

Description of radar data on CHMI server opendata.chmi.cz

Revision history:

5.6.2024 – version 1.0 – the first release

10.6.2024 – version 1.1 – English version added, minor fixes

The opendata.chmi.cz server provides data from individual weather radars operated by the Czech Hydrometeorological Institute (CHMI) and radar composite products in the universal HDF5 format with metadata stored according to the ODIM HDF5 specification (EUMETNET OPERA Data Information Model).

From the individual radars (Brdy-Praha radar and Skalky radar) the primary measured 3D Volumetric data (3D data localized in spherical coordinates distance, azimuth, elevation) of the following quantities are provided:

- corrected reflectivity Z
- uncorrected reflectivity U
- radial velocity V
- spectral width W
- differential reflectivity ZDR
- correlation coefficient RHOHV
- differential phase PHIDP

Georeferenced 2D grid fields of the following radar products are provided for the entire Czech Republic and the surrounding area:

- maximum radar reflectivity MAX_Z
- reflectivity at a constant altitude of 2km above mean sea level PseudoCAPPI_2km (operationally used product for estimating the intensity of precipitation on the Earth's surface)
- merged 1h precipitation estimates from radar and rain gauges MERGE
- radar echo top height (maximum height of 4dBZ and higher reflectivity) Echo_Top

1 Volumetric data of the corrected reflectivity Z from the CHMI radar Brdy-Praha

Description: Three-dimensional volumetric data of the corrected reflectivity Z (also referred to as Zh or DBZH) obtained from measurements of the horizontally polarized microwave channel of the CHMI radar Brdy-Praha. The corrected reflectivity contains radar echoes after elimination of non-meteorological echoes in the signal processing. Three-dimensional volumetric data are stored in spherical coordinates as it corresponds to the performed volume measurement (distance, azimuth, elevation). Measurements are performed in a time step of 5 minutes.

Location: http://opendata.chmi.cz/meteorology/weather/radar/sites/brd/vol_z/hdf5/

File name: T_PAGZ60_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time of the lowest measured elevation (end time of the measurement) in UTC

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.0 specification: https://www.eumetnet.eu/wp-content/uploads/2019/05/OPERA-ODIM_H5-v2.01.pdf

Data specification:

- spatial representation: 3D grid
- origin: CHMI radar Brdy-Praha
- radar position coordinates: E 13,8178°; N 49,6583°
- height of radar antenna: 916 m
- geographical boundary:
 - circle at a distance of 260 km from the radar position
 - approximately: E 10,2° – 17,4°; N 47,3° – 52,0°
- resolution:
 - radial resolution 400 m for elevations 0,1°-6,3°; 200 m for elevations 8,7°-21,6°
 - azimuthal resolution: 1°
 - elevation resolution: variable - measured elevation angles: 0,1°; 0,5°; 0,9°; 1,3°; 1,7°; 2,2°; 3,2°; 4,5°; 6,3°; 8,7°; 13,7°; 21,6°

2 Volumetric data of the uncorrected reflectivity U from the CHMI radar Brdy-Praha

Description: Three-dimensional volumetric data of uncorrected reflectivity U (also referred to as U_h or TH) obtained from measurements of the horizontally polarized microwave channel of the CHMI radar Brdy-Praha. The uncorrected reflectivity includes all radar echoes above the noise level, without elimination of non-meteorological echoes in the signal processing. Three-dimensional volumetric data are stored in spherical coordinates as it corresponds to the performed volume measurement (distance, azimuth, elevation). Measurements are performed in a time step of 5 minutes.

