Phytosociological Research Center

www.globalbioclimatics.org

Worldwide Bioclimatic Classification System

Prof. Dr. Salvador Rivas-Martinez

(Adapted to Synoptical Table 30/08/2017)

STAVANGER SOLA (NORWAY) Altitude: 9 m.
Latitude: 58°52’N Longitude: 5°38’E
Temperature observation period.: 1984−1994 (11)
Rainfall observation period....: 1927−1994 (68)

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**BIOCLIMATIC INDICES AND DIAGNOSIS**

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Latitudinal Belt....: Low subtemperate
Continentality......: Oceanic − Low Semihyperoceanic
Bioclimatic.........: TEMPERATE OCEANIC
Bioclimatic Belt....: UPPER SUPRATEMPERATE UPPER HUMID
STAVANGER SOLA (NORWAY)

Altitude: 9 m. Latitude: 58° 52’N

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<th>P</th>
<th>VR</th>
<th>R</th>
<th>RE</th>
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<th>SP</th>
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<td>80</td>
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| Year   | 8.0 | 624| 1085| *  | *   | 611| 13 | 473| 473| *

R = Reserve  VR = Variation of the reserve  RE = Real evapotranspiration  
DR = Drainage  HC = Humidity coefficient  DF = Deficit  SP = Superavit

STAVANGER SOLA (NORWAY)

58°52’N  5°38’E  9 m  11/68 y.

TEMPERATE OCEANIC

UPPER SUPRATEMPERATE  UPPER HUMID

Imbibing  24 Jul.  
Saturation  15 Oct.  
Reserve Use  12 Apr.  
Deficit  21 Jul.
STAVANGER SOLA (NORWAY)
Latitude: 58°52’N   Longitude: 5°38’E   Altitude: 9 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index                                     [B1b]
+ Type ................: B. Oceanic
+ Subtype .............: 1. Semihyperoceanic
+ Variant .............: b. Low

Thermic types
+ Latitudinal zone ....: B. Temperate
+ Latitudinal belt ....: 2. Low subtemperate
+ Thermic type ........: B. Temperate
+ Thermic subtype .....: 5. Subtemperate

Bioclimatic types                                   [C3.4a.7a]
+ Macrobioclimate ......: C. TEMPERATE
+ Bioclimate ..........: 3. OCEANIC
+ Bioclimatic variant .:
+ Thermic type.........: 4. SUPRATEMPERATE
+ Thermic subtype......: a. UPPER
+ Ombrothermic type ...: 7. HUMID
+ Ombrothermic subtype : a. UPPER

Bioclimatic Classification ....................: Teco.Ste.Hum

STAVANGER SOLA (NORWAY)
Latitude: 58°52’N   Longitude: 5°38’E   Altitude: 9 m

PRECIPITATION PARAMETERS

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<th>Spring Tr2-P</th>
<th>Summer Tr3-S</th>
<th>Autumn Tr4-F</th>
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<td>170</td>
<td>261</td>
<td>365</td>
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Seasonal rainfall rhythms:  F > W > S > P

STAVANGER SOLA (NORWAY)
Latitude: 58°52’N   Longitude: 5°38’E   Altitude: 9 m

TEMPERATURE PARAMETERS

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<td>o</td>
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### OMBROTHERMIC PARAMETERS

#### Annual aridity index.[PE/P].................(Iar):    0.58

#### Mediterranean index of July.[PE/P]..........(Im1):    1.49

#### Mediterranean index of July & August........(Im2):    1.15

#### Mediterranean index of June, July & August....(Im3):    1.26

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#### Seasons

- Winter
- Spring
- Summer
- Autumn

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#### Semesters

- December-May
- June-November

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### RAINFALL PARAMETERS

#### Aridity Value Index (AVI)

- [10xPP/TP=I0]: 10846/961=11.28 There Is No Yearly Aridity

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<td>483</td>
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<tr>
<td>Tp [T‘*10]</td>
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<td>14</td>
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<td>61</td>
<td>106</td>
<td>128</td>
<td>153</td>
<td>153</td>
<td>125</td>
<td>89</td>
<td>56</td>
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<tr>
<td>Io (Iom)</td>
<td>$$$</td>
<td>$$$</td>
<td>$$$</td>
<td>$$$</td>
<td>998</td>
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<td>497</td>
<td>532</td>
<td>765</td>
<td>955</td>
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<td>Avm [200-Iom]</td>
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<td>Pp / Tp</td>
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<td>6273 / 703</td>
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<td>Aridity E [Av&lt;200]</td>
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</table>
### STAVANGER SOLA (NORWAY)

