DX Summit Guide
Adaptation of DX Summit Tutorials by Chuck KI7DG & Mel N7GCO
DXSummit.fi

1. Who is being Spotted

2. How to Add New Spots

On the Main page you will find a ***Share a Spot*** panel on the right-hand side of the screen. Add your callsign to the ***My Call*** field, a spotted callsign to the ***DX*** field and a frequency to the ***kHz*** field. Use the ***Info*** field for any additional information. Click the green ***Share*** button to submit.

3. Where to View Propagation Information

Propagation Now information is found on the Main page, below the *Share a Spot* panel. Click the header to display more space weather predictions and information. Comments follow about the parameters in the Solar-Terrestrial Data portion.
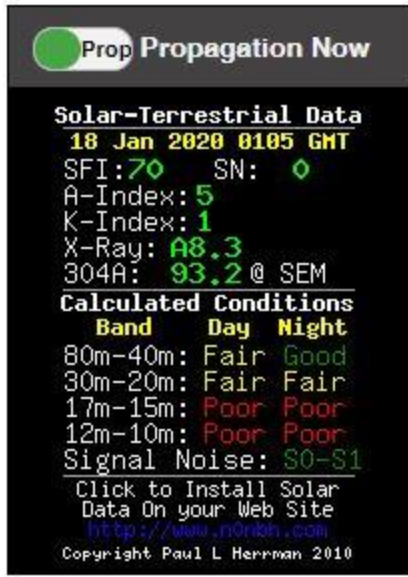
SFI is radiation from the Sun at a wavelength of 10.7 cm (2800 MHz) for the date indicated. Generally the higher the 10.7 cm solar flux, the better the higher bands. But realize that the short-term correlation between the daily solar flux and the daily MUF (maximum useable frequency) is poor – thus a longer-term average (like a 90-day average) is best in determining openings on the higher bands.

SN is the sunspot number, and the same comments about using the daily solar flux apply to the daily sunspot number.

The **K-Index** tells how disturbed the Earth's magnetic field is at the indicated time and date. It is determined every 3 hours, and the range of this parameter is from 0 (very quiet) to 9 (extremely disturbed). In general, an elevated K index results in lower MUFs at mid and high latitudes, but can give higher MUFs at low latitudes. The K-index is a quasi-logarithmic parameter.

The **A-Index** is the daily average of the eight 3-hour K-indices. The range of this parameter is 0 (very quiet) to 400 (extremely disturbed). The A-index is a linear parameter.

X-Ray is the background flux from the Sun at 1-8 Angstroms (0.1 - 0.8 nm). There are five categories: A, B, C, M and X, with A being the lowest activity and X being the highest activity. Solar flares of the M and X class can have an adverse impact to the daytime D region (increased absorption causing radio blackouts) and possible increased absorption in the polar cap.

304A is the radiation from the Sun at a wavelength of 304 Angstroms (30.4 nm), and is classified as extreme ultra-violet radiation (EUV). This wavelength is responsible for about 40% of the F2 region, so it is a good indicator of propagation on the higher bands. But the same short-term problem with 10.7 cm flux and sunspots applies to this EUV parameter.

With respect to the band assessments in the Calculated Conditions portion of this display, be advised that Good, Fair and Poor are a very broad indicator of propagation on the HF bands. Conditions will vary according to your location. More specific predictions are available from propagation prediction programs.

The **Signal Noise parameter** below the band assessments is the estimated noise in S-units due to the current solar wind speed and geomagnetic field activity. Note that this noise level could be masked by your local man-made and/or atmospheric noise conditions.

For more space weather predictions and information, click the header with the green dot that is to the left of the Propagation Now title. A new display is presented. The parameters on this display are pretty much self-explanatory – place your cursor on each parameter and a pop-up text box appears. Some additional comments follow.

The Planetary A and K indices are a compilation of a number of worldwide observatories to give a worldwide view of the Earth's geomagnetic field activity.

The 90 day average of the solar flux index is the best parameter to use when running propagation predictions. Alternatively, the smoothed sunspot number could be used. As a reminder, our propagation prediction programs were developed based on the correlation between a smoothed solar index (10.7 cm solar flux or sunspot number) and monthly median ionospheric parameters. Median implies 50% probability, and thus our predictions are statistical over a month's time frame.

The auroral activity plot at the bottom of this display is one of ten pre-determined images that shows where visible aurora can occur (the reddish-orange area) based on the measurement of electron precipitation by an over-flying satellite. The picture does not tell anything about the impact to radio operations, and does not necessarily mean the entire auroral oval is full of detrimental ionization.

