

Centro de Pesquisas de Energia Elétrica - CEPEL



Relatório Técnico

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Título: Comparação de resultados entre a versão 3.10 e a versão 5.4 do modelo GEVAZP – Mudança de compilador e garantia de reprodutibilidade de resultados.

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Resumo:
Este Relatório técnico tem como objetivo comparar os resultados obtidos pelo programa GEVAZP 3.10, versão oficial, com aqueles obtidos utilizando a versão 5.4, com foco na mudança do compilador (WATCOM para INTEL) e na mudança na precisão numérica de variável na rotina de cálculo de distância para o processo de agregação (garantia de reprodutibilidade de resultados).

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1. INTRODUÇÃO

Este Relatório Técnico tem como objetivo comparar os resultados obtidos pelo programa GEVAZP 3.10, versão oficial, com os da versão 5.4, a fim de auxiliar na elaboração de testes a serem aplicados durante a validação do programa GEVAZP a ser conduzida por ONS e CCEE. Na versão 5.4 estão implementados de forma operacional um conjunto reduzido de itens considerados mais significativos e oportunos para a realização da primeira etapa da validação do programa GEVAZP, a fim de se dispor no Programa Mensal de Operação de Janeiro de 2017 das vazões dos postos de Belo Monte e Pimental de forma que as energias naturais afluentes de acoplamento do modelo DECOMP com o modelo NEWAVE sejam providas adequadamente. Os itens operacionais na versão 5.4 estão listados na Tabela 1.

Tabela 1 – Itens operacionais na versão 5.4

Item	Descrição
1	Reprodutibilidade de resultados em micros com arquitetura diferente. Mudança na precisão numérica de variável na rotina de cálculo de distância para o processo de agregação. Esta alteração modifica os resultados na geração em formato árvore e foi realizada, pois rodadas em máquinas com configurações diferentes poderiam gerar resultados distintos o que impossibilita a reprodutibilidade dos resultados
2	Mudança de compilador (<i>Watcom</i> para <i>Intel</i>), o que ocasionou uma redução no tempo computacional do programa
3	Possibilidade de ajustar um modelo AR(0) quando for necessário
4	Geração de cenários de forma compatível para postos de vazão total/incremental e lateral para usinas afetadas pela defasagem oriunda do tempo de viagem. Esta implementação substitui as implementações anteriores relacionadas a tempo de viagem e postos incrementais
5	Geração de cenários para postos artificiais
6	Fornecimento da tendência hidrológica recente mensal e semanal por posto no arquivo de vazões gerado para o programa DECOMP
7	Geração para postos altamente correlacionados, em cascatas diferentes, porém localizadas na mesma região hidrográfica

Ao longo deste relatório técnico serão analisados os dois primeiros itens da Tabela 1

A substituição do compilador WATCOM pelo INTEL, descrita no item 2, tem como justificativa a uniformização do compilador entre os modelos da cadeia de planejamento da operação desenvolvido pelo CEPEL. Além disso, o compilador WATCOM foi descontinuado em 2003, passando a ser distribuído em código aberto, porém sem respaldo da comunidade científica.

Compiladores diferentes em geral utilizam bibliotecas de funções matemáticas distintas para trabalhar com aritmética de ponto flutuante. Estas representações diferenciadas podem levar a resultados ligeiramente distintos obtidos em uma mesma operação matemática.

Nas seções a seguir são apresentados os resultados obtidos considerando a geração da árvore de cenários tanto no formato paralelo, utilizado pelos modelos de planejamento da operação de médio prazo, quanto no formato árvore, empregado no modelo de planejamento da operação de curto prazo. Para este estudo foi considerada a configuração de usinas do PMO JUL/16 – revisão 0 do modelo DECOMP, assim como a tendência hidrológica empregada neste caso.

2. AJUSTE DO MODELO PAR(P)

O programa GEVAZP ajusta para cada usina hidrelétrica da configuração classificada como principal um modelo periódico autorregressivo (PAR) de ordem máxima 11 para cada mês.

Para mostrar que os modelos ajustados pela versão 3.10 são reproduzidos pela nova versão 5.4, listou-se primeiramente classificação das usinas; satélite ou principal. Para as usinas principais, foram, a seguir, apresentados os modelos PAR(p) correspondentes com suas ordens e coeficientes. Para cada usina principal presente em ambas as versões, também se apresentou as médias e os desvios padrão mensais históricos.

Pode ser observado na Tabela 2 que não houve mudanças na classificação obtida com a versão já validada 3.10 e com a versão 5.4. Esse resultado já era esperado, pois não houve modificações no algoritmo de classificação de usina.

Tabela 2 – Classificação das usinas

Usina	versão 3.10	versão 5.4
CAMARGOS	SATELITE	SATELITE
ITUTINGA	PRINCIPAL	PRINCIPAL
FUNIL-GRANDE	PRINCIPAL	PRINCIPAL
EMBORCACAO	PRINCIPAL	PRINCIPAL
CAPIM BRANC1	SATELITE	SATELITE
CAPIM BRANC2	PRINCIPAL	PRINCIPAL
NOVA PONTE	SATELITE	SATELITE
SAO SIMAO	PRINCIPAL	PRINCIPAL
TRES MARIAS	PRINCIPAL	PRINCIPAL
JAGUARA	SATELITE	SATELITE
VOLTA GRANDE	SATELITE	SATELITE
SALTO GRANDE	SATELITE	SATELITE
MIRANDA	SATELITE	SATELITE
IGARAPAVA	SATELITE	SATELITE
AIMORES	SATELITE	SATELITE
QUEIMADO	PRINCIPAL	PRINCIPAL

Usina	versão 3.10	versão 5.4
IRAPE	PRINCIPAL	PRINCIPAL
ROSAL	PRINCIPAL	PRINCIPAL
GUILMAN-AMOR	SATELITE	SATELITE
SA CARVALHO	PRINCIPAL	PRINCIPAL
BAGUARI	SATELITE	SATELITE
CACONDE	SATELITE	SATELITE
A. VERMELHA	PRINCIPAL	PRINCIPAL
BARRA BONITA	SATELITE	SATELITE
PROMISSAO	SATELITE	SATELITE
NAVANHANDAVA	PRINCIPAL	PRINCIPAL
E. DA CUNHA	SATELITE	SATELITE
A.S.OLIVEIRA	PRINCIPAL	PRINCIPAL
A.S. LIMA	SATELITE	SATELITE
IBITINGA	SATELITE	SATELITE
TAQUARUCU	SATELITE	SATELITE
ROSANA	PRINCIPAL	PRINCIPAL
CANOAS I	PRINCIPAL	PRINCIPAL
CANOAS II	SATELITE	SATELITE
A.A. LAYDNER	SATELITE	SATELITE
CHAVANTES	SATELITE	SATELITE
CAPIVARA	SATELITE	SATELITE
L.N. GARCEZ	SATELITE	SATELITE
JUPIA	SATELITE	SATELITE
I. SOLT. EQV	SATELITE	SATELITE
P. PRIMAVERA	PRINCIPAL	PRINCIPAL
JAGUARI	PRINCIPAL	PRINCIPAL
PARAIBUNA	SATELITE	SATELITE
FURNAS	SATELITE	SATELITE
M. DE MORAES	SATELITE	SATELITE
ESTREITO	SATELITE	SATELITE
P. COLOMBIA	PRINCIPAL	PRINCIPAL
MARIMBONDO	SATELITE	SATELITE
ITUMBIARA	SATELITE	SATELITE
CORUMBA I	PRINCIPAL	PRINCIPAL
SERRA MESA	SATELITE	SATELITE
MANSO	PRINCIPAL	PRINCIPAL
FUNIL	SATELITE	SATELITE
SIMPLICIO	SATELITE	SATELITE
BATALHA	PRINCIPAL	PRINCIPAL
STO ANTONIO	PRINCIPAL	PRINCIPAL
PEIXE ANGIC	SATELITE	SATELITE
SANTA BRANCA	PRINCIPAL	PRINCIPAL
LAJES	PRINCIPAL	PRINCIPAL
ILHA POMBOS	PRINCIPAL	PRINCIPAL
STA CECILIA	PRINCIPAL	PRINCIPAL
TOCOS	SATELITE	SATELITE
SANTANA	PRINCIPAL	PRINCIPAL
EDGARD SOUZA	PRINCIPAL	PRINCIPAL
GUARAPIRANGA	PRINCIPAL	PRINCIPAL

Usina	versão 3.10	versão 5.4
BILLINGS	PRINCIPAL	PRINCIPAL
CACH.DOURADA	PRINCIPAL	PRINCIPAL
P. ESTRELA	PRINCIPAL	PRINCIPAL
CANDONGA	PRINCIPAL	PRINCIPAL
SALTO	SATELITE	SATELITE
GARIBALDI	SATELITE	SATELITE
MASCARENHAS	PRINCIPAL	PRINCIPAL
ITAIPU	PRINCIPAL	PRINCIPAL
ERNESTINA	PRINCIPAL	PRINCIPAL
PASSO REAL	SATELITE	SATELITE
JACUI	SATELITE	SATELITE
ITAUBA	SATELITE	SATELITE
D. FRANCISCA	PRINCIPAL	PRINCIPAL
G.B. MUNHOZ	SATELITE	SATELITE
SEGREDO	SATELITE	SATELITE
SALTO CAXIAS	PRINCIPAL	PRINCIPAL
G.P. SOUZA	PRINCIPAL	PRINCIPAL
JORDAO	SATELITE	SATELITE
STA CLARA PR	SATELITE	SATELITE
FUNDAO	PRINCIPAL	PRINCIPAL
MAUA	PRINCIPAL	PRINCIPAL
SLT.SANTIAGO	SATELITE	SATELITE
SALTO OSORIO	SATELITE	SATELITE
PASSO FUNDO	PRINCIPAL	PRINCIPAL
MACHADINHO	SATELITE	SATELITE
ITA	SATELITE	SATELITE
CANA BRAVA	SATELITE	SATELITE
SAO SALVADOR	SATELITE	SATELITE
ESTREITO TOC	PRINCIPAL	PRINCIPAL
PONTE PEDRA	PRINCIPAL	PRINCIPAL
BARRA GRANDE	SATELITE	SATELITE
CAMPOS NOVOS	SATELITE	SATELITE
CASTRO ALVES	SATELITE	SATELITE
MONTE CLARO	SATELITE	SATELITE
14 DE JULHO	PRINCIPAL	PRINCIPAL
FOZ CHAPECO	PRINCIPAL	PRINCIPAL
SOBRADINHO	SATELITE	SATELITE
ITAPARICA	SATELITE	SATELITE
MOXOTO	SATELITE	SATELITE
P.AFONSO 123	SATELITE	SATELITE
XINGO	PRINCIPAL	PRINCIPAL
B. ESPERANCA	PRINCIPAL	PRINCIPAL
P. CAVALO	PRINCIPAL	PRINCIPAL
TUCURUI	PRINCIPAL	PRINCIPAL
CURUA-UNA	PRINCIPAL	PRINCIPAL
SAMUEL	PRINCIPAL	PRINCIPAL
COARACY NUNE	SATELITE	SATELITE
CACH.CALDEIR	SATELITE	SATELITE
SOBRAGI	PRINCIPAL	PRINCIPAL

Usina	versão 3.10	versão 5.4
PICADA	PRINCIPAL	PRINCIPAL
STA CLARA MG	PRINCIPAL	PRINCIPAL
LAJEADO	PRINCIPAL	PRINCIPAL
PIRAJU	SATELITE	SATELITE
OURINHOS	SATELITE	SATELITE
SLT VERDINHO	PRINCIPAL	PRINCIPAL
ITIQUIRA I	PRINCIPAL	PRINCIPAL
JAUJU	PRINCIPAL	PRINCIPAL
GUAPORE	PRINCIPAL	PRINCIPAL
QUEBRA QUEIX	PRINCIPAL	PRINCIPAL
CORUMBA III	SATELITE	SATELITE
ITAPEBI	PRINCIPAL	PRINCIPAL
CORUMBA IV	PRINCIPAL	PRINCIPAL
MONJOLINHO	PRINCIPAL	PRINCIPAL
SALTO PILAO	PRINCIPAL	PRINCIPAL
RETIRO BAIXO	PRINCIPAL	PRINCIPAL
CACU	SATELITE	SATELITE
B. COQUEIROS	SATELITE	SATELITE
DARDANELOS	PRINCIPAL	PRINCIPAL
FOZ R. CLARO	PRINCIPAL	PRINCIPAL
SERRA FACA0	SATELITE	SATELITE
ESPORA	PRINCIPAL	PRINCIPAL
SAO JOSE	SATELITE	SATELITE
RONDON II	PRINCIPAL	PRINCIPAL
PASSO S JOAO	PRINCIPAL	PRINCIPAL
BALBINA	PRINCIPAL	PRINCIPAL
JIRAU	SATELITE	SATELITE
STO ANT JARI	PRINCIPAL	PRINCIPAL
FERREIRA GOM	PRINCIPAL	PRINCIPAL
TELES PIRES	PRINCIPAL	PRINCIPAL
PIMENTAL	PRINCIPAL	PRINCIPAL

A seguir, os modelos PAR, calculados pela versão 3.10 e pela versão 5.4, para cada usina hidrelétrica classificada como principal. Nota-se que a ordem dos modelos PAR para cada mês de uma usina é idêntica. Os coeficientes, as médias e desvios padrão podem apresentar diferenças diminutas em seus valores causadas por precisão numérica nas casas decimais. A origem destas diferenças está descrita no item 2 da Tabela 1, seção 1. O único modelo PAR não apresentado nesta seção, é o da usina de Pimental, que sofre alteração devido o item 3 da Tabela 1.

2.1. ITUTINGA

VERSÃO 3.10	ITUTINGA		Coeficiente										
	Ordem	1	2	3	4	5	6	7	8	9	10	11	
Jan	1	0.395	0	0	0	0	0	0	0	0	0	0	
Fev	1	0.436	0	0	0	0	0	0	0	0	0	0	
Mar	1	0.54	0	0	0	0	0	0	0	0	0	0	
Abr	1	0.679	0	0	0	0	0	0	0	0	0	0	
Mai	1	0.91	0	0	0	0	0	0	0	0	0	0	
Jun	2	0.502	0.344	0	0	0	0	0	0	0	0	0	
Jul	4	0.735	0.0977	-0.0766	0.259	0	0	0	0	0	0	0	
Ago	2	1.26	-0.372	0	0	0	0	0	0	0	0	0	
Set	4	0.273	0.354	0.533	-0.346	0	0	0	0	0	0	0	
Out	2	0.572	0.23	0	0	0	0	0	0	0	0	0	
Nov	2	0.444	0.291	0	0	0	0	0	0	0	0	0	
Dez	2	0.339	0.299	0	0	0	0	0	0	0	0	0	

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	251.54	227.55	202.25	138.2	103.76	88.26	73.83	63.43	66.23	78.13	110.21	180.83
DESVIO	101.22	83.16	78.63	57.18	36.95	35.61	20.13	14.9	29.83	29.39	37.69	61.7

VERSÃO 5.4	ITUTINGA		Coeficiente										
	Ordem	1	2	3	4	5	6	7	8	9	10	11	
Jan	1	0.395	0	0	0	0	0	0	0	0	0	0	
Fev	1	0.436	0	0	0	0	0	0	0	0	0	0	
Mar	1	0.54	0	0	0	0	0	0	0	0	0	0	
Abr	1	0.679	0	0	0	0	0	0	0	0	0	0	
Mai	1	0.91	0	0	0	0	0	0	0	0	0	0	
Jun	2	0.502	0.344	0	0	0	0	0	0	0	0	0	
Jul	4	0.735	0.0977	-0.0766	0.259	0	0	0	0	0	0	0	
Ago	2	1.26	-0.372	0	0	0	0	0	0	0	0	0	
Set	4	0.273	0.354	0.533	-0.346	0	0	0	0	0	0	0	
Out	2	0.572	0.23	0	0	0	0	0	0	0	0	0	
Nov	2	0.444	0.291	0	0	0	0	0	0	0	0	0	
Dez	2	0.339	0.299	0	0	0	0	0	0	0	0	0	

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	251.54	227.55	202.25	138.2	103.76	88.26	73.83	63.43	66.23	78.13	110.21	180.83
DESVIO	101.22	83.16	78.63	57.18	36.95	35.61	20.13	14.9	29.83	29.39	37.69	61.7

2.2. FUNIL-GRANDE

VERSÃO 3.10	FUNIL-GRANDE	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.408	0	0	0	0	0	0	0	0	0	0
Fev	1	0.455	0	0	0	0	0	0	0	0	0	0
Mar	1	0.552	0	0	0	0	0	0	0	0	0	0
Abr	1	0.797	0	0	0	0	0	0	0	0	0	0
Mai	3	0.508	0.184	0.236	0	0	0	0	0	0	0	0
Jun	2	0.668	0.218	0	0	0	0	0	0	0	0	0
Jul	2	0.514	0.457	0	0	0	0	0	0	0	0	0
Ago	1	0.958	0	0	0	0	0	0	0	0	0	0
Set	4	0.798	-0.294	0.784	-0.462	0	0	0	0	0	0	0
Out	4	0.345	0.358	-0.142	0.305	0	0	0	0	0	0	0
Nov	6	0.841	0.0126	-0.0216	0.256	-0.181	-0.227	0	0	0	0	0
Dez	5	0.326	0.372	0.158	0.019	-0.218	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	338.93	294.93	260.18	181.85	131.57	108.62	91.71	77.68	77.9	94.24	143.17	247.77
DESVIO	152.03	122.37	104.84	57.04	44.09	40.57	28.21	24.3	34.73	42.58	67.16	96.59

VERSÃO 5.4	FUNIL-GRANDE	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.408	0	0	0	0	0	0	0	0	0	0
Fev	1	0.455	0	0	0	0	0	0	0	0	0	0
Mar	1	0.552	0	0	0	0	0	0	0	0	0	0
Abr	1	0.797	0	0	0	0	0	0	0	0	0	0
Mai	3	0.508	0.184	0.236	0	0	0	0	0	0	0	0
Jun	2	0.668	0.218	0	0	0	0	0	0	0	0	0
Jul	2	0.514	0.457	0	0	0	0	0	0	0	0	0
Ago	1	0.958	0	0	0	0	0	0	0	0	0	0
Set	4	0.798	-0.294	0.784	-0.462	0	0	0	0	0	0	0
Out	4	0.345	0.358	-0.142	0.305	0	0	0	0	0	0	0
Nov	6	0.841	0.0126	-0.0216	0.256	-0.181	-0.227	0	0	0	0	0
Dez	5	0.326	0.372	0.158	0.019	-0.218	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	338.93	294.93	260.18	181.85	131.57	108.62	91.71	77.68	77.9	94.24	143.17	247.77
DESVIO	152.03	122.37	104.84	57.04	44.09	40.57	28.21	24.3	34.73	42.58	67.16	96.59

2.3. EMBORCAÇÃO

VERSÃO 3.10	EMBORCACAO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.396	0	0	0	0	0	0	0	0	0	0
Fev	1	0.65	0	0	0	0	0	0	0	0	0	0
Mar	1	0.471	0	0	0	0	0	0	0	0	0	0
Abr	2	0.609	0.224	0	0	0	0	0	0	0	0	0
Mai	3	0.642	0.169	0.246	0	0	0	0	0	0	0	0
Jun	1	0.881	0	0	0	0	0	0	0	0	0	0
Jul	2	0.688	0.298	0	0	0	0	0	0	0	0	0
Ago	2	1.24	-0.324	0	0	0	0	0	0	0	0	0
Set	4	0.941	0.405	-0.298	-0.236	0	0	0	0	0	0	0
Out	6	0.486	-0.421	0.865	-0.491	-0.204	0.434	0	0	0	0	0
Nov	2	0.666	-0.292	0	0	0	0	0	0	0	0	0
Dez	6	0.532	0.0587	0.06	0.536	-0.901	0.436	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	705.36	697.31	656.51	474.08	299.7	231.89	186.37	150.33	133.51	159.64	273.95	511.56
DESVIO	292.49	357.52	284.24	184.68	97.89	72.34	56.51	46.01	45.02	61.11	126.04	230.59

VERSÃO 5.4	EMBORCACAO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.396	0	0	0	0	0	0	0	0	0	0
Fev	1	0.65	0	0	0	0	0	0	0	0	0	0
Mar	1	0.471	0	0	0	0	0	0	0	0	0	0
Abr	2	0.609	0.224	0	0	0	0	0	0	0	0	0
Mai	3	0.642	0.169	0.246	0	0	0	0	0	0	0	0
Jun	1	0.881	0	0	0	0	0	0	0	0	0	0
Jul	2	0.688	0.298	0	0	0	0	0	0	0	0	0
Ago	2	1.24	-0.324	0	0	0	0	0	0	0	0	0
Set	4	0.941	0.405	-0.298	-0.236	0	0	0	0	0	0	0
Out	6	0.486	-0.421	0.865	-0.491	-0.204	0.434	0	0	0	0	0
Nov	2	0.666	-0.292	0	0	0	0	0	0	0	0	0
Dez	6	0.532	0.0587	0.06	0.536	-0.901	0.436	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	705.36	697.31	656.51	474.08	299.7	231.89	186.37	150.33	133.51	159.64	273.95	511.56
DESVIO	292.49	357.52	284.24	184.68	97.89	72.34	56.51	46.01	45.02	61.11	126.04	230.59

2.4. CAPIM BRANCO 2

VERSÃO 3.10	CAPIM BRANC2	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.452	0	0	0	0	0	0	0	0	0	0
Fev	1	0.585	0	0	0	0	0	0	0	0	0	0
Mar	1	0.67	0	0	0	0	0	0	0	0	0	0
Abr	1	0.801	0	0	0	0	0	0	0	0	0	0
Mai	3	0.654	0.0849	0.284	0	0	0	0	0	0	0	0
Jun	1	0.915	0	0	0	0	0	0	0	0	0	0
Jul	2	0.701	0.285	0	0	0	0	0	0	0	0	0
Ago	1	0.952	0	0	0	0	0	0	0	0	0	0
Set	4	0.881	0.602	-0.334	-0.318	0	0	0	0	0	0	0
Out	1	0.679	0	0	0	0	0	0	0	0	0	0
Nov	2	0.923	-0.318	0	0	0	0	0	0	0	0	0
Dez	6	0.367	0.195	0.0302	-0.00236	-0.357	0.418	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	638.76	646.83	608.79	465.83	318.35	249.64	206.87	171.83	157.32	189.04	277.18	455.93
DESVIO	237.13	273.37	238.61	181.35	95.73	65.35	51.24	44.09	48.03	66.46	114.82	174.59

VERSÃO 5.4	CAPIM BRANC2	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.452	0	0	0	0	0	0	0	0	0	0
Fev	1	0.585	0	0	0	0	0	0	0	0	0	0
Mar	1	0.67	0	0	0	0	0	0	0	0	0	0
Abr	1	0.801	0	0	0	0	0	0	0	0	0	0
Mai	3	0.654	0.0849	0.284	0	0	0	0	0	0	0	0
Jun	1	0.915	0	0	0	0	0	0	0	0	0	0
Jul	2	0.701	0.285	0	0	0	0	0	0	0	0	0
Ago	1	0.952	0	0	0	0	0	0	0	0	0	0
Set	4	0.881	0.602	-0.334	-0.318	0	0	0	0	0	0	0
Out	1	0.679	0	0	0	0	0	0	0	0	0	0
Nov	2	0.923	-0.318	0	0	0	0	0	0	0	0	0
Dez	6	0.367	0.195	0.0302	-0.00236	-0.357	0.418	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	638.76	646.83	608.79	465.83	318.35	249.64	206.87	171.83	157.32	189.04	277.18	455.93
DESVIO	237.13	273.37	238.61	181.35	95.73	65.35	51.24	44.09	48.03	66.46	114.82	174.59