**Latitude:** 58°52'N  
**Longitude:** 5°38'E  
**Altitude:** 9 m

#### BIOCLIMATIC INDICES I

- CI of Supan (1884) \[\text{Tmax}-\text{Tmin}\] \(\text{(Sp)}\) \(= 13.88\)
- CI of Gorezinski (1920) \[1.7*\text{Sp}/\sin(\text{Lat})-20.4\] \(= 7.17\)
  + Hyperoceanic \((-20<\text{CI}<20)\)
- CI of Conrad (1946) \[1.7*\text{Sp}/\sin(\text{Lat}+10)-14\] \(= 11.30\)
  + Oceanic \(0.6<\text{CI}<1.1\)
- CI of Currey (1974) \[\text{CI}=\text{Sp}/(1+\text{Lat}/3)\] \(= 0.67\)
  + Oceanic \(0.6<\text{CI}<1.1\)
- Rainfall Index of Lang (1925) \[R=\text{P}/\text{T}\] \(= 135.42\)
  + Temperate humid \(160>R>100\)
- Aridity Index of Martonne (1926) \[\text{Ia}=\text{P}/(\text{T}+10)\] \(= 60.22\)
  + Perhumid \(\text{Ia}>50\)
- I of Emberger (1930) \[\text{Q}=100*\text{P}/(\text{Tmax}^2-\text{Tmin}^2)\] \(= 323.11\)
  + Humid \(\text{Q}>90\)
- I of Dantin & Revenga (1940) \[\text{DR}=100*\text{T}/\text{P}\] \(= 0.74\)
  + Humid \(2<\text{DR}<10\)
- Aridity Index of UNEP \[\text{I}=\text{P}/\text{PE}\] \(= 1.74\)
  + Humid \(\text{I}>0.65\)
- Potential Erosion I of Fournier (1960) \[\text{K}=\text{P}^2/\text{P}\] \(= 15.46\)
  + Very low \(\text{K}<10\)

#### BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
- Climate ...: A. Warm and temperate warm
- Region ...: 7. Mesoaxeric (Axeric temperate)
- Thermic type: 5. Meso-microthermic

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<tbody>
<tr>
<td>P-E ratio</td>
<td>0.81</td>
<td>0.55</td>
<td>0.42</td>
<td>0.37</td>
<td>0.24</td>
<td>0.31</td>
<td>0.38</td>
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<td>0.63</td>
<td>0.77</td>
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<tr>
<td>T-E ratio</td>
<td>0.63</td>
<td>0.63</td>
<td>1.38</td>
<td>2.75</td>
<td>4.75</td>
<td>5.75</td>
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<tr>
<td>Precipitation-effectiveness: 66.06</td>
<td>Temperature-efficiency ...: 43.25</td>
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- Moisture Index \[\text{MI}=100*(\text{P}-\text{PE})/\text{PE}\] \(= 73.77\)
  + B3. Humid high-humid \((60<\text{MI}<80)\)
- Index of dryness \[\text{DI}=100*\text{d}/\text{PE}\] \(= 2.07\)
  + No deficit \((0<\text{DI}<16.7)\)
- Index of humidity \[\text{HI}=100*\text{s}/\text{PE}\] \(= 75.85\)
  + Strong surplus \((20<\text{HI})\)
- Potential Evapotranspiration \[\text{PE}\] \(= 624.14\)
  + First mesothermic \((570<\text{PE}<712)\)

#### Thornthwaite (1948)

- Precipitation−effectiveness: 66.06  
- Temperature−efficiency ....: 43.25

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**NORWAY**

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<td>18.3</td>
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<td>-0.6</td>
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| 1084.6 mm |
|---|---|
| 10 |  |
| 20 |  |
| 30 |  |
| 40 |  |

**STAVANGER SOLA**

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