4. How to Use Filters

You will see the dark *Filters* and *Search* panel at the top of the Main page. The *Filters* option features frequency filtering and the *Search* box is used for search input. The *Filters* in the main *Spots* window will filter spots from current spots (last 30 days) and those spots can be viewed on the Main page.

4.1 Using "Filters" Panel

Using the **Filters** panel you can filter active spots based on frequency, mode and different flags (e.g. QRP). Frequencies and modes can be either included in or excluded from the search. Flags can be toggled on or off.
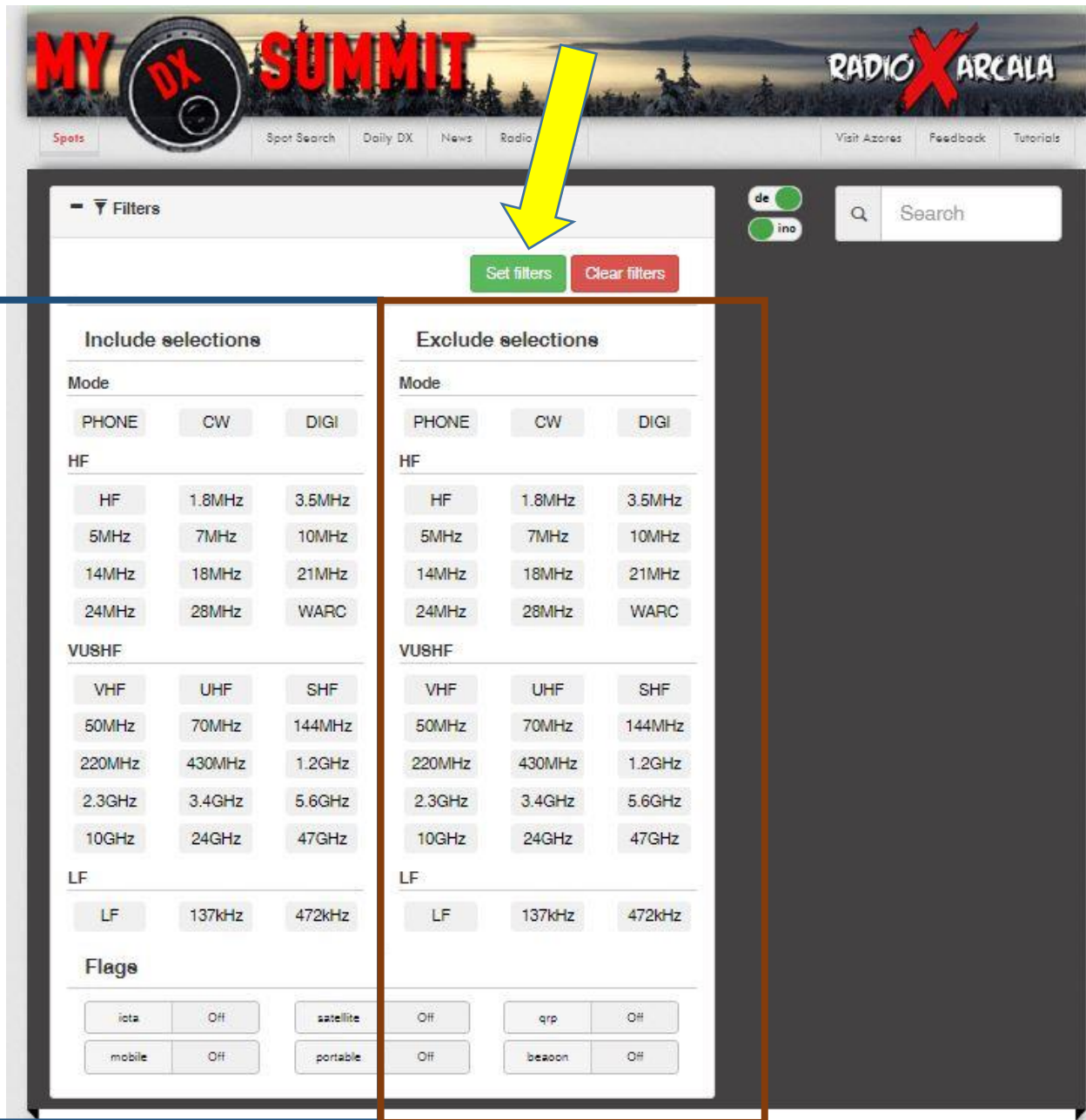
To use the **Filters** panel, open the **Filters** dropdown by clicking **Filters**. Choose the frequencies and modes you wish to include from the **Include Bands** panel on the left and then click the green **Set Filters** button. The **Exclude Bands** option hides the selected frequencies from view.

