



2022 USA-CAN ORC Scoring Option Summary

General: In the new 2022 USA-CAN certificate design, scoring options resemble those in 2021, with a new range of options shown on Page 2.

Single Number options remain the same:

Single Number Scoring Options		
Course	Time On Distance	Time On Time
Windward / Leeward	601.8	0.9971
All purpose	486.3	1.2338

The **Windward/Leeward** ratings are determined from a course model that is 50% upwind VMG and 50% downwind VMG.

The **All Purpose** model is an equal mix of all wind angles.

Both models condense into a single number with this mix of wind speeds:

<i>TWS (kt)</i>	<i>6</i>	<i>8</i>	<i>10</i>	<i>12</i>	<i>14</i>	<i>16</i>	<i>20</i>
<i>Time Allowance percentage</i>	5%	10%	20%	30%	20%	10%	5%

Certificates issued in the USA and CAN will also display other options that are in common use among fleets in both Time on Time (ToT) and Time on Distance (ToD) formats:

Single Number	Time On Distance	Time On Time
Triple Number All Purpose Low	643.6	0.9323
Triple Number All Purpose Medium	510.5	1.1754
Triple Number All Purpose High	457.3	1.3121
Triple Number Windward/Leeward Low	836.9	0.7169
Triple Number Windward/Leeward Medium	632.1	0.9492
Triple Number Windward/Leeward High	560.3	1.0709
Predominantly Upwind	559.1	1.0731
Predominantly Downwind	513.4	1.1687
Predominantly Upwind Low	735.4	0.8158
Predominantly Upwind Medium	586.1	1.0237
Predominantly Upwind High	556.5	1.0782
Predominantly Downwind Low	736.0	0.8152
Predominantly Downwind Medium	572.2	1.0486
Predominantly Downwind High	521.9	1.1496

Triple Number options for the Windward/Leeward and All Purpose course models are determined according to this wind speed mix:

TWS (kt)	6	8	10	12	14	16	20
Low	50%	50%					
Medium		8.4%	33.3%	33.3%	25%		
High					25%	37.5	37.5%

There are also available other options - **Predominant Upwind** and **Predominant Downwind** – that are considered useful for scoring point-to-point races of any length. These are shown on the certificate as single numbers with Upwind (below left) and Downwind (below right) with the wind mixes described as follows:

Upwind

<i>TWS (kt)</i>	<i>8</i>	<i>12</i>	<i>16</i>
<i>Beat VMG</i>	10%	15%	7%
<i>52°</i>	10%	15%	9%
<i>90°</i>	5%	7%	3%
<i>135°</i>	4%	5%	2%
<i>Run VMG</i>	3%	4%	1%

Downwind

<i>TWS (kt)</i>	<i>8</i>	<i>12</i>	<i>16</i>
<i>Beat VMG</i>	3%	4%	1%
<i>52°</i>	4%	5%	2%
<i>90°</i>	5%	7%	3%
<i>135°</i>	10%	15%	9%
<i>Run VMG</i>	10%	15%	7%

Or they may be scored using the **Triple Number** approach, where a rating is calculated within the same mix of wind speeds with this model mix of wind angles

for **Upwind Low**:

TWS (kt)	6	8
Beat VMG	20%	25%
52°	15%	10%
90°	5%	5%
135°	5%	5%
Run VMG	5%	5%

for **Downwind Low**:

TWS (kt)	6	8
Beat VMG	5%	5%
52°	5%	5%
90°	5%	5%
135°	15%	10%
Run VMG	20%	25%

for **Upwind Medium**:

TWS (kt)	8	10	12	14
Beat VMG	5%	15%	15%	12%
52°	3%	12%	12%	8%
90°	0.4%	4.3%	4.3%	3%
135°	0	1%	1%	1%
Run VMG	0	1%	1%	1%

for **Downwind Medium**:

TWS (kt)	8	10	12	14
Beat VMG	0	1%	1%	1%
52°	0	1%	1%	1%
90°	0.4%	4.3%	4.3%	3%
135°	3%	12%	12%	8%
Run VMG	5%	15%	15%	12%

For **Upwind High**:

TWS (kt)	14	16	20
Beat VMG	12%	18%	18%
52°	8%	12%	12%
90°	3%	5.5%	5.5%
135°	1%	1%	1%
Run VMG	1%	1%	1%

For **Downwind High**:

TWS (kt)	14	16	20
Beat VMG	1%	1%	1%
52°	1%	1%	1%
90°	3%	5.5%	5.5%
135°	8%	12%	12%
Run VMG	12%	18%	18%

Race-specific ratings also appear on Page 2 of ORC certificates issued in the US and CAN:

Chicago-Mac Upwind		1.0423
Chicago-Mac All Purpose		1.0478
Chicago-Mac Downwind		1.0526
Bayview-Mac Cove Island		0.9879
Bayview-Mac Shore		1.0043
Harvest Moon Regatta	464.0	1.2930
Victoria-Maui		1.1055

The course models for the **Chicago-Mac Race** are shown here:

