

INDEX

- Absolute contours, 170
 Absolute humidity, 37
 Absolute zero, 38, 66
 Acceleration, 83, 92
 Actuals, 192
 Adiabatic, 35, 57, 164
 dry, 36, 39, 57
 wet (saturated), 36, 40, 60
 Advection, 3, 7, 112, 164, 174
 Aerial perspective, 46
 Aerogram, 57
 Aerological (upper air) charts, 3, 56, 101
 Ageostrophic wind, 84, 86
 Air masses, general, 3, 42, 76, 98 *et seq.*
 arctic, 77, 80, 107
 continental, 54, 80
 equatorial, 53, 80
 maritime, 80, 105, 115
 polar, 24, 43, 51, 77, 80
 tropical, 24, 40, 53, 68, 80
 Altocumulus (Ac), 11, 17, 18
 Altostratus (As), 11, 16, 24
 Anticyclones, 26, 87, 98, 103, 145, 153
 movements of, 106, 156
 Anticyclonic curvature, 84, 116
 Arctic air (A), 77, 80, 107
 Arctic front, 80
 Area (*A*), 85
 Ascent of air, 6, 23, 30, 35, 40, 61, 169
 Atmospherics, 54

 Back-bent occlusion, 110, 112
 Balloons, 176
 Bar (pressure unit), 56, 173
 Bar. (abbr. for 'barometric' etc.), 106 *et seq.*
 Barometric tendency, 94, 112, 124, 156, 171
 Beaufort scale, 21
 Blocking action, 26
 Buys Ballot's law, 3

 Centrifugal or centripetal force, 28, 81, 83
 Charts, aerological or upper-air, 56, 101
 synoptic, 96 *et seq.*, 185
 Circulation (*C*), 7, 85
 general, 4

 Cirrocumulus (Cc), 11, 15
 Cirrostratus (Cs), 11, 14, 15, 24
 Cirrus (Ci), 10, 14, 15, 30, 154
 Clouds, in general, 2, 7, 8, 10, 36, 50, 71
 Cloud forms (high, low, altocumulus etc.),
 10 *et seq.*
 Cloudy weather, 6, 12, 80, 105
 Codes, 8 *et seq.*, 186
 Col, 27, 77, 110
 Cold front, 24, 26, 54, 116
 Cold occlusion, 25
 Condensation, 5, 36, 39, 40
 Conduction, 77
 Continental air (*C*), 54, 80
 Contours, 27, 81, 85, 90, 168
 Convection, 6, 41, 42, 44, 51, 57, 67, 77
 Convergence, 29, 65, 86, 88, 154
 Cumulonimbus (Cb), 13, 19, 20, 25, 34, 60,
 110, 150
 Cumulus (Cu), 6, 13, 19, 20, 25, 36, 41, 42,
 60, 110
 Curvature, 84, 125, 138, 155
 Cyclogenesis, 99, 126
 Cyclolysis, 99
 Cyclone, 5, 87, 98, 113, 114, 145
 Cyclonic curvature, 84, 86, 116, 125, 140
 Cyclostrophic wind, 84, 86, 155

Daily Aerological Record, 101
Daily Weather Report (D.W.R.), xiii, 10, 96,
 135, 192
 Deepening (of depressions), 112, 124, 160
 Density (ρ), 7, 29, 83, 85, 151
 Depressions, 5, 27, 65, 99, 108, 113, 134
 deepening and developments, 112, 118, 124
 movements, 110, 118, 123, 160
 Descent of air, 6, 30, 36, 40, 44, 169
 Desert, 38, 53, 192
 Dew point, 36, 49, 60
 Diagnosis, 1
 Diffusion, 49, 77
 Dimensions, 93
 Divergence, 29, 86, 88
 Doldrums, 52
 Drizzle, 9, 20, 23

INDEX

- Dry adiabatic, 36, 39, 57
Dry potential temperature (d.p.t.)=potential temperature

Elements of air or fluid, 2, 63
Elements of weather, 2
Entropy, 165
Equatorial air (E), 53, 80
Equatorial front, 80
Equivalent potential temperature (e.p.t.), 78
Equivalent temperature (e.t.), 78
Estimated time of arrival (e.t.a.), 118
Evaporation, 6, 38, 40, 61, 68