For example, if you decide to include WARC frequencies, you will see spots from the 24MHz, 18MHz and 10MHz bands. If you now choose to exclude 24MHz spots, you will only see spots from the 18MHz and 10MHz bands.

Active filters are displayed under the **Filters** header. You can disable filters by clicking them under the **Filters** header or by clicking them from the dropdown panel. You can also remove all filters from the dropdown menu by clicking the red **Clear Filters** button.

4.2 How to Filter Callsigns, Countries, Prefixes, ITU Zones and CQ Zones?

You can use the text input (**Search**) option on the right-hand side of the **Filters** panel to filter spots by callsigns, countries, prefixes, ITU zones and CQ zones. Results are displayed below the **Filters / Search** panel in the Main window. You can choose filtering to include or exclude and to point the filter to a DX callsign or a spotter callsign. This can be done with toggle switches next to the **Search** panel.

By default, **Search** applies the filters to DX callsigns and includes them in the results. For example, if you type *OH1* in the **Search** field and press Return, you will see spotted DX callsigns beginning with *OH1*. If you click the green switch which now reads **dx**, it will change to **de** and the filters will be applied to the spotter's callsign. The other switch changes the filters between **incl** (include) and **excl** (exclude), the logic being similar to that of the frequency filter.

To search a callsign from the beginning of a spotted call, type the desired prefix or part of the callsign in the **Search** field. For instance, typing W1AA will show all spots beginning with W1AA (W1AA, W1AAA, W1AAX, W1AAX/KL7).

If you like to search for an exact callsign, type the callsign inside " " -marks. For example, if you like to see spots for OH8X, type "OH8X" (with " ") in the **Search** field and press Enter.

4.3 How to Save Filters?

The filters you have chosen will also be displayed as a query string in the URL at the top of the screen. Every time you change the filter, the URL of the page changes. You can save the generated URL and use it later. Saving can be done e.g. by adding the page URL to your browser bookmarks or by saving the page URL address to the desktop of your computer as shortcut. There can be multiple DXSummit filters active by adding different filters to different tabs of your browser.

For advanced users: you may also type your filters straight into the URL, if you so prefer.

4.4 Filter Switches

- **DX = DX Station**
- **DE = DX Spotter**
- **INC = Include**
- **EXC = Exclude**
- **Default is DX/INC**

4.5 Examples of Different Filters

Case 1: Show Spots from ZD7, ZD8 and 3C0

1. *By default, the **dx/de** toggle and **Include/Exclude** toggle switches are set to **Include DX**, so there is no need for changing the switches.*
2. *Type ZD7 in the **Search** field and select St. Helena from dropdown menu*
3. *Press Enter to set St. Helena for the DX filter*
4. *Type ZD8 in the **Search** field and select Ascension Is. from the dropdown menu*
5. *Press Enter to set Ascension Is. for the DX filter*
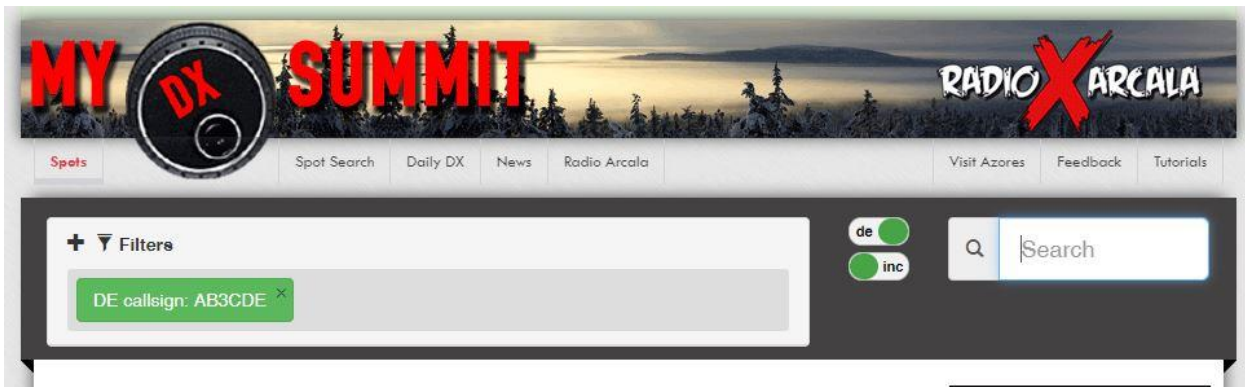6. *Type 3C0 in the **Search** field and select Annobon Is. from the dropdown menu*