Location: http://opendata.chmi.cz/meteorology/weather/radar/sites/brd/vol_u/hdf5/

File name: T_PAJZ60_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time of the lowest measured elevation (end time of the measurement) in UTC

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.0 specification: https://www.eumetnet.eu/wp-content/uploads/2019/05/OPERA-ODIM_H5-v2.01.pdf

Data specification:

- spatial representation: 3D grid
- origin: CHMI radar Brdy-Praha
- radar position coordinates: E 13,8178°; N 49,6583°
- height of radar antenna: 916 m
- geographical boundary:
 - circle at a distance of 260 km from the radar position
 - approximately: E 10,2° – 17,4°; N 47,3° – 52,0°
- resolution:
 - radial resolution 400 m for elevations 0,1°-6,3°; 200 m for elevations 8,7°-21,6°
 - azimuthal resolution: 1°
 - elevation resolution: variable - measured elevation angles: 0,1°; 0,5°; 0,9°; 1,3°; 1,7°; 2,2°; 3,2°; 4,5°; 6,3°; 8,7°; 13,7°; 21,6°

3 Volumetric data of the radial velocity V from the CHMI radar Brdy-Praha

Description: Three-dimensional volumetric data of the radial velocity V (also referred to as VRAD or VRADH) from the CHMI radar Brdy-Praha. Three-dimensional volumetric data are stored in spherical coordinates as it corresponds to the performed volume measurement (distance, azimuth, elevation). Measurements are performed in a time step of 5 minutes.

Location: http://opendata.chmi.cz/meteorology/weather/radar/sites/brd/vol_v/hdf5/

File name: T_PAHZ60_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time of the lowest measured elevation (end time of the measurement) in UTC

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.0 specification: https://www.eumetnet.eu/wp-content/uploads/2019/05/OPERA-ODIM_H5-v2.01.pdf

Data specification:

- spatial representation: 3D grid
- origin: CHMI radar Brdy-Praha
- radar position coordinates: E 13,8178°; N 49,6583°
- height of radar antenna: 916 m
- geographical boundary:
 - circle at a distance of 260 km from the radar position
 - approximately: E 10,2° – 17,4°; N 47,3° – 52,0°
- resolution:
 - radial resolution 400 m for elevations 0,1°-6,3°; 200 m for elevations 8,7°-21,6°
 - azimuthal resolution: 1°
 - elevation resolution: variable - measured elevation angles: 0,1°; 0,5°; 0,9°; 1,3°; 1,7°; 2,2°; 3,2°; 4,5°; 6,3°; 8,7°; 13,7°; 21,6°

4 Volumetric data of the spectral width W from the CHMI radar Brdy-Praha

Description: Three-dimensional volumetric data of the spectral width W (spectral width also referred to as WRAD or WRADH) from the CHMI radar Brdy-Praha. Three-dimensional volumetric data are stored in spherical coordinates as it corresponds to the performed volume measurement (distance, azimuth, elevation). Measurements are performed in a time step of 5 minutes.

Location: http://opendata.chmi.cz/meteorology/weather/radar/sites/brd/vol_w/hdf5/

File name: T_PAIZ60_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time of the lowest measured elevation (end time of the measurement) in UTC

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.0 specification: https://www.eumetnet.eu/wp-content/uploads/2019/05/OPERA-ODIM_H5-v2.01.pdf

Data specification:

- spatial representation: 3D grid
- origin: CHMI radar Brdy-Praha
- radar position coordinates: E 13,8178°; N 49,6583°
- height of radar antenna: 916 m
- geographical boundary:
 - circle at a distance of 260 km from the radar position
 - approximately: E 10,2° – 17,4°; N 47,3° – 52,0°
- resolution:
 - radial resolution 400 m for elevations 0,1°-6,3°; 200 m for elevations 8,7°-21,6°
 - azimuthal resolution: 1°
 - elevation resolution: variable - measured elevation angles: 0,1°; 0,5°; 0,9°; 1,3°; 1,7°; 2,2°; 3,2°; 4,5°; 6,3°; 8,7°; 13,7°; 21,6°

5 Volumetric data of the differential reflectivity ZDR from the CHMI radar Brdy-Praha

Description: Three-dimensional volumetric data of the differential reflectivity ZDR from the CHMI radar Brdy-Praha. Three-dimensional volumetric data are stored in spherical coordinates as it corresponds to the performed volume measurement (distance, azimuth, elevation). Measurements are performed in a time step of 5 minutes.

