes DRR/DRV form a group of classes between which retroactive synthesis may be necessary on occasions. This relationship is interpreted here as a quasi-process facet and files after all other processes. The letter N is used as a facet indicator to introduce such synthetic classes. This is noted under each notational class (DRR, DRS, etc).
DRR J)Flow(
. (Special types
DRR KR . . . Runoff
<9>

[Hydrosphere DR]
[Water on land DRR]
[)Flow(DRRJ]
[(Special types]
[Runoff DRRKR]

* For surface wash, see surface water
DRR KT overland flow
* Across land surface.
KU 'Through flow
* Through soil or rock.
KV Groundwater flow
* Through bedrock.

L Catchment, watersheds
* Area from which a surface or groundwater system derives its water.
* For drainage systems, see rivers
LV Divides (catchments)
* often called watersheds in UK.
* For interfluves, see rivers

M Drainage (general)
* Most of the literature relates to river drainage and the detailed schedule is given there (see DRU-M).
* Add to DRR - M letters / following DRU-M.
MW Bank-full stages
MX Flooding, floods
Inundation of land not normally covered by water.
MX8)Forecasting, prediction(
)Runoff(
DRR MXK R . Flood runoff
MXK Flood routing
(By cause)
For flooding of a particular water form, see latter; eg river floods

DRR N (Interactions & relations with other forms)
Add to DRR-N letters N/R following DR if applicable.

DRS Groundwater, hydrogeology, geohydrology, subsurface water
* All water contained in the void spaces within rocks.
* See also water supply engineering U
Processes & properties)
DRS J)Flow(
* Usually implies phreatic zone.
JB (Determinant factors)
JBD Darcyts law
KGQ C)Lateral flow (general)(
KGQ E Vertical flow (general)
KI)Laminar flow(
KN Seepage
KP Capillary flow
N (Interactions & relations with other forms)

<>

[Hydrosphere DR]
[Water on land DRR]
[Groundwater DRS]
[(Interactions & relations with other forms) DRSN]

Add to DRS letters NIS following DR if applicable.
(Parts, elements)
DRS NX Zones (groundwater), layers (groundwater)
NY Layers (groundwater)
O Permeable layer

OP Vadose zone, vadose water
* For phreatic zone, see
ox Soil water
* See also soil science DI
p Hygroscopic water, film water
Water adsorbed onto a surface
from the atmosphere.
PR Discrete film zone
PT continuous film zone
PV Capillary water, capillary zone,
gravitational water
PW Capillary fringe, capillarity
Q Aquifers
Body of permeable rock capable of
storing a significant amount of water.
QHT Re-charge (aquifers)
QHY Hydraulic head
* Elevation of water above a
particular level.
* See also hydraulic gradient DRS-RS

QR Unconfined aquifers
QS Perched aquifers
QT Karstic aquifers
QU Confined aquifers
Sealed between two impermeable
layers.
QUH Y)Hydraulic head(
QV Artesian water, artesian wells,
overflowing wells
R Water table
Boundary of permeable layer below which
the ground is saturated.
RS Hydraulic gradient, hydraulic grade-line
S ' Phreatic water, zone of saturation, impermeable
' zone
' * The term groundwater is sometimes used
with this narrower meaning.
* Occupies spaces (pores, cracks,
cavities, etc) in crustal rocks.
* See also Springs DR; Artesian wells DR
ST Meteoric water
* Has percolated through soil.
su Juvenile water, magmatic water
* Has risen from magmatic source.
sv Fossil water, connate water
<ii>

[Water on land DRR]
[Groundwater DRS]
∑ [(Parts]
∑ [Zones (groundwater) DRSNX]
∑ . . . [Phreatic water DRSS]
. . . . [-Fossil water DRSSVI

Retained in sedimentary rocks
. : ' ' since their formation.
DRS T Springs

Natural flows of water from the ground at point where the water table intersects the surface.

THD)Distribution(
THD S Spring line
TS Fault springs
TT Intermittent springs
TTS Siphons
TU Rising springs
TUR Resurgences (springs)
Reappearance at surface of a stream which had disappeared underground when its bed became calcareous.
TLTV Vauclasian springs
TV Karst water
TW Scarp-foot springs
U Hot springs
Flow is continuous; usually implies volcanic area.
v Geysers
Discontinuous ejection of superheated water and steam.
X Mineral springs

DRT Surface water, freshwater hydrology?
DRT KR)Runoff(
KS Surface wash, rain wash
.. * For sheet erosion, see
KT Overland flow
* For throughflow, see soil
KU Infiltration, excess overland flow, saturation
1 . overland flow
KV Rainsplash
KW Subsurface wash

KX Interflow, throughflow
(Properties)
DRT OB . Structure
OD Depth
OE Fine structure
OF Step structure
(Parts)
((Geosphere elements containing the water))
These geomorphological features are included here as factors affecting the hydrology.
DRT OH Sides

<>

[Hydrosphere DRI
[Water on land DRR]
[Surface water DRT]
[(Parts)]
[((Geosphere elements containing the water))]
[Sides DRTOH]

DRT OJ Shores
OK Banks
OL Levees
See rivers DRU
OM 'Bed', floor
OMV Gravel-bed

((Parts of the water body itself))
* See the particular form of water; eg DRU-ON

DRU Rivers & streams, potomology, running water, flowing water
* For fluvial geomorphology, see DNB
DRU 8)Observation(
8 . At-a-station observation
9XB Fluvial regimes (general)
B)Physics(
)Dynamics(

DRU BCX . . . Fluvial hydrodynamics, fluvial hydraulics
BBW P)Rheology(
BDC)Velocity(
BGP)Temperature(
.. Temperature layering

C)Chemistry(
CH . (Constituents)
(Special processes & properties)
DRU HA Fluvial processes (general)
** regime?
HF Discharge (rivers)
HJ Fluvial cycle
HL Development stages
HN Incipient stage (rivers)
HP Youthful stage (rivers)
HT Mature stage (rivers)
HV . . Senile stage (rivers)
i)Flow(
LD Diversion
* For meander, see
LE Capture, piracy of streams, abstraction
(river capture)
LG Avulsion
* Displacement of stream into new course.
* See also river capture
LH Meander, meandering
LJ Cutoff, oxbow (river flow)
See also oxbow lakes
LW River systems
LX . Drainage basins
That part of the land surface drained by a unitary river system.

<>

[Hydrosphere DR]
[Water on land DRR]
[Surface water DRT]
[Rivers & streams DRU] [River systems DRULW] [Drainage basins DxuiAj

*For the basin as a landform, see D; this class takes only that literature which considers the drainage as a factor in fluvial processes.
*For watersheds, see

DRU LY Drainage systems
M Drainage patterns, drainage networks
)Measurement(
DRU M86 Fluvial morphometry
M89 Horton analysis (drainage basins)
M89 B Laws of fluvial morphology
For example, law of basin area, law of stream numbers.
(Properties)
DRU MLC Area (drainage basins)
MLE Shape (drainage basins)
MLG Slope (drainage basins)
MLJ Stream density
MLO Stream order, basin order
MLP First order
MLQ Second order
MLR Third order
MLS Fourth order
((Types by relation to underlying geology))
* See also types of stream characterized by these, DR
DRU MO Accordant drainage. conformable drainage
MP Discordant drainage
MPQ Barbed drainage
MPR Inconsequent drainage, insequent drainage (Am.)
MPS Superimposed drainage
MPT Antecedent drainage
MPV Deranged drainage
MPW Dendritic drainage
((By shape))
DRU MQ Parallel drainage
MR Annular drainage
MRQ Centripetal drainage
MRR Radial drainage
MS Rectangular drainage
MT Trellis drainage, rectilinear drainage
MTS Angulate drainage
MW)Bank-full flow(
mx)Flooding(

[Hydrosphere DR]
[Water on land DRR]
[Surface water DRT]
[Rivers & streams DRU]
[(Interactions & relations with other forms) DRUN]

(Interactions & relations with other forms)
Add to DRU - N letters N/U following DR so far as applicable; eg

DRU NP Ice regime (rivers)
OB (Properties)
* Add to DRU-O letters B/G following DRT.

OH (Parts)
* Add to DRU-O letters H/M following DRT.
((Parts of geosphere containing river))
DRU OK . Banks, margins
OL . Levees
OM . River bed
((Parts of rivers body of water))
DRU ON Layers (rivers)
OP Depth (rivers)
OQ River level
OS Surface of river
OT Long profile, longitudinatl profile, course
* See also thalweg (geomorphology)
ou Gradient (rivers)
ov Reach
Stretch of river, usually between
bends or tributaries.
ow Upper reaches
ox Central reaches
OY Lower reaches
p Channels
* Sometimes used as synonym for streams
* For distributary channels, see streams
p Hydraulic geometry
p Channel capacity
Pi Channel flow
PKR)Runoff(
PM Channel network
PS Gullies
Q Rapids
QS Chutes
QT Cascades
QV Cataracts
R Waterfalls
R9W (Regional)
* Add A/Y from Auxiliary Schedule 2.
S Estuaries, river mouths
* For deltas, see geomorphology
S9X B)Estuarine regimes(
SLS Exchange of fresh & saline water
SR Brackish water
ST Tidal streams
Tidal currents in and out of
estuaries, bays, etc.
su Intertidal phenomena
T Tidal bores

(Types of rivers & streams)
DRU V ((By directions of flow))
<>

[Hydrosphere DRI
[Water on land DRRI
[Surface water DRT]
[Rivers & streams DRUI [(Types of rivers & streams)] [((By directions of flow)) DRUV]

. . Add to DR letters following DR Stream
order; eg

Accordant streams
.. Discordant streams
DRU WB Braided streams
WC Anastomosing streams
WD Divided steams
WE Influent streams
.. * Lose water by seepage to the water table.
WF Effluent streams, perrenial streams, permanent streams
wi Intermittent streams, ephemeral streams
wi Tributaries, influent streams (tributaries)
WK Distributaries, didtributory channels
wm Alluvial rivers

X Bodies of water (general), hydrography, water masses
y Limnology
Definitions vary; sometimes covers lakes, ponds and streams (as forms of fresh water), sometimes lakes alone.
DRV Lakes, limnic water?
)Hydrodynamics(
DRV BCX Lacustrine hydraulics
JE)Waves(
KR)Currents(
oi Lake shores
(Types of lakes)
DRV Q Open lakes
R Closed lakes
S Curved lakes
T oxbow lakes
U Saltwater lakes
W Ponds
X Artificial bodies of water
* For reservoirs, see water engineering U
XR Gravel pits

DRV Z Fluid environments (atmosphere and ocean considered together)

<>

DRW Oceanography, oceanology, oceans & seas, marine geology?
** file dnew7.sch 3.98; 3.98; 3.98
* In its widest definition, includes oceanic flora and fauna. In BC2 the latter are classed in biology (EJN - K).
* See also ocean engineering U; fisheries oceanography GW.
* Add to DRW letters A/ON following DR, with the modification indicated at DRW-D.
DRW 4 (Practical techniques & equipment(
4U .)Equipment & plant(
4YS Space satellites
4YU Seasat I
52)Investigative techniques(

7XC)Chemical techniques(

7XC H .. Dye diffusion studies
8XU)Surveying(
9PW Sounding, acoustic reflection
9PX Sonographs, sonoprobes
9PY Back-scattering
9R Chart making

9W (Regional oceanography)
* Alternative is DRW-F
:)'Physics(
DRW B Physical oceanography

BBJ . Hydrostatic pressure
BCM .)Density(
BGP .)Thermal properties(
BGQ U Heat budget
BGQ V Short-term heat budget
BGQ W Long-term heat budget
BGR Temperature
BGR QF Temperature fluctuations
BSR QG Adiabatic temperature changes
BGR QL Temperature layering
BGR QM Thermoclines
BGR QN Tropical thermoclines
BGR Q Three-layer system (temperature)
BGS Heat transfer
BI og: . 'Electrical properties
BL . Optical properties
BLJ F Transparency
BLB BG Irradiance
Radiant power per unit across a surface.
BLM . . Colour

C)Chemistry(
D Seawater
The use of D to introduce relationships with astronomy is modified here; see DRW-DF
DB : Physical properties
DBB Mechanical properties
DBG H Acoustical properties
DBG P Thermal properties
DBI Electrical properties
DBL Optical properties

<1>

[Oceanography DRW]
[Seawater DRWD]
[Physical properties DRWDB]
. [-Optical properties DRWDBL]

DRW DC Chemical properties
DCW FS Salinity
Measure of the dissolved salts in seawater.