7. *Press Enter to set Annobon Is. for the DX filter*
8. *The **Filters** bar will show now green boxes with the text DE Country: St. Helena, DE Country: Ascension Is. and DE Country: Annobon Is.*
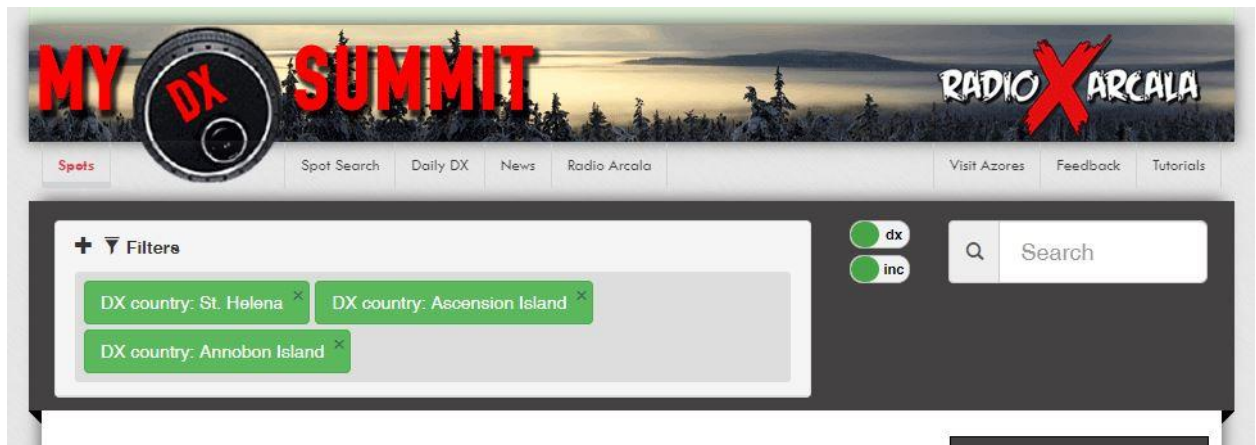
Case 2: Hide Spots from Spotter AB3CDE

1. *Set the **dx/de** toggle switch to the **de** position and the **Include/Exclude** toggle switch to **Exclude** by clicking the switches and then type "AB3CDE" (with " ") in the **Search** field*
2. *Press enter to apply the filter*
3. *The **Filters** bar will now show a red box with the text DE Callsign: "AB3CDE" and spots from that callsign are no longer displayed*


Case 3: Display Spots of KH6 on CW and SSB on HF Bands, excluding WARC bands

1. *By default, the **dx/de** toggle and **Include/Exclude** toggle switches are set to **Include DX**, so there is no need for changing the switches.*
2. *Type KH6 in the **Search** field and select Hawaii from the dropdown menu*
3. *Press Enter to set Hawaii for the DX filter*
4. *Set the band and mode filters by clicking **Filters** and select HF, CW and SSB included and select WARC excluded. (Additionally, the same result can be*

filtered by excluding RTTY and by including bands other than WARC, band by band)

5. The **Filters** bar will now show green boxes with the text DE Country: Hawaii, HF, CW and PHONE and a red box with the text WARC
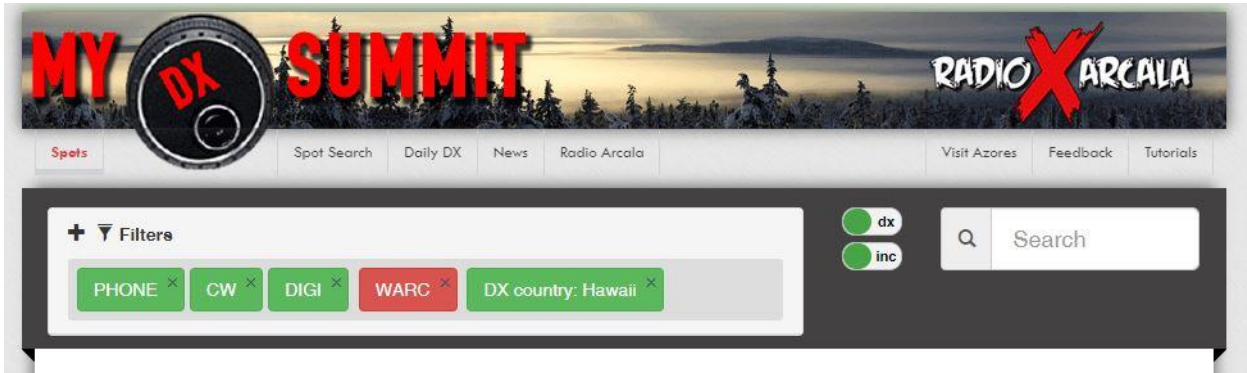
Case 4: Display Spots from Germany (DL) to CQ Zone 3 on 80M SSB.