Location: http://opendata.chmi.cz/meteorology/weather/radar/sites/brd/vol_zdr/hdf5/

File name: T_PAKZ60_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time of the lowest measured elevation (end time of the measurement) in UTC

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.0 specification: https://www.eumetnet.eu/wp-content/uploads/2019/05/OPERA-ODIM_H5-v2.01.pdf

Data specification:

- spatial representation: 3D grid
- origin: CHMI radar Brdy-Praha
- radar position coordinates: E 13,8178°; N 49,6583°
- height of radar antenna: 916 m
- geographical boundary:
 - circle at a distance of 260 km from the radar position
 - approximately: E 10,2° – 17,4°; N 47,3° – 52,0°
- resolution:
 - radial resolution 400 m for elevations 0,1°-6,3°; 200 m for elevations 8,7°-21,6°
 - azimuthal resolution: 1°
 - elevation resolution: variable - measured elevation angles: 0,1°; 0,5°; 0,9°; 1,3°; 1,7°; 2,2°; 3,2°; 4,5°; 6,3°; 8,7°; 13,7°; 21,6°

6 Volumetric data of the correlation coefficient RHOHV from the CHMI radar Brdy-Praha

Description: Three-dimensional volumetric data of the correlation coefficient RHOHV from the CHMI radar Brdy-Praha. Three-dimensional volumetric data are stored in spherical coordinates as it corresponds to the performed volume measurement (distance, azimuth, elevation). Measurements are performed in a time step of 5 minutes.

Location: http://opendata.chmi.cz/meteorology/weather/radar/sites/brd/vol_rhohv/hdf5/

File name: T_PALZ60_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time of the lowest measured elevation (end time of the measurement) in UTC

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.0 specification: https://www.eumetnet.eu/wp-content/uploads/2019/05/OPERA-ODIM_H5-v2.01.pdf

Data specification:

- spatial representation: 3D grid
- origin: CHMI radar Brdy-Praha
- radar position coordinates: E 13,8178°; N 49,6583°
- height of radar antenna: 916 m
- geographical boundary:
 - circle at a distance of 260 km from the radar position
 - approximately: E 10,2° – 17,4°; N 47,3° – 52,0°
- resolution:
 - radial resolution 400 m for elevations 0,1°-6,3°; 200 m for elevations 8,7°-21,6°
 - azimuthal resolution: 1°
 - elevation resolution: variable - measured elevation angles: 0,1°; 0,5°; 0,9°; 1,3°; 1,7°; 2,2°; 3,2°; 4,5°; 6,3°; 8,7°; 13,7°; 21,6°

7 Volumetric data of the differential phase PHIDP from the CHMI radar Brdy-Praha

Description: Three-dimensional volumetric data of the differential phase PHIDP from the CHMI radar Brdy-Praha. Three-dimensional volumetric data are stored in spherical coordinates as it corresponds to the performed volume measurement (distance, azimuth, elevation). Measurements are performed in a time step of 5 minutes.

Location: http://opendata.chmi.cz/meteorology/weather/radar/sites/brd/vol_phidp/hdf5/

File name: T_PAQZ60_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time of the lowest measured elevation (end time of the measurement) in UTC

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.0 specification: https://www.eumetnet.eu/wp-content/uploads/2019/05/OPERA-ODIM_H5-v2.01.pdf

Data specification:

- spatial representation: 3D grid
- origin: CHMI radar Brdy-Praha
- radar position coordinates: E 13,8178°; N 49,6583°
- height of radar antenna: 916 m
- geographical boundary:
 - circle at a distance of 260 km from the radar position
 - approximately: E 10,2° – 17,4°; N 47,3° – 52,0°
- resolution:
 - radial resolution 400 m for elevations 0,1°-6,3°; 200 m for elevations 8,7°-21,6°
 - azimuthal resolution: 1°
 - elevation resolution: variable - measured elevation angles: 0,1°; 0,5°; 0,9°; 1,3°; 1,7°; 2,2°; 3,2°; 4,5°; 6,3°; 8,7°; 13,7°; 21,6°

8 Volumetric data of the corrected reflectivity Z from the CHMI radar Skalky

Description: Three-dimensional volumetric data of the corrected reflectivity Z (also referred to as Zh or DBZH) obtained from measurements of the horizontally polarized microwave channel of the CHMI radar Skalky. The corrected reflectivity contains radar echoes after elimination of non-meteorological echoes in the signal processing. Three-dimensional volumetric data are stored in spherical coordinates as it corresponds to the performed volume measurement (distance, azimuth, elevation). Measurements are performed in a time step of 5 minutes.