2.5. SÃO SIMÃO

VERSÃO 3.10	SAO SIMAO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	8	0.515	0.223	0.125	-	0.0167	0.235	0.0785	-	0	0	0
					0.0898				0.241			
Fev	10	0.597	-0.018	-	0.467	-0.352	-	0.189	0.114	0.172	-	0
				0.0482			0.0912				0.245	
Mar	2	0.458	0.341	0	0	0	0	0	0	0	0	0
Abr	1	0.82	0	0	0	0	0	0	0	0	0	0
Mai	3	0.635	0.129	0.251	0	0	0	0	0	0	0	0
Jun	1	0.918	0	0	0	0	0	0	0	0	0	0
Jul	2	0.563	0.403	0	0	0	0	0	0	0	0	0
Ago	1	0.948	0	0	0	0	0	0	0	0	0	0
Set	1	0.928	0	0	0	0	0	0	0	0	0	0
Out	5	0.45	0.365	-	-0.136	0.318	0	0	0	0	0	0
				0.0618								
Nov	6	1	0.0676	-0.543	0.392	0.199	-0.332	0	0	0	0	0
Dez	8	0.625	-	0.41	-0.488	0.297	0.0189	-0.391	0.374	0	0	0
			0.0204									

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1231.7 9	1296.8 7	1336.2 1	1062.7 9	706.2 4	564.3 1	461.1 2	386.6 9	362.4 2	417.3	575.1 9	918.1 5
DESVI O	527.21	585.33	549.77	447.88	265.9	219.6 9	174.4 7	162.0 1	177.4 7	198.3 4	258.8 4	431.5 6

VERSÃO 5.4	SAO SIMAO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	8	0.515	0.223	0.125	-	0.0167	0.235	0.0785	-	0	0	0
					0.0898				0.241			
Fev	10	0.597	-0.018	-	0.467	-0.352	-	0.189	0.114	0.172	-	0
				0.0482			0.0912				0.245	
Mar	2	0.458	0.341	0	0	0	0	0	0	0	0	0
Abr	1	0.82	0	0	0	0	0	0	0	0	0	0
Mai	3	0.635	0.129	0.251	0	0	0	0	0	0	0	0
Jun	1	0.918	0	0	0	0	0	0	0	0	0	0
Jul	2	0.563	0.403	0	0	0	0	0	0	0	0	0
Ago	1	0.948	0	0	0	0	0	0	0	0	0	0
Set	1	0.928	0	0	0	0	0	0	0	0	0	0
Out	5	0.45	0.365	-	-0.136	0.318	0	0	0	0	0	0
				0.0618								
Nov	6	1	0.0676	-0.543	0.392	0.199	-0.332	0	0	0	0	0
Dez	8	0.625	-	0.41	-0.488	0.297	0.0189	-0.391	0.374	0	0	0
			0.0204									

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1231.7 9	1296.8 7	1336.2 1	1062.7 9	706.2 4	564.3 1	461.1 2	386.6 9	362.4 2	417.3	575.1 9	918.1 5
DESVI O	527.21	585.33	549.77	447.88	265.9	219.6 9	174.4 7	162.0 1	177.4 7	198.3 4	258.8 4	431.5 6

2.6. TRÊS MARIAS

VERSÃO 3.10	TRES MARIAS	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.419	0	0	0	0	0	0	0	0	0	0
Fev	1	0.456	0	0	0	0	0	0	0	0	0	0
Mar	1	0.541	0	0	0	0	0	0	0	0	0	0
Abr	2	0.548	0.278	0	0	0	0	0	0	0	0	0
Mai	3	0.648	0.129	0.265	0	0	0	0	0	0	0	0
Jun	1	0.944	0	0	0	0	0	0	0	0	0	0
Jul	2	0.65	0.332	0	0	0	0	0	0	0	0	0
Ago	1	0.93	0	0	0	0	0	0	0	0	0	0
Set	2	0.555	0.24	0	0	0	0	0	0	0	0	0
Out	4	0.334	0.00938	0.597	-0.316	0	0	0	0	0	0	0
Nov	1	0.68	0	0	0	0	0	0	0	0	0	0
Dez	1	0.575	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1131.89	1073.63	886.63	590.11	338.56	248.76	199.36	160.1	157.08	219.57	462.62	855.68
DESVIO	556.13	653.24	456.71	307.63	143.42	103.49	84.32	63.26	63.36	116.66	259.02	413.54

VERSÃO 5.4	TRES MARIAS	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.419	0	0	0	0	0	0	0	0	0	0
Fev	1	0.456	0	0	0	0	0	0	0	0	0	0
Mar	1	0.541	0	0	0	0	0	0	0	0	0	0
Abr	2	0.548	0.278	0	0	0	0	0	0	0	0	0
Mai	3	0.648	0.129	0.265	0	0	0	0	0	0	0	0
Jun	1	0.944	0	0	0	0	0	0	0	0	0	0
Jul	2	0.65	0.332	0	0	0	0	0	0	0	0	0
Ago	1	0.93	0	0	0	0	0	0	0	0	0	0
Set	2	0.555	0.24	0	0	0	0	0	0	0	0	0
Out	4	0.334	0.00938	0.597	-0.316	0	0	0	0	0	0	0
Nov	1	0.68	0	0	0	0	0	0	0	0	0	0
Dez	1	0.575	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1131.89	1073.63	886.63	590.11	338.56	248.76	199.36	160.1	157.08	219.57	462.62	855.68
DESVIO	556.13	653.24	456.71	307.63	143.42	103.49	84.32	63.26	63.36	116.66	259.02	413.54

2.7. QUEIMADO

VERSÃO 3.10	QUEIMADO	Coeficiente										
	Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	1	0.385	0	0	0	0	0	0	0	0	0	0
Fev	1	0.682	0	0	0	0	0	0	0	0	0	0
Mar	8	0.283	0.341	-0.0994	0.0952	-0.0363	0.296	0.755	-0.949	0	0	0
Abr	2	0.512	0.27	0	0	0	0	0	0	0	0	0
Mai	3	0.596	0.1	0.304	0	0	0	0	0	0	0	0
Jun	2	0.737	0.268	0	0	0	0	0	0	0	0	0
Jul	2	1.24	-0.274	0	0	0	0	0	0	0	0	0
Ago	2	1.18	-0.214	0	0	0	0	0	0	0	0	0
Set	4	0.897	0.65	-0.413	-0.271	0	0	0	0	0	0	0
Out	3	0.414	1.21	-0.866	0	0	0	0	0	0	0	0
Nov	7	0.721	0.0422	0.0603	-0.0296	0.396	-0.314	-0.298	0	0	0	0
Dez	6	0.686	-0.146	0.507	-0.321	-0.515	0.409	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	82.15	82.83	86.92	68.31	47.23	39.69	34.5	29.6	27.15	32.49	51.02	78.27
DESVIO	39.78	44.53	37.53	28.67	15.87	12.84	11.23	10.21	9.7	13.78	23.15	40.96

VERSÃO 5.4	QUEIMADO	Coeficiente										
	Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	1	0.385	0	0	0	0	0	0	0	0	0	0
Fev	1	0.682	0	0	0	0	0	0	0	0	0	0
Mar	8	0.283	0.341	-0.0994	0.0952	-0.0363	0.296	0.755	-0.949	0	0	0
Abr	2	0.512	0.27	0	0	0	0	0	0	0	0	0
Mai	3	0.596	0.1	0.304	0	0	0	0	0	0	0	0
Jun	2	0.737	0.268	0	0	0	0	0	0	0	0	0
Jul	2	1.24	-0.274	0	0	0	0	0	0	0	0	0
Ago	2	1.18	-0.214	0	0	0	0	0	0	0	0	0
Set	4	0.897	0.65	-0.413	-0.271	0	0	0	0	0	0	0
Out	3	0.414	1.21	-0.866	0	0	0	0	0	0	0	0
Nov	7	0.721	0.0422	0.0603	-0.0296	0.396	-0.314	-0.298	0	0	0	0
Dez	6	0.686	-0.146	0.507	-0.321	-0.515	0.409	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	82.15	82.83	86.92	68.31	47.23	39.69	34.5	29.6	27.15	32.49	51.02	78.27
DESVIO	39.78	44.53	37.53	28.67	15.87	12.84	11.23	10.21	9.7	13.78	23.15	40.96

2.8. IRAPE

VERSÃO 3.10	IRAPE	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.0913	0	0	0	0	0	0	0	0	0	0
Fev	1	0.636	0	0	0	0	0	0	0	0	0	0
Mar	1	0.339	0	0	0	0	0	0	0	0	0	0
Abr	3	0.547	0.0163	0.27	0	0	0	0	0	0	0	0
Mai	4	0.696	0.0611	0.11	0.228	0	0	0	0	0	0	0
Jun	1	0.95	0	0	0	0	0	0	0	0	0	0
Jul	1	0.957	0	0	0	0	0	0	0	0	0	0
Ago	2	0.775	0.217	0	0	0	0	0	0	0	0	0
Set	3	1.39	0.0953	-0.671	0	0	0	0	0	0	0	0
Out	5	0.267	0.0717	0.479	-0.0567	-0.336	0	0	0	0	0	0
Nov	4	0.532	0.0191	0.925	-0.942	0	0	0	0	0	0	0
Dez	1	0.36	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	344.5	232.89	211.04	132.67	70.32	52.9	43.8	36.38	35.07	67.37	200.13	357.1
DESVIO	224.14	223.06	140.76	104.62	38.71	27.61	21.68	18.17	17.72	50.23	138.28	228.37

VERSÃO 5.4	IRAPE	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.0913	0	0	0	0	0	0	0	0	0	0
Fev	1	0.636	0	0	0	0	0	0	0	0	0	0
Mar	1	0.339	0	0	0	0	0	0	0	0	0	0
Abr	3	0.547	0.0163	0.27	0	0	0	0	0	0	0	0
Mai	4	0.696	0.0611	0.11	0.228	0	0	0	0	0	0	0
Jun	1	0.95	0	0	0	0	0	0	0	0	0	0
Jul	1	0.957	0	0	0	0	0	0	0	0	0	0
Ago	2	0.775	0.217	0	0	0	0	0	0	0	0	0
Set	3	1.39	0.0953	-0.671	0	0	0	0	0	0	0	0
Out	5	0.267	0.0717	0.479	-0.0567	-0.336	0	0	0	0	0	0
Nov	4	0.532	0.0191	0.925	-0.942	0	0	0	0	0	0	0
Dez	1	0.36	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	344.5	232.89	211.04	132.67	70.32	52.9	43.8	36.38	35.07	67.37	200.13	357.1
DESVIO	224.14	223.06	140.76	104.62	38.71	27.61	21.68	18.17	17.72	50.23	138.28	228.37

2.9. ROSAL

VERSÃO 3.10	ROSAL	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.369	0	0	0	0	0	0	0	0	0	0
Fev	1	0.591	0	0	0	0	0	0	0	0	0	0
Mar	2	0.319	0.255	0	0	0	0	0	0	0	0	0
Abr	2	0.638	0.217	0	0	0	0	0	0	0	0	0
Mai	1	0.873	0	0	0	0	0	0	0	0	0	0
Jun	3	0.746	-0.0174	0.225	0	0	0	0	0	0	0	0
Jul	1	0.862	0	0	0	0	0	0	0	0	0	0
Ago	1	0.871	0	0	0	0	0	0	0	0	0	0
Set	2	0.323	0.402	0	0	0	0	0	0	0	0	0
Out	1	0.616	0	0	0	0	0	0	0	0	0	0
Nov	1	0.53	0	0	0	0	0	0	0	0	0	0
Dez	2	0.406	0.223	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	62.79	46.44	45.21	37.37	25.87	20.27	17.63	14.7	14.57	19.58	37.55	57.81
DESVIO	35.18	25.04	24.44	15.6	8.28	5.88	5.3	4.42	5.04	8.22	17.6	25.93

VERSÃO 5.4	ROSAL	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.369	0	0	0	0	0	0	0	0	0	0
Fev	1	0.591	0	0	0	0	0	0	0	0	0	0
Mar	2	0.319	0.255	0	0	0	0	0	0	0	0	0
Abr	2	0.638	0.217	0	0	0	0	0	0	0	0	0
Mai	1	0.873	0	0	0	0	0	0	0	0	0	0
Jun	3	0.746	-0.0174	0.225	0	0	0	0	0	0	0	0
Jul	1	0.862	0	0	0	0	0	0	0	0	0	0
Ago	1	0.871	0	0	0	0	0	0	0	0	0	0
Set	2	0.323	0.402	0	0	0	0	0	0	0	0	0
Out	1	0.616	0	0	0	0	0	0	0	0	0	0
Nov	1	0.53	0	0	0	0	0	0	0	0	0	0
Dez	2	0.406	0.223	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	62.79	46.44	45.21	37.37	25.87	20.27	17.63	14.7	14.57	19.58	37.55	57.81
DESVIO	35.18	25.04	24.44	15.6	8.28	5.88	5.3	4.42	5.04	8.22	17.6	25.93

2.10. SÁ CARVALHO

VERSÃO 3.10	SA CARVALHO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.354	0	0	0	0	0	0	0	0	0	0
Fev	1	0.545	0	0	0	0	0	0	0	0	0	0
Mar	2	0.383	0.237	0	0	0	0	0	0	0	0	0
Abr	3	0.52	0.217	0.249	0	0	0	0	0	0	0	0
Mai	2	0.736	0.235	0	0	0	0	0	0	0	0	0
Jun	1	0.96	0	0	0	0	0	0	0	0	0	0
Jul	2	0.593	0.374	0	0	0	0	0	0	0	0	0
Ago	3	0.803	-0.199	0.353	0	0	0	0	0	0	0	0
Set	3	0.458	0.718	-0.399	0	0	0	0	0	0	0	0
Out	1	0.519	0	0	0	0	0	0	0	0	0	0
Nov	1	0.422	0	0	0	0	0	0	0	0	0	0
Dez	1	0.348	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	166.42	126.56	114.31	83.01	62.02	52.93	46.73	41.4	41.57	52.2	85.96	142.56
DESVIO	82.98	74.22	50.49	30.52	19.09	14.84	11.98	9.84	9.55	17.34	29.95	60.38

VERSÃO 5.4	SA CARVALHO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.354	0	0	0	0	0	0	0	0	0	0
Fev	1	0.545	0	0	0	0	0	0	0	0	0	0
Mar	2	0.383	0.237	0	0	0	0	0	0	0	0	0
Abr	3	0.52	0.217	0.249	0	0	0	0	0	0	0	0
Mai	2	0.736	0.235	0	0	0	0	0	0	0	0	0
Jun	1	0.96	0	0	0	0	0	0	0	0	0	0
Jul	2	0.593	0.374	0	0	0	0	0	0	0	0	0
Ago	3	0.803	-0.199	0.353	0	0	0	0	0	0	0	0
Set	3	0.458	0.718	-0.399	0	0	0	0	0	0	0	0
Out	1	0.519	0	0	0	0	0	0	0	0	0	0
Nov	1	0.422	0	0	0	0	0	0	0	0	0	0
Dez	1	0.348	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	166.42	126.56	114.31	83.01	62.02	52.93	46.73	41.4	41.57	52.2	85.96	142.56
DESVIO	82.98	74.22	50.49	30.52	19.09	14.84	11.98	9.84	9.55	17.34	29.95	60.38

2.11. ÁGUA VERMELHA

VERSÃO 3.10	A. VERMELHA Ordem	Coeficiente										
		1	2	3	4	5	6	7	8	9	10	11
Jan	8	0.53	0.131	-0.153	-0.122	0.263	-0.202	0.0145	0.269	0	0	0
Fev	1	0.556	0	0	0	0	0	0	0	0	0	0
Mar	1	0.679	0	0	0	0	0	0	0	0	0	0
Abr	2	0.593	0.3	0	0	0	0	0	0	0	0	0
Mai	6	0.457	0.213	0.0297	0.0994	-0.0316	0.277	0	0	0	0	0
Jun	11	0.676	-0.113	0.0369	0.144	-0.0719	0.188	-0.014	-0.0723	-0.0347	-0.155	0.408
Jul	1	0.926	0	0	0	0	0	0	0	0	0	0
Ago	1	0.929	0	0	0	0	0	0	0	0	0	0
Set	1	0.885	0	0	0	0	0	0	0	0	0	0
Out	2	0.25	0.438	0	0	0	0	0	0	0	0	0
Nov	5	0.615	0.367	-0.176	-0.23	0.334	0	0	0	0	0	0
Dez	4	0.323	0.0112	0.498	-0.225	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1027.9 3	1238.3 7	1135.6 8	881.6 7	627.2 1	547.7 6	453.2 9	391.0 2	367.7 1	403.8 5	473.5 4	686.7 9
DESVI O	445.77	543.32	395.57	316.1 8	190.3 2	205.9 5	158.4 2	131.9 1	149.2 7	226.3 1	183.2 3	272.4 9

VERSÃO 5.4	A. VERMELHA Ordem	Coeficiente										
		1	2	3	4	5	6	7	8	9	10	11
Jan	8	0.53	0.131	-0.153	-0.122	0.263	-0.202	0.0145	0.269	0	0	0
Fev	1	0.556	0	0	0	0	0	0	0	0	0	0
Mar	1	0.679	0	0	0	0	0	0	0	0	0	0
Abr	2	0.593	0.3	0	0	0	0	0	0	0	0	0
Mai	6	0.457	0.213	0.0297	0.0994	-0.0316	0.277	0	0	0	0	0
Jun	11	0.676	-0.113	0.0369	0.144	-0.0719	0.188	-0.014	-0.0723	-0.0347	-0.155	0.408
Jul	1	0.926	0	0	0	0	0	0	0	0	0	0
Ago	1	0.929	0	0	0	0	0	0	0	0	0	0
Set	1	0.885	0	0	0	0	0	0	0	0	0	0
Out	2	0.25	0.438	0	0	0	0	0	0	0	0	0
Nov	5	0.615	0.367	-0.176	-0.23	0.334	0	0	0	0	0	0
Dez	4	0.323	0.0112	0.498	-0.225	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1027.9 3	1238.3 7	1135.6 8	881.6 7	627.2 1	547.7 6	453.2 9	391.0 2	367.7 1	403.8 5	473.5 4	686.7 9
DESVI O	445.77	543.32	395.57	316.1 8	190.3 2	205.9 5	158.4 2	131.9 1	149.2 7	226.3 1	183.2 3	272.4 9

2.12. NOVA AVANHANDAVA

VERSÃO 3.10	NAVANHANDAVA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	5	0.546	-0.149	0.195	-0.214	0.303	0	0	0	0	0	0
Fev	1	0.491	0	0	0	0	0	0	0	0	0	0
Mar	2	0.536	0.223	0	0	0	0	0	0	0	0	0
Abr	10	0.532	0.355	-0.161	0.0168	0.0586	-0.00477	0.178	0.181	0.279	-0.3	0
Mai	1	0.784	0	0	0	0	0	0	0	0	0	0
Jun	1	0.77	0	0	0	0	0	0	0	0	0	0
Jul	2	0.642	0.24	0	0	0	0	0	0	0	0	0
Ago	1	0.794	0	0	0	0	0	0	0	0	0	0
Set	3	0.641	-0.0237	0.29	0	0	0	0	0	0	0	0
Out	3	0.524	-0.0699	0.312	0	0	0	0	0	0	0	0
Nov	10	0.529	0.215	-0.124	0.174	0.0874	-0.0219	-0.107	0.0404	-0.0248	0.215	0
Dez	7	0.355	-0.0132	0.382	-0.0452	0.0703	-0.395	0.239	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1072.39	1143.95	985.18	672.08	532.48	525.86	427.04	369.67	382.32	443.57	474.52	726.42
DESVI O	466.79	550.06	393.98	262.37	196.56	352.38	166.62	133.71	182.25	227.71	183	322.32

VERSÃO 5.4	NAVANHANDAVA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	5	0.546	-0.149	0.195	-0.214	0.303	0	0	0	0	0	0
Fev	1	0.491	0	0	0	0	0	0	0	0	0	0
Mar	2	0.536	0.223	0	0	0	0	0	0	0	0	0
Abr	10	0.532	0.355	-0.161	0.0168	0.0586	-0.00477	0.178	0.181	0.279	-0.3	0
Mai	1	0.784	0	0	0	0	0	0	0	0	0	0
Jun	1	0.77	0	0	0	0	0	0	0	0	0	0
Jul	2	0.642	0.24	0	0	0	0	0	0	0	0	0
Ago	1	0.794	0	0	0	0	0	0	0	0	0	0
Set	3	0.641	-0.0237	0.29	0	0	0	0	0	0	0	0
Out	3	0.524	-0.0699	0.312	0	0	0	0	0	0	0	0
Nov	10	0.529	0.215	-0.124	0.174	0.0874	-0.0219	-0.107	0.0404	-0.0248	0.215	0
Dez	7	0.355	-0.0132	0.382	-0.0452	0.0703	-0.395	0.239	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1072.39	1143.95	985.18	672.08	532.48	525.86	427.04	369.67	382.32	443.57	474.52	726.42
DESVI O	466.79	550.06	393.98	262.37	196.56	352.38	166.62	133.71	182.25	227.71	183	322.32

2.13. A.S.OLIVEIRA

VERSÃO 3.10	A.S.OLIVEIRA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.625	0	0	0	0	0	0	0	0	0	0
Fev	1	0.412	0	0	0	0	0	0	0	0	0	0
Mar	1	0.578	0	0	0	0	0	0	0	0	0	0
Abr	2	0.564	0.263	0	0	0	0	0	0	0	0	0
Mai	1	0.765	0	0	0	0	0	0	0	0	0	0
Jun	1	0.815	0	0	0	0	0	0	0	0	0	0
Jul	2	0.581	0.379	0	0	0	0	0	0	0	0	0
Ago	1	0.898	0	0	0	0	0	0	0	0	0	0
Set	4	0.709	0.0483	0.302	-0.243	0	0	0	0	0	0	0
Out	3	0.515	-0.31	0.585	0	0	0	0	0	0	0	0
Nov	1	0.681	0	0	0	0	0	0	0	0	0	0
Dez	6	0.413	0.197	-0.115	0.43	-0.503	0.301	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	160.81	165.24	143.32	97.88	71.74	59.93	49.04	41.51	42.68	51.1	65.01	115.05
DESVIO	66.56	72.97	57.99	31.38	21.34	21.46	14.15	11.82	19.99	24.66	25.21	49.65

VERSÃO 5.4	A.S.OLIVEIRA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.625	0	0	0	0	0	0	0	0	0	0
Fev	1	0.412	0	0	0	0	0	0	0	0	0	0
Mar	1	0.578	0	0	0	0	0	0	0	0	0	0
Abr	2	0.564	0.263	0	0	0	0	0	0	0	0	0
Mai	1	0.765	0	0	0	0	0	0	0	0	0	0
Jun	1	0.815	0	0	0	0	0	0	0	0	0	0
Jul	2	0.581	0.379	0	0	0	0	0	0	0	0	0
Ago	1	0.898	0	0	0	0	0	0	0	0	0	0
Set	4	0.709	0.0483	0.302	-0.243	0	0	0	0	0	0	0
Out	3	0.515	-0.31	0.585	0	0	0	0	0	0	0	0
Nov	1	0.681	0	0	0	0	0	0	0	0	0	0
Dez	6	0.413	0.197	-0.115	0.43	-0.503	0.301	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	160.81	165.24	143.32	97.88	71.74	59.93	49.04	41.51	42.68	51.1	65.01	115.05
DESVIO	66.56	72.97	57.99	31.38	21.34	21.46	14.15	11.82	19.99	24.66	25.21	49.65

2.14. ROSANA

VERSÃO 3.10	ROSANA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	6	0.417	-0.168	0.189	0.283	0.0124	-0.274	0	0	0	0	0
Fev	2	0.376	0.236	0	0	0	0	0	0	0	0	0
Mar	1	0.629	0	0	0	0	0	0	0	0	0	0
Abr	1	0.637	0	0	0	0	0	0	0	0	0	0
Mai	1	0.395	0	0	0	0	0	0	0	0	0	0
Jun	3	0.491	-0.0205	0.23	0	0	0	0	0	0	0	0
Jul	1	0.657	0	0	0	0	0	0	0	0	0	0
Ago	1	0.687	0	0	0	0	0	0	0	0	0	0
Set	2	0.598	0.222	0	0	0	0	0	0	0	0	0
Out	1	0.498	0	0	0	0	0	0	0	0	0	0
Nov	2	0.467	0.238	0	0	0	0	0	0	0	0	0
Dez	5	0.52	-0.0374	-0.0744	0.00717	0.253	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	736.11	756.81	623.14	497.94	491.68	548.37	481.15	402.89	425.92	540.3	508.38	543.55
DESVIO	517.69	403.61	287.95	247.73	326.96	492.82	269.27	218.84	270.37	434.52	277.58	375.86