1. *Set the band and mode filters by clicking **Filters** and select **3.5MHz** and **PHONE** as included in the spots and click **Set Filters***
2. *Check that the toggle switches are **dx** and **incl** and type **3** in the **Search** field and select **CQ Zone 3** from the dropdown menu*
3. *Set the dx/de toggle switch to the **de** position by clicking the switch and type DL or Germany in the **Search** field and select **Germany** from the list*
4. *The **Filters** bar will now show green boxes with the text 3.5MHz, PHONE, DE country: Germany and DX CQ zone:3*
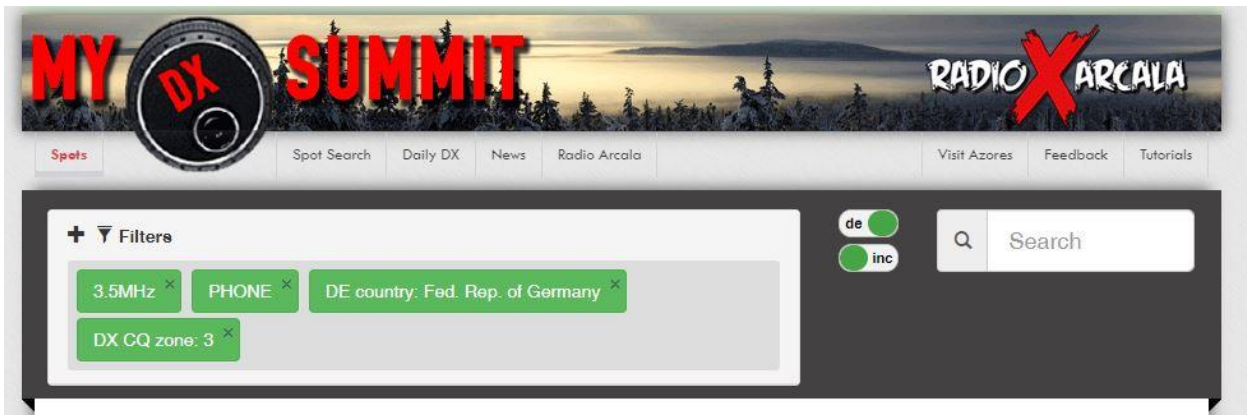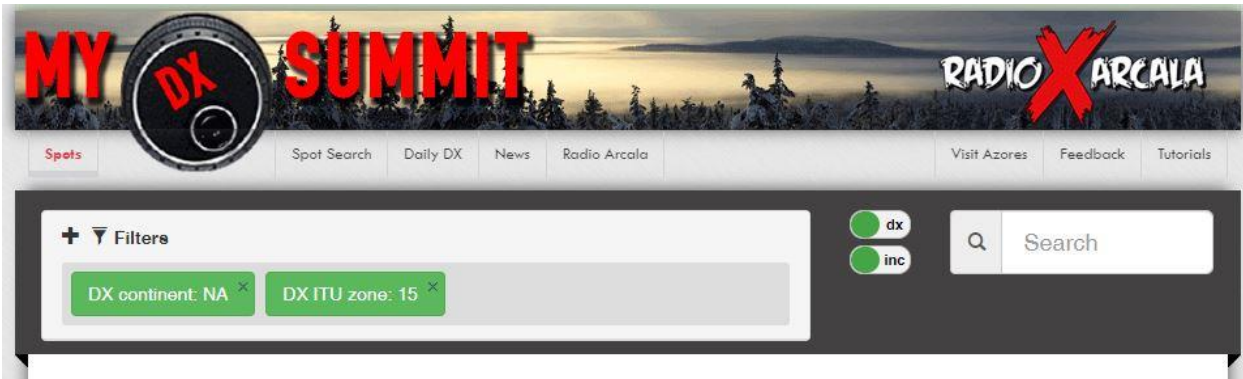