DCW FSP Salinity-temperature-depth relationship
DCW FT)Constituent salts(

DF (Interactions with astronomy & earth sciences)
* Add to DRW-DF letters A/F following D;
* Add to DRW-D letters G/Q following D.

F (Regional oceanography)
The classes below reflect hydrological conditions (of latitude, temperature, wind effects, etc). If additional qualification by general geographical place is required, use DRW-9W.
An alternative (not recommended) is to cite these spatial features before all others, in which case use DRW-X/Y.

((Types of constituent waters))
DRW FBC . Coastal forms (oceanography)
* For estuaries, see Rivers
FBD Intertidal flats, tidal marshes, tidal mudflats, watten
FBD R Creeks (tidal channels)
FBD X Bights
* Large-scale indentations in coast.
FBE Bays
FBF Straits
FBG Gats
Channels or straits separating offshore islands from mainland.
FBH Haffs
Coastal water bodies almost cut off from open sea by a spit or nehrung.
FBL Lagoons
* For coral reefs, see DRW-W.
FBN Inlets
FBP Fiords, fjords
FBQ Lochs
FBS . Inland seas
((Types of oceans or seas by latitude))
DRW FCB Arctic oceans, polar oceans
FCC Subarctic oceans, subpolar oceans
FCD Temperate oceans, central oceans
FCE Subtropical oceans
FCF Equatorial oceans, tropical oceans
(Individual oceans & seas of the world)
Add to DRW-F letters FIN following A in Auxiliary Schedule 2; eg
DRW FF Indian Ocean
FFF Red Sea
<2>

[Oceanography DRW]
[(Regional oceanography) DRWF] . [(Individual oceans & seas of the world)] . . [-Red Sea DRWFFF]

DRW FGL . Antarctic Ocean

G Historical geology(
* Most of the literature relates to the seabed DRW
(Processes & properties)
DRW HG)Hydrological cycle(

i)Flow(
JBD C)Velocity(
(Special components)
DRW JDU Oscillations
JE Waves
JED M Orbital motion
JED N Wave base
JF (Wave properties)
Add to DRW-JF letters A/Y following BF
JFC Propagation of waves
(Determinants)
JFC DD Wind duration
JFC DE Wind speed
JFC DJ Wind pressure
JFC DL Fetch
Distance of open water over which wind blows or wave travels unobstructed.
JFM Wave refraction
Change of direction of wave crests as they approach the shoreline.
JFQ 'Wave diffraction
Spread of energy as wave impinges on obstruction.
JFR 'Interference (ocean waves)
(Types of waves)
DRW JG ((By wave properties above))
Add to DRW-JG letters D/V following BF; eg
JGG V Large amplitude waves
JH ((By direction, etc)
* Add to DRW-JH letters B/S following BFY;
* Add to DRW-JI letters A/C following BG; eg
JHE oscillating waves
JHF Stationary waves, standing waves
Waves reflected from shore match incoming waves.
JHF T Clapotis
ii Seiches
JK Wind waves (general), surface waves
JL Regular waves
im Long waves

<3>

[)Flow(DRWJI
[-(Special components)]
∑ [-Waves DRWJE]
∑ . [-(Types of waves)]
[-Wind waves (general) DRWJK]
. [-Long waves DRWJM]

DRW JN Swell
JP Breakers, breaking waves

jpp	Surf
JPR	Backwash
	* Movement down beach.
JPU	Undertow
JPW	Swash, run-up
	* Movement up beach.
	* See also longshore drift
JQ	Constructive waves
	With strong swash and weaker backwash.
JQP	Spilling breaker
JQQ	Surging breakers
JR	Destructive waves
	With strong backwash and weaker swash.
JRP	Plunging breakers
JRR	Dominant waves
JRT	Progressive waves
is	Internal waves, boundary waves
	Form at boundary of two water layers of different densities.
JT	Tsunami, tidal waves
iv	Storm surges
ix	Sea floods

KG (Elements of flow)
* Add to DRW-KG letters P/P following BSG; eg
KGN G Eddies (oceanography)
(Types of flow)
Add to DRW-K letters GR/M following BS Physics of bulk matter; eg
DRW KI)Laminar flow(
KJ)Turbulent flow(
KP Ocean currents, oceanic circulation

KPB GP .)Heat balance(
KPD . coriolis force

.. * Deflection caused by earth's rotation.
KQ . Convective systems
KQR Thermohaline circulation
* See also density currents
KQS Convergence
KQT Arctic convergence zone
KQU Subtropical convergence zone
KQV Antarctic convergence zone
KQX Divergence

KRC : ., 'Countercurrents?
KRD . . . Deep countercurrents
KRF . Undercurrents?

<4>

[Oceanography DRW]
[(Processes & properties)] [)Flow(DRWJ]
[-(Types of flow)] [-Ocean currents DRWKP] [-Undercurrents? DRWKRFI

DRW KRG . Contour currents

KRH Density currents
KRJ Bottom currents, bottom flow
KRL Cold currents
KRM Warm currents
KRP Gyres
Circular motion, usually in closed system,
in subtropical waters.
KRS Turbidity currents
KRV Drift
* Low velocity motion.
KT Tidal currents, hydraulic tidal currents
* For tidal streams, see estuaries
KTQ Alternating
KTR Rotating
KU Longshore currents
((By latitudinal region)

* Add to DRW-L letters B/F following DRW-FC:
DRW LB Polar currents
LC Subpolar currents
LCK RP .)Gyres(
LD Temperate currents
LE Subtropical currents
LF Tropical currents

(Major oceanic currents & drifts, by region)
DRW LH Atlantic ocean currents
LI Gulf stream
Including North Atlantic drift
extension.
LIT North Atlantic drift
* If treated separately.
LIV Norway current
LIW Labrador current
LIX East Greenland current
LJC Canaries current
LJE North equatorial current (Atlantic)
LJG Equatorial countercurrent (Atlantic)
LJJ South equatorial current (Atlantic)
LJL Brazil current
LJN Falklands current
LJP Antarctic circumpolar current
LJU Benguela current
LK West wind drift (South Atlantic)
LLD Indian ocean currents
LLG Agulhas current

. . * Extension of Benguela current.
LLJ South equatorial current (Indian ocean)
LLL Equatorial current (Indian ocean)
LLN North equatorial current (Indian ocean)

<5>

[Oceanography DRW]
[(Processes & properties)] [-(Types of flow)] . [-Ocean currents DRWKP]
. . . . [-(Major oceanic currents & drifts]
[-Indian ocean currents DRWLLD]
. [-North equatorial current (Indian

ocean) DRWLLN]

DRW LLS	Australian current
LM	Pacific ocean currents
LMP	West wind drift (South Pacific)
LN	Peru current, Humboldt current
LNN	El Nino current
LNS	South equatorial current (Pacific)
LNU	Equatorial current (Pacific)
LNW	North equatorial current (Pacific)
LOC	Kuroshio current
LOE	California current
LOH	North Pacific current
LOK	Kamkatcha current
LOS	Alaska current
LP	Tides
LP3	)Theories(
LP3	Progressive wave theory
LP3	Oscillation theory
LPP	Tidal fraction
LPR	Tidal range
LPU	Amphidromic system, nodal system
LPV	Co-tidal lines
LQD	Diurnal tides
LQF	Semi-diurnal tides
LQH	Apogean tide
LQK	Perigean tides
LQN	Neap tides
LQS	Spring tides

(Other processes & properties)
DRW LS Mixing
LT Stratification, layering
. * For layers as parts, see DRW-PL
. * See also Currents DRW-KB
m (Interactions & relationships with hydrosphere)
N Body of ocean, water mass, pelagic body
(Properties)

DRW OB	Structure
OD	Depth
OE	Fine structure
OF	Step structure

(Parts)
((Geosphere elements containing the water))

DRW OH	Coast (ocean body)

* For coastal waters, see DRW-PS.

OJ	Sea shore (oceanography)
OK	Sea cliffs (oceanography)
OM	Sea bed 1

See DRW-U

<6>

[Oceanography DRW]
[Body of ocean DRWN]
[(Parts)]
[-((Geosphere elements containing the water))]

. . . [-Sea bed [DRWOM]

((Parts of the body of water itself))
* For seawater, see DRW-D.
DRW PC Air-sea boundary
PF Ocean layers, lateral zones
((By depth))
DRW PG Ocean surface
PH Sea level, mean sea level
PHR Change in sea level
PHS Isostatic movement
Changes due to movements of earth's crust.
PHU Eustatic movement, eustasy (sea bed)
Changes due to oceanic factors themselves.
PHW Datum level
PJ Shallow ocean
* For deep ocean, see DRW-RT.
((By temperature))
DRW PJW Epilimnion, warm layer, mixed layers
(oceans)
PK Thermocline
PL Hypolimnion, cold layer
((By light penetration))
DRW PM Photic zone
PN Aphotic zone
((By proximity to land))
DRW PP Coastal waters, littoral (coastal waters)
PQ Sublittoral waters, neritic zone
Includes estuarine zone and
continental shelf.
PQU Inner, eulittoral zone
* To 0 feet.
PQW Outer
* 300-600 feet.
R Pelagic zone, open ocean
RT Deep water, oceanic zone
S Bathyal zone, ocean basin
T Abyssal zone
TU Hadal zone, ultra-abyssal zone
U Ocean floor, sea bed, submarine topography (oceanography), bentic layer, ocean bottom
* For oceanic crust, see DLN; for ocean floor spreading, see plate tectonics DLN_Q
* Add to DRW - UO letters O/U following DRW if applicable.
U52)Investigative techniques(
<7>

[Oceanography DRW]
[Ocean floor DRWU]
[)Investigative techniques(DRWU52]

DRW U8Y B Expeditions, voyages
U8Y B5 . Survey ships
U8Y D . Specific expeditions
. . . Arrange by date.
UF (Regional)
* As DRW-F
(History)
DRW UG Palaeo-oceanography
(Parts of the ocean floor)

DRW UP marine deposits (ocean floor)
* Alternative (not recommended) to locating this class at DRW - W. If this option is taken, proceed as follows:
* Add to DRW-UP letters A/X following DRW-W.