VERSÃO 5.4	ROSANA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	6	0.417	-0.168	0.189	0.283	0.0124	-0.274	0	0	0	0	0
Fev	2	0.376	0.236	0	0	0	0	0	0	0	0	0
Mar	1	0.629	0	0	0	0	0	0	0	0	0	0
Abr	1	0.637	0	0	0	0	0	0	0	0	0	0
Mai	1	0.395	0	0	0	0	0	0	0	0	0	0
Jun	3	0.491	-0.0205	0.23	0	0	0	0	0	0	0	0
Jul	1	0.657	0	0	0	0	0	0	0	0	0	0
Ago	1	0.687	0	0	0	0	0	0	0	0	0	0
Set	2	0.598	0.222	0	0	0	0	0	0	0	0	0
Out	1	0.498	0	0	0	0	0	0	0	0	0	0
Nov	2	0.467	0.238	0	0	0	0	0	0	0	0	0
Dez	5	0.52	-0.0374	-0.0744	0.00717	0.253	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	736.11	756.81	623.14	497.94	491.68	548.37	481.15	402.89	425.92	540.3	508.38	543.55
DESVIO	517.69	403.61	287.95	247.73	326.96	492.82	269.27	218.84	270.37	434.52	277.58	375.86

2.15. CANOAS I

VERSÃO 3.10	CANOAS I	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	6	0.385	-0.048	0.0564	0.0446	0.321	-0.228	0	0	0	0	0
Fev	6	0.491	0.138	0.0396	0.0835	0.207	-0.253	0	0	0	0	0
Mar	1	0.552	0	0	0	0	0	0	0	0	0	0
Abr	8	0.599	0.215	-0.0707	0.154	0.125	-0.091	-0.112	0.274	0	0	0
Mai	5	0.442	0.0649	-0.0452	-0.0364	0.321	0	0	0	0	0	0
Jun	6	0.673	-0.163	0.0129	-0.0422	0.0431	0.292	0	0	0	0	0
Jul	1	0.697	0	0	0	0	0	0	0	0	0	0
Ago	3	0.711	-0.235	0.335	0	0	0	0	0	0	0	0
Set	2	0.562	0.318	0	0	0	0	0	0	0	0	0
Out	1	0.609	0	0	0	0	0	0	0	0	0	0
Nov	4	0.475	0.0846	0.0019	0.238	0	0	0	0	0	0	0
Dez	1	0.573	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	685.14	750.58	639.82	475.52	432.68	452.15	391.35	328.61	358.18	420.38	396.94	489.42
DESVIO	373.78	318.68	255.42	187.16	204.29	357.85	188.34	139.36	198.33	230.82	174.42	236.24

VERSÃO 5.4	CANOAS I	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	6	0.385	-0.048	0.0564	0.0446	0.321	-0.228	0	0	0	0	0
Fev	6	0.491	0.138	0.0396	0.0835	0.207	-0.253	0	0	0	0	0
Mar	1	0.552	0	0	0	0	0	0	0	0	0	0
Abr	8	0.599	0.215	-0.0707	0.154	0.125	-0.091	-0.112	0.274	0	0	0
Mai	5	0.442	0.0649	-0.0452	-0.0364	0.321	0	0	0	0	0	0
Jun	6	0.673	-0.163	0.0129	-0.0422	0.0431	0.292	0	0	0	0	0
Jul	1	0.697	0	0	0	0	0	0	0	0	0	0
Ago	3	0.711	-0.235	0.335	0	0	0	0	0	0	0	0
Set	2	0.562	0.318	0	0	0	0	0	0	0	0	0
Out	1	0.609	0	0	0	0	0	0	0	0	0	0
Nov	4	0.475	0.0846	0.0019	0.238	0	0	0	0	0	0	0
Dez	1	0.573	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	685.14	750.58	639.82	475.52	432.68	452.15	391.35	328.61	358.18	420.38	396.94	489.42
DESVIO	373.78	318.68	255.42	187.16	204.29	357.85	188.34	139.36	198.33	230.82	174.42	236.24

2.16. PORTO PRIMAVERA

VERSÃO 3.10	P. PRIMAVERA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	9	0.119	0.168	0.161	0.0661	0.0663	0.186	-0.236	-0.067	0.277	0	0
Fev	4	0.445	0.137	-0.0448	0.23	0	0	0	0	0	0	0
Mar	1	0.471	0	0	0	0	0	0	0	0	0	0
Abr	2	0.537	0.328	0	0	0	0	0	0	0	0	0
Mai	11	0.386	0.0903	-0.0341	0.00476	0.121	0.213	0.0784	-0.18	0.2	0.333	-0.25
Jun	11	0.7	-0.0411	-0.132	0.189	-2.53e-05	0.111	0.121	-0.141	0.00333	-0.212	0.241
Jul	2	0.622	0.301	0	0	0	0	0	0	0	0	0
Ago	1	0.834	0	0	0	0	0	0	0	0	0	0
Set	1	0.857	0	0	0	0	0	0	0	0	0	0
Out	6	0.676	-0.214	0.0645	0.165	-0.0326	0.252	0	0	0	0	0
Nov	3	0.552	0.0158	0.252	0	0	0	0	0	0	0	0
Dez	7	0.411	0.141	0.282	-0.137	0.423	-0.2	-0.264	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1839.52	2233.4	2197.57	1922.93	1547	1513	1267.48	1132.65	1102.15	1169.45	1187.93	1315.42
DESVIO	1059.96	1107.31	937.68	674.11	528.77	674.95	440.25	381.26	426.4	455.78	441.65	650.02

VERSÃO 5.4	P. PRIMAVERA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	9	0.119	0.168	0.161	0.0661	0.0663	0.186	-0.236	-0.067	0.277	0	0
Fev	4	0.445	0.137	-0.0448	0.23	0	0	0	0	0	0	0
Mar	1	0.471	0	0	0	0	0	0	0	0	0	0
Abr	2	0.537	0.328	0	0	0	0	0	0	0	0	0
Mai	11	0.386	0.0903	-0.0341	0.00476	0.121	0.213	0.0784	-0.18	0.2	0.333	-0.25
Jun	11	0.7	-0.0411	-0.132	0.189	-2.53e-05	0.111	0.121	-0.141	0.00333	-0.212	0.241
Jul	2	0.622	0.301	0	0	0	0	0	0	0	0	0
Ago	1	0.834	0	0	0	0	0	0	0	0	0	0
Set	1	0.857	0	0	0	0	0	0	0	0	0	0
Out	6	0.676	-0.214	0.0645	0.165	-0.0326	0.252	0	0	0	0	0
Nov	3	0.552	0.0158	0.252	0	0	0	0	0	0	0	0
Dez	7	0.411	0.141	0.282	-0.137	0.423	-0.2	-0.264	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1839.52	2233.4	2197.57	1922.93	1547	1513	1267.48	1132.65	1102.15	1169.45	1187.93	1315.42
DESVIO	1059.96	1107.31	937.68	674.11	528.77	674.95	440.25	381.26	426.4	455.78	441.65	650.02

2.17. JAGUARI

VERSÃO 3.10	JAGUARI	Coeficiente										
	Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	1	0.575	0	0	0	0	0	0	0	0	0	0
Fev	1	0.529	0	0	0	0	0	0	0	0	0	0
Mar	2	0.479	0.331	0	0	0	0	0	0	0	0	0
Abr	3	0.521	0.121	0.284	0	0	0	0	0	0	0	0
Mai	1	0.78	0	0	0	0	0	0	0	0	0	0
Jun	1	0.817	0	0	0	0	0	0	0	0	0	0
Jul	1	0.847	0	0	0	0	0	0	0	0	0	0
Ago	3	0.587	-0.0667	0.394	0	0	0	0	0	0	0	0
Set	2	0.464	0.31	0	0	0	0	0	0	0	0	0
Out	2	0.41	0.355	0	0	0	0	0	0	0	0	0
Nov	1	0.598	0	0	0	0	0	0	0	0	0	0
Dez	6	0.32	0.11	0.0257	0.291	0.198	-0.346	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	45.1	48.04	45.89	33.55	26.7	23.52	19.83	17.23	17.9	20.24	23.44	33.52
DESVIO	16.93	18.65	16.58	10.62	8.67	9.08	6.24	5.07	7	6.83	7.19	13.59

VERSÃO 5.4	JAGUARI	Coeficiente										
	Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	1	0.575	0	0	0	0	0	0	0	0	0	0
Fev	1	0.529	0	0	0	0	0	0	0	0	0	0
Mar	2	0.479	0.331	0	0	0	0	0	0	0	0	0
Abr	3	0.521	0.121	0.284	0	0	0	0	0	0	0	0
Mai	1	0.78	0	0	0	0	0	0	0	0	0	0
Jun	1	0.817	0	0	0	0	0	0	0	0	0	0
Jul	1	0.847	0	0	0	0	0	0	0	0	0	0
Ago	3	0.587	-0.0667	0.394	0	0	0	0	0	0	0	0
Set	2	0.464	0.31	0	0	0	0	0	0	0	0	0
Out	2	0.41	0.355	0	0	0	0	0	0	0	0	0
Nov	1	0.598	0	0	0	0	0	0	0	0	0	0
Dez	6	0.32	0.11	0.0257	0.291	0.198	-0.346	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	45.1	48.04	45.89	33.55	26.7	23.52	19.83	17.23	17.9	20.24	23.44	33.52
DESVIO	16.93	18.65	16.58	10.62	8.67	9.08	6.24	5.07	7	6.83	7.19	13.59

2.18. PORTO COLÔMBIA

VERSÃO 3.10	P. COLOMBIA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.528	0	0	0	0	0	0	0	0	0	0
Fev	1	0.499	0	0	0	0	0	0	0	0	0	0
Mar	1	0.618	0	0	0	0	0	0	0	0	0	0
Abr	2	0.563	0.322	0	0	0	0	0	0	0	0	0
Mai	3	0.44	0.25	0.332	0	0	0	0	0	0	0	0
Jun	1	0.851	0	0	0	0	0	0	0	0	0	0
Jul	2	0.604	0.361	0	0	0	0	0	0	0	0	0
Ago	1	0.916	0	0	0	0	0	0	0	0	0	0
Set	4	0.406	0.345	0.301	-0.253	0	0	0	0	0	0	0
Out	4	0.407	-0.0814	0.168	0.375	0	0	0	0	0	0	0
Nov	1	0.763	0	0	0	0	0	0	0	0	0	0
Dez	2	0.446	0.315	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1882.7 3	1879.1 1	1689.9 2	1201.8 2	849.8 1	691.9 4	557.4 8	448.8 8	449.4	526.1 3	717.8 9	1224.6 5
DESVI O	771.99	745.51	670.8	436.16	277.8 1	261.3 7	172.2 9	133.3 6	216.9 5	247.5 6	318.7	465.3

VERSÃO 5.4	P. COLOMBIA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.528	0	0	0	0	0	0	0	0	0	0
Fev	1	0.499	0	0	0	0	0	0	0	0	0	0
Mar	1	0.618	0	0	0	0	0	0	0	0	0	0
Abr	2	0.563	0.322	0	0	0	0	0	0	0	0	0
Mai	3	0.44	0.25	0.332	0	0	0	0	0	0	0	0
Jun	1	0.851	0	0	0	0	0	0	0	0	0	0
Jul	2	0.604	0.361	0	0	0	0	0	0	0	0	0
Ago	1	0.916	0	0	0	0	0	0	0	0	0	0
Set	4	0.406	0.345	0.301	-0.253	0	0	0	0	0	0	0
Out	4	0.407	-0.0814	0.168	0.375	0	0	0	0	0	0	0
Nov	1	0.763	0	0	0	0	0	0	0	0	0	0
Dez	2	0.446	0.315	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1882.7 3	1879.1 1	1689.9 2	1201.8 2	849.8 1	691.9 4	557.4 8	448.8 8	449.4	526.1 3	717.8 9	1224.6 5
DESVI O	771.99	745.51	670.8	436.16	277.8 1	261.3 7	172.2 9	133.3 6	216.9 5	247.5 6	318.7	465.3

2.19. CORUMBA I

VERSÃO 3.10	CORUMBA I		Coeficiente										
	Ordem	1	2	3	4	5	6	7	8	9	10	11	
Jan	1	0.5	0	0	0	0	0	0	0	0	0	0	
Fev	3	0.756	-0.247	0.228	0	0	0	0	0	0	0	0	
Mar	1	0.538	0	0	0	0	0	0	0	0	0	0	
Abr	1	0.716	0	0	0	0	0	0	0	0	0	0	
Mai	1	0.89	0	0	0	0	0	0	0	0	0	0	
Jun	3	0.787	-0.107	0.236	0	0	0	0	0	0	0	0	
Jul	2	0.741	0.221	0	0	0	0	0	0	0	0	0	
Ago	1	0.935	0	0	0	0	0	0	0	0	0	0	
Set	1	0.838	0	0	0	0	0	0	0	0	0	0	
Out	3	0.152	0.901	-0.394	0	0	0	0	0	0	0	0	
Nov	1	0.645	0	0	0	0	0	0	0	0	0	0	
Dez	1	0.579	0	0	0	0	0	0	0	0	0	0	

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	534.68	587.75	592.24	454.57	286.98	214.57	169.12	133.24	114.68	142.2	238.54	393.3
DESVIO	216.63	296.65	253.71	160.23	87.7	63.08	45.66	38.01	36.53	53.72	103.02	190.07

VERSÃO 5.4	CORUMBA I		Coeficiente										
	Ordem	1	2	3	4	5	6	7	8	9	10	11	
Jan	1	0.5	0	0	0	0	0	0	0	0	0	0	
Fev	3	0.756	-0.247	0.228	0	0	0	0	0	0	0	0	
Mar	1	0.538	0	0	0	0	0	0	0	0	0	0	
Abr	1	0.716	0	0	0	0	0	0	0	0	0	0	
Mai	1	0.89	0	0	0	0	0	0	0	0	0	0	
Jun	3	0.787	-0.107	0.236	0	0	0	0	0	0	0	0	
Jul	2	0.741	0.221	0	0	0	0	0	0	0	0	0	
Ago	1	0.935	0	0	0	0	0	0	0	0	0	0	
Set	1	0.838	0	0	0	0	0	0	0	0	0	0	
Out	3	0.152	0.901	-0.394	0	0	0	0	0	0	0	0	
Nov	1	0.645	0	0	0	0	0	0	0	0	0	0	
Dez	1	0.579	0	0	0	0	0	0	0	0	0	0	

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	534.68	587.75	592.24	454.57	286.98	214.57	169.12	133.24	114.68	142.2	238.54	393.3
DESVIO	216.63	296.65	253.71	160.23	87.7	63.08	45.66	38.01	36.53	53.72	103.02	190.07

2.20. MANSO

VERSÃO 3.10	MANSO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.365	0	0	0	0	0	0	0	0	0	0
Fev	1	0.45	0	0	0	0	0	0	0	0	0	0
Mar	2	0.109	0.224	0	0	0	0	0	0	0	0	0
Abr	1	0.524	0	0	0	0	0	0	0	0	0	0
Mai	5	0.615	-0.114	0.177	0.104	0.216	0	0	0	0	0	0
Jun	2	0.692	0.225	0	0	0	0	0	0	0	0	0
Jul	1	0.885	0	0	0	0	0	0	0	0	0	0
Ago	2	0.306	0.582	0	0	0	0	0	0	0	0	0
Set	2	0.444	0.399	0	0	0	0	0	0	0	0	0
Out	4	0.102	0.176	0.458	-0.385	0	0	0	0	0	0	0
Nov	1	0.317	0	0	0	0	0	0	0	0	0	0
Dez	1	0.316	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	304.94	345.13	322.75	215.54	122.57	92.08	77.63	68.9	70.29	94.12	130.79	209.14
DESVIO	116.15	115.68	108.38	73.38	29.28	15.52	14.46	14.12	14.27	23.81	35.92	79.48

VERSÃO 5.4	MANSO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.365	0	0	0	0	0	0	0	0	0	0
Fev	1	0.45	0	0	0	0	0	0	0	0	0	0
Mar	2	0.109	0.224	0	0	0	0	0	0	0	0	0
Abr	1	0.524	0	0	0	0	0	0	0	0	0	0
Mai	5	0.615	-0.114	0.177	0.104	0.216	0	0	0	0	0	0
Jun	2	0.692	0.225	0	0	0	0	0	0	0	0	0
Jul	1	0.885	0	0	0	0	0	0	0	0	0	0
Ago	2	0.306	0.582	0	0	0	0	0	0	0	0	0
Set	2	0.444	0.399	0	0	0	0	0	0	0	0	0
Out	4	0.102	0.176	0.458	-0.385	0	0	0	0	0	0	0
Nov	1	0.317	0	0	0	0	0	0	0	0	0	0
Dez	1	0.316	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	304.94	345.13	322.75	215.54	122.57	92.08	77.63	68.9	70.29	94.12	130.79	209.14
DESVIO	116.15	115.68	108.38	73.38	29.28	15.52	14.46	14.12	14.27	23.81	35.92	79.48

2.21. BATALHA

VERSÃO 3.10	BATALHA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	5	0.331	0.105	-0.0226	-0.0234	0.258	0	0	0	0	0	0
Fev	1	0.636	0	0	0	0	0	0	0	0	0	0
Mar	1	0.439	0	0	0	0	0	0	0	0	0	0
Abr	2	0.572	0.221	0	0	0	0	0	0	0	0	0
Mai	3	0.687	0.106	0.255	0	0	0	0	0	0	0	0
Jun	1	0.88	0	0	0	0	0	0	0	0	0	0
Jul	2	0.735	0.255	0	0	0	0	0	0	0	0	0
Ago	2	1.23	-0.271	0	0	0	0	0	0	0	0	0
Set	1	0.91	0	0	0	0	0	0	0	0	0	0
Out	3	0.503	-0.448	0.563	0	0	0	0	0	0	0	0
Nov	1	0.549	0	0	0	0	0	0	0	0	0	0
Dez	1	0.5	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	191.89	194.68	197.79	149.94	95.82	72.98	57.49	45.17	38.63	45.6	77.7	145.29
DESVIO	72.27	91.94	81.8	53.22	28.83	20.63	16.41	13.37	12.93	18.62	36.74	71.16

VERSÃO 5.4	BATALHA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	5	0.331	0.105	-0.0226	-0.0234	0.258	0	0	0	0	0	0
Fev	1	0.636	0	0	0	0	0	0	0	0	0	0
Mar	1	0.439	0	0	0	0	0	0	0	0	0	0
Abr	2	0.572	0.221	0	0	0	0	0	0	0	0	0
Mai	3	0.687	0.106	0.255	0	0	0	0	0	0	0	0
Jun	1	0.88	0	0	0	0	0	0	0	0	0	0
Jul	2	0.735	0.255	0	0	0	0	0	0	0	0	0
Ago	2	1.23	-0.271	0	0	0	0	0	0	0	0	0
Set	1	0.91	0	0	0	0	0	0	0	0	0	0
Out	3	0.503	-0.448	0.563	0	0	0	0	0	0	0	0
Nov	1	0.549	0	0	0	0	0	0	0	0	0	0
Dez	1	0.5	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	191.89	194.68	197.79	149.94	95.82	72.98	57.49	45.17	38.63	45.6	77.7	145.29
DESVIO	72.27	91.94	81.8	53.22	28.83	20.63	16.41	13.37	12.93	18.62	36.74	71.16

2.22. SANTO ANTÔNIO

VERSÃO 3.10	STO ANTONIO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.811	0	0	0	0	0	0	0	0	0	0
Fev	1	0.861	0	0	0	0	0	0	0	0	0	0
Mar	1	0.811	0	0	0	0	0	0	0	0	0	0
Abr	1	0.875	0	0	0	0	0	0	0	0	0	0
Mai	11	0.963	-0.266	-	0.176	-	0.183	0.131	-	0.284	-	0.25
				0.00171		0.289			0.107		0.288	
Jun	2	1.17	-0.336	0	0	0	0	0	0	0	0	0
Jul	2	1.21	-0.352	0	0	0	0	0	0	0	0	0
Ago	1	0.868	0	0	0	0	0	0	0	0	0	0
Set	2	1.15	-0.38	0	0	0	0	0	0	0	0	0
Out	3	1.03	-0.619	0.409	0	0	0	0	0	0	0	0
Nov	6	0.552	-	0.113	0.234	-	0.269	0	0	0	0	0
			0.0875			0.376						
Dez	4	0.739	0.0573	-0.352	0.318	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	23884.77	30742.63	35496.6	34437.83	26446.3	18404.9	11775.25	7227.81	5373.32	6479.79	10236.69	16390.58
DESVIO	4569.82	5062.67	5541.73	5783.33	5303.85	4518.51	3611.49	2452.35	2215.27	2297.73	3200.65	4204.93

VERSÃO 5.4	STO ANTONIO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.811	0	0	0	0	0	0	0	0	0	0
Fev	1	0.861	0	0	0	0	0	0	0	0	0	0
Mar	1	0.811	0	0	0	0	0	0	0	0	0	0
Abr	1	0.875	0	0	0	0	0	0	0	0	0	0
Mai	11	0.963	-0.266	-	0.176	-	0.183	0.131	-	0.284	-	0.25
				0.00171		0.289			0.107		0.288	
Jun	2	1.17	-0.336	0	0	0	0	0	0	0	0	0
Jul	2	1.21	-0.352	0	0	0	0	0	0	0	0	0
Ago	1	0.868	0	0	0	0	0	0	0	0	0	0
Set	2	1.15	-0.38	0	0	0	0	0	0	0	0	0
Out	3	1.03	-0.619	0.409	0	0	0	0	0	0	0	0
Nov	6	0.552	-	0.113	0.234	-	0.269	0	0	0	0	0
			0.0875			0.376						
Dez	4	0.739	0.0573	-0.352	0.318	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	23884.77	30742.63	35496.6	34437.83	26446.3	18404.9	11775.25	7227.81	5373.32	6479.79	10236.69	16390.58
DESVIO	4569.82	5062.67	5541.73	5783.33	5303.85	4518.51	3611.49	2452.35	2215.27	2297.73	3200.65	4204.93

2.23. SANTA BRANCA

VERSÃO 3.10	SANTA BRANCA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.594	0	0	0	0	0	0	0	0	0	0
Fev	3	0.411	-0.231	0.275	0	0	0	0	0	0	0	0
Mar	1	0.674	0	0	0	0	0	0	0	0	0	0
Abr	3	0.644	-0.0874	0.293	0	0	0	0	0	0	0	0
Mai	1	0.719	0	0	0	0	0	0	0	0	0	0
Jun	1	0.723	0	0	0	0	0	0	0	0	0	0
Jul	2	0.593	0.255	0	0	0	0	0	0	0	0	0
Ago	3	0.593	0.0176	0.244	0	0	0	0	0	0	0	0
Set	3	0.421	0.0215	0.378	0	0	0	0	0	0	0	0
Out	2	0.422	0.234	0	0	0	0	0	0	0	0	0
Nov	1	0.459	0	0	0	0	0	0	0	0	0	0
Dez	1	0.62	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	120.9	128.7	116.23	90.73	70.24	62.33	54.6	48.11	51.36	57.93	66.5	89.33
DESVIO	39.85	48.78	41.11	27.02	17.61	21.06	12.88	10.7	17.41	16.07	16.7	30.39