Case 5: Show Spots from ITU Zone / CQ Zone / Continent

1. *See that the **dx/de** toggle switch is set to **dx** and the **Include/Exclude** toggle switch is set to Include*
2. *Type ITU or CQ Zone (eg. "15") or Continent (eg. "NA" or "North America") in the **Search** field and select the desired option from drop down menu*
3. *Press enter to apply the filter*

4. The **Filters** bar will now show a green box with selected filtering option and spots of stations from that area are displayed

Case 6: Show Spots originating from ITU Zone / CQ Zone / Continent

1. See that the **dx/de** toggle switch is set to **de** and the **Include/Exclude** toggle switch is set to **Include**
2. Type ITU or CQ Zone (eg. "15") or Continent (eg. NA or North America" in the **Search** field and select the desired option from drop down menu
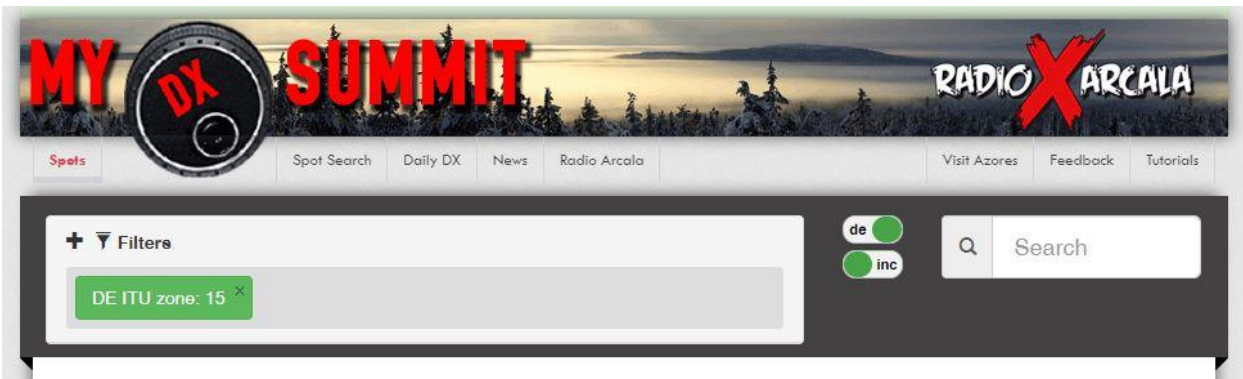3. Press enter to apply the filter
4. The **Filters** bar will now show a green box with selected filtering option and spots that are spotted from selected area are displayed


Case 7: Show Spots of Oceania on 160M CW originating from ITU Zone 18

1. See that the **dx/de** toggle switch is set to **dx** and the **Include/Exclude** toggle switch is set to **Include**
2. Type Continent ("Oceania") in the **Search** field and select Oceania from drop down menu
3. Press enter to apply the filter
4. See that the **dx/de** toggle switch is set to **de** and the **Include/Exclude** toggle switch is set to Include

