

Values Across All Replications

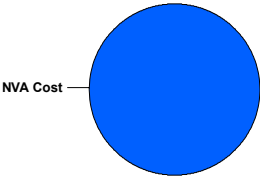
HACKATON PAE

Replications: 100 Time Units: Hours

Key Performance Indicators

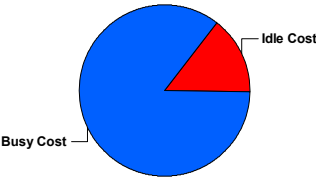
All Entities

| | Average |
|----------------------|---------------|
| Non-Value Added Cost | 1,977,195,820 |
| Other Cost | 0 |
| Transfer Cost | 0 |
| Value Added Cost | 0 |
| Wait Cost | 0 |
| Total Cost | 1,977,195,820 |



All Resources

| | Average |
|------------|-----------------|
| Busy Cost | 1,977,195,820 * |
| Idle Cost | 344,412,877 |
| Usage Cost | 0 |



Total Cost 2,321,608,697

* these costs are included in Entity Costs above.

System

| | Average |
|------------|---------------|
| Total Cost | 2,321,608,697 |
| Number Out | 13,675 |

Values Across All Replications

HACKATON PAE

Replications: 100 Time Units: Hours

Entity

Time

| VA Time | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
|---------------|---------|------------|-----------------|-----------------|---------------|---------------|
| Crudo Mediano | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crudo pesado | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NVA Time | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
| Crudo Mediano | 50.1858 | 0.04 | 49.6794 | 50.6969 | 24.0000 | 332.00 |
| Crudo pesado | 171.55 | 0.33 | 167.08 | 175.42 | 117.32 | 432.82 |
| Wait Time | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
| Crudo Mediano | 107.52 | 0.22 | 105.18 | 110.12 | 6.0167 | 7721.13 |
| Crudo pesado | 689.57 | 1.36 | 672.22 | 704.54 | 180.09 | 6104.16 |
| Transfer Time | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
| Crudo Mediano | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crudo pesado | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other Time | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
| Crudo Mediano | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crudo pesado | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total Time | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
| Crudo Mediano | 104.99 | 0.10 | 103.84 | 106.24 | 30.0167 | 702.02 |
| Crudo pesado | 321.81 | 0.18 | 319.80 | 324.11 | 210.02 | 582.02 |

Cost

| VA Cost | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
|---------------|-----------|------------|-----------------|-----------------|---------------|---------------|
| Crudo Mediano | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crudo pesado | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NVA Cost | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
| Crudo Mediano | 105438.19 | 138.19 | 103845.13 | 106943.82 | 0.00 | 931719.92 |
| Crudo pesado | 469297.11 | 996.79 | 454904.02 | 480144.55 | 257569.35 | 1213032 |

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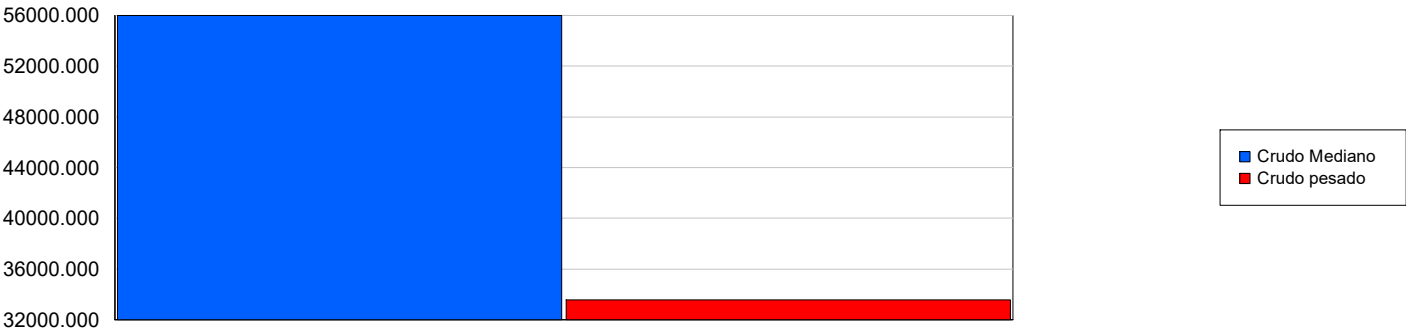
Entity