UPS : 'Zones of the seafloor
UPT Littoral seafloor, coastal seafloor
UQ Neritic zone floor
Includes both estuarine zone and continental shelf; ocean floor under shallow waters.
UR Pelagic zone floor, continental slope floor
us . Bathyal zone floor
UT .. Abyssal plain, deep sea plain, abyssal zone floor

VB : 'Sea'bed relief
* Add to DRW-V letters D/X following DP; eg
VCR : Elevations
VD Mountains (seafloor)
VDQ Seamounts
* Isolated peaks.
VDR Guyots
VDS Seamountain ranges
VDV Ridges
* A median rise
* For Mid-ocean ridge, see DLN-P
VDX Seascarps
VGY Depressions
VH Submarine canyons
vi Trenches, ocean deeps (trenches)
vis Foredeeps

W Marine deposits, bottom sediments, seabed sediments
Undecided about this location. A major role of the subject seems to be to illuminate the past movements of ocean currents etc - ie as agent of the history. But it is obviously a feature of the ocean in its own right & so cannot be subordinated to geological history. Even with that settled, its location is a bit problematical. If the citation order below is right, it would seem more logical to file the whole class ahead of DRW-UPS - hence the alternative
<8>

[Oceanography DRW]
[Ocean floor DRWU]
[Marine deposits DRWW]

DRW-UP. But this would scatter the subject of sediments amongst the seafloor regions treated generally, & to this extent would break up the subject. It wd be nice if you cd find out from yr unpaid consultants just what the status of this class is. This wd also help decide if the citation order of the other arrays within the class is OK.
There is another technical point which you might like to consider. This is whether it is necessary or desirable to compound all the arrays when deciding the classmark; eg shd you give the full chain Sediments - Abyssal - Non-biogenic Siliceous - Clays - Red clays DRW-WTN-SNH. I'm afraid this doesn't demonstrate the problem very clearly because I've deliberately made the notational non-hierarchical & it's still tolerably short(?). A clearer example wd be to

say that one way of handling the biogenic oozes wd be simply to go straight to the organism classmark & ignore what chemical class it represents. If we did this, the classes ((By chemical substance)) wd only take the general literature on the compounds (eg calcareous sediments in general). If this is unclear, you can forget it! But I'd like to know if the chemical class is more important than the organism class when defining a sediment.

* Alternative (not reommended) is DRW-UP.
* Add to DRW - WM letters M/V following DRW if applicable.

DRW WC lo)Chemistry(
WE)Biology, organisms(
WJP P)Surf(
WLJ lo)Tidal flow(

((By chemical substance))

** reserve NB for oozes at DRW-WO

DRW WNC Calcareous deposits
WNC R . Aragonite mud
WND Dolomitic sediments, magnesium limestone sediments
WNF Siliceous deposits
WNG Clays (marine deposits)
WNH Muds (general)
* For oozes, see DRW-W
WNJ Argillaceous clays
WNK Glauconitic facies

((By origin))

DRW WNN Land derived sediments
WNP Volcanic ash sediments
WNS Non-biogenic sediments

. ** reserve NT/W for DRW-WP
WNS NG .)Clays(

<9>

[Oceanography DRW]
[Ocean floor DRWU]
[Marine deposits DRWWI
[-((By origin))]
[-Non-biogenic sediinents DRWWNS]
[-)Clays(DRWWNSNG]

DRW WNS NH Red clay
* Usually implies abyssal floor.
WNS NJ Red mud
Usually implies continental slope.
WO Biogenic sediments, terrigenous sediments
)Identifying(
DRW W 4T Index fossils
WON B Oozes (general)
WOP C)Calcareous(
* Usually confined to depths of 2-4000 m.
* See also Foraminifera oozes DRW-W; Pteropod oozes DWW-W
WOP F)Siliceous(

Survive depths exceeding 4000
m (when calcareous fossils
too soluble to survive).

WOQ F Foraminifera oozes
WOQ G Globigerina oozes
WOQ R Radiolarian oozes
WOQ S Diatom oozes

.((B.y oceanic region))

DRW WP Coastal deposits (seabed)
WPN S)Non-biogenic(
WPN T Sand
WPN U Quicksands
WPN V 'Gravel
WPN W Pebbles
WPO)Biogenic(
WQ Coral reefs
WQT Atolls
WQV Sublittoral zone sediments, neritic zone sediments, continental shelf sediments
WR Pelagic sediments, continental slope sediments
ws Bathyal zone sediments
WST Continental apron , continental rise
WT Abyssal zone sediments
WTU Hadal zone sediments

X (Regional oceanography)
* Alternative (not recommended) to locating at DRW - F; if this option is taken, proceed as follows:
* Add to DRW-X letters B/N following DRW-F; eg

((special marine water forms))

DRW XBC Coastal forms (oceanography)
XBD Intertidal flats, tidal marshes
XBP Fiords, fjords
XBS . Inland seas

<>

[Oceanography DRW]
[(Regional oceanography) DRWX]
[((Special marine water forms))]
. [-Inland seas DRWXBS]

((Types of oceans or seas by latitude))

DRW XCB Polar oceans
XCF Tropical oceans

((Individual oceans & seas))

DRW XFF Indian Ocean
XFF F Red Sea

DS Atmosphere

*Most of the literature refers to the state of the atmosphere at particular places and times (ie to meteorology) and implies the troposphere. So most of the detailed vocabulary is given at DSK.
*Classes DSB/DSG should only be used for works covering the atmosphere as a whole, not just

meteorologyi,
*Add to DS numbers & letters 2/9,A/E following DG,
with the modifications at DS ; eg
DS2 (common subdivisions)
DS2 5D International Meteorological Year
M)Mathematics in atmosphere studies(
(Operations & agents)
*Add to DS numbers 3/9 following B as amplified
at DSK Meteorology; eg
DS4)Practical techniques & equipment(
DS4 U)Equipment, plant(
DS5)Instruments(
DS7 2)Investigative techniques(
DS9 8 (Regional, by place)
This concept is hardly applicable under
atmosphere in general, although prominent under
meteorology.
See DSK-98 and the note there.
DSB)Physics(
Add to DSB letters A/T following DST Physics of
gases; eg
DSB AF (Energy interactions & forms)
AG Thermodynamics (general)
B Mechanics
GJ (Elements of flow)
GL Jet streams
NGP Thermal processes & properties
NH Electro-magnetic processes & properties
NL Optical processes & properties
DSC Atmospheric chemistry
Most of the literature is at DS Composition of
the atmosphere.
DSD A Atmospheric astronomy
* For cosmic rays, see DSP-KM
EG Solar activity
EJ Sun-spots
*For solar wind, see Solar radiation
DSP-KN
F Solar planetary system
FT Earth as planet
FV Moon
G Relations of atmosphere with geosphere & hydrosphere
I've now abandoned the special provision for
(Interactions within classes DG/DY) at DGG.
I'd carelessly overlooked that the D in the
retro addition

[3-Atmosphere DS]
[4-Relations of atmosphere with geosphere & hydrosphere
DSDG]

of classes AY/E (at DGA/DGE) already included 05. DG/DY.
Add to DSD letters G/Y following D if applicable.
DSE Biosphere & atmosphere
DSF (Regional qualification of a phenomenon)
* Alternative to DS9-9
DSG (Historical development)
* For palaeoclimatology, see DSW--G.
* Add to DSG letters I/Q following DJ.

DSG W (Atmospheric regions) Layers of the atmosphere
* For works considering their role in weather, see DSU H.
* These general classes on the layers may need to be qualified by DSB/DSG above. Works on the layers which need qualification by the detailed vocabulary of meteorology (DSK/DSW) should be classed under the latter, at DSU_H/J, since such detail implies meteorology rather than the atmosphere in general.

X Stratification of atmosphere
((By degree of friction with earth's surface))

DSH B Free atmosphere, aerology

C Friction layer, boundary layer (atmosphere)
* See also geostrophic flow

D Planetary boundary layer
* 100-600 metres up.

E Surface boundary layer
* 0-100 metres up.

((By atmospheric composition))

DSH G Heterosphere
*See DSJ E. From 80 km up.

H Homosphere
* See DSJ G.

((By altitude))

DSI Upper atmosphere, aeronomy
* Usually taken to be from 30 km up.

DSI M Magnetosphere
*Space around earth in which ionized particles are affected by its magnetism. Reaches far beyond atmosphere.

N Thermopause
no definition found; assume higher boundary of thermosphere.

O Thermosphere
* Above 80 km.

P Exosphere, fringe region
*outermost zone of earth's atmosphere, within the thermosphere, above 700 km.

[Atmosphere DS]
[(Atmospheric regions) Layers of the atmosphere DSGW]
[((By altitude))]
[Upper atmosphere DSI]
[Thermosphere DSIO]
[Exosphere DSIP]

DSI Q Ionosphere
*Above 80 km. Sometimes claimed to be only the belt of high electron density between 100 & 300 km.

R G-layer (ionosphere)

S F-layers (ionosphere)

T Appleton layer, F2-layer

U Fl-layer

V Heaviside-Kennelly layer, E-layer

W D-layer (ionosphere)

DSJ C Chemosphere
* Between 20 and 200 km.

E Heterosphere
*Above 80 km. Chemical composition

changes with height, due mainly to oxygen dissociation.

G Homosphere
* Up to 80 km from surface.

J Mesopause

M Mesosphere
* 50-80 km up.

P Stratopause

R Stratosphere
*From 8-16 (depending on latitude) to 50 km. Temperature generally increases with height.

T Tropopause
* From 8-16 km up, according to latitude.

V Troposphere
*From surface up to tropopause. Temperature decreases with height. The zone of greatest atmospheric turbulence and where most of the earthts weather is generated. Contains almost all the water vapour and aerosols and 3/4 of the gaseous mass of the atmosphere.

DSK Meteorology, weather science
*Studies the state of the atmosphere at a given place and time and all the factors which determine this (largely the processes in the troposphere).

DSK 4)Practical techniques & equipment in investigation(

46)Unwanted effects(

47 Hazards, safety precautions

4U)Equipment & plant(

4X Meteorological stations

4YC Masts, towers

4YF Weather ships

[3-Atmosphere DS]

[4-Meteorology DSK]

[5-)Practical techniques & equipment in investigation(DSK4]

[6-)Equipment & plant(DSK4U]

[7-Weather ships DSK4YF]

DSK 4YG X Kites

4YH Balloons

4YH T Tethered balloons

4YJ Parachutes

4YK Weather aircraft

4YM Rockets

4YP Space satellites

4YS (Specific craft or missions)
* Arrange A/Z by name; eg

4YS L Landsat

4YN NOAA/TIRO satellites

4YR Skylab

4YS Space shuttle

4YT SPOT

5)Instruments(
*Instruments performing a specific function go with the function; eg actinometers under solar radiation.

)Housings(

DSK 557 Stevenson screen

5RT Radiosondes

5RU Rawinsondes
5RV Rocketsondes
72)Investigative techniques(
7GP Heat capacity mapping
84M)Remote sensing, remote indication(
84M L Optical density
84M N Instantaneous field of view, IPOV
84P Echo sounding
84Q Radio echo sounding
84R Radio sferics fix
8D)Evaluation, estimating(
8H)Visualizing & imaging(
8P)Tracer techniques(
8G)Prediction(
* For weather forecasting, see DS9_4.
8GJ Seasonal predictions
8GR Regional predictions
92)Surveying & mapping(
*I suspect that the allocation of all 9 to this class (in DG9) is over-generous. This is a modification, whereby this class is one character longer (92 instead of 9) & the Common processes & properties are one character shorter (9C/R instead of 9XC/R).
If you donít want to change in classes DG/DR, continue with the original allocation (the order is not affected).
But the change

[Atmosphere DS]
[Meteorology DSK]
[)Practical techniques & equipment in investigation(DSK4]
[)Investigative techniques(DSK72]
[)Surveying & mapping(DSK92]

here is necessary (to accommodate 08. forecasting, etc).
Add to DS9 2 numbers & letters 2/Y following DG9.

