

# GEOSCIENCE, THE BEDROCK OF MODERN-DAY LIFE



## OUTREACH FOR GEOSCIENCE AWARENESS

### HYDROGEOLOGY AND CONTAMINANT GEOLOGY THEME



#### **THEME: Groundwater, Making the invisible, visible (World Water Day Theme 2022)**

Namibia has been known as water scarce, attributing mostly to its geographic location and primarily because of the limited surface water as well as the high potential evaporation rates beyond 2000 mm/year. Groundwater therefore quickly becomes crucial, most of which is located in aquifers in the savannah biome which covers a large part of the country. This is also where most industrialization as well as most farming is practiced. The management of groundwater has two major components, namely the management of groundwater quality and that of the groundwater quantity. In Namibia the groundwater is considered a public resource regulated by the state through the Department of Water Affairs, (DWA) in the Ministry of Agriculture, Water and Land Reform (MAWLR), they further receive regulatory assistance from the Namibia Water Cooperation (NamWater), which is a parastatal entity which supplies bulk water to municipalities, industries and to the Directorate of Rural Water Supply of DWA.

For example, Walvisbay, Swakopmund, Tsumeb, Usakos, Luderitz, Otjiwarongo, and Grootfontein are some of the major towns that rely heavily on groundwater.

Understanding and managing this precious groundwater resource sustainably is essential to achieving social economic development, water security and improving the quality of life in the country.

For sustainable exploration, development, and management of our groundwater resource we rely on hydrogeologists.

Under this Hydrogeology and contaminant geology theme the following 4 topics will be discussed during the Geoscience Corner radio talk show of February 2022:



1. Week 1: Introducing Hydrogeology
2. Week 2: Drilling methods and costs, and the journey of groundwater from the rock to your tank / tap, trough/cup/, container/ Omindo!
3. Week 3: Groundwater management: Quality and quantity
4. Week 4: Myth busting

| <b><u>TIMESLOTS: GEOSCIENCE CORNER” RADIO TALK SHOW</u></b> |                                 |                                  |                             |
|---|---------------------------------|----------------------------------|-----------------------------|
| <b>HYDROGEOLOGY AND CONTAMINANT GEOLOGY THEME -FEBRUARY</b> |                                 |                                  |                             |
| <b>2022</b>   |                                 |                                  |                             |
|   | <b>RADIO STATION</b>            | <b>TIMESLOT FOR LIVE STUDIO</b>  | <b>TIMESLOT FOR REPEAT</b>  |
| <b>1</b>  | <b>!Ha FM</b>                   | <b>Wednesdays 17:00 to 18:00</b> | Saturday 10:00 – 11:00      |
| <b>2</b>  | <b>Funk Haus NAMIBIA</b>        | <b>XX 15:00 – 16:00</b>          | <b>XX ..... XX</b>          |
| <b>3</b>  | <b>Hartklop FM</b>              | <b>Monday 12:30 – 13:00</b>      | <b>Monday 21:00 – 21:30</b> |
| <b>4</b>  | <b>Kaisames FM</b>              | <b>Wednesdays 17:00 to 18:00</b> | Thursday 20:00 – 21:00      |
| <b>5</b>  | <b>Kati FM</b>                  | <b>Wednesdays 19:15 – 20:00</b>  | Saturday 11:00 – 12:00      |
| <b>6</b>  | <b>National FM</b>              | <b>Tuesdays 09H10 – 10H00</b>    | Sunday 16h00 – 18h00        |
| <b>7</b>  | <b>Ñwanyi FM</b>                | <b>Wednesdays 17H00 – 18H00</b>  | Saturdays 14H00 – 15H00     |
| <b>8</b>  | <b>Omurari FM</b>               | <b>Tuesdays 10:00 – 11:00</b>    | Thursday 10:00 – 11:00      |
| <b>9</b>  | <b>Touch FM</b>                 | <b>Wednesdays 18H00 – 19H00</b>  | Sunday 18H00 – 19H00        |
| <b>10</b>   | <b>TYS (Tirelo Ya Setshaba)</b> | <b>Friday 19H00 – 20H00</b>      | Wednesday 16H00 – 17H00     |
| <b>11</b>   | <b>Wato FM</b>                  | <b>Thursdays 19h15 – 20H15</b>   | Fridays: 11h05 – 12h00      |