Cost

| Wait Cost | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
|---------------|-----------|------------|-----------------|-----------------|---------------|---------------|
| | | | | | | |
| Crudo Mediano | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crudo pesado | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Other Cost | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
| | | | | | | |
| Crudo Mediano | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crudo pesado | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Transfer Cost | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
| | | | | | | |
| Crudo Mediano | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Crudo pesado | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total Cost | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
| | | | | | | |
| Crudo Mediano | 105438.19 | 138.19 | 103845.13 | 106943.82 | 0.00 | 931719.92 |
| Crudo pesado | 469297.11 | 996.79 | 454904.02 | 480144.55 | 257569.35 | 1213032 |

Other

| Number In | Average | Half Width | Minimum Average | Maximum Average |
|---------------|----------|------------|-----------------|-----------------|
| | | | | |
| Crudo Mediano | 55968.47 | 8.19 | 55860.00 | 56086.00 |
| Crudo pesado | 33599.99 | 9.48 | 33478.00 | 33709.00 |



| Number Out | Average | Half Width | Minimum Average | Maximum Average |
|---------------|----------|------------|-----------------|-----------------|
| | | | | |
| Crudo Mediano | 55951.25 | 8.15 | 55843.00 | 56067.00 |
| Crudo pesado | 33557.81 | 9.47 | 33426.00 | 33665.00 |

Values Across All Replications

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Replications: 100 Time Units: Hours

Entity

Other

| WIP | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
|---------------|---------|------------|-----------------|-----------------|---------------|---------------|
| Crudo Mediano | 15.9653 | 0.00 | 15.9086 | 16.0259 | 0.00 | 34.0000 |
| Crudo pesado | 40.9575 | 0.01 | 40.7858 | 41.1192 | 0.00 | 103.00 |

Values Across All Replications

HACKATON PAE

Replications: 100 Time Units: Hours

Queue

Time

| Waiting Time | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
|--|------------|------------|-----------------|-----------------|---------------|---------------|
| Batch Cor Pr.Queue | 83.6504 | 0.28 | 79.8115 | 87.8365 | 0.00 | 168.00 |
| Batch Cord PR Afra.Queue | 57.6876 | 0.06 | 56.9316 | 58.5264 | 0.00 | 168.00 |
| Batch Land.Queue | 0.01498359 | 0.00 | 0.01479359 | 0.01520425 | 0.00 | 0.01666667 |
| Batch ol PR.Queue | 129.59 | 0.11 | 128.40 | 130.90 | 0.00 | 168.00 |
| Batch Olivia PR Afra.Queue | 79.6488 | 0.04 | 79.1657 | 80.0424 | 0.00 | 168.00 |
| Batch sea a sur.Queue | 4.9912 | 0.01 | 4.9204 | 5.0865 | 0.00 | 120.00 |
| Charge Transport and Discharge.Queue | 15.4288 | 0.03 | 15.0476 | 15.7414 | 0.00 | 196.89 |
| Hold until 3.Queue | 0.6058 | 0.01 | 0.4231 | 0.7604 | 0.00 | 81.4844 |
| Hold until 5.Queue | 12.7253 | 0.01 | 12.5510 | 12.9314 | 0.00 | 29.9833 |
| Hub Caleta Cordova.Queue | 3.0144 | 0.09 | 2.0480 | 4.6454 | 0.00 | 544.13 |
| Hub Caleta Oliva.Queue | 0.00018118 | 0.00 | 0.00 | 0.00164818 | 0.00 | 6.0167 |
| Hub Cordoba free.Queue | 0.01116033 | 0.01 | 0.00 | 0.2364 | 0.00 | 280.13 |
| Hub Oliva free.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hub Puerto Rosales.Queue | 2.7163 | 0.01 | 2.6433 | 2.7726 | 0.00 | 52.8878 |
| Land transport.Queue | 21.7880 | 0.01 | 21.7109 | 21.8655 | 0.00 | 47.9833 |
| Transport Cord a PR and travel back AFRA.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Transport Cord a PR and travel back.Queue | 11.8643 | 0.06 | 11.0860 | 12.6404 | 0.00 | 102.97 |
| Transport Oliva a PR and travel back.Queue | 11.3435 | 0.08 | 10.4643 | 12.1869 | 0.00 | 55.7592 |
| Transport Olivia a PR and travel back AFRA.Queue | 0.1768 | 0.03 | 0.00 | 0.7071 | 0.00 | 100.27 |