VERSÃO 5.4	SANTA BRANCA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.594	0	0	0	0	0	0	0	0	0	0
Fev	3	0.411	-0.231	0.275	0	0	0	0	0	0	0	0
Mar	1	0.674	0	0	0	0	0	0	0	0	0	0
Abr	3	0.644	-0.0874	0.293	0	0	0	0	0	0	0	0
Mai	1	0.719	0	0	0	0	0	0	0	0	0	0
Jun	1	0.723	0	0	0	0	0	0	0	0	0	0
Jul	2	0.593	0.255	0	0	0	0	0	0	0	0	0
Ago	3	0.593	0.0176	0.244	0	0	0	0	0	0	0	0
Set	3	0.421	0.0215	0.378	0	0	0	0	0	0	0	0
Out	2	0.422	0.234	0	0	0	0	0	0	0	0	0
Nov	1	0.459	0	0	0	0	0	0	0	0	0	0
Dez	1	0.62	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	120.9	128.7	116.23	90.73	70.24	62.33	54.6	48.11	51.36	57.93	66.5	89.33
DESVIO	39.85	48.78	41.11	27.02	17.61	21.06	12.88	10.7	17.41	16.07	16.7	30.39

2.24. LAJES

VERSÃO 3.10	LAJES	Coeficiente											
		Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	1	0.329	0	0	0	0	0	0	0	0	0	0	0
Fev	1	0.413	0	0	0	0	0	0	0	0	0	0	0
Mar	2	0.252	0.241	0	0	0	0	0	0	0	0	0	0
Abr	2	0.414	0.268	0	0	0	0	0	0	0	0	0	0
Mai	2	0.521	0.232	0	0	0	0	0	0	0	0	0	0
Jun	1	0.606	0	0	0	0	0	0	0	0	0	0	0
Jul	1	0.679	0	0	0	0	0	0	0	0	0	0	0
Ago	1	0.488	0	0	0	0	0	0	0	0	0	0	0
Set	1	0.397	0	0	0	0	0	0	0	0	0	0	0
Out	2	0.442	0.29	0	0	0	0	0	0	0	0	0	0
Nov	1	0.425	0	0	0	0	0	0	0	0	0	0	0
Dez	5	0.359	0.345	-0.0996	-0.151	0.238	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	10.2	9.32	9.4	6.68	4.56	3.46	2.81	2.31	2.69	3.21	4.88	7.88
DESVIO	6.24	5.8	5.92	3.62	1.94	1.54	1.35	1.01	1.54	1.78	2.52	3.64

VERSÃO 5.4	LAJES	Coeficiente											
		Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	1	0.329	0	0	0	0	0	0	0	0	0	0	0
Fev	1	0.413	0	0	0	0	0	0	0	0	0	0	0
Mar	2	0.252	0.241	0	0	0	0	0	0	0	0	0	0
Abr	2	0.414	0.268	0	0	0	0	0	0	0	0	0	0
Mai	2	0.521	0.232	0	0	0	0	0	0	0	0	0	0
Jun	1	0.606	0	0	0	0	0	0	0	0	0	0	0
Jul	1	0.679	0	0	0	0	0	0	0	0	0	0	0
Ago	1	0.488	0	0	0	0	0	0	0	0	0	0	0
Set	1	0.397	0	0	0	0	0	0	0	0	0	0	0
Out	2	0.442	0.29	0	0	0	0	0	0	0	0	0	0
Nov	1	0.425	0	0	0	0	0	0	0	0	0	0	0
Dez	5	0.359	0.345	-0.0996	-0.151	0.238	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	10.2	9.32	9.4	6.68	4.56	3.46	2.81	2.31	2.69	3.21	4.88	7.88
DESVIO	6.24	5.8	5.92	3.62	1.94	1.54	1.35	1.01	1.54	1.78	2.52	3.64

2.25. ILHA DOS POMBOS

VERSÃO 3.10	ILHA POMBOS	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.435	0	0	0	0	0	0	0	0	0	0
Fev	1	0.409	0	0	0	0	0	0	0	0	0	0
Mar	1	0.687	0	0	0	0	0	0	0	0	0	0
Abr	1	0.814	0	0	0	0	0	0	0	0	0	0
Mai	1	0.837	0	0	0	0	0	0	0	0	0	0
Jun	1	0.689	0	0	0	0	0	0	0	0	0	0
Jul	3	0.511	0.194	0.267	0	0	0	0	0	0	0	0
Ago	1	0.854	0	0	0	0	0	0	0	0	0	0
Set	7	0.212	0.405	0.491	-0.289	-0.126	0.21	-0.224	0	0	0	0
Out	3	0.557	-0.00132	0.245	0	0	0	0	0	0	0	0
Nov	1	0.75	0	0	0	0	0	0	0	0	0	0
Dez	2	0.476	0.253	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	411.21	394.08	365.62	271.39	190.39	155.08	130.62	111.11	110.52	132.17	189.26	298.24
DESVIO	173.94	175.43	161.74	84.61	51.2	48.37	37.01	31.36	43	50.85	75.91	119.98

VERSÃO 5.4	ILHA POMBOS	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.435	0	0	0	0	0	0	0	0	0	0
Fev	1	0.409	0	0	0	0	0	0	0	0	0	0
Mar	1	0.687	0	0	0	0	0	0	0	0	0	0
Abr	1	0.814	0	0	0	0	0	0	0	0	0	0
Mai	1	0.837	0	0	0	0	0	0	0	0	0	0
Jun	1	0.689	0	0	0	0	0	0	0	0	0	0
Jul	3	0.511	0.194	0.267	0	0	0	0	0	0	0	0
Ago	1	0.854	0	0	0	0	0	0	0	0	0	0
Set	7	0.212	0.405	0.491	-0.289	-0.126	0.21	-0.224	0	0	0	0
Out	3	0.557	-0.00132	0.245	0	0	0	0	0	0	0	0
Nov	1	0.75	0	0	0	0	0	0	0	0	0	0
Dez	2	0.476	0.253	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	411.21	394.08	365.62	271.39	190.39	155.08	130.62	111.11	110.52	132.17	189.26	298.24
DESVIO	173.94	175.43	161.74	84.61	51.2	48.37	37.01	31.36	43	50.85	75.91	119.98

2.26. SANTA CECÍLIA

VERSÃO 3.10	STA CECILIA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.431	0	0	0	0	0	0	0	0	0	0
Fev	1	0.293	0	0	0	0	0	0	0	0	0	0
Mar	1	0.472	0	0	0	0	0	0	0	0	0	0
Abr	1	0.648	0	0	0	0	0	0	0	0	0	0
Mai	3	0.603	0.0294	0.258	0	0	0	0	0	0	0	0
Jun	1	0.652	0	0	0	0	0	0	0	0	0	0
Jul	2	0.634	0.229	0	0	0	0	0	0	0	0	0
Ago	2	0.582	0.251	0	0	0	0	0	0	0	0	0
Set	4	0.428	0.142	0.438	-0.269	0	0	0	0	0	0	0
Out	1	0.696	0	0	0	0	0	0	0	0	0	0
Nov	1	0.571	0	0	0	0	0	0	0	0	0	0
Dez	4	0.549	0.0185	-0.146	0.26	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	331.58	341.92	330.86	223.36	146.23	123.02	100.88	83.62	84.86	106.55	150.11	227.83
DESVIO	116.15	134.98	139.44	70.04	38.29	52.21	32.87	24.39	38.1	43.43	56.86	78.1

VERSÃO 5.4	STA CECILIA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.431	0	0	0	0	0	0	0	0	0	0
Fev	1	0.293	0	0	0	0	0	0	0	0	0	0
Mar	1	0.472	0	0	0	0	0	0	0	0	0	0
Abr	1	0.648	0	0	0	0	0	0	0	0	0	0
Mai	3	0.603	0.0294	0.258	0	0	0	0	0	0	0	0
Jun	1	0.652	0	0	0	0	0	0	0	0	0	0
Jul	2	0.634	0.229	0	0	0	0	0	0	0	0	0
Ago	2	0.582	0.251	0	0	0	0	0	0	0	0	0
Set	4	0.428	0.142	0.438	-0.269	0	0	0	0	0	0	0
Out	1	0.696	0	0	0	0	0	0	0	0	0	0
Nov	1	0.571	0	0	0	0	0	0	0	0	0	0
Dez	4	0.549	0.0185	-0.146	0.26	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	331.58	341.92	330.86	223.36	146.23	123.02	100.88	83.62	84.86	106.55	150.11	227.83
DESVIO	116.15	134.98	139.44	70.04	38.29	52.21	32.87	24.39	38.1	43.43	56.86	78.1

2.27. SANTANA

VERSÃO 3.10	SANTANA	Coeficiente										
	Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	1	0.411	0	0	0	0	0	0	0	0	0	0
Fev	1	0.606	0	0	0	0	0	0	0	0	0	0
Mar	1	0.656	0	0	0	0	0	0	0	0	0	0
Abr	1	0.621	0	0	0	0	0	0	0	0	0	0
Mai	1	0.648	0	0	0	0	0	0	0	0	0	0
Jun	1	0.793	0	0	0	0	0	0	0	0	0	0
Jul	1	0.708	0	0	0	0	0	0	0	0	0	0
Ago	1	0.559	0	0	0	0	0	0	0	0	0	0
Set	4	0.386	0.237	0.329	-0.341	0	0	0	0	0	0	0
Out	4	0.369	0.357	-0.239	0.232	0	0	0	0	0	0	0
Nov	1	0.57	0	0	0	0	0	0	0	0	0	0
Dez	9	0.389	0.4	-0.132	-0.216	0.46	-0.426	0.0406	0.385	-0.226	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	41.17	41.79	38.44	30.12	20.64	15.07	12.46	10.73	11.12	13.44	19.83	30.65
DESVIO	20.06	25.16	17.61	10.8	5.8	3.73	2.81	2.63	3.45	5.44	8.16	13.89

VERSÃO 5.4	SANTANA	Coeficiente										
	Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	1	0.411	0	0	0	0	0	0	0	0	0	0
Fev	1	0.606	0	0	0	0	0	0	0	0	0	0
Mar	1	0.656	0	0	0	0	0	0	0	0	0	0
Abr	1	0.621	0	0	0	0	0	0	0	0	0	0
Mai	1	0.648	0	0	0	0	0	0	0	0	0	0
Jun	1	0.793	0	0	0	0	0	0	0	0	0	0
Jul	1	0.708	0	0	0	0	0	0	0	0	0	0
Ago	1	0.559	0	0	0	0	0	0	0	0	0	0
Set	4	0.386	0.237	0.329	-0.341	0	0	0	0	0	0	0
Out	4	0.369	0.357	-0.239	0.232	0	0	0	0	0	0	0
Nov	1	0.57	0	0	0	0	0	0	0	0	0	0
Dez	9	0.389	0.4	-0.132	-0.216	0.46	-0.426	0.0406	0.385	-0.226	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	41.17	41.79	38.44	30.12	20.64	15.07	12.46	10.73	11.12	13.44	19.83	30.65
DESVIO	20.06	25.16	17.61	10.8	5.8	3.73	2.81	2.63	3.45	5.44	8.16	13.89

2.28. EDGARD SOUZA

VERSÃO 3.10	EDGARD SOUZA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.718	0	0	0	0	0	0	0	0	0	0
Fev	1	0.535	0	0	0	0	0	0	0	0	0	0
Mar	5	0.574	-0.00283	-0.0616	-0.0551	0.273	0	0	0	0	0	0
Abr	7	0.363	0.362	-0.109	0.048	0.248	-0.123	0.255	0	0	0	0
Mai	5	0.535	0.053	0.0516	-0.0985	0.25	0	0	0	0	0	0
Jun	1	0.712	0	0	0	0	0	0	0	0	0	0
Jul	5	0.364	-0.0194	0.0976	0.0326	0.329	0	0	0	0	0	0
Ago	3	0.548	-0.119	0.369	0	0	0	0	0	0	0	0
Set	1	0.644	0	0	0	0	0	0	0	0	0	0
Out	7	0.363	0.0987	0.065	0.0394	0.0708	0.0264	0.228	0	0	0	0
Nov	1	0.533	0	0	0	0	0	0	0	0	0	0
Dez	1	0.597	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	126.96	133.64	116.29	76.75	59.94	56.06	46.36	38.76	47.7	61.08	68.49	91.75
DESVIO	55.1	54.33	42.55	26.65	26.19	35.67	21.9	15.93	26.01	28.21	28.63	41.77

VERSÃO 5.4	EDGARD SOUZA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.718	0	0	0	0	0	0	0	0	0	0
Fev	1	0.535	0	0	0	0	0	0	0	0	0	0
Mar	5	0.574	-0.00283	-0.0616	-0.0551	0.273	0	0	0	0	0	0
Abr	7	0.363	0.362	-0.109	0.048	0.248	-0.123	0.255	0	0	0	0
Mai	5	0.535	0.053	0.0516	-0.0985	0.25	0	0	0	0	0	0
Jun	1	0.712	0	0	0	0	0	0	0	0	0	0
Jul	5	0.364	-0.0194	0.0976	0.0326	0.329	0	0	0	0	0	0
Ago	3	0.548	-0.119	0.369	0	0	0	0	0	0	0	0
Set	1	0.644	0	0	0	0	0	0	0	0	0	0
Out	7	0.363	0.0987	0.065	0.0394	0.0708	0.0264	0.228	0	0	0	0
Nov	1	0.533	0	0	0	0	0	0	0	0	0	0
Dez	1	0.597	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	126.96	133.64	116.29	76.75	59.94	56.06	46.36	38.76	47.7	61.08	68.49	91.75
DESVIO	55.1	54.33	42.55	26.65	26.19	35.67	21.9	15.93	26.01	28.21	28.63	41.77

2.29. GUARAPIRANGA

VERSÃO 3.10	GUARAPIRANGA		Coeficiente										
	Ordem		1	2	3	4	5	6	7	8	9	10	11
Jan	1		0.436	0	0	0	0	0	0	0	0	0	0
Fev	1		0.344	0	0	0	0	0	0	0	0	0	0
Mar	1		0.353	0	0	0	0	0	0	0	0	0	0
Abr	3		0.207	0.225	0.364	0	0	0	0	0	0	0	0
Mai	1		0.636	0	0	0	0	0	0	0	0	0	0
Jun	1		0.694	0	0	0	0	0	0	0	0	0	0
Jul	3		0.354	0.0994	0.282	0	0	0	0	0	0	0	0
Ago	3		0.588	-0.0311	0.279	0	0	0	0	0	0	0	0
Set	1		0.67	0	0	0	0	0	0	0	0	0	0
Out	4		0.449	0.0868	-0.0986	0.246	0	0	0	0	0	0	0
Nov	4		0.243	0.33	-0.253	0.261	0	0	0	0	0	0	0
Dez	5		0.209	-0.0378	0.205	-0.0257	0.269	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	19.44	20.25	18	12.79	10.32	9.92	8.51	7.48	9.13	11.11	11.08	14.55
DESVIO	8.5	8.35	7.31	5.19	4.32	5.76	3.9	2.72	4.62	4.58	4.2	5.6

VERSÃO 5.4	GUARAPIRANGA		Coeficiente										
	Ordem		1	2	3	4	5	6	7	8	9	10	11
Jan	1		0.436	0	0	0	0	0	0	0	0	0	0
Fev	1		0.344	0	0	0	0	0	0	0	0	0	0
Mar	1		0.353	0	0	0	0	0	0	0	0	0	0
Abr	3		0.207	0.225	0.364	0	0	0	0	0	0	0	0
Mai	1		0.636	0	0	0	0	0	0	0	0	0	0
Jun	1		0.694	0	0	0	0	0	0	0	0	0	0
Jul	3		0.354	0.0994	0.282	0	0	0	0	0	0	0	0
Ago	3		0.588	-0.0311	0.279	0	0	0	0	0	0	0	0
Set	1		0.67	0	0	0	0	0	0	0	0	0	0
Out	4		0.449	0.0868	-0.0986	0.246	0	0	0	0	0	0	0
Nov	4		0.243	0.33	-0.253	0.261	0	0	0	0	0	0	0
Dez	5		0.209	-0.0378	0.205	-0.0257	0.269	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	19.44	20.25	18	12.79	10.32	9.92	8.51	7.48	9.13	11.11	11.08	14.55
DESVIO	8.5	8.35	7.31	5.19	4.32	5.76	3.9	2.72	4.62	4.58	4.2	5.6

2.30. BILLINGS

VERSÃO 3.10	BILLINGS	Coeficiente										
	Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	3	0.436	-0.0403	0.291	0	0	0	0	0	0	0	0
Fev	2	0.0462	0.281	0	0	0	0	0	0	0	0	0
Mar	1	0.344	0	0	0	0	0	0	0	0	0	0
Abr	3	0.309	0.153	0.462	0	0	0	0	0	0	0	0
Mai	1	0.686	0	0	0	0	0	0	0	0	0	0
Jun	1	0.615	0	0	0	0	0	0	0	0	0	0
Jul	3	0.251	0.284	0.225	0	0	0	0	0	0	0	0
Ago	1	0.64	0	0	0	0	0	0	0	0	0	0
Set	1	0.651	0	0	0	0	0	0	0	0	0	0
Out	1	0.531	0	0	0	0	0	0	0	0	0	0
Nov	1	0.542	0	0	0	0	0	0	0	0	0	0
Dez	5	0.444	0.0816	0.0326	-0.0771	0.332	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	30.17	30.05	26.8	18.17	12.62	11.21	9.63	8.9	13.69	18.01	18.07	24.04
DESVIO	14.06	13.97	12.37	9.98	7.79	8.42	7.06	5.87	8.97	9.23	10.36	10.82

VERSÃO 5.4	BILLINGS	Coeficiente										
	Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	3	0.436	-0.0403	0.291	0	0	0	0	0	0	0	0
Fev	2	0.0462	0.281	0	0	0	0	0	0	0	0	0
Mar	1	0.344	0	0	0	0	0	0	0	0	0	0
Abr	3	0.309	0.153	0.462	0	0	0	0	0	0	0	0
Mai	1	0.686	0	0	0	0	0	0	0	0	0	0
Jun	1	0.615	0	0	0	0	0	0	0	0	0	0
Jul	3	0.251	0.284	0.225	0	0	0	0	0	0	0	0
Ago	1	0.64	0	0	0	0	0	0	0	0	0	0
Set	1	0.651	0	0	0	0	0	0	0	0	0	0
Out	1	0.531	0	0	0	0	0	0	0	0	0	0
Nov	1	0.542	0	0	0	0	0	0	0	0	0	0
Dez	5	0.444	0.0816	0.0326	-0.0771	0.332	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	30.17	30.05	26.8	18.17	12.62	11.21	9.63	8.9	13.69	18.01	18.07	24.04
DESVIO	14.06	13.97	12.37	9.98	7.79	8.42	7.06	5.87	8.97	9.23	10.36	10.82

2.31. CACHOEIRA DOURADA

VERSÃO 3.10	CACH.DOURADA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.475	0	0	0	0	0	0	0	0	0	0
Fev	1	0.583	0	0	0	0	0	0	0	0	0	0
Mar	2	0.39	0.346	0	0	0	0	0	0	0	0	0
Abr	1	0.813	0	0	0	0	0	0	0	0	0	0
Mai	1	0.902	0	0	0	0	0	0	0	0	0	0
Jun	3	0.622	-0.0332	0.269	0	0	0	0	0	0	0	0
Jul	2	0.702	0.293	0	0	0	0	0	0	0	0	0
Ago	2	1.4	-0.558	0	0	0	0	0	0	0	0	0
Set	3	0.499	0.831	-0.481	0	0	0	0	0	0	0	0
Out	1	0.565	0	0	0	0	0	0	0	0	0	0
Nov	1	0.549	0	0	0	0	0	0	0	0	0	0
Dez	2	0.455	0.239	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	561.33	586.01	584.58	430.2	278.32	225.13	175.6	139.01	124.68	142.17	220.54	393.77
DESVIO	242.47	279.55	298.01	205.52	114.93	105.35	77.16	63.12	54.99	63.02	84.82	174.08

VERSÃO 5.4	CACH.DOURADA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.475	0	0	0	0	0	0	0	0	0	0
Fev	1	0.583	0	0	0	0	0	0	0	0	0	0
Mar	2	0.39	0.346	0	0	0	0	0	0	0	0	0
Abr	1	0.813	0	0	0	0	0	0	0	0	0	0
Mai	1	0.902	0	0	0	0	0	0	0	0	0	0
Jun	3	0.622	-0.0332	0.269	0	0	0	0	0	0	0	0
Jul	2	0.702	0.293	0	0	0	0	0	0	0	0	0
Ago	2	1.4	-0.558	0	0	0	0	0	0	0	0	0
Set	3	0.499	0.831	-0.481	0	0	0	0	0	0	0	0
Out	1	0.565	0	0	0	0	0	0	0	0	0	0
Nov	1	0.549	0	0	0	0	0	0	0	0	0	0
Dez	2	0.455	0.239	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	561.33	586.01	584.58	430.2	278.32	225.13	175.6	139.01	124.68	142.17	220.54	393.77
DESVIO	242.47	279.55	298.01	205.52	114.93	105.35	77.16	63.12	54.99	63.02	84.82	174.08

2.32. PORTO PRIMAVERA

VERSÃO 3.10	P. ESTRELA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.253	0	0	0	0	0	0	0	0	0	0
Fev	1	0.549	0	0	0	0	0	0	0	0	0	0
Mar	1	0.538	0	0	0	0	0	0	0	0	0	0
Abr	2	0.514	0.314	0	0	0	0	0	0	0	0	0
Mai	2	0.667	0.283	0	0	0	0	0	0	0	0	0
Jun	1	0.947	0	0	0	0	0	0	0	0	0	0
Jul	1	0.954	0	0	0	0	0	0	0	0	0	0
Ago	1	0.981	0	0	0	0	0	0	0	0	0	0
Set	4	1.09	0.0398	-0.629	0.367	0	0	0	0	0	0	0
Out	1	0.609	0	0	0	0	0	0	0	0	0	0
Nov	4	0.581	-0.124	0.144	-0.306	0	0	0	0	0	0	0
Dez	1	0.324	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	308.13	248.31	222.76	168.71	120.7	99.38	84.49	73.39	70.51	89.96	167.9	267.27
DESVIO	149.8	157.04	100.86	72.88	51.05	39.34	29.91	26.18	24.45	35.18	72	101.46

VERSÃO 5.4	P. ESTRELA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.253	0	0	0	0	0	0	0	0	0	0
Fev	1	0.549	0	0	0	0	0	0	0	0	0	0
Mar	1	0.538	0	0	0	0	0	0	0	0	0	0
Abr	2	0.514	0.314	0	0	0	0	0	0	0	0	0
Mai	2	0.667	0.283	0	0	0	0	0	0	0	0	0
Jun	1	0.947	0	0	0	0	0	0	0	0	0	0
Jul	1	0.954	0	0	0	0	0	0	0	0	0	0
Ago	1	0.981	0	0	0	0	0	0	0	0	0	0
Set	4	1.09	0.0398	-0.629	0.367	0	0	0	0	0	0	0
Out	1	0.609	0	0	0	0	0	0	0	0	0	0
Nov	4	0.581	-0.124	0.144	-0.306	0	0	0	0	0	0	0
Dez	1	0.324	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	308.13	248.31	222.76	168.71	120.7	99.38	84.49	73.39	70.51	89.96	167.9	267.27
DESVIO	149.8	157.04	100.86	72.88	51.05	39.34	29.91	26.18	24.45	35.18	72	101.46

2.33. CANDONGA

VERSÃO 3.10	CANDONGA		Coeficiente										
	Ordem	1	2	3	4	5	6	7	8	9	10	11	
Jan	1	0.363	0	0	0	0	0	0	0	0	0	0	
Fev	1	0.485	0	0	0	0	0	0	0	0	0	0	
Mar	1	0.635	0	0	0	0	0	0	0	0	0	0	
Abr	1	0.812	0	0	0	0	0	0	0	0	0	0	
Mai	1	0.915	0	0	0	0	0	0	0	0	0	0	
Jun	1	0.952	0	0	0	0	0	0	0	0	0	0	
Jul	2	0.624	0.335	0	0	0	0	0	0	0	0	0	
Ago	3	0.637	-0.0115	0.337	0	0	0	0	0	0	0	0	
Set	4	0.893	0.00691	-0.291	0.248	0	0	0	0	0	0	0	
Out	5	0.781	0.137	-0.00116	0.55	-0.754	0	0	0	0	0	0	
Nov	3	0.488	0.402	-0.442	0	0	0	0	0	0	0	0	
Dez	5	0.347	0.0681	0.123	-0.21	0.228	0	0	0	0	0	0	

