

- V 1.00 First published version
- V 1.01 Erroneously exchanged stations 214 and 215 corrected in R version
- V 1.02 Duplicate stations in UA39_44 that had already been merged into radiosonde archive (station numbers 3286-4181) deleted.
- V 1.03 Error in hourUTC column in AE Monthly files corrected. Error in wind direction columns of station numbers 214 and 215 corrected. Information on station 3723 position change added to Station list V 1.03.xls.
- V 1.1 Information on quality checks added to Station list V 1.1.xls and Station list V 1.1.txt. Duplicate lines in the data deleted and new version of monthly means calculated. Some UA39_44 stations that have been merged into other radiosonde records deleted. Error in vertical interpolation of AE Monthly dataset corrected.
- V 1.11 C versions of station 1386 (Lindenberg) deleted. The station has been merged into station number 3739. R versions of 1386 will be kept.
- V 1.12 One missing station added in ASCII version of the station list.
- V 1.13 Monthly means recalculated (were calculated from single, equally weighted values for each ascent before, and are now calculated from equally weighted daily means).
- V 1.14 Wind data on geometrical altitude levels completely validated. The validation has been done with a t test on the significance ($\alpha=95\%$) of the deviation of the difference between measured and statistically reconstructed U and V winds (Griesser et al. 2009) from 0 at 3 km a.s.l.. Additionally, time series of the measurements, the reconstructions, their difference and ratio were visually checked whenever the ratio measurement/reconstruction was found to be < 0.52 , but > 0 , or > 1.9 for either the U or V wind, or whenever the ratios for U and V wind differed in their sign and > 0.5 in their value. Quality flags for the wind data on geometrical altitude levels ($>98\%$ of all wind records) have been reset. Wind data has been classified as
 - 1) unassessed whenever
 - a) the number of months with available monthly means at 3 km a.s.l. < 5 (≥ 20 days with measurements/month)
 - b) the station is located very close to 180° longitude ($\pm 2.5^\circ$) (due to a problem with interpolation in Ferret)
 This is the case for ca. 52% of all records.
 - 2) rejected whenever
 - a) the precision of the monthly means (1 sigma of the difference measurements-reconstructions) of either the U or the V wind is > 2.5 m/s
 - b) the absolute bias of the U or the V wind is > 1.5 m/s AND very significant ($\alpha=95\%$)
 This is the case for ca. 35% of all assessable records.
 - 3) suspicious and marked by
 - a) s (small) whenever the absolute bias of the U AND V wind is < 1.5 m/s, but at least one > 0.26 m/s AND significant ($\alpha=90\%$). Indeed, this means that the quality targets were met, but a relatively small significant bias was found.
 - b) S (capitalised) whenever neither the U nor the V wind has a very significant ($\alpha=95\%$) absolute bias > 1.5 m/s, but at least one has a significant ($\alpha=90\%$) absolute bias > 1.5 m/s. This classification appears very seldomly.
 This is the case for ca. 53% of all assessable records.

- 4) accepted whenever neither the U nor the V wind displays a significant bias ($s=90\%$) > 0.26 m/s AND the precision of the monthly means of the U and V wind is < 2.5 m/s
This is the case for ca. 12% of all assessable records.
- V 1.15 Erroneous Quality Flags for stations 4168-4181 changed from "U" to "A" in the station list.
 - V 1.16 Record 656 corrected (columns were shifted).
 - V 1.17 Station 88 deleted from C version. Stations 88, 89, 97, 105 and 118 reintroduced in the R version as independent RDCRM records. Only C versions of these records merged with radiosonde records (see station list). These monthly mean records had erroneously not been merged with the radiosonde records although indicated in the radiosonde station list.
 - V 1.18 Suspicious upper levels in MWR_1922 data flagged.
 - V 1.19 Format for geometric altitude level data harmonised by inserting hourUTCflag column into all files.