Cost

Values Across All Replications

HACKATON PAE

Replications: 100 Time Units: Hours

Queue

Cost

| Waiting Cost | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
|--|---------|------------|-----------------|-----------------|---------------|---------------|
| Batch Cor Pr.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Batch Cord PR Afra.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Batch Land.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Batch ol PR.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Batch Olivia PR Afra.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Batch sea a sur.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Charge Transport and Discharge.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hold until 3.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hold until 5.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hub Caleta Cordova.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hub Caleta Oliva.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hub Cordoba free.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hub Oliva free.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hub Puerto Rosales.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Land transport.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Transport Cord a PR and travel back AFRA.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Transport Cord a PR and travel back.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Transport Oliva a PR and travel back.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Transport Olivia a PR and travel back AFRA.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Other

HACKATON PAE

Replications: 100 Time Units: Hours

Queue

Other

| Number Waiting | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
|--|------------|------------|-----------------|-----------------|---------------|---------------|
| Batch Cor Pr.Queue | 1.9486 | 0.01 | 1.8688 | 2.0363 | 0.00 | 7.0000 |
| Batch Cord PR Afra.Queue | 3.4631 | 0.00 | 3.4156 | 3.5167 | 0.00 | 10.0000 |
| Batch Land.Queue | 0.00115058 | 0.00 | 0.00113336 | 0.00116410 | 0.00 | 5.0000 |
| Batch ol PR.Queue | 1.6465 | 0.00 | 1.6223 | 1.6753 | 0.00 | 7.0000 |
| Batch Olivia PR Afra.Queue | 2.3064 | 0.00 | 2.2799 | 2.3292 | 0.00 | 8.0000 |
| Batch sea a sur.Queue | 0.5452 | 0.00 | 0.5359 | 0.5556 | 0.00 | 3.0000 |
| Charge Transport and Discharge.Queue | 0.5617 | 0.00 | 0.5504 | 0.5716 | 0.00 | 5.0000 |
| Hold until 3.Queue | 0.06615760 | 0.00 | 0.04627413 | 0.08308466 | 0.00 | 17.0000 |
| Hold until 5.Queue | 0.9772 | 0.00 | 0.9723 | 0.9827 | 0.00 | 2.0000 |
| Hub Caleta Cordova.Queue | 0.2513 | 0.01 | 0.1707 | 0.3871 | 0.00 | 22.0000 |
| Hub Caleta Oliva.Queue | 0.00000755 | 0.00 | 0.00 | 0.00006868 | 0.00 | 1.0000 |
| Hub Cordoba free.Queue | 0.00093009 | 0.00 | 0.00 | 0.01969768 | 0.00 | 24.0000 |
| Hub Oliva free.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hub Puerto Rosales.Queue | 0.5053 | 0.00 | 0.4916 | 0.5159 | 0.00 | 11.0000 |
| Land transport.Queue | 0.9079 | 0.00 | 0.9047 | 0.9111 | 0.00 | 2.0000 |
| Transport Cord a PR and travel back AFRA.Queue | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Transport Cord a PR and travel back.Queue | 0.06238945 | 0.00 | 0.05751791 | 0.06688165 | 0.00 | 4.0000 |
| Transport Oliva a PR and travel back.Queue | 0.04540400 | 0.00 | 0.04186126 | 0.04897019 | 0.00 | 1.0000 |
| Transport Olivia a PR and travel back AFRA.Queue | 0.00071347 | 0.00 | 0.00 | 0.00287380 | 0.00 | 1.0000 |