Fair weather, 6, 11, 13, 26, 32, 54, 80, 159
Fine weather, 6, 26, 31, 54, 80
Flow, in general, 7, 30
Flow lines (stream lines), 122
Fog, 2, 24, 48, 147
Force, centrifugal or centripetal, 28, 81, 83
 geostrophic, 27, 81, 92
 pressure gradient, 27, 81
Forecasting, practical, 182
 upper wind, 174
Fractocumulus (Fc), 13
Fractonimbus (Fn), 20
Fractostratus (Fs), 12, 20
Friction, 29, 77, 88, 124, 147
Frontogenesis, 116
Frontolysis, 116
Fronts, in general, 3, 23, 26, 89, 129 *et seq.*
 double, 144
 minor, 149
 symbols for, 97
Front, arctic, 80
 cold, 24, 26, 54, 116
 equatorial, 80
 occluded, 25
 polar, 4, 24, 77, 80, 154
 quasi-stationary, 26, 54, 159
 warm, 24, 26, 126, 134
Frost, 71
Furious Fifties, 4

Gales, 21, 162
General circulation, 4
Geopotential (Φ), 169
Geostrophic force, 27, 81, 83
Geostrophic wind, 28, 81, 137
Gradient, 85
 of land, (∇h), 85
 of pressure, (∇p), 27, 81
 of specific volume, ($\nabla \alpha$), 85
 of temperature, (∇T), 85
 wind, 28, 84, 138
Graphs, 185
Gravity factor (g), 36, 92
Grids: gridding, 85, 170

Hail, 13, 24
Haloes, 11, 15, 24
Haze, 6, 32, 45, 54, 106, 153
High clouds, 10, 14, 15
High-pressure regions, 6, 26, 27, 29, 77, 98, 105, 145
High-pressure, subtropical, 4, 52, 77, 154
Humidity, absolute, 37
 measurement, 39
 mixing ratio, 37
 relative, 35, 37, 47, 49
Hydrodynamics, 2, 7, 81 *et seq.*, 151, 157, 171
Hygroscopic particles, 46, 48

Inference, in general, 1, 100
Instability, 57, 61, 77, 116, 124
 convective, 64
 potential, 63
Inversion, 6, 32, 47, 124, 167
Irisation, 11, 17
Isallobars, 125
Isallobaric 'highs', 'lows' and gradient, 125, 156
Isentropes, isentropic and isobaric analysis, 164 *et seq.*
Isobars, 27, 81 *et seq.*
 drawing of, 101
Isosteres, 85, 170
Isothermal, 57
Isotherms, 85

Jet streams, 154, 157, 169
Joule, 36

Lapse, 64
Lapse rate, 36, 39, 42, 124, 164
Latent heat, 2, 36, 38
Latitude (ϕ), 82
Latitude factor (L or λ), 82
Length dimension (L), 93
Lenticular clouds, 17
'Local' changes, 2, 26
Low clouds, 12, 19, 20
Low-pressure regions, in general, 5, 27, 29, 98 *et seq.*

Map scale (m), 137
Map 'distortion factor' (e), 138

INDEX

- Maritime air (M), 80, 105, 115
Mars, 72
Mass dimension (M), 93
Mean, weighted, 41
Medium or middle clouds, 11, 16, 17
Meteorological Office, xiii, 54, 96, 138
Meteorological reconnaissance, 133, 177
Millibar (mb.), 56
Mistral, 127
Mixing, 40, 94
Moisture, in general, 2, 7, 8
Moisture content (m.c.), 35, 37, 56, 169
Monsoon, 167
Moon, 66

Nimbostratus (Ns), 11, 12, 16, 24
Normand curve, 63
Normand point, 60
Nuclei, 47

Observations, 6, 22 *et seq.*
Occluded front or occlusion, 25, 107
 back-bent, 110, 112
 cold, 25
 warm, 25
Oktas, 10
Opacity, 46
Overcast weather, 6, 12, 148

Point of occlusion, 106, 130
Polar air (P), 24, 26, 43, 51, 77, 115
 continental (P_c), 77, 80, 106, 146
 maritime (P_m), 77, 80, 109
Polar front, 4, 24, 77, 80, 154
Polar 'low' or depression, 113, 114, 160
Potential instability, 63
Potential temperature, 6, 36, 56, 164
 dry, 164
 equivalent, 78
 wet (-bulb), 40, 56, 164
Precipitation, 2, 7, 8, 12, 23, 150
 frontal, 23, 151
Pressure (p), 2, 7, 8, 27, 36, 56, 81, 151, 168
 col, 27, 77, 110
 falling, 29, 88, 125
 gradient (∇p), 27, 81
 high, 4, 6, 27, 98, 105, 154
 low, 5, 27, 98
 -pattern flying, 178
 ridge, 25, 27, 87, 98, 111, 126, 144, 155
 rising, 6, 24, 29, 88, 125, 145
 trough, 27, 87, 106, 155
Prognosis, 1