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## NBC FM Frequencies 2022

| STATION:      | Hartklop FM                               | National FM | Funk Haus NAMIBIA | Kati FM | Omurari FM | Kaisames FM | Wato FM | Ñwanyi FM | Tirelo Ya Setshaba | IHa FM | Touch FM |
|---------------|---|-------------|-------------------|---------|------------|-------------|---------|-----------|--------------------|--------|----------|
| AMINIUS       | 88.9                                      | 92.0        |                   |         | 95.2       |             |         |           | 98.5               |        |          |
| ANDARA        |   | 92.5        |                   | 95.7    |            |             | 106.1   | 102.5     |                    |        |          |
| ARANOS        | FM Reception from Stampriet Site.         |             |                   |         |            |             |         |           |                    |        |          |
| ARENDSNES     | 88.7                                      | 90.1        | 91.8              | 96.4    | 99.7       | 106.8       | 93.2    | 95.0      | 98.3               |        |          |
| AROAB         | 87.9                                      | 94.2        |                   |         |            | 104.6       |         |           |                    |        |          |
| AUS           | 92.5                                      |             | 95.8              | 102.6   |            | 106.2       |         |           |                    |        |          |
| AUSSENKEHR    | 92.5                                      | 95.7        |                   | 98.7    |            | 102.5       |         |           |                    |        |          |
| BETHANIEN     | 88.1                                      | 91.2        | 94.4              | 97.7    | 101.2      | 104.8       |         |           |                    |        |          |
| BRUKKAROS     | 90.2                                      | 96.5        |                   |         |            | 106.9       |         |           |                    |        |          |
| BUIITEPOS     |   | 95.0        |                   | 98.3    | 101.8      |             |         |           | 105.4              |        |          |
| EENHANA       | FM Reception from Oshakati Site.          |             |                   |         |            |             |         |           |                    |        |          |
| EKULI         |   | 91.5        |                   | 88.4    |            |             | 94.7    | 98.0      |                    |        |          |
| EPUKIRO       | 91.6                                      | 98.1        |                   |         | 101.6      |             |         |           | 105.2              |        |          |
| ERONGO        | 90.6                                      | 93.7        | 96.9              | 100.2   | 103.7      | 107.3       |         | 95.4      | 89.1               |        |          |
| GAM           |   | 92.6        |                   | 102.6   | 99.1       |             |         |           |                    | 95.8   |          |
| GIBEON        |   |             |                   |         |            | 100.7       |         |           |                    |        |          |
| GOBABIS       | 87.6                                      | 90.7        | 93.9              | 102.9   | 100.7      | 104.3       | 106.5   | 92.9      | 97.2               |        |          |
| GROSS-HERZOG  | 88.6                                      |             | 94.9              | 98.2    | 101.7      | 105.3       |         |           |                    |        | 91.7     |
| KALKKRAND     | FM Reception from Stampriet Site          |             |                   |         |            |             |         |           |                    |        |          |
| KAMANJAB      | 89.7                                      | 91.9        | 101.9             | 95.1    | 98.4       | 106.4       | 103.7   | 107.9     | 93.8               |        |          |
| KATIMA MULILO | 89.5                                      | 92.6        | 90.9              | 99.1    | 94.1       | 106.2       | 100.9   | 95.8      | 87.8               |        |          |
| KEETMANSHOOP  | 87.6                                      | 90.7        | 93.9              | 97.2    | 89.3       | 104.3       | 96.1    | 99.4      | 102.9              |        |          |
| KL. WATERBERG | 89.6                                      | 92.7        | 95.9              | 99.2    | 102.7      | 106.3       | 91.2    | 101.2     | 94.4               |        |          |
| KOËS          | 88.8                                      | 95.1        |                   |         |            | 105.5       |         |           |                    |        |          |
| KONGOLA       |   | 88.3        |                   | 91.4    |            |             | 94.6    | 97.9      |                    |        |          |
| LÜDERITZ      | 89.7                                      | 92.8        | 96.0              | 99.3    | 100.2      | 103.7       |         |           |                    |        |          |
| MALTAHÖHE     | 88.5                                      |             | 94.8              |         |            | 105.2       |         |           |                    |        |          |
| MARIENTAL     | 87.7                                      | 90.8        | 94.0              | 101.8   | 105.4      | 104.4       | 90.2    | 93.3      | 99.8               |        |          |
| NAKOP         | 90.6                                      | 93.7        |                   | 100.2   |            | 103.7       |         |           |                    |        |          |