Location: http://opendata.chmi.cz/meteorology/weather/radar/sites/ska/vol_z/hdf5/

File name: T_PAGZ50_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time of the lowest measured elevation (end time of the measurement) in UTC

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.0 specification: https://www.eumetnet.eu/wp-content/uploads/2019/05/OPERA-ODIM_H5-v2.01.pdf

Data specification:

- spatial representation: 3D grid
- origin: CHMI radar Skalky
- radar position coordinates: E 16,7885°; N 49,5011°
- height of radar antenna: 767 m
- geographical boundary:
 - circle at a distance of 260 km from the radar position
 - approximately: E 13,2° – 20,3°; N 47,2° – 51,8°
- resolution:
 - radial resolution 400 m for elevations 0,1°-6,3°; 200 m for elevations 8,7°-21,6°
 - azimuthal resolution: 1°
 - elevation resolution: variable - measured elevation angles: 0,1°; 0,5°; 0,9°; 1,3°; 1,7°; 2,2°; 3,2°; 4,5°; 6,3°; 8,7°; 13,7°; 21,6°

9 Volumetric data of the uncorrected reflectivity U from the CHMI radar Skalky

Description: Three-dimensional volumetric data of uncorrected reflectivity U (also referred to as U_h or TH) obtained from measurements of the horizontally polarized microwave channel of the CHMI radar Skalky. The uncorrected reflectivity includes all radar echoes above the noise level, without elimination of non-meteorological echoes in the signal processing. Three-dimensional volumetric data are stored in spherical coordinates as it corresponds to the performed volume measurement (distance, azimuth, elevation). Measurements are performed in a time step of 5 minutes.

Location: http://opendata.chmi.cz/meteorology/weather/radar/sites/ska/vol_u/hdf5/

File name: T_PAJZ50_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time of the lowest measured elevation (end time of the measurement) in UTC

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.0 specification: https://www.eumetnet.eu/wp-content/uploads/2019/05/OPERA-ODIM_H5-v2.01.pdf

Data specification:

- spatial representation: 3D grid
- origin: CHMI radar Skalky
- radar position coordinates: E 16,7885°; N 49,5011°
- height of radar antenna: 767 m
- geographical boundary:
 - circle at a distance of 260 km from the radar position
 - approximately: E 13,2° – 20,3°; N 47,2° – 51,8°
- resolution:
 - radial resolution 400 m for elevations 0,1°-6,3°; 200 m for elevations 8,7°-21,6°
 - azimuthal resolution: 1°
 - elevation resolution: variable - measured elevation angles: 0,1°; 0,5°; 0,9°; 1,3°; 1,7°; 2,2°; 3,2°; 4,5°; 6,3°; 8,7°; 13,7°; 21,6°

10 Volumetric data of the radial velocity V from the CHMI radar Skalky

Description: Three-dimensional volumetric data of the radial velocity V (also referred to as VRAD or VRADH) from the CHMI radar Skalky. Three-dimensional volumetric data are stored in spherical coordinates as it corresponds to the performed volume measurement (distance, azimuth, elevation). Measurements are performed in a time step of 5 minutes.

Location: http://opendata.chmi.cz/meteorology/weather/radar/sites/ska/vol_v/hdf5/

File name: T_PAHZ50_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time of the lowest measured elevation (end time of the measurement) in UTC

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.0 specification: https://www.eumetnet.eu/wp-content/uploads/2019/05/OPERA-ODIM_H5-v2.01.pdf

Data specification:

- spatial representation: 3D grid
- origin: CHMI radar Skalky
- radar position coordinates: E 16,7885°; N 49,5011°
- height of radar antenna: 767 m
- geographical boundary:
 - circle at a distance of 260 km from the radar position
 - approximately: E 13,2° – 20,3°; N 47,2° – 51,8°
- resolution:
 - radial resolution 400 m for elevations 0,1°-6,3°; 200 m for elevations 8,7°-21,6°
 - azimuthal resolution: 1°
 - elevation resolution: variable - measured elevation angles: 0,1°; 0,5°; 0,9°; 1,3°; 1,7°; 2,2°; 3,2°; 4,5°; 6,3°; 8,7°; 13,7°; 21,6°