DSK 92R Chart-making, mapping
94 Forecasting weather, weather prediction, weather analysis
*For the forecasting of a specific phenomenon (eg temperature, cyclones) see the phenomenon.
942 X)Statistics & statistical analysis(
94B D Verification
94B F Accuracy
((By knowledge base))
DSK 94B O Objective
94B S Subjective
94B W Weather lore
((By method))
DSK 94C Numerical forecasting, numerical weather prediction, NWP, dynamical forecasting,
94C 2X Statistical forecasting
94C R Random forecasting
94C T Persistence forecasting
94C V Analogue forecasting
94D Synoptic meteorology
* See also synoptic climatology DSX-94D
)Charts(
DSK 94D 92R Synoptic charts
((By range of prediction))
DSK 94F Short-period forecasting
94G Nowcasting

94H Medium-period forecasting
94J Long-range forecasting
94K Seasonal forecasting
((By scale of area covered))
DSK 940 Global forecasting
94P Hemispherical forecasting
94Q Limited area forecasting
* 20-200 km.
94R Mesoscale forecasting
* 1-20 km.
94T ((By activity assisted))
*Alternative (not recommended) to subordinating to the activity, whatever class it is in. If this option is

[Atmosphere DS]
[Meteorology DSK]
[)Practical techniques & equipment in investigation(DSK4]
[)Investigative techniques(DSK72]
[Forecasting weather DSK94]
[((By activity assisted)) DSK94T]

taken, proceed as follows:
Add to DSK-94N numbers & letters from the whole classification; eg forecasting for farmers DSK-94N-GX.
DSK 94V ((By region))
* Add letters A/Z from Auxiliary Schedule 2; eg
94V E British Isles
96 Weather modification, weather control
*For modification of a specific process, (eg to induce precipitation) see the process.
(By action taken on the natural phenomenon)
* For example, fog dissipation
DSK 96D Induction
96F Increase
96H Reduction
96J Dissipation
98 (Regional, by place)
*Instead of the DS9-Y given at DG. Because of the interruptions (eg at DSK_G) the alternative at DGF is not offered here (& is probably best forgotten if you haven't used it)
(General processes & properties)
* Add to DSK_9 letters C/R following AY; eg
DSK 9CP Distribution
9E Change, variation
* Drop DSK_9E when compounding in 9E.
9EE Speed of change
* Eg slow, medium, fast.
9EF Degree of change
* Eg major, medium, minor.
9EG Periodic
9EG E)Slow change(
)Cyclical(
DSK 9EH Atmospheric oscillations
*Cyclic variations of an element (pressure, wind, temperature, etc) around a mean value.

9EJ Seasonal change
9EL Non-periodic
9ES Fall, contraction
9ET Rise, expansion
9EU Stable

[Atmosphere DS]
[Meteorology DSK]
[(General processes & properties)]
[Change DSK9E]
[Stable DSK9EU]

DSK 9V Time conditions
**In physics, these Time & Space conditions have so far been at BAB & BAC. I've now moved them to B9V & B9W so that all the common processes & properties are given at 9. Hope this doesn't give too much trouble.
*Drop DSK-9V when compounding in 9V; eg DSK-9WE.
9VE Time variation
9VF Standard time
9VG Greenwich mean time
9VH Zone time
9VJ N Ante-
9VJ P Post-
9VK Rate
9VL Duration, lifetime
**Not sure of need for the details below; Eddie Garrett gives even more.
9VL S Mean life
9VM B Seconds, minutes
9VM D Days, civil day
9VM E Sidereal day
9VM F Solar day
9VM G Lunar day
9VM H Daytime
9VM J Dawn, twilight (morning)
9VM K Sunrise
9VM L Sunset
9VM M Twilight (evening)
9VM N Night
9VM P Weeks
9VM Q Months
9VM R Seasons
9VM S Equinox
9VM T Solstice
9VM U Spring
9VM V Summer
9VM W Autumn
9VM X Winter
9VM Y Years
9VN Time intervals

9W Space conditions
9WE Spatial variations
9WF Direction
9WG One-dimensional, distances
9WP Two-dimensional, planes
9WQ Three-dimensional, volumes
AB Physics(

[Atmosphere DS)]
[Meteorology DSK]
[)Physics(DSKAB]

**Notation for physics (particularly prominent in DS) in now shortened.
Add to DSK letters AC/J following BT (Gas physics);
Add to DSK - K letters K/M following BT; eg

DSK AF (Energy interactions & forms)
AG Thermodynamics (general)
AT Transport processes (general)
AW Mass transfer
B Mechanics, atmospheric flow (general)
B9T K Similarity parameters(
B9T LF Froude number
B9T M Mach number
B9T N Nusselt number
B9T P Prandtl number
B9T R Reynolds number
BB Energy
BBP Potential
BBQ Available potential energy
BBT Kinetic
BH Force
BIM Moment
BJ Atmospheric pressure
* For effect on density, see DSK_CLJ.
BJ2 M)Mathematics(
Hydrostatic equation
BJ5)Instruments(
BJ5 RT Barometers & barographs
BJ5 RU Barometers
BJ5 RV Aneroid barometers
BJ5 RW Barographs
BJ9 CP)Distribution(
BJ9 CQ Isobars
BJ9 E)Variations(
* For gradient, see DSK-BJK.
BJ9 EE Barometric gradient
Pressure gradient force
*Main factor in air movement in atmosphere.
BJ9 EF Microvariations in pressure
BJ9 ES)Rise(
BJ9 ET)Fall(
BJ9 EV Atmospheric tides
*Changes in atmospheric pressure arising directly from temperature changes due to the earth's rotation.
BJK Barometric gradient

[)Physics(DSKAB]
[Mechanics DSKB]
[Force DSKBH]
[Atmospheric pressure DSKBJ]
[)Variations(DSKBJ9E]
[Barometric gradient DSKBJK]

DSK BJL Pressure gradient force
*Main factor in air movement in atmosphere.
BJM Pressure conditions, levels
BJN Constant pressure, isobaric
BJP Low
BJQ High
BJR Critical
BJU External forces
BK Deforming forces
)Friction(
DSK CA Turbulence
*Due to friction with earth's surface.
CB Elasticity
CD Internal forces
)Inertial forces(
DSK CE Coriolis force
CH Statics
CI Inertia
CJ Mass
CL Density
CLJ (Relations with pressure)
CLJ S Baroclinic state, baroclinicity
CLJ T Barotropic state
CN Equilibrium
CP Stability
CR Instability
CS Motion
CU Momentum
CV Angular momentum
CX Dynamics
DC Velocity
DD Acceleration
DDN Coriolis acceleration
(Forms of motion)
DSK DM Circular motion
DN Rotation
DP Vortices
DS Periodic motion
DV Vibration
E Radiation (general)
*For electromagnetic radiation, see DSB_K.
F Waves
FE Spectra
[Mechanics DSKB]
[Motion DSKCS]
[(Forms of motion) @]
[Periodic motion DSKDS]
[Waves DSKF]
[Spectra DSKFE]

(Special features of airflow)
*In BT (Gas physics) the addition of letters A/M following B (Physics in general) is interrupted at BTG to allow the insertion of the large vocabulary of flow. This interruption is repeated here, and further extended by the addition of the class Winds. When these additions end (at DSO) the addition of the remaining classes (from BG/BM) is

resumed.
Add to DSK letters GF/J following BT (Physics of gases) with the additions at DSK_GB/D; eg

(Elements & types of airflows)

* Each element or type of flow may be qualified as follows (where the hyphen represents its classmark):
* Add to - letters AC/J following DSK.
* Add to -K letters K/M following DSK; eg

DSK GB Confluence
GC Convergence
*With accumulation of air mass.
GCS Streamline convergence
GCT Isotach convergence
GD Divergence
* With decrease in air mass.
GDS Streamline divergence
GDT Isotach divergence
GDU Subsidence
GJQ Sources
GJS Sinks
GJT Doublets
GL Jets
GLP Jet streams
* For jet streams in the upper atmosphere, see DSU_TML.
GMG Eddies
GMH Small scale eddies
GMI Large scale eddies
GNJ Surges
GP Boundary layers
GQ Thermals, vertical currents (airflow), convection currents (airflow)
* See also Temperature inversion DSO_VN.

(Types of flow)

DSK GU Isobaric flow
HF Adiabatic flow
I Laminar flow
J Turbulent flow

[Mechanics DSKB]

DSK N Winds

Currents of air moving in any direction; but usually assumes horizontal movement (ie parallel to earth's surface) whilst vertical movement is usually referred to as convection current or simply current (see DSK-GQ).
* Each type of wind may be qualified like winds in general, or specified retroactively by preceding arrays thus:
* Add to - (where the hyphen represents the classmark of the wind) letters A/0 following DSK; eg DSM-ENS Winds on slopes - Convergence.
* Add to -Q letters KV/N following DS; eg Tropical winds - High altitude DSM-VQMK.

N98 Regional winds (general), local winds (general)
*Eddie G. gives large number of these, but have omitted to save time.
*Add to DSK - N98 letters A/Z in Auxiliary Schedule 2 '

(Processes & properties)

DSK N9C P)Distribution(
NDC .)Velocity(
NDC 9EE Gradient
NLJ Wind shear
NP Divergence
NQ Streamline divergence
NR Isotach divergence
NS Convergence
NT Streamline convergence
NU Isotach convergence
OB Backing
OE Veering
OG Constancy
V Idealized winds, hypothetical winds
W Geostrophic wind, geostrophic flow, geostrophic force
*Wind in its theoretical movement parallel to isobars, resulting from two opposing forces (the pressure gradient and the deflection by the Coriolis force).
*See also Upper atmosphere in meteorology DSU I
WPM Geostrophic approximation
WPN Geostrophic departure
WPP Geostrophic deviation
WQ Thermal wind, vector wind
*For thermals (convection currents), see DSK_GQ.
WQ Geostrophic vorticity
WR Isallobaric wind
WU Eulerian wind
Cyclostrophic wind
X Gradient wind
* Balance of all forces acting on airflow.

DSL Atmospheric circulation
[Winds DSKN]
[Atmospheric circulation DSL]

Movement of air in the form of planetary winds and pressure-cells around the global surface and at higher levels in the atmosphere.

DSL PP Pressure cells
PQ Hadley cells
PR Ferrel cells
PS Index cycle
*Development of periodic wave motion in the atmosphere due to interaction of tropical and polar air.
PT Direct circulation
PU Indirect circulation
R Zonal circulation, zonal flow
* Large-scale movement from west to east or vice versa.
* See also westerlies DSL_T; trade winds DS@U.
RR Zonal index
*Measure of the strength of the zonal circulation.
RS Meridional circulation meridional flow
*Large-scale movement from north to south, or vice versa.
Planetary winds
SR Coriolis force component
SS Absolute vorticity
ST Planetary vorticity
SV Relative vorticity
T Westerlies
*Wind system dominating the zones between 40 and

70 degrees N and S of equator (on polewards side of the trade winds). Mainly from SW in the N hemisphere and NW in the S hemisphere.

TT Horse latitudes
*Belts of high pressure between 30 and 35 degrees north and south of the equator.

TV Anti-trades
* For counter-trades, see jet streams DSM L.

U Trade winds
*Prevailing winds blowing from subtropical, high-pressure areas in latitudes 30 to 40 degrees N and S of the equator. Mainly from NE in the N hemisphere and SE in the S hemisphere. They blow much less steadily over continental interiors than over the oceans.
*For intertropical convergence zone, see DSV._P.

[Winds DSKN]
[Atmospheric circulation DSL]
[Planetary winds DSLS]
[Trade winds DSLU]

DSL UU Doldrums
*Equatorial belt of low pressure where the NE and SE trade winds converge. Applicable largely to the oceans.

(Types of winds other than planetary winds)
((By humidity))
DSL VD Dry winds
VF Wet winds
((By temperature))
DSL VH Cold winds
VJ Warm winds
VL Hot winds
W Ex-desert winds
**Iíve made this term up; to call them desert winds would be misleading. Also, they may end up humid (like sirocco).
*Hot, dry winds originating over deserts
W98)Regional, local(
)Mediterranean(
DSL W98 AN Sirocco
)Spain(
DSL W98 GB Leveche
)Egypt(
DSL W98 VA Khamsin
((By duration)
X Prevailing winds
YD Short duration winds
YG Gusts
YJ Squalls
YL Line squalls
((By time of occurrence))
DSM BN Diurnal variation, diurnal range
BP Daytime winds
BR Night winds
C Seasonal winds
D Monsoon winds

* Includes works on monsoons in general;,for monsoon rains, see DST H; for monsoonal air masses, see DSV-J.