Quasi-stationary front, 26, 54, 159

Radar storm detection, 55
Radar wind finding, 177
Radiation, 50, 65, 77, 93
Radio atmospherics, 54
Radio sonde (balloon), 177
Radius of curvature (r), 83, 139
Rain: rainy weather, 2, 9, 12, 23, 33, 54, 80, 148, 159
Relative contours, 170
Relative humidity (r.h.), 35, 37, 47, 49
Relative vorticity (R), 85
Richardson Number, 124, 129
Ridge, 25, 27, 87, 98, 106, 111, 126, 144
Roaring Forties, 4
Rockets, 177

Saturated adiabatic = wet adiabatic
Saturation, 35, 37, 61
 moisture content (s.m.c.), 35, 56, 169
Scud, 20
Seasons, 72
Showers, 6, 9, 12, 25, 112
Showery weather, 11, 13, 34, 80
Shrieking Sixties, 4
Slope of frontal surface (s), 90
Snow, 2, 12, 23, 24, 77
Solenoids, 85
Specific volume (α), 85, 170
Specific volume gradient (∇α), 85
Stability, 49, 61, 124
Stations, 8
Stefan constant, 66
Stirring, 40, 49, 64, 77
Stock phrases, 186
Stratocumulus (Sc), 12, 19, 20, 147
Stratosphere, 153
Stratus (St), 12, 20, 24, 147
Stream function (ψ), 168
Subsidence, 6, 24, 25, 98, 110, 130, 145
Subtropical high pressure, 4, 52, 77, 154
Symbols on charts, 98
Synoptic charts, 3, 96 *et seq.*, 185
Synoptic hours, 96
Synoptic weather reporting system, 54, 100, 176

Temperature (T), 2, 7, 8, 21, 29, 56, 65, 74, 151, 160
 dimensions, 93
 equivalent, 78
 equivalent potential, 78

INDEX

- Temperature (*cont.*)
 gradient (∇T), 85
 inversion, 6, 47, 124
 potential, 6, 36, 56, 164
 upper air, 42, 56
 virtual, 151
 wet (-bulb), 38, 56, 64, 71
 wet (-bulb) potential, 40, 56, 164
Tendency, barometric, 94, 112, 124, 156, 171
Tephigram, 56 *et seq.*, 178
Thermal equator, 51
Thermal wind, 29, 170
Thermodynamics, 7, 35
Thickness lines, 170
Thunderstorm Census Organisation, 55
Thunderstorms, 13, 34, 51, 63
Thundery weather, 11, 54
Time dimension (T), 93
'Total' changes, 2, 164
Trade winds, 51
Tropical air, 5, 24, 40, 53, 68
 continental (T_c), 80
 maritime (T_m), 77, 80, 109
Tropopause, 153
Troposphere, 153
Trough, 27, 87, 106, 132
Turbulence, 40, 64, 124

Uncertainty.Principle, 116
Upper air temperatures (u.a.t.), 42, 56

Velocity (V), of air or fluid, 83
 frontal (V_f), 94, 125
 geostrophic (V_{fgs}), 94, 116, 125
 geostrophic (V_{gs}), 83, 136
 gradient (V_{gr}), 84, 136
Virga, 13
Virtual temperature, 151

Visibility (V), 2, 7, 8, 21, 35, 46, 151
Vorticity, 85

Warm front, 24, 26, 126, 134
Warm occlusion, 25
Warm sector, 24, 26, 116
Waves, 4, 24, 108, 118, 128, 155, 159
Weather abbreviations (Beaufort letters), 9
Weather analysis, in general, 6
 maps, *see* Charts
 observations, 6, 22 *et seq.*
 theory, in general, 6
 types, 3, 22 *et seq.*, 159
 type, cloudy, 6, 12, 80, 105
 fair, 6, 11, 13, 32, 54, 80, 159
 fine, 6, 31, 54, 80
 overcast, 6, 12, 148
 rainy, 12, 33, 54, 80, 159
 showery, 6, 11, 13, 34, 80
 stormy, 80
 thundery, 11, 54
Weighted mean, 41
Westerlies, 4, 107, 109, 115, 154
Wet adiabatic, 36, 40, 60
Wet (-bulb) potential temperature (w.p.t.), 40, 56, 164
Wet (-bulb) temperature, 38, 56, 64, 71
Wind, in general, 2, 7, 8, 27, 81
 ageostrophic, 84, 86
 cyclostrophic, 84, 86, 155
 direction, 21
 force (Beaufort scale), 21
 forecasting, 174
 geostrophic, 28, 82, 137
 gradient, 28, 84, 138
 scales, 136 *et seq.*
 shear, 91, 93
 thermal, 29
 trade, 51