11 Volumetric data of the spectral width W from the CHMI radar Skalky

Description: Three-dimensional volumetric data of the spectral width W (spectral width also referred to as WRAD or WRADH) from the CHMI radar Skalky. Three-dimensional volumetric data are stored in spherical coordinates as it corresponds to the performed volume measurement (distance, azimuth, elevation). Measurements are performed in a time step of 5 minutes.

Location: http://opendata.chmi.cz/meteorology/weather/radar/sites/ska/vol_w/hdf5/

File name: T_PAIZ50_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time of the lowest measured elevation (end time of the measurement) in UTC

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.0 specification: https://www.eumetnet.eu/wp-content/uploads/2019/05/OPERA-ODIM_H5-v2.01.pdf

Data specification:

- spatial representation: 3D grid
- origin: CHMI radar Skalky
- radar position coordinates: E 16,7885°; N 49,5011°
- height of radar antenna: 767 m
- geographical boundary:
 - circle at a distance of 260 km from the radar position
 - approximately: E 13,2° – 20,3°; N 47,2° – 51,8°
- resolution:
 - radial resolution 400 m for elevations 0,1°-6,3°; 200 m for elevations 8,7°-21,6°
 - azimuthal resolution: 1°
 - elevation resolution: variable - measured elevation angles: 0,1°; 0,5°; 0,9°; 1,3°; 1,7°; 2,2°; 3,2°; 4,5°; 6,3°; 8,7°; 13,7°; 21,6°

12 Volumetric data of the differential reflectivity ZDR from the CHMI radar Skalky

Description: Three-dimensional volumetric data of the differential reflectivity ZDR from the CHMI radar Skalky. Three-dimensional volumetric data are stored in spherical coordinates as it corresponds to the performed volume measurement (distance, azimuth, elevation). Measurements are performed in a time step of 5 minutes.

Location: http://opendata.chmi.cz/meteorology/weather/radar/sites/ska/vol_zdr/hdf5/

File name: T_PAKZ50_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time of the lowest measured elevation (end time of the measurement) in UTC

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.0 specification: https://www.eumetnet.eu/wp-content/uploads/2019/05/OPERA-ODIM_H5-v2.01.pdf

Data specification:

- spatial representation: 3D grid
- origin: CHMI radar Skalky
- radar position coordinates: E 16,7885°; N 49,5011°
- height of radar antenna: 767 m
- geographical boundary:
 - circle at a distance of 260 km from the radar position
 - approximately: E 13,2° – 20,3°; N 47,2° – 51,8°
- resolution:
 - radial resolution 400 m for elevations 0,1°-6,3°; 200 m for elevations 8,7°-21,6°
 - azimuthal resolution: 1°
 - elevation resolution: variable - measured elevation angles: 0,1°; 0,5°; 0,9°; 1,3°; 1,7°; 2,2°; 3,2°; 4,5°; 6,3°; 8,7°; 13,7°; 21,6°

13 Volumetric data of the correlation coefficient RHOHV from the CHMI radar Skalky

Description: Three-dimensional volumetric data of the correlation coefficient RHOHV from the CHMI radar Skalky. Three-dimensional volumetric data are stored in spherical coordinates as it corresponds to the performed volume measurement (distance, azimuth, elevation). Measurements are performed in a time step of 5 minutes.