Chicago Mac Upwind

	TWS						
TWA	6 Kts	8 Kts	10 Kts	12 Kts	16 Kts	20 Kts	
Optimum Beat	1.75%	5.25%	10.50%	10.50%	5.10%	1.60%	34.70%
52 deg Reach	1.40%	4.35%	9.00%	9.30%	5.10%	1.80%	30.95%
90 deg Reach	0.75%	2.25%	4.50%	4.50%	2.40%	0.90%	15.30%
135 deg Reach	0.60%	1.80%	3.30%	3.30%	1.50%	0.45%	10.95%
Optimum Run	0.50%	1.35%	2.70%	2.40%	0.90%	0.25%	8.10%
Sum	5.00%	15.00%	30.00%	30.00%	15.00%	5.00%	100.00%

Chicago Mac All-Purpose

	TWS						
TWA	6 Kts	8 Kts	10 Kts	12 Kts	16 Kts	20 Kts	
Optimum Beat	1.45%	3.90%	6.90%	6.00%	2.40%	0.60%	21.25%
52 deg Reach	0.700%	2.40%	5.40%	6.00%	3.15%	1.10%	18.75%
90 deg Reach	0.700%	2.40%	5.40%	6.00%	3.90%	1.60%	20.00%
135 deg Reach	0.700%	2.40%	5.40%	6.00%	3.15%	1.10%	18.75%
Optimum Run	1.45%	3.90%	6.90%	6.00%	2.40%	0.60%	21.25%
Sum	5.00%	15.00%	30.00%	30.00%	15.00%	5.00%	100.00%

Chicago Mac Offwind

TWA	6 Kts	8 Kts	10 Kts	12 Kts	16 Kts	20 Kts	
Optimum Beat	0.50%	1.35%	2.70%	2.40%	0.90%	0.25%	8.10%
52 deg Reach	0.60%	1.80%	3.30%	3.30%	1.50%	0.45%	10.95%
90 deg Reach	0.75%	2.25%	4.50%	4.50%	2.40%	0.90%	15.30%
135 deg Reach	1.40%	4.35%	9.00%	9.30%	5.10%	1.80%	30.95%
Optimum Run	1.75%	5.25%	10.50%	10.50%	5.10%	1.60%	34.70%
Sum	5.00%	15.00%	30.00%	30.00%	15.00%	5.00%	100.00%

The course models for the **Bayview-Mac Race** are shown here:

Cove Island Course

Wind (knots):	6	8	10	12	16
VMG Up	6.000%	8.125%	6.250%	3.938%	1.250%
60	5.250%	7.500%	6.250%	4.500%	1.875%
90	0.000%	2.500%	5.000%	6.750%	5.000%
120	0.000%	1.875%	3.750%	5.063%	3.750%
VMG Dn	3.750%	5.000%	3.750%	2.250%	0.625%

Shore Course

Wind (knots):	6	8	10	12	16
VMG Up	6.000%	6.250%	5.000%	3.000%	1.000%
60	6.000%	6.250%	5.000%	3.000%	1.000%
90	2.000%	3.750%	5.000%	5.000%	3.000%
120	1.000%	3.125%	5.000%	5.500%	3.500%
VMG Dn	5.000%	5.625%	5.000%	3.500%	1.500%

The course model for the **Harvest Moon Regatta** is shown here:

		Wind Velocity	
TWA 60	25%	10	30%
TWA 90	25%	15	50%
TWA 120	25%	20	20%
TWA 150	15%		
VMG Run	5%		

The course model for the **Victoria-Maui Race** is shown here:

True Wind Angle	True Wind Speed (kts)						
	6	8	10	12	14	16	20
VMG BEAT	1.6%	1.2%	0.9%	0.4%	0.3%	0.1%	0.1%
60	1.1%	0.6%	0.6%	0.7%	0.3%	0.1%	0.4%
90	1.2%	2.1%	2.3%	1.1%	0.9%	0.1%	0.7%
110	1.0%	1.2%	1.6%	1.9%	1.5%	1.1%	2.2%
120	0.4%	0.7%	1.4%	2.7%	1.8%	0.8%	1.2%
135	0.2%	0.8%	0.7%	0.7%	0.7%	0.5%	2.0%
150	1.6%	3.9%	5.1%	5.1%	4.2%	3.6%	6.1%
VMG RUN	0.3%	1.5%	3.9%	4.0%	6.3%	6.0%	6.5%

Finally, for 2022 there is a new set of scoring options available in a five-band range of wind speeds for Windward/Leeward racing only:

5-Band Windward/Leeward	Time On Distance	Time On Time
5-Band Low	664.9	0.9024
5-Band Low / Medium	569.1	1.0543
5-Band Medium	469.5	1.2780
5-Band Medium / High	415.5	1.4440
5-Band High	379.5	1.5811

These ratings are based on the wind speed matrix shown below:

TWS	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Low	92.3%	7.7%					
L/M	26.9%	46.2%	19.2%	7.7%			
Med		7.7%	19.2%	46.2%	19.2%	7.7%	
M/H				7.7%	19.2%	55.8%	17.3%
High						17.3%	82.7%

All ORC certificate scoring options are also available from the ORC database by retrieval at www.orc.org/scoring in RMS, JSON or CSV file formats. Note these are organized by certificate type: Standard, Double Handed and Non-Spinnaker.