((By force, speed))

DSM EB Beaufort scale

ED Calm

EF Light air

EH Breezes

* Beaufort forces 3/6.

EK Gales

[Winds DSKN]

[(Types of winds other than planetary winds) @]

[((By force)]

[Gales DSMEK]

* Beaufort forces 7/9

DSM EM Storms

** Iíve treated these as disturbances (DSW-_P), but am not sure I shd do. If it is right, only a ref. shd be made here (Storms, see DS@P). Same goes for hurricanes (DSW--R).

EP *Beaufort forces 10/11

ER Hurricane force winds

* Beaufort forces 12/17.

((By topographic or physiographic determinants))

DSM F Winds on slopes

FR Anabatic winds. valley winds

* Upslope. For ravine winds, see DSM_EU.

FS Katabatic winds, strophs, mountain winds, orographic winds, drainage winds

* Downslope winds.

FT Fohn winds

* Descend on the lee of a mountain. Term originally related to the European Alps, but now used generally

* See also local fohn-type winds; eg berg (S. Africa).

FT9 8)Regional, local(

)South Africa(

DSM FT9 8VQ Berg wind

)USA(

DSM FT9 8Y Chinook

FU Ravine winds

*Passes through a narrow valley, with channelling effect.

FW City winds

* Buildings, etc. act as barriers.

FX Plains winds ?

GC Coastal winds

GE Sea breezes

GH Lake breezes

GL Land breezes

*Nocturnal airflow from land (cooled by radiation) to sea, which is slightly warmer.

((By altitude))

*Within troposphere and tropopause. For higher altitudes, see DSU-H.

DSM H Low altitude winds

I High altitude winds

J Jet streams, counter trades

**exact whereabouts of these unclear from my dictionaries, etc.

K Subtropical jet stream
L Polar night jet stream

[Winds DSKN]
[(Types of winds other than planetary winds)]
[((By altitude))]
[High altitude winds DSNI]
[Jet streams DSMJ]
[Polar night jet stream DSML]

DSM M Polar front jet stream
MV Polar vortex

((By physiographic region of origin))

DSM N Polar winds
NS Glacier winds
Subpolar winds
P Temperate winds
Q Subtropical winds
R Tropical winds
S Arid zone winds
T Desert winds
* Including winds originating in desert-like conditions.
** Not at all sure about subordinating dust-winds to deserts. But where else?
U Dust laden winds
U98)Regional(
U98 UA Australian dust storms, brickfielders
U)Short-lived(
UR Dust devils, dust whirls
UT Dust storms
UT9 8)Regional(
UT9 8UA Australian dust storms, brickfielders

((By direction))
*Horizontal movement, parallel to earthís surface, is usually assumed.

DSM V Vortices, vortex winds
* Larger vortices such as the spiralling low-pressure systems are classed by their other characteristics; eg cyclones DS@N.
* See also hurricanes DSW-R
VP Whirlwinds
VR Dust-devils
W Tornadoes
WW Waterspouts
*Marine equivalent of tornadoes.

((Direction in relation to aircraft))
*Strictly speaking, shd go in aeronautics (technology)?

DSM XH Head winds
XJ Equivalent head winds
XL Tail winds

[Winds DSKN]
[(Types of winds other than planetary winds)]
[((By direction))]
[((Direction in relation to aircraft))]
[Tornadoes DSMW]
[Tail winds DSMXL]

DSM XN Equivalent tail winds

(Other energy interactions)

* Synthesis from Class B Physics and C/E is
resumed here after its interruption at DSK G:
* Add to DSO letters H/X following BRG (Bulk matter);
* Add to DSP letters H/M following B;
* Add to DSP_R letters C/E following DG; eg

DSO H Acoustic phenomena (meteorology)
* For thunderstorms, see DSWQ.

P Thermal phenomena
(External conditions)

DSO 9B Constant volume
Constant pressure, adiabatic

PAG Thermodynamics

PJ Heat, quantity of heat
*For latent heat, see composition of
atmosphere - Change of state DSQ_WNS.

PJR Heat capacity

PJS Specific heat capacity

Q Heat transfer, heat exchange

QL Heat flux, heat flow

QN Conduction

QP Diffusion

QV Convection

DSO R Thermal radiation

T Heat loss, cooling

TS Sudden cooling

U Heat gain, heating

US Sudden warming

UV Ocean & atmosphere heat exchange

V Temperature
* Index of heat content.

V9C P)Distribution(

VJ Temperature variation, change of temperature

VK Adiabatic change

VL Lapse rate, vertical temperature gradient
*Decrease in temperature per unit
height of atmosphere.

VLM Positive lapse rate

VLN Autoconvective lapse rate

VLP Dry adiabatic lapse rate

VLQ Wet adiabatic lapse rate, saturated
lapse rate

VLR Process lapse rate

VLS Environmental lapse rate

VM Negative lapse rate

[Thermal phenomena DSOP]
[Temperature DSOV]
[Temperature variation DSOVJ]
[Adiabatic change DSOVK]
[Lapse rate DSOVL]
[Negative lapse rate DSOVM]

DSO VN Inversion of temperature
* See also vertical currents DSK-GQ

VNQ High altitude inversion

VNS Surface inversion of temperature

VP Advective heat change

VQX Seasonal change (temperature)

VQX S Summer change (temperature)

VQX W Winter change (temperature)

VR Normal temperature, ambient temperature

VS Critical temperature
VSR Minimum temperature
VSX Maximum temperature
VW Low temperature
VX High temperature
VYE Earthís surface temperature
VYH Water surface temperature

DSP H Electrical phenomena
* Add letters following BH
HAD Electromagnetic field
HK Electric charge
HL Voltage
HN Static electricity
* For electric discharge, see DSP_HR.
HO Electrodynamics
DSP HOP Electrical induction
HP Electrical current
HQ Conductivity
HR Discharge
(Special meteorological phenomena)
*For the thermal properties of a specific phenomenon (eg aerosols, water droplets) see phenomenon.
DSP HS Electrical disturbances
**Have 6 terms here from Eddie Garrett. All seem to refer to radio disturbances, etc. (ie technology).
HU Aurorae
HUT Aurora Borealis, northern lights
HUV Aurora Australis, southern lights
HV Lightning
* See also thunderstorms DSW_Q
((By position))
DSP HVR Air discharge (lightning), electric discharge (lightning)
HVS Cloud discharge (lightning)
((By direction))
DSP HWB Leader stroke
HWD Return stroke
(Types)

[(Other energy interactions)]
[Thermal phenomena DSOP]
[Electrical phenomena DSPH]
[(Special meteorological phenomena)]
[Lightning DSPHV]
[(Types)]

DSP HWF Sheet lightning
HWH Forked lightning
HWJ Ribbon lightning
HWL Rocket lightning
HWN Chain lightning, beade lightning, pearl lightning
HWP Ball lightning, fireball
HWR Streak lightning
HX Sferics
*Natural electromagnetic signals associated with lightning.
HY Saint Elmoís fire, brush discharge
J Magnetic phenomena (meteorology)
* Add to DSP-J letters A/U following BJ.
* For geomagnetism, see geosphere
JAD Magnetic field

JK Magnetic flux, magnetic lines of force
JKN Magnetic flux density, MFD
JL Magnetization
JPP Geomagnetism in meteeorology
JPQ Magnetic meridian (meteorology)
JU (Interactions with other energy forms) ?
JV Magnetic disturbances
JW Magnetic storms
K Radiation (meteorology), electromagnetic radiation (meteorology)
)Particular theories(
DSP K3K Kirchoffts law
K3P Planck's law
K3S Stefan-Boltzmannls law
K3W Wien's law of displacement
Radiation balance
Net radiation
KFC Propagations of radiation (meteorology)
KFC M Attenuation of radiation
KFD Frequency
KFE S Amplitude
KFG Emission
KFL Absorption
KFL 3 Theories(
KFL 3K Beer's law
KFL 3M Bouguer's law
KFL 3P Lambertís law
KFM Refraction
KFN Reflection
DSP KFP Polarization
KFQ Diffraction
KFT Scattering
KFT R Rayleigh scattering
[(Other energy interactions)]
[Thermal phenomena DSOP]
[Radiation (meteorology) DSPK]
[Scattering DSPKFT]
[Rayleigh scattering DSPKFTR]

DSP KFT S Mie scattering
KJ Ionizing radiation
KJL Ionization potential
KJM Ionization energy
KJQ Low level ionization
KL ((By frequency/wavelength))
*Add to DSP_KL letters L/W following BK; eg DSP-KLU Microwaves
(By source & energy of radiation)
DSP KM Cosmic radiation (meteorology)
* See also cloud formation
KMR Primary cosmic radiation
KMT Secondary cosmic radiation
KNV Galactic cosmic radiation
KN Solar radiation
*For specific forms of radiation received, see the form; eg visible light (sunlight) DSP-LV.
KNM Solar cosmic radiation
KO Solar wind
* Breeze of electrically-charged gases blowing off the sunos surface.

* See also cloud formation

KP Insolation

*Amount of solar radiation received over a unit area of the earth's surface.

KP6)Measuring(

KP6 5)Instruments(

KP6 5T Pyrheliometers

KP6 5U Actinometers

KPR Radiation balance, radiation budget

KPS Albedo

*Proportion of insulation reflected back from earth without heating its surface.

KQ Diffuse radiation, sky radiation, skylight

*Received at earth's surface after scattering by atmospheric particles.

KT Terrestrial radiation, long wave radiation

KTN Nocturnal radiation, effective radiation

KTP Radiation night

KTR Atmospheric window

* See also greenhouse effect DSX_BGU

L Optical phenomena

LFF Transparence

LFF T Turbidity

* Reduced transparency, usually due to atmospheric dust.

[(other energy interactions)]

[Thermal phenomena DSOP]

[Optical phenomena DSPL]

[Transparence DSPLFF]

[Turbidity DSPLFFT]

DSP LFJ L Visibility

LFL X Refraction & reflection

LFM Refraction

LFN Reflection

LFP Polarization

LFQ Diffraction

LFT Scattering

LL Luminosity

LM Colour

LO (Special optical effects in atmosphere)

*These are usually due to complexes of atmospheric and physiographic condition. The categorization below takes only that major condition which apparently determines the effect.

*This location assumes that the focus of interest is the optical phenomenon, of which the atmospheric or physiographic condition is the agent. The defining meteorological function of the agent is not affected by the optical effects it produces.

*An alternative might be to cite first the condition (eg cloud forms for iceblink, raindrops for rainbows) and qualify retroactively. But location would then be much less predictable and it is not recommended.

*This location interrupts the synthesis by BL optics; it is resumed at DSP_LQ.

((By physical environment))

* Add to DSP-LO letters G/S following D; eg

DSP LOP CY (Land altitude effects)
LOP D Alpine glow
LOP D Afterglow
((By optical process)
* Add to DSP_LP letters following BF; eg
(Refraction & reflection effects)
DSP LPL Rainbows
LPL T Fogbows
LPL W Debows
(Refraction effects)
DSP LPM H Halos
LPM M Mirages
(Reflection effects)
DSP LPN Iceblink
(Diffraction effects)
DSP LPQ C Coronas
LPQ E Anti-coronas
[(Other energy interactions)]
[Thermal phenomena DSOP]
[Optical phenomena DSPL]
[(Special optical effects in atmosphere) DSPLO]
[(Diffraction effects)]
[Anti-coronas DSPLPQE]

DSP LPQ K Brockenspectres
LPQ R Bishop's rings
(Types of light)
* Normal retroactive synthesis by BL Optics is resumed here after its interruption at DSP_LO.
* Add to DS@LQ letters E/Y following BLQ; eg
DSP LQC Natural light, sunlight
(Other electromagnetic radiation by frequency)
DSP LU Infra-red
LW Ultra-violet
LX X-rays
LY Gamma rays
M Particle physics & meteorology
* Add to DSP-M letters M/Q following B.
Q (Relations of other sciences with meteorology)
** See explanatory note below. This provision is necessary for logical consistency; but I'm not sure it will ever be used.
* This completes the resumption of normal retroactive synthesis after its interruption at DSK_G and its partial resumption at DSO (see the notes at these positions).
* Add to DSP_Q letters C/G following DG.
QC)Chemistry(
* see DSQ Composition of atmosphere.
QD)Astronomy & meteorology(
QDG)Earth sciences & meteorology(
QG)History of meteorology

DSQ Composition of atmosphere, air
*For works on the physics and chemistry of the atmosphere in general, see DSB/C. This class is concerned primarily with the air of the

troposphere and tropopause.
*Add to DSQ numbers & letters 2/9,A/G following 06. DSK.