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	271.29	229.58	204.77	159.17	122.36	106.61	95.35	85.42	84.9	100.13	145.77	228.5
DESVIO	113.13	121.87	74.94	53.44	34.84	29.04	22.92	20.27	21.92	29.92	41.97	70.85

VERSÃO 5.4	CANDONGA		Coeficiente										
	Ordem	1	2	3	4	5	6	7	8	9	10	11	
Jan	1	0.363	0	0	0	0	0	0	0	0	0	0	
Fev	1	0.485	0	0	0	0	0	0	0	0	0	0	
Mar	1	0.635	0	0	0	0	0	0	0	0	0	0	
Abr	1	0.812	0	0	0	0	0	0	0	0	0	0	
Mai	1	0.915	0	0	0	0	0	0	0	0	0	0	
Jun	1	0.952	0	0	0	0	0	0	0	0	0	0	
Jul	2	0.624	0.335	0	0	0	0	0	0	0	0	0	
Ago	3	0.637	-0.0115	0.337	0	0	0	0	0	0	0	0	
Set	4	0.893	0.00691	-0.291	0.248	0	0	0	0	0	0	0	
Out	5	0.781	0.137	-0.00116	0.55	-0.754	0	0	0	0	0	0	
Nov	3	0.488	0.402	-0.442	0	0	0	0	0	0	0	0	
Dez	5	0.347	0.0681	0.123	-0.21	0.228	0	0	0	0	0	0	

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	271.29	229.58	204.77	159.17	122.36	106.61	95.35	85.42	84.9	100.13	145.77	228.5
DESVIO	113.13	121.87	74.94	53.44	34.84	29.04	22.92	20.27	21.92	29.92	41.97	70.85

2.34. MASCARENHAS

VERSÃO 3.10	MASCARENHAS	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	6	0.246	0.0582	-0.0196	0.238	0.474	-0.588	0	0	0	0	0
Fev	1	0.593	0	0	0	0	0	0	0	0	0	0
Mar	1	0.657	0	0	0	0	0	0	0	0	0	0
Abr	2	0.608	0.246	0	0	0	0	0	0	0	0	0
Mai	3	0.818	-0.0501	0.233	0	0	0	0	0	0	0	0
Jun	1	0.923	0	0	0	0	0	0	0	0	0	0
Jul	1	0.964	0	0	0	0	0	0	0	0	0	0
Ago	1	0.969	0	0	0	0	0	0	0	0	0	0
Set	3	0.697	0.564	-0.359	0	0	0	0	0	0	0	0
Out	4	0.433	0.333	0.826	-0.94	0	0	0	0	0	0	0
Nov	5	0.548	0.127	-0.121	-0.411	0.421	0	0	0	0	0	0
Dez	1	0.395	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1129.9	846.11	734.36	575.96	409.61	338.83	302.37	268.36	253.44	323.86	567.87	999.94
DESVIO	601.33	524.45	380.41	293.13	192.65	139.42	125.38	111.8	111.02	160.99	303.16	495.84

VERSÃO 5.4	MASCARENHAS	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	6	0.246	0.0582	-0.0196	0.238	0.474	-0.588	0	0	0	0	0
Fev	1	0.593	0	0	0	0	0	0	0	0	0	0
Mar	1	0.657	0	0	0	0	0	0	0	0	0	0
Abr	2	0.608	0.246	0	0	0	0	0	0	0	0	0
Mai	3	0.818	-0.0501	0.233	0	0	0	0	0	0	0	0
Jun	1	0.923	0	0	0	0	0	0	0	0	0	0
Jul	1	0.964	0	0	0	0	0	0	0	0	0	0
Ago	1	0.969	0	0	0	0	0	0	0	0	0	0
Set	3	0.697	0.564	-0.359	0	0	0	0	0	0	0	0
Out	4	0.433	0.333	0.826	-0.94	0	0	0	0	0	0	0
Nov	5	0.548	0.127	-0.121	-0.411	0.421	0	0	0	0	0	0
Dez	1	0.395	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1129.9	846.11	734.36	575.96	409.61	338.83	302.37	268.36	253.44	323.86	567.87	999.94
DESVIO	601.33	524.45	380.41	293.13	192.65	139.42	125.38	111.8	111.02	160.99	303.16	495.84

2.35. ITAIPU

VERSÃO 3.10	ITAIPU Ordem	Coeficiente										
		1	2	3	4	5	6	7	8	9	10	11
Jan	6	0.215	-0.0684	0.224	0.199	-0.181	0.302	0	0	0	0	0
Fev	2	0.329	0.369	0	0	0	0	0	0	0	0	0
Mar	2	0.325	0.279	0	0	0	0	0	0	0	0	0
Abr	8	0.425	0.141	0.111	0.244	0.0504	-0.0356	-0.124	0.235	0	0	0
Mai	1	0.675	0	0	0	0	0	0	0	0	0	0
Jun	1	0.727	0	0	0	0	0	0	0	0	0	0
Jul	1	0.818	0	0	0	0	0	0	0	0	0	0
Ago	4	0.513	-0.0787	0.182	0.242	0	0	0	0	0	0	0
Set	1	0.784	0	0	0	0	0	0	0	0	0	0
Out	11	0.518	0.0896	0.131	0.0536	-0.0656	0.0707	0.0491	-0.00215	0.0106	-0.0398	0.225
Nov	3	0.746	-0.208	0.278	0	0	0	0	0	0	0	0
Dez	10	0.394	0.358	0.0249	-0.268	-0.139	0.0729	0.1	-0.115	-0.00969	0.399	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1567.76	1941.37	1792.54	1786.4	1925.94	2014.76	1734.01	1410.36	1484.46	1968.33	1723.65	1596.43
DESVIO	1055.9	1311.81	1048.38	1136.8	1351.89	1380.28	1235.17	971.37	1173.47	1467.57	1063.56	1074.83

VERSÃO 5.4	ITAIPU Ordem	Coeficiente										
		1	2	3	4	5	6	7	8	9	10	11
Jan	6	0.215	-0.0684	0.224	0.199	-0.181	0.302	0	0	0	0	0
Fev	2	0.329	0.369	0	0	0	0	0	0	0	0	0
Mar	2	0.325	0.279	0	0	0	0	0	0	0	0	0
Abr	8	0.425	0.141	0.111	0.244	0.0504	-0.0356	-0.124	0.235	0	0	0
Mai	1	0.675	0	0	0	0	0	0	0	0	0	0
Jun	1	0.727	0	0	0	0	0	0	0	0	0	0
Jul	1	0.818	0	0	0	0	0	0	0	0	0	0
Ago	4	0.513	-0.0787	0.182	0.242	0	0	0	0	0	0	0
Set	1	0.784	0	0	0	0	0	0	0	0	0	0
Out	11	0.518	0.0896	0.131	0.0536	-0.0656	0.0707	0.0491	-0.00215	0.0106	-0.0398	0.225
Nov	3	0.746	-0.208	0.278	0	0	0	0	0	0	0	0
Dez	10	0.394	0.358	0.0249	-0.268	-0.139	0.0729	0.1	-0.115	-0.00969	0.399	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1567.76	1941.37	1792.54	1786.4	1925.94	2014.76	1734.01	1410.36	1484.46	1968.33	1723.65	1596.43
DESVIO	1055.9	1311.81	1048.38	1136.8	1351.89	1380.28	1235.17	971.37	1173.47	1467.57	1063.56	1074.83

2.36. ERNESTINA

VERSÃO 3.10	ERNESTINA	Coeficiente											
		Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	2	0.178	0.617	0	0	0	0	0	0	0	0	0	0
Fev	1	0.8	0	0	0	0	0	0	0	0	0	0	0
Mar	1	0.739	0	0	0	0	0	0	0	0	0	0	0
Abr	2	0.465	0.294	0	0	0	0	0	0	0	0	0	0
Mai	1	0.712	0	0	0	0	0	0	0	0	0	0	0
Jun	4	0.458	0.132	0.327	-0.26	0	0	0	0	0	0	0	0
Jul	8	0.299	0.227	0.0787	0.371	-0.418	0.0448	0.0478	0.222	0	0	0	0
Ago	7	0.405	0.0718	-0.0333	0.0625	0.13	0.536	-0.4	0	0	0	0	0
Set	1	0.517	0	0	0	0	0	0	0	0	0	0	0
Out	1	0.384	0	0	0	0	0	0	0	0	0	0	0
Nov	3	0.66	-0.15	0.258	0	0	0	0	0	0	0	0	0
Dez	6	0.516	-0.0888	0.16	-0.0216	0.00628	0.279	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	20.36	19.21	15.38	19.64	27.45	33.39	38.64	39.98	43.02	45.04	31.95	23.67
DESVIO	16.92	22.33	11.5	16.98	26.64	25.2	26.9	29.37	28.34	32.87	29.88	17.91

VERSÃO 5.4	ERNESTINA	Coeficiente											
		Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	2	0.178	0.617	0	0	0	0	0	0	0	0	0	0
Fev	1	0.8	0	0	0	0	0	0	0	0	0	0	0
Mar	1	0.739	0	0	0	0	0	0	0	0	0	0	0
Abr	2	0.465	0.294	0	0	0	0	0	0	0	0	0	0
Mai	1	0.712	0	0	0	0	0	0	0	0	0	0	0
Jun	4	0.458	0.132	0.327	-0.26	0	0	0	0	0	0	0	0
Jul	8	0.299	0.227	0.0787	0.371	-0.418	0.0448	0.0478	0.222	0	0	0	0
Ago	7	0.405	0.0718	-0.0333	0.0625	0.13	0.536	-0.4	0	0	0	0	0
Set	1	0.517	0	0	0	0	0	0	0	0	0	0	0
Out	1	0.384	0	0	0	0	0	0	0	0	0	0	0
Nov	3	0.66	-0.15	0.258	0	0	0	0	0	0	0	0	0
Dez	6	0.516	-0.0888	0.16	-0.0216	0.00628	0.279	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	20.36	19.21	15.38	19.64	27.45	33.39	38.64	39.98	43.02	45.04	31.95	23.67
DESVIO	16.92	22.33	11.5	16.98	26.64	25.2	26.9	29.37	28.34	32.87	29.88	17.91

2.37. DONA FRANCISCA

VERSÃO 3.10	D. FRANCISCA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	4	0.412	0.35	-0.246	0.271	0	0	0	0	0	0	0
Fev	3	0.286	0.148	0.309	0	0	0	0	0	0	0	0
Mar	1	0.633	0	0	0	0	0	0	0	0	0	0
Abr	2	0.189	0.309	0	0	0	0	0	0	0	0	0
Mai	1	0.706	0	0	0	0	0	0	0	0	0	0
Jun	4	0.574	0.0493	0.267	-0.235	0	0	0	0	0	0	0
Jul	2	0.442	0.311	0	0	0	0	0	0	0	0	0
Ago	1	0.523	0	0	0	0	0	0	0	0	0	0
Set	1	0.425	0	0	0	0	0	0	0	0	0	0
Out	1	0.402	0	0	0	0	0	0	0	0	0	0
Nov	3	0.538	-0.168	0.239	0	0	0	0	0	0	0	0
Dez	1	0.534	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	181.82	171.61	148.62	205.36	275.64	358.54	400.31	384.33	442.88	434.76	309.19	232.9
DESVIO	144.41	126.41	101.65	174.26	268.69	234.23	242.48	225.8	276.05	282.41	254.92	188.96

VERSÃO 5.4	D. FRANCISCA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	4	0.412	0.35	-0.246	0.271	0	0	0	0	0	0	0
Fev	3	0.286	0.148	0.309	0	0	0	0	0	0	0	0
Mar	1	0.633	0	0	0	0	0	0	0	0	0	0
Abr	2	0.189	0.309	0	0	0	0	0	0	0	0	0
Mai	1	0.706	0	0	0	0	0	0	0	0	0	0
Jun	4	0.574	0.0493	0.267	-0.235	0	0	0	0	0	0	0
Jul	2	0.442	0.311	0	0	0	0	0	0	0	0	0
Ago	1	0.523	0	0	0	0	0	0	0	0	0	0
Set	1	0.425	0	0	0	0	0	0	0	0	0	0
Out	1	0.402	0	0	0	0	0	0	0	0	0	0
Nov	3	0.538	-0.168	0.239	0	0	0	0	0	0	0	0
Dez	1	0.534	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	181.82	171.61	148.62	205.36	275.64	358.54	400.31	384.33	442.88	434.76	309.19	232.9
DESVIO	144.41	126.41	101.65	174.26	268.69	234.23	242.48	225.8	276.05	282.41	254.92	188.96

2.38. SALTO CAXIAS

VERSÃO 3.10	SALTO CAXIAS	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.313	0	0	0	0	0	0	0	0	0	0
Fev	1	0.478	0	0	0	0	0	0	0	0	0	0
Mar	4	0.58	0.0497	-0.0914	0.227	0	0	0	0	0	0	0
Abr	1	0.505	0	0	0	0	0	0	0	0	0	0
Mai	1	0.422	0	0	0	0	0	0	0	0	0	0
Jun	1	0.481	0	0	0	0	0	0	0	0	0	0
Jul	2	0.43	0.239	0	0	0	0	0	0	0	0	0
Ago	4	0.455	0.0484	-0.152	0.215	0	0	0	0	0	0	0
Set	1	0.721	0	0	0	0	0	0	0	0	0	0
Out	1	0.548	0	0	0	0	0	0	0	0	0	0
Nov	2	0.588	-0.225	0	0	0	0	0	0	0	0	0
Dez	1	0.519	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1052.57	1158.48	1026.36	939.89	1216.2	1501.45	1409.68	1164.04	1352.36	1798.73	1343.51	1060.75
DESVIO	666.32	717.32	572.65	728.48	1028.86	1203	1289.89	930.09	1027.94	1170.2	820.03	645.76

VERSÃO 5.4	SALTO CAXIAS	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.313	0	0	0	0	0	0	0	0	0	0
Fev	1	0.478	0	0	0	0	0	0	0	0	0	0
Mar	4	0.58	0.0497	-0.0914	0.227	0	0	0	0	0	0	0
Abr	1	0.505	0	0	0	0	0	0	0	0	0	0
Mai	1	0.422	0	0	0	0	0	0	0	0	0	0
Jun	1	0.481	0	0	0	0	0	0	0	0	0	0
Jul	2	0.43	0.239	0	0	0	0	0	0	0	0	0
Ago	4	0.455	0.0484	-0.152	0.215	0	0	0	0	0	0	0
Set	1	0.721	0	0	0	0	0	0	0	0	0	0
Out	1	0.548	0	0	0	0	0	0	0	0	0	0
Nov	2	0.588	-0.225	0	0	0	0	0	0	0	0	0
Dez	1	0.519	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	1052.57	1158.48	1026.36	939.89	1216.2	1501.45	1409.68	1164.04	1352.36	1798.73	1343.51	1060.75
DESVIO	666.32	717.32	572.65	728.48	1028.86	1203	1289.89	930.09	1027.94	1170.2	820.03	645.76

2.39. G.P.SOUZA

VERSÃO 3.10	G.P. SOUZA	Coeficiente											
		Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	1	0.359	0	0	0	0	0	0	0	0	0	0	0
Fev	1	0.498	0	0	0	0	0	0	0	0	0	0	0
Mar	1	0.549	0	0	0	0	0	0	0	0	0	0	0
Abr	1	0.598	0	0	0	0	0	0	0	0	0	0	0
Mai	1	0.402	0	0	0	0	0	0	0	0	0	0	0
Jun	1	0.594	0	0	0	0	0	0	0	0	0	0	0
Jul	1	0.693	0	0	0	0	0	0	0	0	0	0	0
Ago	4	0.715	-0.277	-0.00913	0.257	0	0	0	0	0	0	0	0
Set	2	0.334	0.392	0	0	0	0	0	0	0	0	0	0
Out	1	0.697	0	0	0	0	0	0	0	0	0	0	0
Nov	5	0.343	-0.109	0.181	-0.11	0.218	0	0	0	0	0	0	0
Dez	6	0.334	0.0408	-0.0254	-0.0684	0.564	-0.315	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	25.13	27.25	24	18.05	17.15	16.77	16.7	14.4	18.13	20.29	19.39	20.35
DESVIO	11.52	10.58	8.38	6.42	8.25	7.82	8.75	6.8	8.95	8.03	7.08	6.18

VERSÃO 5.4	G.P. SOUZA	Coeficiente											
		Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	1	0.359	0	0	0	0	0	0	0	0	0	0	0
Fev	1	0.498	0	0	0	0	0	0	0	0	0	0	0
Mar	1	0.549	0	0	0	0	0	0	0	0	0	0	0
Abr	1	0.598	0	0	0	0	0	0	0	0	0	0	0
Mai	1	0.402	0	0	0	0	0	0	0	0	0	0	0
Jun	1	0.594	0	0	0	0	0	0	0	0	0	0	0
Jul	1	0.693	0	0	0	0	0	0	0	0	0	0	0
Ago	4	0.715	-0.277	-0.00913	0.257	0	0	0	0	0	0	0	0
Set	2	0.334	0.392	0	0	0	0	0	0	0	0	0	0
Out	1	0.697	0	0	0	0	0	0	0	0	0	0	0
Nov	5	0.343	-0.109	0.181	-0.11	0.218	0	0	0	0	0	0	0
Dez	6	0.334	0.0408	-0.0254	-0.0684	0.564	-0.315	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	25.13	27.25	24	18.05	17.15	16.77	16.7	14.4	18.13	20.29	19.39	20.35
DESVIO	11.52	10.58	8.38	6.42	8.25	7.82	8.75	6.8	8.95	8.03	7.08	6.18

2.40. FUNDAO

VERSÃO 3.10	FUNDAO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.361	0	0	0	0	0	0	0	0	0	0
Fev	1	0.441	0	0	0	0	0	0	0	0	0	0
Mar	1	0.55	0	0	0	0	0	0	0	0	0	0
Abr	1	0.488	0	0	0	0	0	0	0	0	0	0
Mai	1	0.291	0	0	0	0	0	0	0	0	0	0
Jun	1	0.41	0	0	0	0	0	0	0	0	0	0
Jul	2	0.343	0.325	0	0	0	0	0	0	0	0	0
Ago	1	0.311	0	0	0	0	0	0	0	0	0	0
Set	1	0.656	0	0	0	0	0	0	0	0	0	0
Out	1	0.518	0	0	0	0	0	0	0	0	0	0
Nov	1	0.44	0	0	0	0	0	0	0	0	0	0
Dez	1	0.561	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	96.04	99.11	84.76	84.36	112.6	137.45	124.14	93.95	117.17	146.96	113.61	95.5
DESVIO	64.33	62.28	44.84	73.83	107.69	113.31	112.71	71.27	96.29	98.77	72.07	55.54

VERSÃO 5.4	FUNDAO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.361	0	0	0	0	0	0	0	0	0	0
Fev	1	0.441	0	0	0	0	0	0	0	0	0	0
Mar	1	0.55	0	0	0	0	0	0	0	0	0	0
Abr	1	0.488	0	0	0	0	0	0	0	0	0	0
Mai	1	0.291	0	0	0	0	0	0	0	0	0	0
Jun	1	0.41	0	0	0	0	0	0	0	0	0	0
Jul	2	0.343	0.325	0	0	0	0	0	0	0	0	0
Ago	1	0.311	0	0	0	0	0	0	0	0	0	0
Set	1	0.656	0	0	0	0	0	0	0	0	0	0
Out	1	0.518	0	0	0	0	0	0	0	0	0	0
Nov	1	0.44	0	0	0	0	0	0	0	0	0	0
Dez	1	0.561	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	96.04	99.11	84.76	84.36	112.6	137.45	124.14	93.95	117.17	146.96	113.61	95.5
DESVIO	64.33	62.28	44.84	73.83	107.69	113.31	112.71	71.27	96.29	98.77	72.07	55.54

2.41. MAUA

VERSÃO 3.10	MAUA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.3	0	0	0	0	0	0	0	0	0	0
Fev	1	0.458	0	0	0	0	0	0	0	0	0	0
Mar	1	0.563	0	0	0	0	0	0	0	0	0	0
Abr	1	0.659	0	0	0	0	0	0	0	0	0	0
Mai	5	0.351	0.0749	-0.11	0.00084	0.232	0	0	0	0	0	0
Jun	1	0.675	0	0	0	0	0	0	0	0	0	0
Jul	1	0.686	0	0	0	0	0	0	0	0	0	0
Ago	2	0.677	-0.297	0	0	0	0	0	0	0	0	0
Set	1	0.68	0	0	0	0	0	0	0	0	0	0
Out	1	0.615	0	0	0	0	0	0	0	0	0	0
Nov	1	0.5	0	0	0	0	0	0	0	0	0	0
Dez	1	0.598	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	300.24	310.92	255.43	192.2	234.13	283.36	282.29	227.29	262.01	340.98	277.99	251.58
DESVIO	217.87	176.98	140.12	134.58	205.07	259.75	228.43	181.07	225.41	273.39	176.79	150.86

VERSÃO 5.4	MAUA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.3	0	0	0	0	0	0	0	0	0	0
Fev	1	0.458	0	0	0	0	0	0	0	0	0	0
Mar	1	0.563	0	0	0	0	0	0	0	0	0	0
Abr	1	0.659	0	0	0	0	0	0	0	0	0	0
Mai	5	0.351	0.0749	-0.11	0.00084	0.232	0	0	0	0	0	0
Jun	1	0.675	0	0	0	0	0	0	0	0	0	0
Jul	1	0.686	0	0	0	0	0	0	0	0	0	0
Ago	2	0.677	-0.297	0	0	0	0	0	0	0	0	0
Set	1	0.68	0	0	0	0	0	0	0	0	0	0
Out	1	0.615	0	0	0	0	0	0	0	0	0	0
Nov	1	0.5	0	0	0	0	0	0	0	0	0	0
Dez	1	0.598	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	300.24	310.92	255.43	192.2	234.13	283.36	282.29	227.29	262.01	340.98	277.99	251.58
DESVIO	217.87	176.98	140.12	134.58	205.07	259.75	228.43	181.07	225.41	273.39	176.79	150.86

2.42. PASSO FUNDO

VERSÃO 3.10	PASSO FUNDO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.561	0	0	0	0	0	0	0	0	0	0
Fev	1	0.651	0	0	0	0	0	0	0	0	0	0
Mar	1	0.745	0	0	0	0	0	0	0	0	0	0
Abr	1	0.573	0	0	0	0	0	0	0	0	0	0
Mai	1	0.723	0	0	0	0	0	0	0	0	0	0
Jun	1	0.535	0	0	0	0	0	0	0	0	0	0
Jul	4	0.355	0.435	-0.279	0.258	0	0	0	0	0	0	0
Ago	1	0.446	0	0	0	0	0	0	0	0	0	0
Set	1	0.576	0	0	0	0	0	0	0	0	0	0
Out	1	0.385	0	0	0	0	0	0	0	0	0	0
Nov	1	0.628	0	0	0	0	0	0	0	0	0	0
Dez	1	0.389	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	33.99	33.54	28.76	35.94	55.25	70.8	77.58	71.1	79.04	84.36	58.49	43.79
DESVIO	22.61	28.14	23.28	30.15	48.58	53.63	58.41	45.89	51.15	58.29	38.85	31.52

VERSÃO 5.4	PASSO FUNDO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.561	0	0	0	0	0	0	0	0	0	0
Fev	1	0.651	0	0	0	0	0	0	0	0	0	0
Mar	1	0.745	0	0	0	0	0	0	0	0	0	0
Abr	1	0.573	0	0	0	0	0	0	0	0	0	0
Mai	1	0.723	0	0	0	0	0	0	0	0	0	0
Jun	1	0.535	0	0	0	0	0	0	0	0	0	0
Jul	4	0.355	0.435	-0.279	0.258	0	0	0	0	0	0	0
Ago	1	0.446	0	0	0	0	0	0	0	0	0	0
Set	1	0.576	0	0	0	0	0	0	0	0	0	0
Out	1	0.385	0	0	0	0	0	0	0	0	0	0
Nov	1	0.628	0	0	0	0	0	0	0	0	0	0
Dez	1	0.389	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	33.99	33.54	28.76	35.94	55.25	70.8	77.58	71.1	79.04	84.36	58.49	43.79
DESVIO	22.61	28.14	23.28	30.15	48.58	53.63	58.41	45.89	51.15	58.29	38.85	31.52