HACKATON PAE

Replications: 100 Time Units: Hours

Resource

Usage

| Instantaneous Utilization | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
|---------------------------|---------|------------|-----------------|-----------------|---------------|---------------|
| Aframax | 0.5008 | 0.00 | 0.4987 | 0.5034 | 0.00 | 1.0000 |
| Camion | 1.0000 | 0.00 | 1.0000 | 1.0000 | 0.00 | 1.0000 |
| Panamax | 0.9786 | 0.00 | 0.9770 | 0.9806 | 0.00 | 1.0000 |
| Puerto Cordova | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Puerto Oliva | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Number Busy | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
| Aframax | 1.0016 | 0.00 | 0.9974 | 1.0067 | 0.00 | 2.0000 |
| Camion | 1.0000 | 0.00 | 1.0000 | 1.0000 | 0.00 | 1.0000 |
| Panamax | 2.9357 | 0.00 | 2.9311 | 2.9418 | 0.00 | 3.0000 |
| Puerto Cordova | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Puerto Oliva | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Number Scheduled | Average | Half Width | Minimum Average | Maximum Average | Minimum Value | Maximum Value |
| Aframax | 2.0000 | 0.00 | 2.0000 | 2.0000 | 2.0000 | 2.0000 |
| Camion | 1.0000 | 0.00 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Panamax | 3.0000 | 0.00 | 3.0000 | 3.0000 | 3.0000 | 3.0000 |
| Puerto Cordova | 1.0000 | 0.00 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Puerto Oliva | 1.0000 | 0.00 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

Values Across All Replications

HACKATON PAE

Replications: 100 Time Units: Hours

Resource

Usage

| Scheduled Utilization | Average | Half Width | Minimum Average | Maximum Average |
|-----------------------|---------|------------|-----------------|-----------------|
| Aframax | 0.5008 | 0.00 | 0.4987 | 0.5034 |
| Camion | 1.0000 | 0.00 | 1.0000 | 1.0000 |
| Panamax | 0.9786 | 0.00 | 0.9770 | 0.9806 |
| Puerto Cordova | 0.00 | 0.00 | 0.00 | 0.00 |
| Puerto Oliva | 0.00 | 0.00 | 0.00 | 0.00 |



| Total Number Seized | Average | Half Width | Minimum Average | Maximum Average |
|---------------------|---------|------------|-----------------|-----------------|
| Aframax | 1770.15 | 0.78 | 1762.00 | 1779.00 |
| Camion | 7300.00 | 0.00 | 7300.00 | 7300.00 |
| Panamax | 8000.31 | 1.75 | 7977.00 | 8027.00 |
| Puerto Cordova | 0.00 | 0.00 | 0.00 | 0.00 |
| Puerto Oliva | 0.00 | 0.00 | 0.00 | 0.00 |