| NKURENKURU    |   | 90.7        |                   | 87.6    |            |             | 105.1   | 93.9      |                    |        |          |
| NOORDOEWER    | 87.7                                      | 90.8        |                   | 97.3    |            | 100.8       |         |           |                    |        |          |
| OKAHAO        | FM Reception from Oshakati Site.          |             |                   |         |            |             |         |           |                    |        |          |
| OKONGO        |   | 89.0        |                   | 92.1    |            | 95.3        | 98.6    |           |                    |        |          |
| OMBALANTU     | FM Reception from Oshakati Site.          |             |                   |         |            |             |         |           |                    |        |          |
| OMEGA         |   | 90.6        |                   | 93.7    |            |             | 96.9    | 100.2     |                    |        |          |
| OMUTHIYA      |   | 89.2        |                   | 98.8    | 102.3      | 105.9       |         |           |                    |        |          |
| OPUWO         |   | 91.1        |                   | 97.6    | 101.1      |             |         |           |                    |        |          |
| ORANJEMUND    | 90.0                                      | 93.1        |                   | 99.6    |            | 106.7       |         |           |                    |        |          |
| OSHAKATI      | 89.2                                      | 87.8        | 96.4              | 97.4    | 98.8       | 105.9       | 93.2    | 92.3      | 99.7               |        |          |
| OTJIMBINGWE   |   |             |                   |         | 102.3      | 105.9       |         |           |                    |        |          |
| OTJINENE      | 90.4                                      | 93.5        |                   |         | 96.7       |             |         |           | 103.5              |        |          |
| OVITOTO       | No FM Transmitters installed at the site. |             |                   |         |            |             |         |           |                    |        |          |
| PAREISIS      | 88.7                                      | 91.8        | 95.0              | 98.3    | 101.8      | 105.4       |         |           |                    |        |          |
| RENOSTERKOP   | 87.9                                      | 91.0        |                   |         | 101.0      | 104.6       |         |           |                    |        |          |
| RIETFontein   |   | 92.2        |                   | 89.1    | 95.4       |             |         |           | 98.7               |        |          |
| ROSH PINAH    | 90.3                                      | 93.4        |                   | 96.6    |            | 99.9        |         |           |                    |        |          |
| RÖSSING       | 89.7                                      | 92.8        | 96.0              | 99.3    | 101.1      | 106.4       | 93.3    | 105.0     | 95.5               |        |          |
| RUNDU         |   | 89.6        |                   |         |            |             | 97.5    |           |                    |        |          |
| SESFONTEIN    |   | 91.6        |                   | 98.1    | 101.6      | 105.2       |         |           |                    |        |          |
| SHAMVURA      |   | 91.3        |                   | 97.8    |            |             | 94.5    | 104.9     |                    |        |          |
| SCHLIP        | 95.3                                      | 90.0        |                   |         | 99.6       | 106.7       |         |           |                    |        |          |
| SIGNALBERG    | 87.7                                      | 90.8        | 94.0              | 97.3    | 100.8      | 104.4       |         |           |                    |        |          |
| STAMPRIET     | 89.7                                      | 92.8        | 96.0              | 91.2    | 94.4       | 106.4       | 97.7    | 104.8     | 99.3               |        |          |
| TERRACE BAY   |   | 104.3       |                   |         |            |             |         |           |                    |        |          |
| TSANDI        | FM Reception from Oshakati Site.          |             |                   |         |            |             |         |           |                    |        |          |
| TSUMEB        | 88.6                                      | 91.7        | 94.9              | 98.2    |            | 105.3       |         |           |                    |        |          |
| TSUMKWE       |   | 90.4        |                   | 100.0   |            |             | 93.5    |           |                    | 103.5  |          |
| UIS           | FM reception from Erongo Site.            |             |                   |         |            |             |         |           |                    |        |          |
| UR            | 89.8                                      | 92.9        | 96.1              | 99.4    | 102.9      | 106.5       |         |           |                    |        |          |
| WINDHOEK HÖHE | 89.5                                      | 92.6        | 95.8              |         |            |             | 107.1   | 93.5      | 90.4               |        |          |
| TX TOTALS:    | 34  | 47          | 21                | 38      | 29         | 35          | 20      | 18        | 17                 | 2      | 1        |