DSQ B)Physics(
* Add to DSQ_B letters A/T following BR; eg
BNO Change of volume (of air)
BNO P Expansion
BNO R Contraction
BNP Change of state of air
* See DSQ_WNP.
C)Chemistry(
* For specific constituents of air, see DSQ_H.
CDE)Chemical thermodynamics(
Diffusion of gases
D)Astronomical factors(
*For cosmic rays and solar radiation, see radiation DSP-K.
DG (Relations with preceding earth sciences)
*Add to DSQ_D letters G/R following D for concepts not otherwise provided for.
G)Historical development(
(Special processes/properties)
DSQ H Formation
J Growth & development
** reserve J/M here for details under DSQ-X, DST S, etc.
* See also details at DST-SJ
NP Change of state of air (general)
* In nearly all cases, this refers to the water content.
* To and from liquid state, see DSQ_WNP.
* To and from solid state, see DS@SNP.
* Add to DSQ letters N/P following BU (Physics of liquids).
Q (Parts & constituents of the atmosphere)
**reserve DSQ_Q for luck; provide for solids & structures AFTER constituents - see instruction under DSQ_Y Hydrometeors; eg particles, surfaces.
**When qualifying certain constituents (eg water droplets) the gas and solid components may need to be followed by structures; see instruction note under hydrometeors DSQ-Y.
((Gaseous constituent elements & compounds))
DSQ R Nitrogen
RS Nitrogen cycle
S Oxygen
SV Argon
T Carbon dioxide
UC (Trace elements & compounds)
UE Hydrogen
[Composition of atmosphere DSQ]
[(Parts & constituents of the atmosphere) DSQQ]
[((Gaseous constituent elements & compounds)) @]
[(Trace elements & compounds) DSQUC]
[Hydrogen DSQUE]

DSQ UG Ozone
UJ Helium
UL Neon
UN Krypton

UP Methane
V Other, A/Z
* Use DSQ-VX to introduce X/Z.
VY (Liquid constituents)
W Water in atmosphere
* Add to DSQ_W letters A/V following DSQ; eg
WDR HG)Hydrological cycle(
WDR HH)Water balance(
WNP Change of state
WNP N (Parameters, influencing conditions)
* Volume, pressure, heat, etc.
WNQ)Phase transition(
WNS Latent heat
WNT Phase equilibrium
(By states involved)
DSQ WOE)Liquid to vapour(
*For water vapour as substance, see DSQ_X
WOG Evaporation
WOH Transpiration
WOH P Evapotranspiration
WOH R Potential evapotranspiration
WOH T Actual evapotranspiration
(Vapour to liquid)
DSQ WOP Y Liquefaction
WOQ Condensation, nucleation (condensation)
For condensation nuclei (hygroscopic nuclei) see solids. DST SJS.
WOQ P Dewpoint, condensation-point
*Critical point at which air, on cooling, becomes saturated and below which further cooling causes condensation in the form of hydrometeors.
WOQ R Condensation level
WOQ S Lifting level (condensation)
WOQ T Convective level (condensation)
WOQ U Mixing level (condensation)
WOR Homogeneous condensation, spontaneous condensation
WOS Heterogeneous condensation
[Water in atmosphere DSQW]
[Change of state DSQWNP]
[(Vapour to liquid)]
[Liquefaction DSQWOPY]
[Condensation DSQWOQ]
[Heterogeneous condensation DSQWOS]
DSQ X Water vapour
* Gaseous form of water present in the atmosphere.
* Add to DSQ_X letters A/V following DSQ.
X5)Instruments(
Hydrometers
XBC J)Vapour pressure(
XBL)Optical properties(
**See also Optical phenomena in meteorology DSK_L
(Special processes/properties)

DSQ XM Humidity
XMI Absolute humidity, vapour concentration, vapour density
* For dew point, see DSQ-WOQ-P.
XMJ Relative humidity
* If distinguished from humidity in general.
XMK Specific humidity, moisture content, mass concentration
XML Mixing ratio
(Forms of air by humidity)
DSQ XWD Dry air
XWF Moist air
XWH Wet air
XWJ Saturated air, saturation
XWL Supersaturated air, supersaturation
Y Hydrometeors (general)
* All forms of condensation or sublimation of water vapour, including clouds, rain and snow.
*Any given hydrometeor may be qualified thus (where the hyphen represents its classmark):
* Add to - letters A/P following DSQ;
* Add to -Q letters Q/X following DSQ;
* Add to -R letters for constituent structures, if these apply; see water droplets eg 11. (DSQ_WR)?
* Add to -S (retroactively) letters following DS for preceding types of hydrometeors if specification by these is required; eg under clouds, Stratus (DSS_Q) may be specified by Scud (DSR_V) to give Stratus fractus DSS_QSR_V.
So FES (First enumerated suclass) under hydrometeors is T.
DSR Clouds
DSR 9CP)Distribution(
9T)Dimensions(
9X Altitude ?
[(Liquid constituents) DSQVY]
[Water in atmosphere DSQW]
[Water vapour DSQX]
[Hydrometeors (general) DSQY]
[Clouds DSR]
[Altitude ? DSR9X]

DSR BH)Electrical properties(
BL)Optical properties(
*See also optical phenomena in meteorology DSK_L.
(Special processes/properties)
DSR H Formation
MC Cloud cover, cloudiness
MC6 Okta
* Measure of degree of cloud cover.
NP Change of state
OQ)Condensation(
OQR)Condensation level(
* See also Cloud base DS@RG
(Parts, constituents)
DSR QW Water content
QWR Water droplets (clouds)
)Dimensions(
DSR QWR 9T Median volume diameter (droplets), mean

effective diameter (droplets)

RC Particles in clouds

RC9 CP)Distribution(

RF Cloud surface

RG Cloud undersurface, cloud base

* See also condensation level DSR-OQR

(Types of clouds)

DSR T Mother clouds

* Incipient clouds from which well-defined ones develop.

((By optical properties))

DSR UE Nacreous clouds, mother-or-pearl clouds

UG Noctilucent clouds, luminous night clouds

UJ Translucidus

UL Perlucidus

UN Spissatus

UP Opacus

((By position relative to main cloud))

DSR V Fractus, scud

VT Pannus

VU Tuba, funnel cloud

VV Virga, fallstreak

((By formation process))

DSR W Orographic clouds

*Due to uplift of airstream by topographic barrier.

WU Banner clouds

WV Lenticular clouds

WW Wave clouds

((By composition))

DSR XD Water-droplet clouds

[Water vapour DSQX]

[Hydrometeors (general) DSQY]

[Clouds DSR]

[(Types of clouds)]

[((By composition))]

[Water-droplet clouds DSRXD]

DSR XF Ice-crystal clouds

Y ((By form or shape))

**Eddie Garrett draft has some 25 minor types here; eg amorphous, anvil, billow. Am saving time by omitting.

YX Mixed clouds

((By altitude & form/shape))

**Eddie Garrett cites International cloud atlas 1956 (by World Meteorological organization) as his authority for this.

DSS C High altitude clouds

E Cirrus, mare's tails, fibrous cloud

ET Cirrus intortus

EV Cirrus spissatus, false cirrus

EX Cirrus uncinus

EY Cirrus vertebratus

G Cirrocumulus

GV Cirrocumulus vertebratus, mackerel sky

H Cirrostratus

HV Cirrostratus nebulosus

K Middle altitude clouds

L Altocumulus

LT Altocumulus perlucidus

M Altostratus
N Nimbostratus, palliu
O Low altitude clouds
P Stratocumulus
PT Stratocumulus perlucidus
PV Roll cumulus
Q Stratus, sheet cloud
QSR V Stratus fractus
QV Stratus nebulosus
R Cumulus, heaped cloud
RT Cumulus congestus
RSR V Cumulus fractus
RV Cumulus humilis, fair weather cumulus
RW Cumulus mediocris
S Cumulonimbus, thunderclouds
ST Cumulonimbus calvus
SV Cumulonimbus capillatus
U Fog
U94)Forecasting(
U94 BG Fog potential index
UL Dispersal
(Types)
DSS UT Evaporation fog
UTV Frontal fog
UU Advection fog
UUV Haar, sea fret
[Water vapour DSQXI
[Hydrometeors (general) DSQY]
[Fog DSSU]
[(Types)]
[Advection fog DSSUU]
[Haar DSSUUV]

DSS UUW Arctic sea smoke, frost smoke, sea smoke
UUX Steam fog, water smoke, warm water fog
UV Radiation fog
UVT Ice fog
V Smog, photochemical fog
*Product of sunlight reacting on hydrocarbons, etc in the atmosphere. Water droplets are not present.
X Mist
* Obscurity is between that of fog and haze.
* For scotch mist, see drizzle DST-FD; for haze, see solids in atmosphere DSILCT.
DST B Precipitation
*All forms in which water falls to the ground, as rain, sleet, snow, hail, drizzle, etc. Also, the amounts measured.
B3)Theories(
B3K Bergeron-Findeisen theory
(Operations)
DST B96 Weather control (human)
B06 D Cloud seeding
BBH Electricity of precipitation
E Rain
)Instruments(
DST E5V Rain gauges
)Control(
DST E96 D Rainmaking
(Processes/properties)
DST E9C P Distribution

E9E Variation, change
E9V L Duration
EMD Amount (rainfall)
EMD 86 Isohyets
EMF Wet spells
EMH Rain days, wet days
EMN Dry spells
EMP Drought
EMR Absolute drought
(Constituents)
DST ET Raindrops, water droplets
ET3)Theories(
ET3 L Collision theory of rainfall
ET9 L Dimensions
ETJ Growth, development
ETJ 3L Langmuir theory
ETK C Accretion (raindrops)
ETK J Coagulation, Bowen-Ludlum process
ETK S Gravitational separation
ETR P)Surface(
[Hydrometeors (general) DSQY]
[Precipitation DSTB]
[Rain DSTE]
[(Constituents)]
[Raindrops DSTET]
[)Surface(DSTETRP]

DST ETR Q Surface tension
(Types of rain)
((By temperature))
DST EW Cold rain
EX Warm rain
((By duration))
DST FB Steady rain, continuous rain
FD Drizzle
FE Scotch mist, mizzle
FG Showers
FH Serein
*Rain falling briefly from apparently clear sky.
FJ Cloudburst
((By time of occurrence))
DST FN Diurnal (rains)
FP Daytime rains
FR Night-time rains
G Seasonal rains
G98)Regional(
* Local rains are often named by the crop with which they are associated; eg maize rains, millet rains.
* Add to DST-G98 letters D/Z from Auxiliary schedule 2; eg
G98 RB China (rains)
Crachin rain
G98 S Japan (rains)
Bai U rains, plum rains
Shurin rains
GV Spring rains
GW Summer rains
GX Autumn rains

GY Winter rains
H Monsoon rains
* See also Monsoon air masses DSV-J
((By formation processes))

[(Parts & constituents of the atmosphere) DSQQ]
[(Liquid constituents) DSQVY]
[Precipitation DSTB]
[Rain DSTE]
[(Types of rain)]
[((By formation processes))]

DST K Orographic rain
*Results from vertical uplift of an airstream by a topographic barrier.
L Cyclonic rain
*Associated with depressions and fronts in middle and high latitudes.
M Frontal rain
*If distinguished from cyclonic rain.
N Convectional rain, convective rain
O Fog precipitation, fog drip
P Dew
*Condensed droplets on surfaces near ground level after nocturnal radiation has cooled them to below the dew point, so leading to condensation.
*Study of the climates of large areas.