Cost

Values Across All Replications

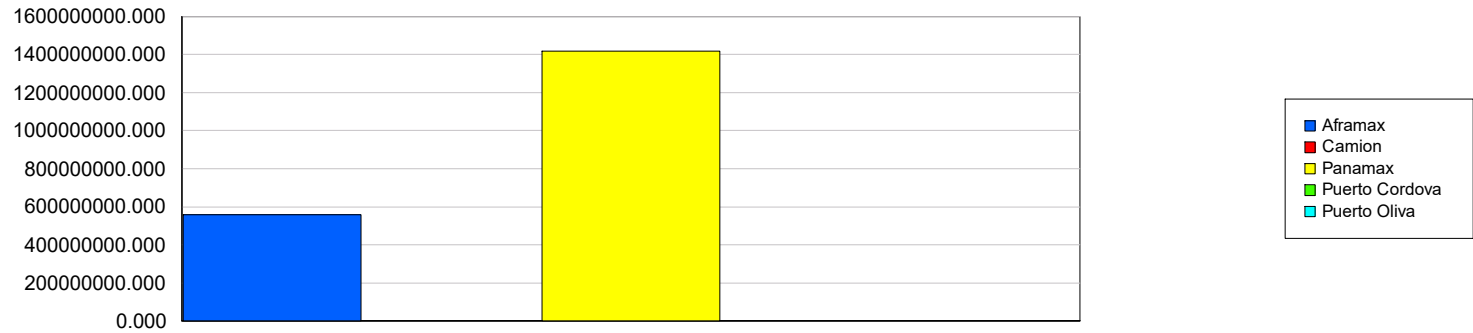
HACKATON PAE

Replications: 100 Time Units: Hours

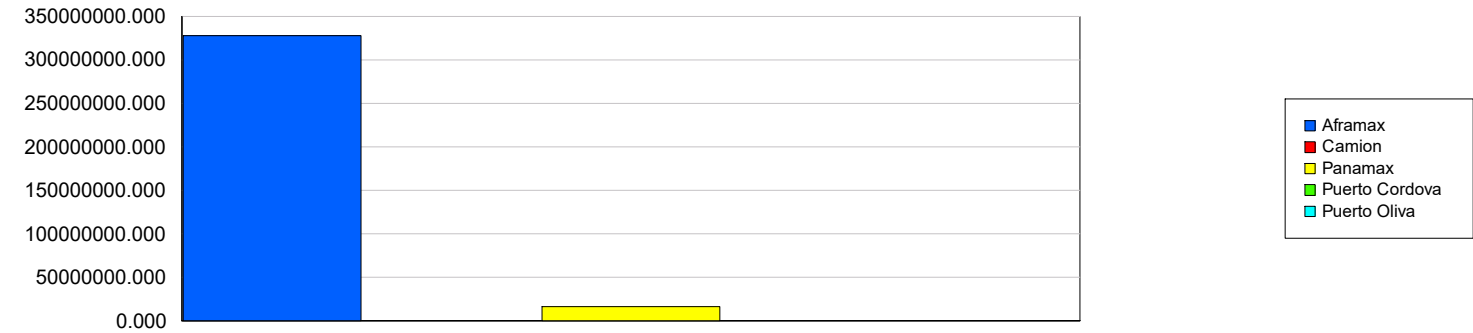
Resource

Cost

| Busy Cost | Average | Half Width | Minimum Average | Maximum Average |
|----------------|-----------|------------|-----------------|-----------------|
| Aframax | 557898157 | 232,169.31 | 555636161 | 560591616 |
| Camion | 0.00 | 0.00 | 0.00 | 0.00 |
| Panamax | ***** ** | 225,019.92 | ***** ** | ***** ** |
| Puerto Cordova | 0.00 | 0.00 | 0.00 | 0.00 |
| Puerto Oliva | 0.00 | 0.00 | 0.00 | 0.00 |



| Idle Cost | Average | Half Width | Minimum Average | Maximum Average |
|----------------|-----------|------------|-----------------|-----------------|
| Aframax | 327967835 | 137,652.49 | 326294554 | 329339339 |
| Camion | 0.00 | 0.00 | 0.00 | 0.00 |
| Panamax | 16445042 | 118,839.84 | 14888378 | 17615519 |
| Puerto Cordova | 0.00 | 0.00 | 0.00 | 0.00 |
| Puerto Oliva | 0.00 | 0.00 | 0.00 | 0.00 |



Values Across All Replications

HACKATON PAE

Replications: 100 Time Units: Hours

Resource

Cost

| Usage Cost | Average | Half Width | Minimum Average | Maximum Average |
|----------------|---------|------------|-----------------|-----------------|
| Aframax | 0.00 | 0.00 | 0.00 | 0.00 |
| Camion | 0.00 | 0.00 | 0.00 | 0.00 |
| Panamax | 0.00 | 0.00 | 0.00 | 0.00 |
| Puerto Cordova | 0.00 | 0.00 | 0.00 | 0.00 |
| Puerto Oliva | 0.00 | 0.00 | 0.00 | 0.00 |