2.43. ESTREITO TOC

VERSÃO 3.10	ESTREITO TOC	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	5	0.676	-0.0405	-0.0131	0.234	-0.242	0	0	0	0	0	0
Fev	2	0.52	-0.216	0	0	0	0	0	0	0	0	0
Mar	1	0.479	0	0	0	0	0	0	0	0	0	0
Abr	1	0.607	0	0	0	0	0	0	0	0	0	0
Mai	1	0.771	0	0	0	0	0	0	0	0	0	0
Jun	1	0.89	0	0	0	0	0	0	0	0	0	0
Jul	3	1.49	-0.934	0.225	0	0	0	0	0	0	0	0
Ago	2	1.18	-0.275	0	0	0	0	0	0	0	0	0
Set	3	0.971	0.0949	-0.223	0	0	0	0	0	0	0	0
Out	6	0.17	0.804	0.107	-0.411	0.415	-0.442	0	0	0	0	0
Nov	1	0.694	0	0	0	0	0	0	0	0	0	0
Dez	1	0.638	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	2448.2 7	3174.0 6	3660.6	3488.4	2215.4 2	1219.1 7	849. 6	657.2 5	587.5 8	699.7 4	1026.5 5	1596.9 8
DESVI O	890.76	1186.9 3	1271.1 3	1167.7 9	902.2	359.63	230. 4	195.3 1	173.4 9	234.9 1	350.87	567.5

VERSÃO 5.4	ESTREITO TOC	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	5	0.676	-0.0405	-0.0131	0.234	-0.242	0	0	0	0	0	0
Fev	2	0.52	-0.216	0	0	0	0	0	0	0	0	0
Mar	1	0.479	0	0	0	0	0	0	0	0	0	0
Abr	1	0.607	0	0	0	0	0	0	0	0	0	0
Mai	1	0.771	0	0	0	0	0	0	0	0	0	0
Jun	1	0.89	0	0	0	0	0	0	0	0	0	0
Jul	3	1.49	-0.934	0.225	0	0	0	0	0	0	0	0
Ago	2	1.18	-0.275	0	0	0	0	0	0	0	0	0
Set	3	0.971	0.0949	-0.223	0	0	0	0	0	0	0	0
Out	6	0.17	0.804	0.107	-0.411	0.415	-0.442	0	0	0	0	0
Nov	1	0.694	0	0	0	0	0	0	0	0	0	0
Dez	1	0.638	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	2448.2 7	3174.0 6	3660.6	3488.4	2215.4 2	1219.1 7	849. 6	657.2 5	587.5 8	699.7 4	1026.5 5	1596.9 8
DESVI O	890.76	1186.9 3	1271.1 3	1167.7 9	902.2	359.63	230. 4	195.3 1	173.4 9	234.9 1	350.87	567.5

2.44. PONTE PEDRA

VERSÃO 3.10	PONTE PEDRA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	11	0.557	0.0213	0.0579	0.236	0.0395	-0.994	0.582	0.367	-0.328	-0.0274	0.374
Fev	9	0.776	-0.0275	0.1	-0.0233	0.273	-0.75	0.441	0.4	-0.243	0	0
Mar	7	0.663	0.144	-0.113	0.189	0.0154	-0.342	0.411	0	0	0	0
Abr	8	0.802	0.114	-0.0161	0.0867	0.0374	-0.125	-0.253	0.313	0	0	0
Mai	1	0.947	0	0	0	0	0	0	0	0	0	0
Jun	1	0.965	0	0	0	0	0	0	0	0	0	0
Jul	1	0.971	0	0	0	0	0	0	0	0	0	0
Ago	5	0.931	-0.23	0.169	-0.135	0.249	0	0	0	0	0	0
Set	4	1.19	-0.121	0.121	-0.251	0	0	0	0	0	0	0
Out	4	0.549	0.381	0.313	-0.305	0	0	0	0	0	0	0
Nov	11	0.672	0.169	-0.22	0.181	0.196	-0.113	-0.321	0.186	0.0244	-0.043	0.237
Dez	10	0.729	-0.151	0.19	0.203	0.274	-0.496	-0.18	0.464	-0.316	0.234	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	86.2	90.74	91.83	84.77	76.99	71.27	67.13	63.69	63.24	66.6	71.77	78.74
DESVIO	20.92	21.53	21.32	18.39	15.98	15.02	13.72	13.07	14.08	15	17.82	18.82

VERSÃO 5.4	PONTE PEDRA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	11	0.557	0.0213	0.0579	0.236	0.0395	-0.994	0.582	0.367	-0.328	-0.0274	0.374
Fev	9	0.776	-0.0275	0.1	-0.0233	0.273	-0.75	0.441	0.4	-0.243	0	0
Mar	7	0.663	0.144	-0.113	0.189	0.0154	-0.342	0.411	0	0	0	0
Abr	8	0.802	0.114	-0.0161	0.0867	0.0374	-0.125	-0.253	0.313	0	0	0
Mai	1	0.947	0	0	0	0	0	0	0	0	0	0
Jun	1	0.965	0	0	0	0	0	0	0	0	0	0
Jul	1	0.971	0	0	0	0	0	0	0	0	0	0
Ago	5	0.931	-0.23	0.169	-0.135	0.249	0	0	0	0	0	0
Set	4	1.19	-0.121	0.121	-0.251	0	0	0	0	0	0	0
Out	4	0.549	0.381	0.313	-0.305	0	0	0	0	0	0	0
Nov	11	0.672	0.169	-0.22	0.181	0.196	-0.113	-0.321	0.186	0.0244	-0.043	0.237
Dez	10	0.729	-0.151	0.19	0.203	0.274	-0.496	-0.18	0.464	-0.316	0.234	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	86.2	90.74	91.83	84.77	76.99	71.27	67.13	63.69	63.24	66.6	71.77	78.74
DESVIO	20.92	21.53	21.32	18.39	15.98	15.02	13.72	13.07	14.08	15	17.82	18.82

2.45. 14 DE JULHO

VERSÃO 3.10	14 DE JULHO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	2	0.22	0.245	0	0	0	0	0	0	0	0	0
Fev	1	0.646	0	0	0	0	0	0	0	0	0	0
Mar	1	0.549	0	0	0	0	0	0	0	0	0	0
Abr	1	0.338	0	0	0	0	0	0	0	0	0	0
Mai	1	0.531	0	0	0	0	0	0	0	0	0	0
Jun	1	0.537	0	0	0	0	0	0	0	0	0	0
Jul	4	0.185	0.239	-0.0841	0.366	0	0	0	0	0	0	0
Ago	1	0.381	0	0	0	0	0	0	0	0	0	0
Set	1	0.177	0	0	0	0	0	0	0	0	0	0
Out	1	0.218	0	0	0	0	0	0	0	0	0	0
Nov	3	0.475	-0.0651	0.237	0	0	0	0	0	0	0	0
Dez	1	0.464	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	167.21	210.74	162.17	179.95	248.56	332.29	420.54	435.79	486.48	403.14	234.83	186.94
DESVIO	127.42	184.8	123.91	152.56	278.48	223.14	288.27	306.97	324.76	262.99	176.48	161.5

VERSÃO 5.4	14 DE JULHO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	2	0.22	0.245	0	0	0	0	0	0	0	0	0
Fev	1	0.646	0	0	0	0	0	0	0	0	0	0
Mar	1	0.549	0	0	0	0	0	0	0	0	0	0
Abr	1	0.338	0	0	0	0	0	0	0	0	0	0
Mai	1	0.531	0	0	0	0	0	0	0	0	0	0
Jun	1	0.537	0	0	0	0	0	0	0	0	0	0
Jul	4	0.185	0.239	-0.0841	0.366	0	0	0	0	0	0	0
Ago	1	0.381	0	0	0	0	0	0	0	0	0	0
Set	1	0.177	0	0	0	0	0	0	0	0	0	0
Out	1	0.218	0	0	0	0	0	0	0	0	0	0
Nov	3	0.475	-0.0651	0.237	0	0	0	0	0	0	0	0
Dez	1	0.464	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	167.21	210.74	162.17	179.95	248.56	332.29	420.54	435.79	486.48	403.14	234.83	186.94
DESVIO	127.42	184.8	123.91	152.56	278.48	223.14	288.27	306.97	324.76	262.99	176.48	161.5

2.46. FOZ CHAPECO

VERSÃO 3.10	FOZ CHAPECO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.444	0	0	0	0	0	0	0	0	0	0
Fev	1	0.6	0	0	0	0	0	0	0	0	0	0
Mar	1	0.571	0	0	0	0	0	0	0	0	0	0
Abr	2	0.273	0.329	0	0	0	0	0	0	0	0	0
Mai	1	0.623	0	0	0	0	0	0	0	0	0	0
Jun	1	0.509	0	0	0	0	0	0	0	0	0	0
Jul	4	0.282	0.477	-0.326	0.364	0	0	0	0	0	0	0
Ago	1	0.442	0	0	0	0	0	0	0	0	0	0
Set	1	0.462	0	0	0	0	0	0	0	0	0	0
Out	1	0.339	0	0	0	0	0	0	0	0	0	0
Nov	1	0.537	0	0	0	0	0	0	0	0	0	0
Dez	1	0.386	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	751.7 4	944.7 9	763.2 7	802.6 7	1117.7 5	1294.8 1	1476.3 2	1548.9 9	1771.8 1	1749.6 9	1127.3 3	821.7 1
DESVI O	466.5 7	749.3 3	513.0 4	678.2 8	959.19	998.88	1221.2 4	1216.5 8	1152.3 3	1049.5 3	804.32	564.3 8

VERSÃO 5.4	FOZ CHAPECO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.444	0	0	0	0	0	0	0	0	0	0
Fev	1	0.6	0	0	0	0	0	0	0	0	0	0
Mar	1	0.571	0	0	0	0	0	0	0	0	0	0
Abr	2	0.273	0.329	0	0	0	0	0	0	0	0	0
Mai	1	0.623	0	0	0	0	0	0	0	0	0	0
Jun	1	0.509	0	0	0	0	0	0	0	0	0	0
Jul	4	0.282	0.477	-0.326	0.364	0	0	0	0	0	0	0
Ago	1	0.442	0	0	0	0	0	0	0	0	0	0
Set	1	0.462	0	0	0	0	0	0	0	0	0	0
Out	1	0.339	0	0	0	0	0	0	0	0	0	0
Nov	1	0.537	0	0	0	0	0	0	0	0	0	0
Dez	1	0.386	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	751.7 4	944.7 9	763.2 7	802.6 7	1117.7 5	1294.8 1	1476.3 2	1548.9 9	1771.8 1	1749.6 9	1127.3 3	821.7 1
DESVI O	466.5 7	749.3 3	513.0 4	678.2 8	959.19	998.88	1221.2 4	1216.5 8	1152.3 3	1049.5 3	804.32	564.3 8

2.47. XINGO

VERSÃO 3.10	XINGO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	7	0.544	-0.104	0.0587	0.186	0.0569	0.189	-0.311	0	0	0	0
Fev	1	0.445	0	0	0	0	0	0	0	0	0	0
Mar	1	0.665	0	0	0	0	0	0	0	0	0	0
Abr	1	0.622	0	0	0	0	0	0	0	0	0	0
Mai	1	0.756	0	0	0	0	0	0	0	0	0	0
Jun	3	0.726	0.0883	0.244	0	0	0	0	0	0	0	0
Jul	2	1.22	-0.289	0	0	0	0	0	0	0	0	0
Ago	1	0.967	0	0	0	0	0	0	0	0	0	0
Set	3	0.92	0.354	-0.353	0	0	0	0	0	0	0	0
Out	3	0.645	0.512	-0.314	0	0	0	0	0	0	0	0
Nov	8	0.766	-0.102	0.115	-0.215	-0.267	0.18	0.0313	0.233	0	0	0
Dez	5	0.518	0.0993	-0.154	-0.2	0.306	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	3377.2	3504.2	3603.3	2907.1	1705.	1138.1	969.7	861.0	779.3	853.1	1387.3	2508.0
	5	6	1	4	9	3	4	4	8	9	5	4
DESVI	1092.3	1607.4	2122.1	1416.3	996.9	433.61	301.6	253.2	231.3	285.5	578.83	911.69
O	2	5	3	3	2	9	7	7	7			

VERSÃO 5.4	XINGO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	7	0.544	-0.104	0.0587	0.186	0.0569	0.189	-0.311	0	0	0	0
Fev	1	0.445	0	0	0	0	0	0	0	0	0	0
Mar	1	0.665	0	0	0	0	0	0	0	0	0	0
Abr	1	0.622	0	0	0	0	0	0	0	0	0	0
Mai	1	0.756	0	0	0	0	0	0	0	0	0	0
Jun	3	0.726	0.0883	0.244	0	0	0	0	0	0	0	0
Jul	2	1.22	-0.289	0	0	0	0	0	0	0	0	0
Ago	1	0.967	0	0	0	0	0	0	0	0	0	0
Set	3	0.92	0.354	-0.353	0	0	0	0	0	0	0	0
Out	3	0.645	0.512	-0.314	0	0	0	0	0	0	0	0
Nov	8	0.766	-0.102	0.115	-0.215	-0.267	0.18	0.0313	0.233	0	0	0
Dez	5	0.518	0.0993	-0.154	-0.2	0.306	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	3377.2	3504.2	3603.3	2907.1	1705.	1138.1	969.7	861.0	779.3	853.1	1387.3	2508.0
	5	6	1	4	9	3	4	4	8	9	5	4
DESVI	1092.3	1607.4	2122.1	1416.3	996.9	433.61	301.6	253.2	231.3	285.5	578.83	911.69
O	2	5	3	3	2	9	7	7	7			

2.48. BOA ESPERANÇA

VERSÃO 3.10	B. ESPERANCA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	5	0.345	0.0562	0.0172	0.313	-0.266	0	0	0	0	0	0
Fev	1	0.506	0	0	0	0	0	0	0	0	0	0
Mar	8	0.268	0.191	0.102	-0.0332	0.172	0.00233	0.367	-0.386	0	0	0
Abr	1	0.547	0	0	0	0	0	0	0	0	0	0
Mai	1	0.628	0	0	0	0	0	0	0	0	0	0
Jun	1	0.772	0	0	0	0	0	0	0	0	0	0
Jul	1	0.936	0	0	0	0	0	0	0	0	0	0
Ago	1	0.954	0	0	0	0	0	0	0	0	0	0
Set	2	1.07	-0.287	0	0	0	0	0	0	0	0	0
Out	5	0.207	0.519	0.0451	-0.231	0.278	0	0	0	0	0	0
Nov	1	0.551	0	0	0	0	0	0	0	0	0	0
Dez	1	0.578	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	650.82	723.88	767.98	677.94	438.88	304.77	263.15	240.42	235.4	286.55	399.21	531.37
DESVIO	211.11	249.04	208.43	206.58	128.32	60.74	45.59	37.3	40.84	66.86	93.21	152.51

VERSÃO 5.4	B. ESPERANCA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	5	0.345	0.0562	0.0172	0.313	-0.266	0	0	0	0	0	0
Fev	1	0.506	0	0	0	0	0	0	0	0	0	0
Mar	8	0.268	0.191	0.102	-0.0332	0.172	0.00233	0.367	-0.386	0	0	0
Abr	1	0.547	0	0	0	0	0	0	0	0	0	0
Mai	1	0.628	0	0	0	0	0	0	0	0	0	0
Jun	1	0.772	0	0	0	0	0	0	0	0	0	0
Jul	1	0.936	0	0	0	0	0	0	0	0	0	0
Ago	1	0.954	0	0	0	0	0	0	0	0	0	0
Set	2	1.07	-0.287	0	0	0	0	0	0	0	0	0
Out	5	0.207	0.519	0.0451	-0.231	0.278	0	0	0	0	0	0
Nov	1	0.551	0	0	0	0	0	0	0	0	0	0
Dez	1	0.578	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	650.82	723.88	767.98	677.94	438.88	304.77	263.15	240.42	235.4	286.55	399.21	531.37
DESVIO	211.11	249.04	208.43	206.58	128.32	60.74	45.59	37.3	40.84	66.86	93.21	152.51

2.49. PEDRA CAVALO

VERSÃO 3.10	P. CAVALO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.243	0	0	0	0	0	0	0	0	0	0
Fev	1	0.499	0	0	0	0	0	0	0	0	0	0
Mar	1	0.246	0	0	0	0	0	0	0	0	0	0
Abr	1	0.568	0	0	0	0	0	0	0	0	0	0
Mai	4	0.613	0.0913	0.0365	0.234	0	0	0	0	0	0	0
Jun	3	0.523	-0.0641	0.339	0	0	0	0	0	0	0	0
Jul	3	0.462	-0.23	0.282	0	0	0	0	0	0	0	0
Ago	5	0.364	0.418	-0.091	0.343	-0.23	0	0	0	0	0	0
Set	1	0.601	0	0	0	0	0	0	0	0	0	0
Out	4	0.121	0.0633	-0.0486	0.249	0	0	0	0	0	0	0
Nov	1	0.225	0	0	0	0	0	0	0	0	0	0
Dez	1	0.215	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	156.99	157.19	157.61	131.3	79.32	54.35	54.86	43.86	30.18	35.81	95.83	201.52
DESVIO	215.94	256.3	212.49	117.44	66.35	35.85	34.55	27.11	19.89	32.74	87.24	226.6

VERSÃO 5.4	P. CAVALO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.243	0	0	0	0	0	0	0	0	0	0
Fev	1	0.499	0	0	0	0	0	0	0	0	0	0
Mar	1	0.246	0	0	0	0	0	0	0	0	0	0
Abr	1	0.568	0	0	0	0	0	0	0	0	0	0
Mai	4	0.613	0.0913	0.0365	0.234	0	0	0	0	0	0	0
Jun	3	0.523	-0.0641	0.339	0	0	0	0	0	0	0	0
Jul	3	0.462	-0.23	0.282	0	0	0	0	0	0	0	0
Ago	5	0.364	0.418	-0.091	0.343	-0.23	0	0	0	0	0	0
Set	1	0.601	0	0	0	0	0	0	0	0	0	0
Out	4	0.121	0.0633	-0.0486	0.249	0	0	0	0	0	0	0
Nov	1	0.225	0	0	0	0	0	0	0	0	0	0
Dez	1	0.215	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	156.99	157.19	157.61	131.3	79.32	54.35	54.86	43.86	30.18	35.81	95.83	201.52
DESVIO	215.94	256.3	212.49	117.44	66.35	35.85	34.55	27.11	19.89	32.74	87.24	226.6

2.50. TUCURUI

VERSÃO 3.10	TUCURUI	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.698	0	0	0	0	0	0	0	0	0	0
Fev	2	0.446	0.221	0	0	0	0	0	0	0	0	0
Mar	7	0.789	-0.0141	-0.0923	0.107	-0.0662	0.318	-0.359	0	0	0	0
Abr	2	0.55	0.232	0	0	0	0	0	0	0	0	0
Mai	1	0.719	0	0	0	0	0	0	0	0	0	0
Jun	5	0.837	-0.0802	-0.0687	0.0559	0.27	0	0	0	0	0	0
Jul	3	1.15	-0.551	0.242	0	0	0	0	0	0	0	0
Ago	2	1.17	-0.272	0	0	0	0	0	0	0	0	0
Set	5	0.926	-0.584	0.388	-0.187	0.41	0	0	0	0	0	0
Out	7	0.0952	0.864	-0.473	-0.0138	0.239	-0.161	0.414	0	0	0	0
Nov	7	0.252	0.141	0.591	-0.198	-0.319	0.426	-0.231	0	0	0	0
Dez	1	0.651	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	8276.55	12263.45	15247.05	16691.64	11512.55	4967.29	2544.19	1670.86	1175.39	1122.06	1740.67	3786.6
DESVI O	3613.6	4360.14	4959.45	4617.58	3870.51	1746.57	798.02	585.47	377.89	563.84	906.89	1956.06

VERSÃO 5.4	TUCURUI	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.698	0	0	0	0	0	0	0	0	0	0
Fev	2	0.446	0.221	0	0	0	0	0	0	0	0	0
Mar	7	0.789	-0.0141	-0.0923	0.107	-0.0662	0.318	-0.359	0	0	0	0
Abr	2	0.55	0.232	0	0	0	0	0	0	0	0	0
Mai	1	0.719	0	0	0	0	0	0	0	0	0	0
Jun	5	0.837	-0.0802	-0.0687	0.0559	0.27	0	0	0	0	0	0
Jul	3	1.15	-0.551	0.242	0	0	0	0	0	0	0	0
Ago	2	1.17	-0.272	0	0	0	0	0	0	0	0	0
Set	5	0.926	-0.584	0.388	-0.187	0.41	0	0	0	0	0	0
Out	7	0.0952	0.864	-0.473	-0.0138	0.239	-0.161	0.414	0	0	0	0
Nov	7	0.252	0.141	0.591	-0.198	-0.319	0.426	-0.231	0	0	0	0
Dez	1	0.651	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	8276.55	12263.45	15247.05	16691.64	11512.55	4967.29	2544.19	1670.86	1175.39	1122.06	1740.67	3786.6
DESVI O	3613.6	4360.14	4959.45	4617.58	3870.51	1746.57	798.02	585.47	377.89	563.84	906.89	1956.06

2.51. CURUA UNA

VERSÃO 3.10	CURUA-UNA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	3	0.909	0.144	-0.311	0	0	0	0	0	0	0	0
Fev	1	0.722	0	0	0	0	0	0	0	0	0	0
Mar	1	0.761	0	0	0	0	0	0	0	0	0	0
Abr	1	0.724	0	0	0	0	0	0	0	0	0	0
Mai	1	0.728	0	0	0	0	0	0	0	0	0	0
Jun	1	0.789	0	0	0	0	0	0	0	0	0	0
Jul	2	0.645	0.272	0	0	0	0	0	0	0	0	0
Ago	3	0.638	0.114	0.223	0	0	0	0	0	0	0	0
Set	1	0.939	0	0	0	0	0	0	0	0	0	0
Out	3	0.644	-0.0832	0.349	0	0	0	0	0	0	0	0
Nov	6	0.37	-0.00904	0.376	-0.0517	0.0331	0.25	0	0	0	0	0
Dez	2	0.4	0.303	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	143.39	210.04	321.81	407.02	390.17	268.36	198.56	149.86	129.49	115.89	115.79	118.77
DESVIO	54.74	100.54	130.64	158.69	148.59	105.18	71.45	46.34	34.58	32.84	34.55	42.18

VERSÃO 5.4	CURUA-UNA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	3	0.909	0.144	-0.311	0	0	0	0	0	0	0	0
Fev	1	0.722	0	0	0	0	0	0	0	0	0	0
Mar	1	0.761	0	0	0	0	0	0	0	0	0	0
Abr	1	0.724	0	0	0	0	0	0	0	0	0	0
Mai	1	0.728	0	0	0	0	0	0	0	0	0	0
Jun	1	0.789	0	0	0	0	0	0	0	0	0	0
Jul	2	0.645	0.272	0	0	0	0	0	0	0	0	0
Ago	3	0.638	0.114	0.223	0	0	0	0	0	0	0	0
Set	1	0.939	0	0	0	0	0	0	0	0	0	0
Out	3	0.644	-0.0832	0.349	0	0	0	0	0	0	0	0
Nov	6	0.37	-0.00904	0.376	-0.0517	0.0331	0.25	0	0	0	0	0
Dez	2	0.4	0.303	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	143.39	210.04	321.81	407.02	390.17	268.36	198.56	149.86	129.49	115.89	115.79	118.77
DESVIO	54.74	100.54	130.64	158.69	148.59	105.18	71.45	46.34	34.58	32.84	34.55	42.18