 - V 1.20 Record 3285 corrected (V 1.00-1.03 were correct, V 1.1-1.19 erroneous).
 - V 1.21 Format of monthly means version on pressure levels unified.
 - V 1.3 Additional German data for the years 1936-38 added.
 - V 1.4 German wartime data from 1942 added (Helgoland and Norway). Monthly mean files originating from the „German“ dataset corrected. Additional Swedish and Finnish data added.
 - V 1.5 Some pre-1944 radiosonde data added to record 3375 (Pune, India). New Indian/Pakistani aircraft records added for the period 1939-41 (4190-4198).
 - V 1.6 Further wind records from AE (station numbers 133-639) and TD52/53 (station numbers 776-3285) datasets merged. Merging was only done if a) the records were from the same station (identical WBAN # or WMO ID) and b) the quality status of either record before merging was A, s, C or U. All newly merged series where one of the merging partners had the quality flag U (unassessed) before merging were validated again for the C version of the data. The respective monthly means have been recalculated. Error in record 0431 corrected.
 - V 1.61 Record 1375 corrected.
 - V 1.7 Diurnal cycle adjustment applied to German data (records 1372-1385) and new Indian data (records 4190-4198). Radiation and lag correction applied to the respective radiosonde data. Monthly means recalculated appropriately. German, new Indian, as well as new Swedish data (records 4182-4187) on pressure levels validated and corrected (new C versions). Record 1465 (had been erroneously deleted in V1.6 and V1.61) reintroduced. Missing/wrong date or time values added/corrected in records 60, 133, 135, 136, 137, 139, 141, 146, 147, 148, 150, 156, 161, 167, 171, 172, 177, 178, 180, 181, 182, 184, 186, 188, 189, 190, 191, 210, 214, 215, 216, 222, 224, 228, 239, 247, 249, 253, 266, 271, 274, 278, 286, 295, 300, 302, 303, 312, 313, 314, 315, 316, 317, 318, 322, 326, 327, 328, 330, 339, 342, 344, 348, 350, 351, 352, 353, 354, 356, 358, 360, 366, 369, 370, 372, 377, 382, 386, 394, 398, 409, 411, 421, 424, 449, 451, 453, 455, 458, 459, 460, 467, 469, 472, 482, 485, 486, 489, 495, 500, 503, 507, 510, 511, 515, 517, 521, 526, 527, 538, 544, 549, 553, 557, 564, 565, 569, 571, 572, 586, 587, 596, 598, 608, 620, 627, 628, 635, 636, 637, 643, 652, 662, 664, 666, 671, 675, 795, 796, 801, 808, 1372a, 1372b, 1373a, 1373b, 1382a, 1393, 3314, 3353, 3723, 3848, 3943, 3973, 3981, 3984, 4086, 4173, 4174, 4175, CDC version of 3680, CDCA/CDCR versions of 3412, CDC/CDCA/CDCR/CDCRA versions of 3454, 3520, 3610, 3618, 3764, 3985, 4073, 4080. Records 147/148, 180/181, 190/191, 269-277, 353/354, 485/486, 509/510, 511/512, 526/527, 552/553 and 586/587 corrected

(data for different periods of merging was erroneously mixed up or records exchanged). Additional data added to record 424 and 526 (data in original source file from AE Monthly was not conform with formatting rules). Quality flag for 147 set to s, for 148 set to R. End-of-file corrected in record 3146b. Records 1198CDC and 3286CDC replaced by earlier correct versions. Shifted columns corrected in single ascent records 243, 270, 431, 675, 787, 795, 796, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809 and 815. Respective monthly means recalculated. Wrong columns deleted in monthly mean files 681-702. Observations in record 3275 below station elevation flagged as implausible. Higher observations in the same ascents flagged as doubtful. Respective monthly means also flagged as implausible/doubtful. Records 3710 and 3711 reassessed in detail. 