5. *Type ITU Zone ("18") in the **Search** field and select ITU zone 18 option from drop down menu*
6. *Press enter to apply the filter*
7. *Set the band and mode filters by clicking **Filters** and select CW and 1.8MHz included and press **Set Filters***
8. *The **Filters** bar will now show green boxes with the texts "**1.8MHz**" "**CW**" "**DE ITU Zone 18**" and "**DX Continent: OC**" and spots based on that are displayed.*
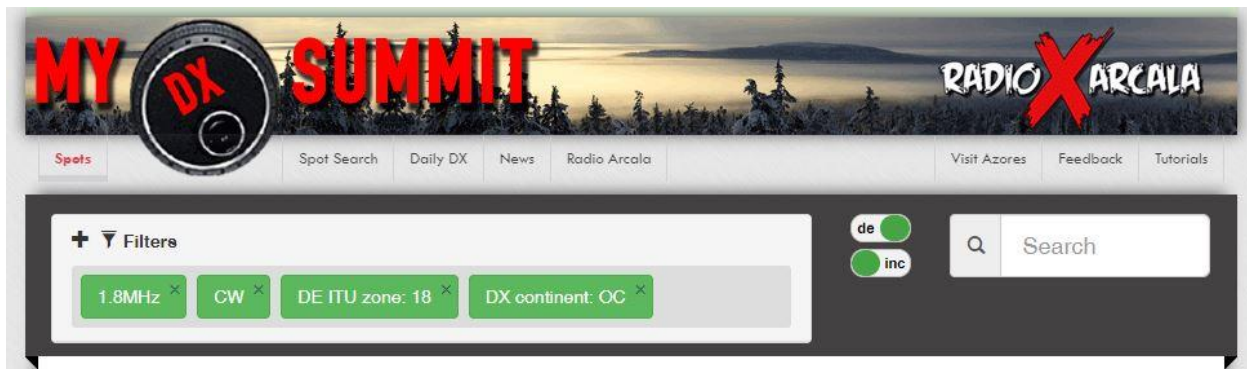
Case 8 My Favorite
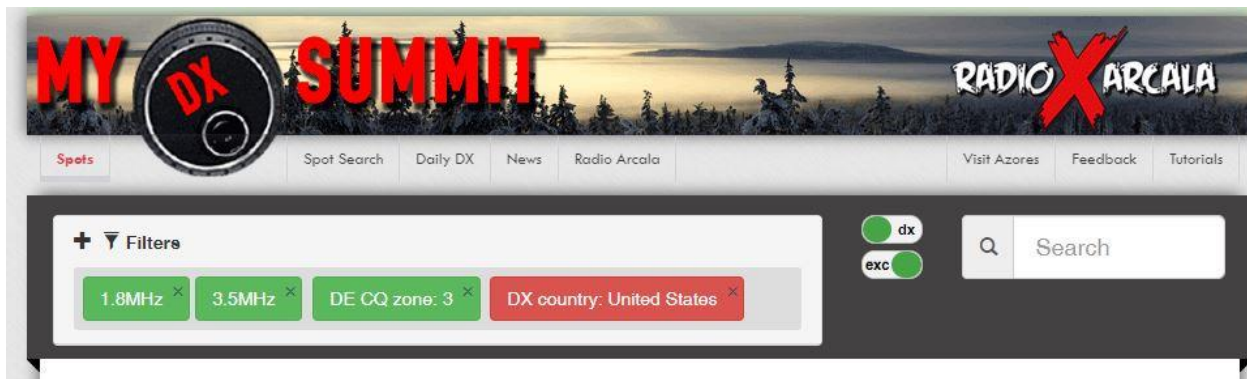
Include 80 and 160 meters, Only spots from CQ Zone 3 (West US).
Exclude spots to US.

5. How to View VOACAP Predictions from My Location to a Specific DX Location

By clicking on a callsign listed in the search results, you will have a choice of accessing four links: **Show VOACAP Predictions**, **Show Grey Line Map**, **Open QRZ.com** and **Open Club Log**.