2.52. SAMUEL

VERSÃO 3.10	SAMUEL	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	3	0.6	-0.0304	0.232	0	0	0	0	0	0	0	0
Fev	1	0.61	0	0	0	0	0	0	0	0	0	0
Mar	1	0.405	0	0	0	0	0	0	0	0	0	0
Abr	1	0.438	0	0	0	0	0	0	0	0	0	0
Mai	2	0.645	-0.228	0	0	0	0	0	0	0	0	0
Jun	1	0.88	0	0	0	0	0	0	0	0	0	0
Jul	2	1.13	-0.276	0	0	0	0	0	0	0	0	0
Ago	2	1.31	-0.416	0	0	0	0	0	0	0	0	0
Set	1	0.92	0	0	0	0	0	0	0	0	0	0
Out	1	0.268	0	0	0	0	0	0	0	0	0	0
Nov	1	0.493	0	0	0	0	0	0	0	0	0	0
Dez	1	0.677	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	478.61	746.31	844.45	757.01	462.17	244.39	144.38	89.02	62.82	60.61	117.35	242.43
DESVIO	133.77	167.7	148.81	144.41	89.2	64.95	52.34	39.2	25.79	20.96	51.48	129.21

VERSÃO 5.4	SAMUEL	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	3	0.6	-0.0304	0.232	0	0	0	0	0	0	0	0
Fev	1	0.61	0	0	0	0	0	0	0	0	0	0
Mar	1	0.405	0	0	0	0	0	0	0	0	0	0
Abr	1	0.438	0	0	0	0	0	0	0	0	0	0
Mai	2	0.645	-0.228	0	0	0	0	0	0	0	0	0
Jun	1	0.88	0	0	0	0	0	0	0	0	0	0
Jul	2	1.13	-0.276	0	0	0	0	0	0	0	0	0
Ago	2	1.31	-0.416	0	0	0	0	0	0	0	0	0
Set	1	0.92	0	0	0	0	0	0	0	0	0	0
Out	1	0.268	0	0	0	0	0	0	0	0	0	0
Nov	1	0.493	0	0	0	0	0	0	0	0	0	0
Dez	1	0.677	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	478.61	746.31	844.45	757.01	462.17	244.39	144.38	89.02	62.82	60.61	117.35	242.43
DESVIO	133.77	167.7	148.81	144.41	89.2	64.95	52.34	39.2	25.79	20.96	51.48	129.21

2.53. SOBRAGI

VERSÃO 3.10	SOBRAGI	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.26	0	0	0	0	0	0	0	0	0	0
Fev	1	0.423	0	0	0	0	0	0	0	0	0	0
Mar	2	0.525	0.241	0	0	0	0	0	0	0	0	0
Abr	1	0.809	0	0	0	0	0	0	0	0	0	0
Mai	1	0.873	0	0	0	0	0	0	0	0	0	0
Jun	2	0.574	0.332	0	0	0	0	0	0	0	0	0
Jul	1	0.936	0	0	0	0	0	0	0	0	0	0
Ago	1	0.948	0	0	0	0	0	0	0	0	0	0
Set	6	0.665	-0.16	0.737	-0.261	0.0422	-0.246	0	0	0	0	0
Out	8	0.814	-0.269	0.403	-0.575	0.497	-0.121	-0.12	0.233	0	0	0
Nov	1	0.664	0	0	0	0	0	0	0	0	0	0
Dez	1	0.55	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	64.54	60.8	55.43	41.14	32.12	27.77	24.27	21.86	22.56	25.96	35.42	52.82
DESVIO	25.07	29.28	23.21	13.67	9.45	9.44	6.64	5.44	7.95	8.3	11.18	17.26

VERSÃO 5.4	SOBRAGI	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.26	0	0	0	0	0	0	0	0	0	0
Fev	1	0.423	0	0	0	0	0	0	0	0	0	0
Mar	2	0.525	0.241	0	0	0	0	0	0	0	0	0
Abr	1	0.809	0	0	0	0	0	0	0	0	0	0
Mai	1	0.873	0	0	0	0	0	0	0	0	0	0
Jun	2	0.574	0.332	0	0	0	0	0	0	0	0	0
Jul	1	0.936	0	0	0	0	0	0	0	0	0	0
Ago	1	0.948	0	0	0	0	0	0	0	0	0	0
Set	6	0.665	-0.16	0.737	-0.261	0.0422	-0.246	0	0	0	0	0
Out	8	0.814	-0.269	0.403	-0.575	0.497	-0.121	-0.12	0.233	0	0	0
Nov	1	0.664	0	0	0	0	0	0	0	0	0	0
Dez	1	0.55	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	64.54	60.8	55.43	41.14	32.12	27.77	24.27	21.86	22.56	25.96	35.42	52.82
DESVIO	25.07	29.28	23.21	13.67	9.45	9.44	6.64	5.44	7.95	8.3	11.18	17.26

2.54. PICADA

VERSÃO 3.10	PICADA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.33	0	0	0	0	0	0	0	0	0	0
Fev	1	0.458	0	0	0	0	0	0	0	0	0	0
Mar	2	0.474	0.275	0	0	0	0	0	0	0	0	0
Abr	1	0.835	0	0	0	0	0	0	0	0	0	0
Mai	2	0.661	0.287	0	0	0	0	0	0	0	0	0
Jun	2	0.544	0.357	0	0	0	0	0	0	0	0	0
Jul	2	0.556	0.443	0	0	0	0	0	0	0	0	0
Ago	1	0.954	0	0	0	0	0	0	0	0	0	0
Set	5	0.403	0.242	0.822	-0.414	-0.241	0	0	0	0	0	0
Out	4	0.444	0.106	-0.0932	0.381	0	0	0	0	0	0	0
Nov	1	0.564	0	0	0	0	0	0	0	0	0	0
Dez	2	0.421	0.249	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	64.13	63.01	57.58	42.62	32.86	28.4	24.68	21.76	21.48	24.6	33.99	48.85
DESVIO	24.54	27.43	22.56	12.37	8.33	8.39	5.95	5.05	6.81	6.42	10.21	15.72

VERSÃO 5.4	PICADA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.33	0	0	0	0	0	0	0	0	0	0
Fev	1	0.458	0	0	0	0	0	0	0	0	0	0
Mar	2	0.474	0.275	0	0	0	0	0	0	0	0	0
Abr	1	0.835	0	0	0	0	0	0	0	0	0	0
Mai	2	0.661	0.287	0	0	0	0	0	0	0	0	0
Jun	2	0.544	0.357	0	0	0	0	0	0	0	0	0
Jul	2	0.556	0.443	0	0	0	0	0	0	0	0	0
Ago	1	0.954	0	0	0	0	0	0	0	0	0	0
Set	5	0.403	0.242	0.822	-0.414	-0.241	0	0	0	0	0	0
Out	4	0.444	0.106	-0.0932	0.381	0	0	0	0	0	0	0
Nov	1	0.564	0	0	0	0	0	0	0	0	0	0
Dez	2	0.421	0.249	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	64.13	63.01	57.58	42.62	32.86	28.4	24.68	21.76	21.48	24.6	33.99	48.85
DESVIO	24.54	27.43	22.56	12.37	8.33	8.39	5.95	5.05	6.81	6.42	10.21	15.72

2.55. SANTA CLARA MG

VERSÃO 3.10	STA CLARA MG		Coeficiente										
	Ordem		1	2	3	4	5	6	7	8	9	10	11
Jan	4		0.0283	-0.0106	0.0375	0.279	0	0	0	0	0	0	0
Fev	1		0.539	0	0	0	0	0	0	0	0	0	0
Mar	1		0.635	0	0	0	0	0	0	0	0	0	0
Abr	1		0.722	0	0	0	0	0	0	0	0	0	0
Mai	2		0.584	0.352	0	0	0	0	0	0	0	0	0
Jun	1		0.907	0	0	0	0	0	0	0	0	0	0
Jul	2		0.449	0.469	0	0	0	0	0	0	0	0	0
Ago	2		0.527	0.401	0	0	0	0	0	0	0	0	0
Set	2		0.526	0.356	0	0	0	0	0	0	0	0	0
Out	3		0.435	-0.201	0.511	0	0	0	0	0	0	0	0
Nov	1		0.522	0	0	0	0	0	0	0	0	0	0
Dez	1		0.462	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	175.45	123.26	121.36	107.04	73.39	62.07	60.2	50.76	44.61	61.99	123.54	183.98
DESVIO	144.81	106.2	74.66	62.09	35.13	27.42	25.54	22.6	20.68	36.59	75.5	115.36

VERSÃO 5.4	STA CLARA MG		Coeficiente										
	Ordem		1	2	3	4	5	6	7	8	9	10	11
Jan	4		0.0283	-0.0106	0.0375	0.279	0	0	0	0	0	0	0
Fev	1		0.539	0	0	0	0	0	0	0	0	0	0
Mar	1		0.635	0	0	0	0	0	0	0	0	0	0
Abr	1		0.722	0	0	0	0	0	0	0	0	0	0
Mai	2		0.584	0.352	0	0	0	0	0	0	0	0	0
Jun	1		0.907	0	0	0	0	0	0	0	0	0	0
Jul	2		0.449	0.469	0	0	0	0	0	0	0	0	0
Ago	2		0.527	0.401	0	0	0	0	0	0	0	0	0
Set	2		0.526	0.356	0	0	0	0	0	0	0	0	0
Out	3		0.435	-0.201	0.511	0	0	0	0	0	0	0	0
Nov	1		0.522	0	0	0	0	0	0	0	0	0	0
Dez	1		0.462	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	175.45	123.26	121.36	107.04	73.39	62.07	60.2	50.76	44.61	61.99	123.54	183.98
DESVIO	144.81	106.2	74.66	62.09	35.13	27.42	25.54	22.6	20.68	36.59	75.5	115.36

2.56. LAJEADO

VERSÃO 3.10	LAJEADO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	5	0.392	0.0473	0.0364	0.348	-0.27	0	0	0	0	0	0
Fev	1	0.545	0	0	0	0	0	0	0	0	0	0
Mar	1	0.54	0	0	0	0	0	0	0	0	0	0
Abr	1	0.727	0	0	0	0	0	0	0	0	0	0
Mai	1	0.873	0	0	0	0	0	0	0	0	0	0
Jun	3	0.688	0.0749	0.278	0	0	0	0	0	0	0	0
Jul	2	1.2	-0.232	0	0	0	0	0	0	0	0	0
Ago	2	1.31	-0.338	0	0	0	0	0	0	0	0	0
Set	3	0.38	1.26	-0.782	0	0	0	0	0	0	0	0
Out	5	0.55	-0.159	0.36	-0.271	0.32	0	0	0	0	0	0
Nov	5	0.779	0.0244	0.186	-0.755	0.471	0	0	0	0	0	0
Dez	6	0.725	-0.221	-0.0188	0.391	0.295	-0.663	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	4440.5 7	5097.0 7	5136.7 1	3830.3 9	1889.2 6	1124.5 2	809.0 4	619.8 5	564.5 7	789.2 5	1565.9 8	3169.5 6
DESVI O	2254.0 5	2694.9 8	2289.6 6	1610.8 9	803.3	418.09	289.1 9	229.0 9	202.7 3	355.7 9	726.46	1674.7 7

VERSÃO 5.4	LAJEADO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	5	0.392	0.0473	0.0364	0.348	-0.27	0	0	0	0	0	0
Fev	1	0.545	0	0	0	0	0	0	0	0	0	0
Mar	1	0.54	0	0	0	0	0	0	0	0	0	0
Abr	1	0.727	0	0	0	0	0	0	0	0	0	0
Mai	1	0.873	0	0	0	0	0	0	0	0	0	0
Jun	3	0.688	0.0749	0.278	0	0	0	0	0	0	0	0
Jul	2	1.2	-0.232	0	0	0	0	0	0	0	0	0
Ago	2	1.31	-0.338	0	0	0	0	0	0	0	0	0
Set	3	0.38	1.26	-0.782	0	0	0	0	0	0	0	0
Out	5	0.55	-0.159	0.36	-0.271	0.32	0	0	0	0	0	0
Nov	5	0.779	0.0244	0.186	-0.755	0.471	0	0	0	0	0	0
Dez	6	0.725	-0.221	-0.0188	0.391	0.295	-0.663	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	4440.5 7	5097.0 7	5136.7 1	3830.3 9	1889.2 6	1124.5 2	809.0 4	619.8 5	564.5 7	789.2 5	1565.9 8	3169.5 6
DESVI O	2254.0 5	2694.9 8	2289.6 6	1610.8 9	803.3	418.09	289.1 9	229.0 9	202.7 3	355.7 9	726.46	1674.7 7

2.57. SALTO VERDINHO

VERSÃO 3.10	SLT VERDINHO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	5	0.334	0.233	-0.16	-0.0934	0.347	0	0	0	0	0	0
Fev	1	0.534	0	0	0	0	0	0	0	0	0	0
Mar	1	0.575	0	0	0	0	0	0	0	0	0	0
Abr	1	0.79	0	0	0	0	0	0	0	0	0	0
Mai	1	0.821	0	0	0	0	0	0	0	0	0	0
Jun	5	0.743	0.0763	-0.0568	-0.036	0.219	0	0	0	0	0	0
Jul	2	0.582	0.392	0	0	0	0	0	0	0	0	0
Ago	3	0.789	-0.117	0.262	0	0	0	0	0	0	0	0
Set	1	0.755	0	0	0	0	0	0	0	0	0	0
Out	1	0.436	0	0	0	0	0	0	0	0	0	0
Nov	1	0.487	0	0	0	0	0	0	0	0	0	0
Dez	5	0.4	0.00109	0.31	0.179	-0.218	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	263.36	284.92	286.62	231.3	179.64	156.19	139.46	129.29	132.81	151.6	179.4	224.26
DESVIO	58.07	60.8	63.59	43.82	28.62	25.91	18.93	16.85	19.8	21.4	26.72	40.44

VERSÃO 5.4	SLT VERDINHO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	5	0.334	0.233	-0.16	-0.0934	0.347	0	0	0	0	0	0
Fev	1	0.534	0	0	0	0	0	0	0	0	0	0
Mar	1	0.575	0	0	0	0	0	0	0	0	0	0
Abr	1	0.79	0	0	0	0	0	0	0	0	0	0
Mai	1	0.821	0	0	0	0	0	0	0	0	0	0
Jun	5	0.743	0.0763	-0.0568	-0.036	0.219	0	0	0	0	0	0
Jul	2	0.582	0.392	0	0	0	0	0	0	0	0	0
Ago	3	0.789	-0.117	0.262	0	0	0	0	0	0	0	0
Set	1	0.755	0	0	0	0	0	0	0	0	0	0
Out	1	0.436	0	0	0	0	0	0	0	0	0	0
Nov	1	0.487	0	0	0	0	0	0	0	0	0	0
Dez	5	0.4	0.00109	0.31	0.179	-0.218	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	263.36	284.92	286.62	231.3	179.64	156.19	139.46	129.29	132.81	151.6	179.4	224.26
DESVIO	58.07	60.8	63.59	43.82	28.62	25.91	18.93	16.85	19.8	21.4	26.72	40.44

2.58. ITIQUIRA I

VERSÃO 3.10	ITIQUIRA I	Coeficiente											
		Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	10	0.076	0.461	0.11	-0.226	0.227	0.166	-0.2	-0.037	-	0.0654	0.226	0
Fev	6	0.568	0.14	-0.222	0.0595	0.672	-0.402	0	0	0	0	0	0
Mar	2	0.455	0.37	0	0	0	0	0	0	0	0	0	0
Abr	1	0.636	0	0	0	0	0	0	0	0	0	0	0
Mai	4	0.643	-	0.0447	0.274	0	0	0	0	0	0	0	0
			0.0608										
Jun	5	0.443	0.286	-0.222	0.0875	0.364	0	0	0	0	0	0	0
Jul	2	0.595	0.369	0	0	0	0	0	0	0	0	0	0
Ago	5	0.671	0.0652	-	0.0342	0.356	0	0	0	0	0	0	0
				0.0883									
Set	7	0.677	-0.05	-	-	0.0654	0.109	0.226	0	0	0	0	0
				0.0213	0.0618								
Out	3	0.273	0.248	0.396	0	0	0	0	0	0	0	0	0
Nov	11	0.349	0.284	0.13	-0.409	0.36	0.0243	-	-	-	-	-	0.25
								0.0478	0.0241	0.0443	0.0552		
Dez	1	0.779	0	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	101.44	114.88	112.27	89.62	66.6	56.62	51.05	47.12	47.74	52.25	61.33	80.76
DESVIO	35.58	32.18	31.26	25.29	15.47	13.12	10.83	8.52	10.06	10.61	15.44	24.67

VERSÃO 5.4	ITIQUIRA I	Coeficiente											
		Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	10	0.076	0.461	0.11	-0.226	0.227	0.166	-0.2	-0.037	-	0.0654	0.226	0
Fev	6	0.568	0.14	-0.222	0.0595	0.672	-0.402	0	0	0	0	0	0
Mar	2	0.455	0.37	0	0	0	0	0	0	0	0	0	0
Abr	1	0.636	0	0	0	0	0	0	0	0	0	0	0
Mai	4	0.643	-	0.0447	0.274	0	0	0	0	0	0	0	0
			0.0608										
Jun	5	0.443	0.286	-0.222	0.0875	0.364	0	0	0	0	0	0	0
Jul	2	0.595	0.369	0	0	0	0	0	0	0	0	0	0
Ago	5	0.671	0.0652	-	0.0342	0.356	0	0	0	0	0	0	0
				0.0883									
Set	7	0.677	-0.05	-	-	0.0654	0.109	0.226	0	0	0	0	0
				0.0213	0.0618								
Out	3	0.273	0.248	0.396	0	0	0	0	0	0	0	0	0
Nov	11	0.349	0.284	0.13	-0.409	0.36	0.0243	-	-	-	-	-	0.25
								0.0478	0.0241	0.0443	0.0552		
Dez	1	0.779	0	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	101.44	114.88	112.27	89.62	66.6	56.62	51.05	47.12	47.74	52.25	61.33	80.76
DESVIO	35.58	32.18	31.26	25.29	15.47	13.12	10.83	8.52	10.06	10.61	15.44	24.67

2.59. JAURU

VERSÃO 3.10	JAURU	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	3	0.473	0.138	0.225	0	0	0	0	0	0	0	0
Fev	6	0.0807	0.236	0.25	0.344	0.205	-0.357	0	0	0	0	0
Mar	2	0.307	0.626	0	0	0	0	0	0	0	0	0
Abr	6	0.31	0.379	0.246	0.172	0.15	-0.342	0	0	0	0	0
Mai	4	0.17	0.171	0.334	0.304	0	0	0	0	0	0	0
Jun	3	0.293	0.404	0.346	0	0	0	0	0	0	0	0
Jul	3	0.432	0.347	0.253	0	0	0	0	0	0	0	0
Ago	1	0.952	0	0	0	0	0	0	0	0	0	0
Set	1	0.875	0	0	0	0	0	0	0	0	0	0
Out	4	0.306	0.232	0.499	-0.229	0	0	0	0	0	0	0
Nov	7	0.413	0.112	0.0649	0.368	0.311	-0.112	-0.375	0	0	0	0
Dez	2	0.384	0.28	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	97.73	102.21	110.24	95.74	84.39	78.81	75.65	71.95	71.08	74.73	79.2	87.63
DESVIO	17.46	16.85	17.01	11.98	10.89	8.77	8.59	8.03	7.16	8.04	10.26	12.03

VERSÃO 5.4	JAURU	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	3	0.473	0.138	0.225	0	0	0	0	0	0	0	0
Fev	6	0.0807	0.236	0.25	0.344	0.205	-0.357	0	0	0	0	0
Mar	2	0.307	0.626	0	0	0	0	0	0	0	0	0
Abr	6	0.31	0.379	0.246	0.172	0.15	-0.342	0	0	0	0	0
Mai	4	0.17	0.171	0.334	0.304	0	0	0	0	0	0	0
Jun	3	0.293	0.404	0.346	0	0	0	0	0	0	0	0
Jul	3	0.432	0.347	0.253	0	0	0	0	0	0	0	0
Ago	1	0.952	0	0	0	0	0	0	0	0	0	0
Set	1	0.875	0	0	0	0	0	0	0	0	0	0
Out	4	0.306	0.232	0.499	-0.229	0	0	0	0	0	0	0
Nov	7	0.413	0.112	0.0649	0.368	0.311	-0.112	-0.375	0	0	0	0
Dez	2	0.384	0.28	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	97.73	102.21	110.24	95.74	84.39	78.81	75.65	71.95	71.08	74.73	79.2	87.63
DESVIO	17.46	16.85	17.01	11.98	10.89	8.77	8.59	8.03	7.16	8.04	10.26	12.03

2.60. GUAPORE

VERSÃO 3.10	GUAPORE	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.615	0	0	0	0	0	0	0	0	0	0
Fev	3	0.508	-0.0232	0.274	0	0	0	0	0	0	0	0
Mar	2	0.201	0.415	0	0	0	0	0	0	0	0	0
Abr	2	0.449	0.271	0	0	0	0	0	0	0	0	0
Mai	2	0.481	0.308	0	0	0	0	0	0	0	0	0
Jun	2	0.636	0.253	0	0	0	0	0	0	0	0	0
Jul	2	0.614	0.269	0	0	0	0	0	0	0	0	0
Ago	2	0.578	0.332	0	0	0	0	0	0	0	0	0
Set	8	0.422	0.0946	0.135	0.0982	0.211	0.0287	0.121	-0.232	0	0	0
Out	6	0.278	0.343	0.102	-0.0885	-0.13	0.256	0	0	0	0	0
Nov	2	0.472	0.308	0	0	0	0	0	0	0	0	0
Dez	5	0.253	0.357	0.0419	-0.167	0.23	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	35.36	37.36	39.15	36.82	33.73	31.55	30.26	29.49	29.32	30.13	31.19	32.83
DESVIO	3.12	2.79	3.94	3.09	2.87	1.7	1.6	1.52	1.6	1.9	2.3	2.7

VERSÃO 5.4	GUAPORE	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.615	0	0	0	0	0	0	0	0	0	0
Fev	3	0.508	-0.0232	0.274	0	0	0	0	0	0	0	0
Mar	2	0.201	0.415	0	0	0	0	0	0	0	0	0
Abr	2	0.449	0.271	0	0	0	0	0	0	0	0	0
Mai	2	0.481	0.308	0	0	0	0	0	0	0	0	0
Jun	2	0.636	0.253	0	0	0	0	0	0	0	0	0
Jul	2	0.614	0.269	0	0	0	0	0	0	0	0	0
Ago	2	0.578	0.332	0	0	0	0	0	0	0	0	0
Set	8	0.422	0.0946	0.135	0.0982	0.211	0.0287	0.121	-0.232	0	0	0
Out	6	0.278	0.343	0.102	-0.0885	-0.13	0.256	0	0	0	0	0
Nov	2	0.472	0.308	0	0	0	0	0	0	0	0	0
Dez	5	0.253	0.357	0.0419	-0.167	0.23	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	35.36	37.36	39.15	36.82	33.73	31.55	30.26	29.49	29.32	30.13	31.19	32.83
DESVIO	3.12	2.79	3.94	3.09	2.87	1.7	1.6	1.52	1.6	1.9	2.3	2.7

2.61. QUEBRA QUEIXO

VERSÃO 3.10	QUEBRA QUEIX	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.498	0	0	0	0	0	0	0	0	0	0
Fev	4	0.37	0.124	-0.112	0.263	0	0	0	0	0	0	0
Mar	4	0.463	0.109	-0.0968	0.329	0	0	0	0	0	0	0
Abr	3	0.338	0.0381	0.373	0	0	0	0	0	0	0	0
Mai	1	0.481	0	0	0	0	0	0	0	0	0	0
Jun	1	0.468	0	0	0	0	0	0	0	0	0	0
Jul	4	0.375	0.275	-0.136	0.391	0	0	0	0	0	0	0
Ago	1	0.355	0	0	0	0	0	0	0	0	0	0
Set	1	0.529	0	0	0	0	0	0	0	0	0	0
Out	1	0.357	0	0	0	0	0	0	0	0	0	0
Nov	1	0.452	0	0	0	0	0	0	0	0	0	0
Dez	1	0.366	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	55.81	65.83	56.44	58.33	83.19	94.99	92.04	87.96	99.55	121.64	82.51	61.44
DESVIO	36.5	54.49	42.34	53.88	74.73	71.26	79.89	66.31	64.08	75.02	61.86	45.3