DST (Parts & constituents of the atmosphere)
DST R Solid matter in atmosphere (general)
*Use only for works dealing with aqueous solid forms and non-aqueous together.
*Add to DST_R letters A/S as instructed at Q-Y.
S Solid, aqueous precipitation
SJ Growth, development
(Agents)
DST SJN Nuclei
*Particles suspended in the atmosphere, acting as agent of the precipitation process.
SJO Nucleation
* Accretion around a nucleus.
SJP Aitken nuclei
SJQ Large nuclei
SJR Giant nuclei
SJS Condensation nuclei, hygroscopic nuclei
* Nuclei which take up water.
* See also control of weather
SKC Accretion
SKD Aggregation, accumulation
SKG Collision
SKJ Adherence
SKS Separation

SL Dispersal
* See also Deflation DSILBLL
SNP)Change of state(
SNR)Phase transition(
SNS)Latent heat(
(To & from vapour)
DST SPC Sublimation
*Conversion of solid to vapour, or vice-versa, with no liquid state intervening.
(To & from liquid)
DST SPJ Liquefaction
SPK Melting
SPS Supercooling
SPQ Freezing
SPQ T Homogeneous freezing, spontaneous freezing
SPR Icing
SPT Crystallization
(Types of solid aqueous precipitation)
DST ST Ice crystals
STJ Growth
STJ N Ice nuclei
STJ P Epitaxial growth
STJ S Splintering (ice crystals)
STR C Ice accretion
STT Ice needles, ice prisms
**unable to find definition
T Frost
[(Parts & constituents of the atmosphere) DST]
[Solid matter in atmosphere (general) DSTR]
[Solid aqueous precipitation DSTS]
[(Types of solid aqueous precipitation)]
[Frost DSTT]

*Occurs when air temperature falls below the freezing point of water.
DST TT Ground frost
TU Hoar frost, white dew
TV Rime
TVT White frost
* With deposit of rime.
TVW Black frost
* Without deposit of rime.
TW Glazed frost, glaze
U Sleet
V Hail
VT Hailstones
* 5mm/50mm.
VU Ice pellets
* Less than 5mm.
VW Soft hail, graupel
VX Small hail
W Snow
WNP)Change of state(
WOB Ablation
*Removal of snow or ice by sublimation and melting and evaporation of the resulting liquid.
WOC Ablation till
)Sublimation(
DST WPC Snow stage

WPK)Melting(
WPK T Thaw
WPK U Upbank thaw
WT Falling snow
WTN Q Temperature
WTQ Composition
WTT Snow crystals, ice spicules
WTU Snow granules, snow grains
WTV Snowflakes
WTW Snow pellets
WTX Slush
* Watery mass of snow during thaw.
WU Snowstorms
WUT Blizzards
WUV White-outs
WV Snow cover
*This now becomes either hydrography or glaciology, but not meteorology?

DSU B Non-aqueous solids in the atmosphere
*For solids in general in atmosphere, see DST_R.
BJ)Growth & development(
[(Parts & constituents of the atmosphere) DST]
[Solid matter in atmosphere (general) DSTR]
[Non-aqueous solids in the atmosphere DSUB]
[)Growth & development(DSUBJ]

DSU BLL Deflation
*Removal by wind of unconsolidated sand, etc. from the land surface.
BLO Fallout
BLW Washout
**unable to find a definition for meteorological sense.
Lithometeors
*Mixtures of non-aqueous solid particles in the atmosphere
CBL)Turbidity(
CJ)Growth & development(
CJN)Nuclei(
(Types of lithometeors by composition)
DSU CT Haze
CV Salt
CX Aerosols
D Dust
*For dust storms see DSM UT
DX Volcanic dust
E Man-made pollution (lithometeors)
**reserve UE/F for Fronts DSV__T & DSW_U
H Atmospheric layers in meteorology
* For general works on the layers, see DSH/DSJ.
* Add to DST letters H/J following DS.
* Each layer (and DST-H itself) may be divided as follows (where the hyphen represents its classmark):
*Add to - letters AB/J following DSK;
*Add to -JY letters KIN following DSK-K;
*Add to - letters KNIN following DS; eg
I)Upper atmosphere(
IKN Winds in upper atmosphere
IKX Gradient winds

IL Circulation (upper atmosphere)
ILR Zonal circulation (upper atmosphere)
INL Jet streams (upper atmosphere)
IMN Polar night jet streams
JS)Stratosphere(
JT Tropopause

M Weather systems, meteorological instabilities
* Add to DSU_M letters A/P following DS;
* Add to DSU._MQ letters Q/T followingh DSQ.
M9)Stability & instability(
* Use DSU-MS.
M)Thermal properties(
MS Stability (weather systems)
[Weather systems DSUMI
[Stability (weather systems) DSUMS]

DSU MU Instability (weather systems)
MUQ Instability line
MV Potential instability, convective instability
MW Conditional instability
MX Absolute instability
N Air masses
*Almost homogeneous masses of great lateral extent (sometimes thousands of km). Separated from adjacent air masses by well defined front.
)Analysis(
NOP Thermal properties(
NOV)Temperature(
NOV K)Adiabatic change(
NOV L)Lapse rate(
(Special processes)
DSU R Blocking
(Types)
((By stability))
DSU T Stable air masses
U Unstable air masses
((By source of temperature))
DSU W Warm air masses
X Cold air masses
((By humidity))
DSV C Continental air masses
F Maritime air masses
J Monsoonal air masses
*For monsoon winds, see DSK-D; for monsoon rains, see DST_H.
((By source region))
DSV L Polar air masses
LVC)Continental(
LVF)Maritime(
LUG Returning polar maritime air ?
LW Arctic
LX Antarctic
N Tropical air masses
NVC)Continental(
NVF)Maritime(
P Intertropical convergence zone, ITCZ ?
Q Thermal equator, heat equator
T Fronts
* Sloping boundary surface separating two air masses exhibiting different characteristics.

* Add to DS@T letters A/K following DSK;
* Add to DSV__TL letters L/V following DS; eg

TAB)Physics(
TGB)Confluence(
TGC)Convergence(
TGD)Divergence(
TGD U Subsidence(
TJ)Turbulent flow(

[Weather systems DSUM]

[Fronts DSVT]

[]Physics(DSVTAB]
[]Turbulent flow(DSVTJ]

DSV TKN)Winds(
TLL)Circulation(
TO (Other energy forms & interactions)
* Add to DSV_T letters 0/P following DS.
(Special processes)
DSV TPO Deformation
TPP Frontogenesis
TPP GC)Convergence(
TPR Frontolysis
TPR GD Divergence
TQ)Composition(
* Add to DS@T letters Q/T following DS.
TU)Atmosphere layers(
* Add to DSU-T letters U/V following DS.
(Parts of fronts)
DSV TWD Frontal surfaces
* Narrow, small-scale.
TWF Frontal zones
* Broad, large-scale.
(Types)
* Each type may be divided like DSV
DSV U Diffuse fronts
V Anafronts
W Katafronts
DSW C Cold fronts
D Warm fronts
DS Quasi-stationary fronts
E Polar fronts
ET Arctic
EV Antarctic
F Occluded fronts
*Formed when cold front overtakes the warm mass of a depression, undercutting it and lifting the warm mass off the ground surface.
FPY Occlusion (process)
FQU E Trowals
*Trough of warm air at upper front of an occlusion, still undergoing lifting.
FR Back-bent occlusions
** no definition found
(By relative temperature of the two masses)
DSW FT Cold occlusion
FW Warm occlusion
FX Neutral occlusion
H Anticyclones, high-pressure systems, highs
* Add to DSW__H letters A/U following DS@T.
* Add to DSW-HV letters V/W following DS.

(Theories)

DSW H3 Buys-Ballot's law

[Weather systems DSUM]

[Anticyclones DSWH]

[(Theories)]

[Buys-Ballot's law DSWH3]

DSW HGC)Convergence(

HGD)Divergence(

HGD S)Subsidence(

HPP Anticyclogenesis

HPS Anticyclolysis

)Convergence(

)Divergence(

)Subsidence(

)Temperature inversion(

HX Ridges (anticyclones)

*Elongated area of high pressure extending anticyclone.

IB Warm ridges

ID Wedges

*As ridges, but narrower.

J Blocking anticyclones

K Cold anticyclones, continental anticyclones

L Warm anticyclones

LT Cut-off highs

MB Siberian anticyclones

Subtropical anticyclones

Azores anticyclone

Bermuda anticyclone, Bermuda high

Cyclones, low-pressure systems (general), depressions, disturbances, lows

* For cyclones in the narrower sense of a tropical cyclone, see DS

* Add to DSV-N letters A/V following DSW-H.

NPP Cyclogenesis

NPS Cyclolysis

NPV Deepening

*Decreasing pressure near centre of depression.

NPX Filling

*Increasing pressure near centre of depression.

OD Deep depressions

OF Shallow depressions

OH Cold sectors (depressions), cold lows, cold pool

OI Cut-off lows

OJ Warm sectors (depressions)

OL Troughs, V-shaped depressions

OLP Relaxation

OLT Tilt

** unable to find definition

OM Cold troughs

OP Upper-level troughs

OR Equatorial troughs

OT Intertropical convergence zone, ITCZ

* See also thermal equator

P Storms (general)

[Weather systems DSUM]

[Cyclones DSWN]

[Storms (general) DSWP]

* See note at DSK_DM (Winds by force).
* For dust-storms, see DSU_ET.

DSW Q Thunderstorms
* See also cumulonimbus clouds P555
Q98 (Regional)
)Hawaii(
DSW Q98 TYC Kona storms
R Hurricanes
* Usually associated with the Caribbean
(see DSW U98 KL) but sometimes treated generally
*See also typhoons DSW-U98 HW
S Extra-tropical cyclones, temperate-latitude cyclones
TB Deep
TD Shallow
TF Polar lows, polar air depressions
TH Polar vortex
TJ Aleutian low
TL Icelandic low
TN Wave depressions
TP Baroclinic wave ?
TR Orographic depressions, lee depressions
TT Cold-occlusion depressions
U Tropical cyclones, revolving storms
U98 (Regional cyclones)
*Add to DSW - U letters E/M following A
in Auxiliary Schedule 2; eg
(Southwest Pacific(
DSW U98 HE Willy-willy
)West Pacific(
DSW U98 HW Typhoons
)Caribbean(
U98 KL Hurricanes
UPR Recurvature
** no definition found
(Parts)
DSW UQU E Eye of storm
W Air-earth surface boundary
X Boundary layer (air-earth)
*Layer of atmosphere in which the air
movement is closely governed by proximity
to the ground surface.
XR Planetary boundary layer, friction layer
(meteorology)
* 100-600 m. up.
XS Surface boundary layer
*0-100m.up.
[Air-earth surface boundary DSWW]
[Boundary layer (air-earth) DSWX]
[Surface boundary layer DSWXS]

DSX Climates, climatology
*A climate is a statistical ensemble of atmospheric conditions characteristic
of a particular area over a suitably long period (eg 30 years).
Climatology is the study of world climate: climatic regions, climatic
change, the influence of climate on the environment of life.
*Add to DSX letters A/P following DS.
*Add to DSX_Q letters Q/W following DS.
DSX 8 Climate modelling
* See also numerical forecasting DSK-9
94)Forecasting(