For VOACAP predictions, you need to set your Maidenhead Locator first. The browser tries to figure out your location automatically. If your browser is able to establish your location, you will see a valid Maidenhead Locator in the box on the right-hand side of the screen. If your browser does not find your location, you can set it yourself by clicking on the map marker on the left-hand side of the box. It will open a world map where you can position the marker by dragging it to your location.
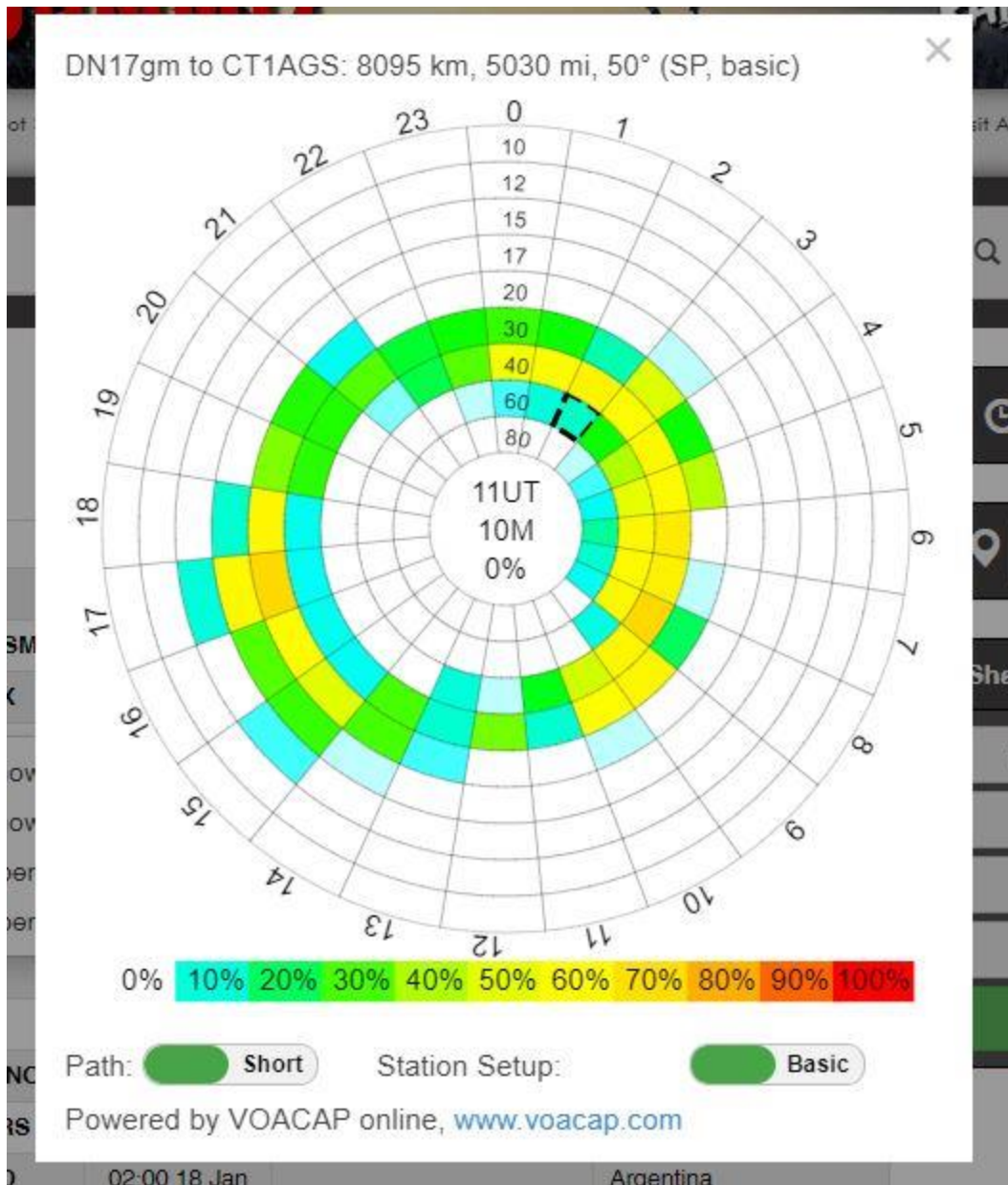

After setting your location, you can proceed to view VOACAP predictions. You can do so on the Main page (**Spots** from the Menu bar) by clicking any callsign in the spot list and choosing **Show VOACAP Predictions**. In the propagation circle, the highlighted segment (with black dotted borders) denotes the current prediction from your QTH to the target area.

DN17gm to CT1AGS: 8095 km, 5030 mi, 50° (SP, basic)

11UT
10M
0%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Path: Short   Station Setup: Basic

Powered by VOACAP online, www.voacap.com

02:00 18 Jan   Argentina

Note that predictions for each hour span from the 30th minute of the previous hour to the 30th minute of the current hour. E.g. predictions for 13 UTC span from 1230 UTC to 1330 UTC.

If you wish to experiment and run predictions for the DX location from locations other than yours, set the RX location marker on the world map accordingly.

The VOACAP predictions show the probability of achieving a QSO with the other station in the CW mode via short-path. The user can also choose to run propagation predictions using the long path.

By default, the predictions are calculated with the following parameters:

- TX and RX antenna: a half-wave dipole at the height of 10 meters above the ground on all frequencies (80 meters to 10 meters).
- TX power: 100 Watts
- Noise at RX site: Low
- Sunspot number: Monthly smoothed SSN (detected automatically). Daily sunspot numbers, or A or K indices are not being taken into account.

This default station setup above is called "Basic". Also, a more advanced setup is available called "Super". The "Super" station parameters are as follows:

- TX antenna: a ¼ wave vertical antenna with a good ground (80 meters to 10 meters)
- RX antenna: a 5-element Yagi at the height of 40 meters (132 ft) above the ground
- TX power: 1500 Watts
- Noise at RX site: Low
- Sunspot number: Monthly smoothed SSN (detected automatically). Daily sunspot numbers, or A or K indices are not being taken into account.

Please note that VOACAP cannot make reasonable predictions on 160 meters, and also predictions on 80 meters are typically more pessimistic than the conditions really are. Predicting Long-Path propagation on 80 meters is virtually impossible.

Please note that due to the lack of SVG (Scalable Vector Graphics) support in Internet Explorer 8 and earlier, VOACAP predictions cannot be viewed in those browsers. It is highly recommended that the latest versions of the web browsers will be used as they typically can show SVG graphics.