3710 quality flag degraded from "accepted" (A) to "very suspicious" (S) (probable pressure offset). 3711 quality flag changed to "accepted" (A). Quality flag of record 511 changed to "suspicious" (s) and of record 276 changed to "very suspicious" (S) (possible break of time series between AE Monthly and TD52/53 data). Records 21, 34, 49, 73, 1387, 1388 and 1390 deleted from C version (these were erroneously still contained in the C version although they had already been deleted in the R version due to merging with other records). Monthly means format of records 1-132 and 1389-1399 (UA39_44, both only S version) and 678-721 changed to the respective format used for all other records on pressure/altitude levels (records still contained day and hourUTC columns, but no altitude level 200 m asl in case of altitude level data). Monthly means of records 135, 137, 139, 141, 146, 150, 156, 164, 167, 170, 174, 175, 176, 177, 181, 184, 185, 188, 189, 190, 191, 192, 197, 203, 204, 208, 214, 215, 216, 217, 220, 222, 224, 228, 234, 250, 252, 253, 254, 262, 266, 271, 272, 273, 277, 278, 280, 281, 284, 286, 298, 300, 302, 304, 305, 311, 312, 313, 314, 317, 320, 321, 322, 325, 326, 328, 327, 330, 339, 342, 343, 346, 347, 350, 352, 353, 354, 356, 358, 359, 368, 369, 370, 371, 372, 375, 379, 380, 381, 385, 386, 391, 392, 394, 398, 399, 404, 408, 409, 417, 419, 424, 425, 426, 428, 429, 439, 441, 443, 444, 448, 449, 450, 453, 455, 458, 459, 460, 461, 462, 463, 464, 466, 472, 482, 483, 484, 485, 488, 489, 491, 494, 495, 496, 497, 499, 500, 503, 504, 506, 507, 509, 510, 515, 517, 519, 520, 521, 526, 530, 536, 544, 549, 552, 553, 555, 557, 562, 564, 565, 566, 568, 569, 570, 572, 573, 574, 578, 579, 580, 581, 583, 584, 586, 589, 590, 593, 596, 608, 620, 621, 627, 628, 629, 635, 636, 638, 1149, 1351, 1374, 1375, 1376, 1381, 1385, 2366, 2410, 2571, 3017, 3049, 3091, 3145, 3147, 3174, 3216 and 3250 recalculated (errors in earlier versions due to non-chronological time stamps in single ascent files). The respective single ascent files have been put into chronological order. Errors in monthly means of records 148, 3300, 3454, 3500, 3520, 3608, 3610, 3618, 3639, 3653, 3657, 3684, 3692, 3764, 3933, 3950, 3973, 4073, 4114 and 4156 corrected. Errors in single ascents and monthly means of records 133, 140, 199, 205, 230, 237, 246, 283, 287, 292, 293, 294, 299, 306, 324, 331, 359, 360, 362, 363, 385, 387, 401, 431, 436, 444, 445, 454, 467, 493, 501, 514, 518, 529, 533, 535, 542, 548, 551, 563, 574, 575, 600, 605, 612, 621, 631, 634, 641, 643, 644, 646, 648, 650, 651, 652, 653, 655, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 669, 670, 671, 672, 673, 674, 677, 1173, 1372b, 1381b, 1574, 2503, 2580, 3287, 3288, 3289, 3290, 3296, 3353, 3402, 3403, 3412, 3413, 3435, 3472, 3503, 3511, 3550, 3587, 3639, 3680, 3681, 3701, 3707, 3708, 3718, 3723, 3757, 3767, 3902, 3970 and 4174 corrected or single values flagged as suspicious/implausible. Number of pressure levels in records from UA39_44 (1-132, 1389-1399, 4182-4187), MWR (722-775),

Lindenberg (1386), and all TD52/53 and German records on pressure levels adapted to format with additional pressure levels (70, 30, 20, 10 hPa) used for all other pressure level records.