94D Synoptic climatology
9E)Change(
)Periodic(
)Non-periodic(
B)Physics(
BGP)Thermal factors in climate
)Heat gain(
DSX BGU Global warming, greenhouse effect
C)Chemistry(
CP Carbon dioxide absorption
D)Astronomy(
DEG Solar activity & climate
DF Planetary motion & climate
DFR Orbit variation & climate
DG)Earth sciences(
DNJ Soil & climate
DR Hydrosphere & climate
DRW Oceans and climate
DRW KP Ocean circulation & climate
E Biosphere & climate
EF Vegetation & climate
EFT Trees & climate, dendroclimatology
EFV Forests & climate
EH Humans & climate
G Historical development(
GK Palaeoclimatology
Pollen analysis
Coleoptera analysis
GPM Quaternary period climate
(Types of climates)
DSX RC Climatic zones
((By relation to biosphere)
DSX RE Koppen's classification
((By humidity))
DSX RH Thornthwaitels classification
RHP Perhumid climate
RHQ Humid climate
RHR Moist climate, subhumid climate
RHS Dry subhumid climate
RHT Semi-arid climate
RHU Arid climate
[Climates DSX]
[(Types of climates)]
[((By humidity))]
[Arid climate DSXRHU]

((By wind action & precipitation))
DSX RI Flohnís classification
((By physiographic factors))
**Not sure how this relates to the next array,
but assume latitude is the main determinant.
DSX RK Oceanic climates, marine climates
RL Continental climates
RM Desert climates
RN Steppe climates
RP Mountain climates
((By latitude))
DSX SN Northern hemisphere climates
SS Southern hemisphere climates
V Polar caps (climates), frigid zones (climate)

VSN Arctic climate
VSS Antarctic climate
W Temperate climates, temperate zone
WT Temperate rain climate
*Found in both north and south hemispheres.
WU Warm temperate climates, Mediterranean climates
WV Boreal climate
*Climate associated with taiga and forest zones of northern hemisphere.
X Subtropical climate
XU Subtropical steppe & desert (climates)
Y Tropical wet climate, equatorial climate, torrid 08. zone

DSY C Macroclimatology
* Study of the climates of large areas.
E Mesoclimatology, local climates, mesoseale systems, mesosystems
*Study of the climate and atmospheric systems of relatively small regions (eg a valley, an urban area) or atmospheric processes (eg a thunderstorm, a lee depression). Horizontal diameter is usually between 15 and 150 km.
F Indoor climates
H Microclimatology
*Study of the climate within a few metres of the ground; eg the influence of vegetation cover on humidity, temperature and winds.

DT Geography (dispreferred in Haddon)
* Alternative 1 (preferred for non-UK libraries) to locating at DM; if this option is taken:
DT * Alternative 2 - use DT for all aspects of Environment, environmental science
Add to DT letters following D in DY

if Option 1is taken:
DT8 Regional geography (dispreferred in Haddon; use K Society)
*Alternative for libraries wishing to arrange all geography by region is at DW
DTL Y Physical geography
DTM Geomorphology
DTS Atmosphere

DTT Biosphere, ecosphere
* Part of the Earth adjacent to the surface.

DTU Biogeography
The preferred place for this is EJJ (General). FJJ (Phytogeography) & GJJ (Zoogeography). In recent years it has developed as a highly inter-disciplinary class, shared by ecologists, palaentologists archaeologists & geographers as well as biologists. This location is an alternative (not recommended) for libraries wishing to keep these different aspects of the subject together.
*For Biogeomorphology, see DNH.
DTU E)Ecological biogeography(
F)Biogeography (narrowly)(
* Distribution of flora & fauna.
DTV Environmental geography (general)
*Covers environment of all living forms. Most of the literature relates to the human environment DY.

* Alternative (not recommended) to GX.
This location may be used for environmental aspects of physical geography for libraries not wishing to collect all aspects under Environmental science at DY or GX

DU Human geography, anthropogeography (broadly)
All those aspects of geography which are not directly concerned with the physical environment. Comprises spatial analysis & the interrelationships between humans & their environment (natural & socioeconomic) & (usually) these two themes in particular localities (ie regional geography).
DU3)Theory(
DU3 H Geographical determinism... Marxist geography...
(Particular fields of human geography)
DU8 Regional human geography
(alternative to locationg with regional geography at DX)
* As Schedule 2; eg
DU8 AV Tropics
DU8 D Europe
DU8 E Great Britain
(Processes and properties)
Processes

D Spatial series
DT Space and time, spatio-temporal geography
DUA E Time geography
DUA F Space, spatial organisation
DUA HL Spatial distribution
DUC Development (general)
* As a process; alternative (not recommended) to DV Level of development
DUC C Rate of change
(Determinants of change)
* As whole classification
DUC DS Climate
DUC KB Population
DUC KW Customs & folklore
DUC T Economics
(By scale)
DUD F Global, world
DUD FC Global change, globalization
DUD G National, countrywide
DUD H Regional
DUD I Local

(Systematic human geography, applied geography)
Add to DU letters G/Z from the whole classification.
DUG S Agricultural geography Prefer DUT W
DUH Medical geography... Psychological ...
DIU Geographical perception, mental maps
DUK Social geography, sociocultural geography
Distribution in space of social phenomena (G.W.Hoke, 19).
DUK ADT Space and time, spatio-temporal geography

DUK AE Time geography
DUK AF Space
DUK AH Social environmental geography

[Systematic geography DUX]
[Human geography DW]
[(Particular fields of human geography)]
[Applied geography DWG]
[Social geography DWK]
[Social environmental geography DWKAH]

DUK AI Settlement... Areal mobility...
(Elements & properties)
DUK ALM Environmental quality... Culture areas...
ANC Global cultural environment
ANR Developed areas... Depressed areas
DUK B Population geography, anthropogeography (narrowly)
BV Cultural geography (narrowly)
BZP Imperialist culture
BZQ Colonial culture
BZV Post-colonial culture
BZX Modernist culture
BZY Post-modernist culture
DUK CP Development geography
* Use DV
KL)Differentiation & stratification(
KLR Radical geography
LK Communities (broadly), groups (broadly
NV ((By sex)) Geography of gender
V (By environment)
Add to DUK V letters following KA
VR Rural (social) geography
VT Urban (social) geography
VTN M Central place... Residential areas...
(Types of towns)
VU Cities
VW Regional (social) geography
*Areas, regions within countries
WR Geography of custom & lore
XHD D)Graveyards(Necrogeography

(Descriptive & historical treatment of society)
DUL)Historical geography(
Reconstruction of the geographies of past periods.
Other meanings used for the term are the history
of the study of geography (see DM2_7) and the history of changes in
political boundaries (see R)
* Add to DU letters L/O from the main classification
DUL 4 Travel & description...
* Alternative (not recommended) to L4.
DUL 5 Tourism
* Alternative (not recommended) to VW.
DUL 6 Exploration and discovery
68 (By region explored)
DUN Great Britain
DUN J 16th and 17th centuries
DUN J68V Explorations of Africa
DUQ Welfare geography
DUR Political geography

* For geopolitics narrowly, see DWR-QP.

Electoral geography

DUR O)World political system, international relations(
QP)Imperialism(Geopolitics, Geopolitik
DUR V (by region)
DUR VR Rural
DUR VU Urban
DUR VW Regional

DUS Legal geography
On the principle of Nature abhorring a vacuum there should be such a subject?

[Systematic geography DMF]
[Human geography DU]
[(Particular fields of human geography)]
[Applied geography DUG]
[Social geography DUK]

DUT Economic geography
DUT K Economic resources... Sustainable resources...
NU (by region)
NB Do not add letters following TNU
Add letters following KA
NUR Rural
NUT Urban
NUT HR Urbanization
NUU Cities
NUW Regional

DUU
M Land economy
MA Divide like QA
MAG P Policy
MAK Political aspects
MAR X Socioeconomic aspects
MAT Q Land management
MB Spatial aspects
Add to DUU MB letters following KA
MBL RT Spatial structure
MH Land use planning
MK Environmental planning, Town and country planning
ML Add to DUU ML-X letters following SBK
MS Town planning, urban development
MST Housing
Add to DUU MST H letters following QH
MT Rural planning, countryside planning
DUU T Transport geography
DUV X Recreation geography
DUV X25 E Leisure organisations A/Z
Add letters following SBK as required
DUV XNQ Heritage conservation
DUV XNQ TW Marketing
DUV XTB Recreation areas
DUV XTE National parks
DUV Y Leisure and tourism

Alternative arrangement for libraries wishing to keep all urban and rural material together, subdividing by system, e.g. Rural economic geography DUW RT

DUW R — Rural
S — Agricultural geography (alternative to DUG S)
DUX — Urban

DV — Development geography, development studies
DV8 — (By region, country)
* Alternative for libraries wishing to keep all systematic treatments of the subject together
(Processes and properties)
DVA — Development theory
DVA A — Philosophy
DVA C — Development process
DVA CJ — Sustainable development
DVA GP — Policy
Add to DVA letters following QA
DVA H — Planning
DVC — Rate of change
DVD — Aspects of development
* As whole classification
DVD DS — Climate
DVD KB — Population
DVD KW — Customs & folklore
DVD R — Politics
DVD T — Economics
(By scale)
DVE — Global change, globalization
DVG — National, countrywide
DVH — Regional
DVI — Local
(Regions by level of development)
DVJ — Developing countries
DVK — (Regional)
DVL — Third world countries
DVM — Second world, socialist countries
DVN — Developed world
* Often assumed; locate here only if considered in comparison with other levels
DVN 8 — (Regional)
*Alternative to locating at DU8
DVR — (Developed regions)
(by political bloc, etc; divide like R)
DVR RB — North-South divide

[Systematic geography DMF]
[Human geography DU]
[(Particular fields of human geography)]
[Development studies DV]
[(Regions by level of development)]
[Third world countries DVP]

DX — Regional geography (dispreferred in Haddon; use K Society)

* As Schedule 2
*Alternative (not recommended) to DM8 or DU8 for libraries wishing to collect all geographical aspects of a place under that place
* If this option is taken, proceed as follows:
* Add to - (where the hyphen is the classmark for place) letters LY/V following D;
* Add to -8 local divisions of that place from Schedule 2
* For classmarks which cannot be constructed without clashing

see rule given in Class R Politics, p.101 (on Auxiliary Schedules R1 & R1A).

Local SSC practice is to assume human geography, and therefore to add only letters following DU

DY Ecology & environment (general & human), Environmental science
*Alternative (not recommended) to GX.

DY7 History
DY8 By place
DY9 E Global environmental change
DY9 J Historical environmental change
Add to DY9 J letters following DJ in DJO to DJP W

DYD Geographical factors

DYE Ecological science, ecological geography
* Alternative (not recommended) to locating in Class E
(some detail may be required here for synthesis)
* Add to DYE letters GO/GY following E
DYE * Add to DYE letters HB/HG following E
(Types of environments)
* Add to DYE letters HJ/HS following E; eg
DYE HK Aquatic environment
DYE HOL Land environment
DYE HSB Man-made environment
DYE HSC Urban
DYE HSQ Hedgerows

DYF Environmental hazards
DYF Add to DYF letters following THI in Class T
DYF FS Air pollution
DYF FT Water pollution
DYF GE Earthquakes
GF Volcanoes
GJ Weather
GK Wind
GL Hurricanes
GM Tornadoes
GR Rain, flood
GT Drought
HB Heat
HD Cold

DYH Human environment
DYH H Human impact
DYH HA Impact assessment
DYH HB Type of impact
*Add to DYH HB letters from whole classification, eg
DYH HBT MDC D Impact of industrialization
DYH HC Conservation

DYK Environmentalism
*As Class K
DYK AX Geographical aspects
*Add to DYK AX letters following D

DYR Environmental politics
* As Class R
DYR AXP Policy towards specific aspects of the environment, eg. DYR AXP SX

DYT Environmental economics
* As Class T

DYX Regional environmental science
* As DX