Location: http://opendata.chmi.cz/meteorology/weather/radar/sites/ska/vol_rhohv/hdf5/

File name: T_PALZ50_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time of the lowest measured elevation (end time of the measurement) in UTC

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.0 specification: https://www.eumetnet.eu/wp-content/uploads/2019/05/OPERA-ODIM_H5-v2.01.pdf

Data specification:

- spatial representation: 3D grid
- origin: CHMI radar Skalky
- radar position coordinates: E 16,7885°; N 49,5011°
- height of radar antenna: 767 m
- geographical boundary:
 - circle at a distance of 260 km from the radar position
 - approximately: E 13,2° – 20,3°; N 47,2° – 51,8°
- resolution:
 - radial resolution 400 m for elevations 0,1°-6,3°; 200 m for elevations 8,7°-21,6°
 - azimuthal resolution: 1°
 - elevation resolution: variable - measured elevation angles: 0,1°; 0,5°; 0,9°; 1,3°; 1,7°; 2,2°; 3,2°; 4,5°; 6,3°; 8,7°; 13,7°; 21,6°

14 Volumetric data of the differential phase PHIDP from the CHMI radar Skalky

Description: Three-dimensional volumetric data of the differential phase PHIDP from the CHMI radar Skalky. Three-dimensional volumetric data are stored in spherical coordinates as it corresponds to the performed volume measurement (distance, azimuth, elevation). Measurements are performed in a time step of 5 minutes.

Location: http://opendata.chmi.cz/meteorology/weather/radar/sites/ska/vol_phidp/hdf5/

File name: T_PAQZ50_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time of the lowest measured elevation (end time of the measurement) in UTC

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.0 specification: https://www.eumetnet.eu/wp-content/uploads/2019/05/OPERA-ODIM_H5-v2.01.pdf

Data specification:

- spatial representation: 3D grid
- origin: CHMI radar Skalky
- radar position coordinates: E 16,7885°; N 49,5011°
- height of radar antenna: 767 m
- geographical boundary:
 - circle at a distance of 260 km from the radar position
 - approximately: E 13,2° – 20,3°; N 47,2° – 51,8°
- resolution:
 - radial resolution 400 m for elevations 0,1°-6,3°; 200 m for elevations 8,7°-21,6°
 - azimuthal resolution: 1°
 - elevation resolution: variable - measured elevation angles: 0,1°; 0,5°; 0,9°; 1,3°; 1,7°; 2,2°; 3,2°; 4,5°; 6,3°; 8,7°; 13,7°; 21,6°

15 Composite product of the maximum radar reflectivity MAX_Z over the Czech Republic territory

Description: Two-dimensional composite product of the maximum radar reflectivity MAX_Z over the Czech Republic territory. Composite product from the CHMI radars Brdy-Praha and Skalky (in case of service outages or malfunction of radars, data from foreign radars are added to the composite). Maximum radar reflectivity at each grid point indicates the maximum reflectivity measured in the vertical column above the grid point. The two-dimensional information is stored in a georeferenced grid with a spatial resolution of 1x1km in a projection compatible with the OpenStreetMaps/GoogleMaps/Mapy.cz (EPSG:3857). The composite is created in a time step of 5 minutes.

Location: <http://opendata.chmi.cz/meteorology/weather/radar/composite/maxz/hdf5/>

File name: T_PABV23_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time in UTC (the time represents the end of the 5-minute interval from which the measured data are selected for radar composite)

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.4: https://www.eumetnet.eu/wp-content/uploads/2021/07/ODIM_H5_v2.4.pdf

Data specification:

- spatial representation: 2D grid
- origin: CZRAD radar network consisting of the radars of the ČHMÚ Brdy-Praha and Skalky
- geographical projection: Mercator projection compatible with web map documents OpenStreetMaps/GoogleMaps/Mapy.cz (EPSG:3857)
- geographical boundary: E 11,267° – 19,624° ; N 48,047° – 51,458°
- spatial resolution: 1x1km

16 Composite product of the radar reflectivity at the 2km constant altitude PseudoCAPPI_2km over the Czech Republic territory

Description: Two-dimensional composite product of the radar reflectivity at the 2km constant altitude above mean sea level PseudoCAPPI_2km over the Czech Republic territory. It is a product that, after conversion using the Marshall-Palmer Z-R relation, is operationally used for radar estimation of precipitation intensity on the Earth's surface. Composite product from the CHMI radars Brdy-Praha and Skalky (in case of service outages or malfunction of radars, data from foreign radars are added to the composite). The two-dimensional information is stored in a georeferenced grid with a spatial resolution of 1x1km in a projection compatible with the OpenStreetMaps/GoogleMaps/Mapy.cz (EPSG:3857). The composite is created in a time step of 5 minutes.

Location: <http://opendata.chmi.cz/meteorology/weather/radar/composite/pseudocappi2km/hdf5/>

File name: T_PANV23_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time in UTC (the time represents the end of the 5-minute interval from which the measured data are selected for radar composite)

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.4: https://www.eumetnet.eu/wp-content/uploads/2021/07/ODIM_H5_v2.4.pdf

Data specification:

- spatial representation: 2D grid
- origin: CZRAD radar network consisting of the radars of the ČHMÚ Brdy-Praha and Skalky
- geographical projection: Mercator projection compatible with web map documents OpenStreetMaps/GoogleMaps/Mapy.cz (EPSG:3857)
- geographical boundary: E 11,267° – 19,624° ; N 48,047° – 51,458°
- spatial resolution: 1x1km

17 Merged 1h precipitation estimates from radar and rain gauges MERGE over the Czech Republic territory

Description: Two-dimensional product of merged 1h precipitation estimate from radar and rain gauges MERGE over the Czech Republic territory. Spatial estimate of 1h precipitation sum calculated by combining radar precipitation estimates from the CHMI radars Brdy-Praha and Skalky and information from rain gauges of CHMI and partner organizations. Calculation is based on geostatistical method kriging with external drift. The two-dimensional information is stored in a georeferenced grid with a spatial resolution of 1x1km in a projection compatible with the OpenStreetMaps/GoogleMaps/Mapy.cz (EPSG:3857). The product is created in a time step of 10 minutes.

Location: <http://opendata.chmi.cz/meteorology/weather/radar/composite/merge1h/hdf5/>

File name: T_PASV23_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time in UTC (the time represents the end of the 5-minute interval from which the measured data are selected for radar composite)

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.4: https://www.eumetnet.eu/wp-content/uploads/2021/07/ODIM_H5_v2.4.pdf

Data specification:

- spatial representation: 2D grid
- origin: CZRAD radar network consisting of the radars of the ČHMÚ Brdy-Praha and Skalky
- geographical projection: Mercator projection compatible with web map documents OpenStreetMaps/GoogleMaps/Mapy.cz (EPSG:3857)
- geographical boundary: E 11,267° – 19,624° ; N 48,047° – 51,458°
- spatial resolution: 1x1km

18 Composite product of the echo top heights ECHO_TOP for the Czech Republic territory

Description: Two-dimensional composite product of the echo top heights ECHO_TOP for the Czech Republic territory. Composite product from the CHMI radars Brdy-Praha and Skalky (in case of service outages or malfunction of radars, data from foreign radars are added to the composite). The ECHO_TOP product at each grid point indicates the maximum height at which radar reflectivity of at least 4dBZ has been recorded. The two-dimensional information is stored in a georeferenced grid with a spatial resolution of 1x1km in a projection compatible with the OpenStreetMaps/GoogleMaps/Mapy.cz (EPSG:3857). The composite is created in a time step of 5 minutes.

Location: <http://opendata.chmi.cz/meteorology/weather/radar/composite/echotop/hdf5/>

File name: T_PADV23_C_OKPR_YYYYMMDDhhmmss.hdf , where

YYYYMMDDhhmmss is the date and time in UTC (the time represents the end of the 5-minute interval from which the measured data are selected for radar composite)

Data format:

- HDF5 universal data format: <https://www.hdfgroup.org/solutions/hdf5>
- data and metadata stored according to ODIM HDF5 v2.4: https://www.eumetnet.eu/wp-content/uploads/2021/07/ODIM_H5_v2.4.pdf

Data specification:

- spatial representation: 2D grid
- origin: CZRAD radar network consisting of the radars of the ČHMÚ Brdy-Praha and Skalky
- geographical projection: Mercator projection compatible with web map documents OpenStreetMaps/GoogleMaps/Mapy.cz (EPSG:3857)
- geographical boundary: E 11,267° – 19,624° ; N 48,047° – 51,458°
- spatial resolution: 1x1km