VERSÃO 5.4	QUEBRA QUEIX	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.498	0	0	0	0	0	0	0	0	0	0
Fev	4	0.37	0.124	-0.112	0.263	0	0	0	0	0	0	0
Mar	4	0.463	0.109	-0.0968	0.329	0	0	0	0	0	0	0
Abr	3	0.338	0.0381	0.373	0	0	0	0	0	0	0	0
Mai	1	0.481	0	0	0	0	0	0	0	0	0	0
Jun	1	0.468	0	0	0	0	0	0	0	0	0	0
Jul	4	0.375	0.275	-0.136	0.391	0	0	0	0	0	0	0
Ago	1	0.355	0	0	0	0	0	0	0	0	0	0
Set	1	0.529	0	0	0	0	0	0	0	0	0	0
Out	1	0.357	0	0	0	0	0	0	0	0	0	0
Nov	1	0.452	0	0	0	0	0	0	0	0	0	0
Dez	1	0.366	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	55.81	65.83	56.44	58.33	83.19	94.99	92.04	87.96	99.55	121.64	82.51	61.44
DESVIO	36.5	54.49	42.34	53.88	74.73	71.26	79.89	66.31	64.08	75.02	61.86	45.3

2.62. ITAPEBI

VERSÃO 3.10	ITAPEBI		Coeficiente									
	Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	1	0.285	0	0	0	0	0	0	0	0	0	0
Fev	1	0.594	0	0	0	0	0	0	0	0	0	0
Mar	1	0.504	0	0	0	0	0	0	0	0	0	0
Abr	1	0.595	0	0	0	0	0	0	0	0	0	0
Mai	2	0.691	0.26	0	0	0	0	0	0	0	0	0
Jun	1	0.925	0	0	0	0	0	0	0	0	0	0
Jul	1	0.964	0	0	0	0	0	0	0	0	0	0
Ago	2	0.624	0.359	0	0	0	0	0	0	0	0	0
Set	2	0.684	0.257	0	0	0	0	0	0	0	0	0
Out	9	0.903	-0.304	0.127	-0.201	-0.0187	0.0424	-0.129	0.155	0.222	0	0
Nov	1	0.35	0	0	0	0	0	0	0	0	0	0
Dez	2	0.266	0.223	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	476.17	366.73	285.12	209	137.14	111.86	95.08	81.02	72.04	103.49	270.73	527.93
DESVIO	333.83	426.08	214.84	142.55	67.98	58.59	48.86	42.98	40.25	71.81	199.66	414.69

VERSÃO 5.4	ITAPEBI		Coeficiente									
	Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	1	0.285	0	0	0	0	0	0	0	0	0	0
Fev	1	0.594	0	0	0	0	0	0	0	0	0	0
Mar	1	0.504	0	0	0	0	0	0	0	0	0	0
Abr	1	0.595	0	0	0	0	0	0	0	0	0	0
Mai	2	0.691	0.26	0	0	0	0	0	0	0	0	0
Jun	1	0.925	0	0	0	0	0	0	0	0	0	0
Jul	1	0.964	0	0	0	0	0	0	0	0	0	0
Ago	2	0.624	0.359	0	0	0	0	0	0	0	0	0
Set	2	0.684	0.257	0	0	0	0	0	0	0	0	0
Out	9	0.903	-0.304	0.127	-0.201	-0.0187	0.0424	-0.129	0.155	0.222	0	0
Nov	1	0.35	0	0	0	0	0	0	0	0	0	0
Dez	2	0.266	0.223	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	476.17	366.73	285.12	209	137.14	111.86	95.08	81.02	72.04	103.49	270.73	527.93
DESVIO	333.83	426.08	214.84	142.55	67.98	58.59	48.86	42.98	40.25	71.81	199.66	414.69

2.63. CORUMBA IV

VERSÃO 3.10	CORUMBA IV	Coeficiente											
		Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	1	0.412	0	0	0	0	0	0	0	0	0	0	0
Fev	1	0.63	0	0	0	0	0	0	0	0	0	0	0
Mar	1	0.59	0	0	0	0	0	0	0	0	0	0	0
Abr	8	0.768	0.0347	-0.0713	-0.0367	0.012	0.0248	0.245	-0.228	0	0	0	0
Mai	1	0.88	0	0	0	0	0	0	0	0	0	0	0
Jun	3	0.766	-0.12	0.265	0	0	0	0	0	0	0	0	0
Jul	1	0.931	0	0	0	0	0	0	0	0	0	0	0
Ago	1	0.936	0	0	0	0	0	0	0	0	0	0	0
Set	1	0.857	0	0	0	0	0	0	0	0	0	0	0
Out	7	0.339	0.57	-0.238	-0.0286	-0.317	0.546	-0.215	0	0	0	0	0
Nov	7	0.807	-0.0256	0.0455	-0.306	0.278	0.158	-0.352	0	0	0	0	0
Dez	5	0.605	-0.0715	-0.000729	0.538	-0.429	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	217.42	239.54	239.79	190.54	118.88	87.19	67.94	53.64	46.42	60.32	99.18	160.71
DESVIO	79.39	112.78	98.79	65.34	35.89	26.08	19.34	15.91	14.69	25.21	42.62	69.38

VERSÃO 5.4	CORUMBA IV	Coeficiente											
		Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	1	0.412	0	0	0	0	0	0	0	0	0	0	0
Fev	1	0.63	0	0	0	0	0	0	0	0	0	0	0
Mar	1	0.59	0	0	0	0	0	0	0	0	0	0	0
Abr	8	0.768	0.0347	-0.0713	-0.0367	0.012	0.0248	0.245	-0.228	0	0	0	0
Mai	1	0.88	0	0	0	0	0	0	0	0	0	0	0
Jun	3	0.766	-0.12	0.265	0	0	0	0	0	0	0	0	0
Jul	1	0.931	0	0	0	0	0	0	0	0	0	0	0
Ago	1	0.936	0	0	0	0	0	0	0	0	0	0	0
Set	1	0.857	0	0	0	0	0	0	0	0	0	0	0
Out	7	0.339	0.57	-0.238	-0.0286	-0.317	0.546	-0.215	0	0	0	0	0
Nov	7	0.807	-0.0256	0.0455	-0.306	0.278	0.158	-0.352	0	0	0	0	0
Dez	5	0.605	-0.0715	-0.000729	0.538	-0.429	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	217.42	239.54	239.79	190.54	118.88	87.19	67.94	53.64	46.42	60.32	99.18	160.71
DESVIO	79.39	112.78	98.79	65.34	35.89	26.08	19.34	15.91	14.69	25.21	42.62	69.38

2.64. MONJOLINHO

VERSÃO 3.10	MONJOLINHO	Coeficiente											
		Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	2	0.461	0.354	0	0	0	0	0	0	0	0	0	0
Fev	2	0.721	-0.249	0	0	0	0	0	0	0	0	0	0
Mar	1	0.729	0	0	0	0	0	0	0	0	0	0	0
Abr	1	0.744	0	0	0	0	0	0	0	0	0	0	0
Mai	1	0.6	0	0	0	0	0	0	0	0	0	0	0
Jun	1	0.584	0	0	0	0	0	0	0	0	0	0	0
Jul	4	0.0545	0.635	-0.347	0.315	0	0	0	0	0	0	0	0
Ago	5	0.291	0.116	-0.0861	0.12	0.34	0	0	0	0	0	0	0
Set	1	0.666	0	0	0	0	0	0	0	0	0	0	0
Out	7	0.257	0.244	0.191	0.192	-0.228	0.212	-0.34	0	0	0	0	0
Nov	1	0.68	0	0	0	0	0	0	0	0	0	0	0
Dez	1	0.476	0	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	25.4	24.1	21.08	26.76	41.08	50.35	55.74	48.02	52.54	62.75	44.33	32.6
DESVIO	24.41	23.53	24.25	31.34	40.58	45.62	48.05	33.14	35.97	51.44	39.07	29.92

VERSÃO 5.4	MONJOLINHO	Coeficiente											
		Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	2	0.461	0.354	0	0	0	0	0	0	0	0	0	0
Fev	2	0.721	-0.249	0	0	0	0	0	0	0	0	0	0
Mar	1	0.729	0	0	0	0	0	0	0	0	0	0	0
Abr	1	0.744	0	0	0	0	0	0	0	0	0	0	0
Mai	1	0.6	0	0	0	0	0	0	0	0	0	0	0
Jun	1	0.584	0	0	0	0	0	0	0	0	0	0	0
Jul	4	0.0545	0.635	-0.347	0.315	0	0	0	0	0	0	0	0
Ago	5	0.291	0.116	-0.0861	0.12	0.34	0	0	0	0	0	0	0
Set	1	0.666	0	0	0	0	0	0	0	0	0	0	0
Out	7	0.257	0.244	0.191	0.192	-0.228	0.212	-0.34	0	0	0	0	0
Nov	1	0.68	0	0	0	0	0	0	0	0	0	0	0
Dez	1	0.476	0	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	25.4	24.1	21.08	26.76	41.08	50.35	55.74	48.02	52.54	62.75	44.33	32.6
DESVIO	24.41	23.53	24.25	31.34	40.58	45.62	48.05	33.14	35.97	51.44	39.07	29.92

2.65. SALTO PILÃO

VERSÃO 3.10	SALTO PILAO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.323	0	0	0	0	0	0	0	0	0	0
Fev	1	0.404	0	0	0	0	0	0	0	0	0	0
Mar	1	0.536	0	0	0	0	0	0	0	0	0	0
Abr	2	0.39	0.245	0	0	0	0	0	0	0	0	0
Mai	1	0.508	0	0	0	0	0	0	0	0	0	0
Jun	5	0.401	-0.0502	0.163	-0.134	0.287	0	0	0	0	0	0
Jul	4	0.458	0.332	-0.145	0.257	0	0	0	0	0	0	0
Ago	1	0.438	0	0	0	0	0	0	0	0	0	0
Set	1	0.457	0	0	0	0	0	0	0	0	0	0
Out	1	0.355	0	0	0	0	0	0	0	0	0	0
Nov	1	0.53	0	0	0	0	0	0	0	0	0	0
Dez	1	0.433	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	113.52	134.26	104.94	75.65	92.36	94.51	118.12	131.08	161.46	169.2	114.45	96.26
DESVIO	77.75	97.71	56.37	52.79	78.96	74.92	128.53	119.01	114.75	104.64	84.31	66.57

VERSÃO 5.4	SALTO PILAO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.323	0	0	0	0	0	0	0	0	0	0
Fev	1	0.404	0	0	0	0	0	0	0	0	0	0
Mar	1	0.536	0	0	0	0	0	0	0	0	0	0
Abr	2	0.39	0.245	0	0	0	0	0	0	0	0	0
Mai	1	0.508	0	0	0	0	0	0	0	0	0	0
Jun	5	0.401	-0.0502	0.163	-0.134	0.287	0	0	0	0	0	0
Jul	4	0.458	0.332	-0.145	0.257	0	0	0	0	0	0	0
Ago	1	0.438	0	0	0	0	0	0	0	0	0	0
Set	1	0.457	0	0	0	0	0	0	0	0	0	0
Out	1	0.355	0	0	0	0	0	0	0	0	0	0
Nov	1	0.53	0	0	0	0	0	0	0	0	0	0
Dez	1	0.433	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	113.52	134.26	104.94	75.65	92.36	94.51	118.12	131.08	161.46	169.2	114.45	96.26
DESVIO	77.75	97.71	56.37	52.79	78.96	74.92	128.53	119.01	114.75	104.64	84.31	66.57

2.66. RETIRO BAIXO

VERSÃO 3.10	RETIRO BAIXO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	6	0.231	0.224	-0.0156	-0.0665	0.439	-0.349	0	0	0	0	0
Fev	1	0.525	0	0	0	0	0	0	0	0	0	0
Mar	8	0.468	0.222	-0.0792	-0.0248	0.144	-0.0473	0.298	-0.263	0	0	0
Abr	2	0.563	0.253	0	0	0	0	0	0	0	0	0
Mai	3	0.595	0.151	0.257	0	0	0	0	0	0	0	0
Jun	1	0.869	0	0	0	0	0	0	0	0	0	0
Jul	2	0.551	0.404	0	0	0	0	0	0	0	0	0
Ago	1	0.954	0	0	0	0	0	0	0	0	0	0
Set	2	0.58	0.253	0	0	0	0	0	0	0	0	0
Out	5	0.513	-0.114	-0.0811	0.189	0.233	0	0	0	0	0	0
Nov	1	0.537	0	0	0	0	0	0	0	0	0	0
Dez	7	0.387	-0.117	0.403	0.00782	-0.207	0.496	-0.311	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	329.99	281.2	240	158.31	109.7	89.76	72.9	62.24	60.17	76.35	130.83	250.1
DESVIO	164.02	161.16	117.36	70.11	41.18	36.67	22	19.73	22.11	33.47	62.88	111.83

VERSÃO 5.4	RETIRO BAIXO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	6	0.231	0.224	-0.0156	-0.0665	0.439	-0.349	0	0	0	0	0
Fev	1	0.525	0	0	0	0	0	0	0	0	0	0
Mar	8	0.468	0.222	-0.0792	-0.0248	0.144	-0.0473	0.298	-0.263	0	0	0
Abr	2	0.563	0.253	0	0	0	0	0	0	0	0	0
Mai	3	0.595	0.151	0.257	0	0	0	0	0	0	0	0
Jun	1	0.869	0	0	0	0	0	0	0	0	0	0
Jul	2	0.551	0.404	0	0	0	0	0	0	0	0	0
Ago	1	0.954	0	0	0	0	0	0	0	0	0	0
Set	2	0.58	0.253	0	0	0	0	0	0	0	0	0
Out	5	0.513	-0.114	-0.0811	0.189	0.233	0	0	0	0	0	0
Nov	1	0.537	0	0	0	0	0	0	0	0	0	0
Dez	7	0.387	-0.117	0.403	0.00782	-0.207	0.496	-0.311	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	329.99	281.2	240	158.31	109.7	89.76	72.9	62.24	60.17	76.35	130.83	250.1
DESVIO	164.02	161.16	117.36	70.11	41.18	36.67	22	19.73	22.11	33.47	62.88	111.83

2.67. DARDANELOS

VERSÃO 3.10	DARDANELOS	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	4	1.08	-0.536	-0.143	0.235	0	0	0	0	0	0	0
Fev	2	1.02	-0.408	0	0	0	0	0	0	0	0	0
Mar	1	0.659	0	0	0	0	0	0	0	0	0	0
Abr	2	0.921	-0.258	0	0	0	0	0	0	0	0	0
Mai	1	0.775	0	0	0	0	0	0	0	0	0	0
Jun	2	0.794	-0.252	0	0	0	0	0	0	0	0	0
Jul	2	0.951	-0.359	0	0	0	0	0	0	0	0	0
Ago	1	0.824	0	0	0	0	0	0	0	0	0	0
Set	2	1.08	-0.237	0	0	0	0	0	0	0	0	0
Out	1	0.878	0	0	0	0	0	0	0	0	0	0
Nov	1	0.696	0	0	0	0	0	0	0	0	0	0
Dez	3	0.812	0.152	-0.311	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	506.18	748.67	835.15	729.48	463.26	216.26	99.83	57.52	47.07	53.68	94.02	229.17
DESVIO	207.48	230.62	186.18	159.78	128.92	71.76	39.18	19.51	16.72	24.4	43.06	112.11

VERSÃO 5.4	DARDANELOS	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	4	1.08	-0.536	-0.143	0.235	0	0	0	0	0	0	0
Fev	2	1.02	-0.408	0	0	0	0	0	0	0	0	0
Mar	1	0.659	0	0	0	0	0	0	0	0	0	0
Abr	2	0.921	-0.258	0	0	0	0	0	0	0	0	0
Mai	1	0.775	0	0	0	0	0	0	0	0	0	0
Jun	2	0.794	-0.252	0	0	0	0	0	0	0	0	0
Jul	2	0.951	-0.359	0	0	0	0	0	0	0	0	0
Ago	1	0.824	0	0	0	0	0	0	0	0	0	0
Set	2	1.08	-0.237	0	0	0	0	0	0	0	0	0
Out	1	0.878	0	0	0	0	0	0	0	0	0	0
Nov	1	0.696	0	0	0	0	0	0	0	0	0	0
Dez	3	0.812	0.152	-0.311	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	506.18	748.67	835.15	729.48	463.26	216.26	99.83	57.52	47.07	53.68	94.02	229.17
DESVIO	207.48	230.62	186.18	159.78	128.92	71.76	39.18	19.51	16.72	24.4	43.06	112.11

2.68. FOZ RIO CLARO

VERSÃO 3.10	FOZ R. CLARO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.462	0	0	0	0	0	0	0	0	0	0
Fev	1	0.538	0	0	0	0	0	0	0	0	0	0
Mar	1	0.517	0	0	0	0	0	0	0	0	0	0
Abr	1	0.798	0	0	0	0	0	0	0	0	0	0
Mai	1	0.869	0	0	0	0	0	0	0	0	0	0
Jun	5	0.774	0.0267	-0.0323	-0.0127	0.243	0	0	0	0	0	0
Jul	1	0.954	0	0	0	0	0	0	0	0	0	0
Ago	3	0.802	-0.0978	0.232	0	0	0	0	0	0	0	0
Set	2	0.996	-0.285	0	0	0	0	0	0	0	0	0
Out	4	0.42	0.266	-0.0221	-0.236	0	0	0	0	0	0	0
Nov	3	0.423	0.234	-0.257	0	0	0	0	0	0	0	0
Dez	1	0.422	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	319.76	357.64	364.06	282.86	197.55	155.75	129.73	113.18	115.15	141.79	184.18	258.21
DESVIO	81.55	95.01	97.91	79.01	46.1	36.87	27.2	23.11	26.25	33.45	40.61	65.98

VERSÃO 5.4	FOZ R. CLARO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.462	0	0	0	0	0	0	0	0	0	0
Fev	1	0.538	0	0	0	0	0	0	0	0	0	0
Mar	1	0.517	0	0	0	0	0	0	0	0	0	0
Abr	1	0.798	0	0	0	0	0	0	0	0	0	0
Mai	1	0.869	0	0	0	0	0	0	0	0	0	0
Jun	5	0.774	0.0267	-0.0323	-0.0127	0.243	0	0	0	0	0	0
Jul	1	0.954	0	0	0	0	0	0	0	0	0	0
Ago	3	0.802	-0.0978	0.232	0	0	0	0	0	0	0	0
Set	2	0.996	-0.285	0	0	0	0	0	0	0	0	0
Out	4	0.42	0.266	-0.0221	-0.236	0	0	0	0	0	0	0
Nov	3	0.423	0.234	-0.257	0	0	0	0	0	0	0	0
Dez	1	0.422	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	319.76	357.64	364.06	282.86	197.55	155.75	129.73	113.18	115.15	141.79	184.18	258.21
DESVIO	81.55	95.01	97.91	79.01	46.1	36.87	27.2	23.11	26.25	33.45	40.61	65.98

2.69. ESPORA

VERSÃO 3.10	ESPORA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.455	0	0	0	0	0	0	0	0	0	0
Fev	2	0.551	0.235	0	0	0	0	0	0	0	0	0
Mar	1	0.716	0	0	0	0	0	0	0	0	0	0
Abr	1	0.849	0	0	0	0	0	0	0	0	0	0
Mai	6	0.578	0.185	-0.0449	0.00839	0.139	0.225	0	0	0	0	0
Jun	1	0.935	0	0	0	0	0	0	0	0	0	0
Jul	2	0.7	0.271	0	0	0	0	0	0	0	0	0
Ago	1	0.968	0	0	0	0	0	0	0	0	0	0
Set	2	1.14	-0.258	0	0	0	0	0	0	0	0	0
Out	2	0.515	0.336	0	0	0	0	0	0	0	0	0
Nov	4	0.374	0.102	0.083	0.294	0	0	0	0	0	0	0
Dez	1	0.566	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	80.02	84.88	85.37	72.74	59.68	53.56	48.9	46.05	46.57	50.86	57.95	69.54
DESVIO	20.18	19.95	19.33	17.04	12.45	11.77	10.03	9.44	9.77	9.41	10.68	14.32

VERSÃO 5.4	ESPORA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.455	0	0	0	0	0	0	0	0	0	0
Fev	2	0.551	0.235	0	0	0	0	0	0	0	0	0
Mar	1	0.716	0	0	0	0	0	0	0	0	0	0
Abr	1	0.849	0	0	0	0	0	0	0	0	0	0
Mai	6	0.578	0.185	-0.0449	0.00839	0.139	0.225	0	0	0	0	0
Jun	1	0.935	0	0	0	0	0	0	0	0	0	0
Jul	2	0.7	0.271	0	0	0	0	0	0	0	0	0
Ago	1	0.968	0	0	0	0	0	0	0	0	0	0
Set	2	1.14	-0.258	0	0	0	0	0	0	0	0	0
Out	2	0.515	0.336	0	0	0	0	0	0	0	0	0
Nov	4	0.374	0.102	0.083	0.294	0	0	0	0	0	0	0
Dez	1	0.566	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	80.02	84.88	85.37	72.74	59.68	53.56	48.9	46.05	46.57	50.86	57.95	69.54
DESVIO	20.18	19.95	19.33	17.04	12.45	11.77	10.03	9.44	9.77	9.41	10.68	14.32

2.70. RONDON II

VERSÃO 3.10	RONDON II	Coeficiente											
		Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	5	0.567	0.0935	-0.138	- 0.0181	0.221	0	0	0	0	0	0	0
Fev	2	0.212	0.51	0	0	0	0	0	0	0	0	0	0
Mar	2	0.226	0.427	0	0	0	0	0	0	0	0	0	0
Abr	9	0.117	0.34	0.43	-0.264	0.241	0.0187	- 0.0455	0.722	-0.79	0	0	0
Mai	5	0.313	0.438	0.145	-0.256	0.255	0	0	0	0	0	0	0
Jun	11	0.309	0.162	0.148	0.0895	0.191	0.156	0.0471	0.137	0.195	0.084	- 0.236	0
Jul	10	0.257	0.21	0.2	0.186	0.134	0.00495	0.0383	- 0.0539	0.00892	0.228	0	0
Ago	1	0.928	0	0	0	0	0	0	0	0	0	0	0
Set	1	0.881	0	0	0	0	0	0	0	0	0	0	0
Out	6	0.199	0.239	0.0625	0.122	0.0151	0.224	0	0	0	0	0	0
Nov	3	0.524	0.552	-0.354	0	0	0	0	0	0	0	0	0
Dez	3	0.278	0.0229	0.24	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	116.73	135.02	148.23	110.62	78.26	63.61	58.14	53.93	52.62	56.3	66.05	88.32
DESVIO	38.02	36.98	52.72	31.12	17.92	9.7	9.47	8.88	8.76	10.26	17.58	27.82

VERSÃO 5.4	RONDON II	Coeficiente											
		Ordem	1	2	3	4	5	6	7	8	9	10	11
Jan	5	0.567	0.0935	-0.138	- 0.0181	0.221	0	0	0	0	0	0	0
Fev	2	0.212	0.51	0	0	0	0	0	0	0	0	0	0
Mar	2	0.226	0.427	0	0	0	0	0	0	0	0	0	0
Abr	9	0.117	0.34	0.43	-0.264	0.241	0.0187	- 0.0455	0.722	-0.79	0	0	0
Mai	5	0.313	0.438	0.145	-0.256	0.255	0	0	0	0	0	0	0
Jun	11	0.309	0.162	0.148	0.0895	0.191	0.156	0.0471	0.137	0.195	0.084	- 0.236	0
Jul	10	0.257	0.21	0.2	0.186	0.134	0.00495	0.0383	- 0.0539	0.00892	0.228	0	0
Ago	1	0.928	0	0	0	0	0	0	0	0	0	0	0
Set	1	0.881	0	0	0	0	0	0	0	0	0	0	0
Out	6	0.199	0.239	0.0625	0.122	0.0151	0.224	0	0	0	0	0	0
Nov	3	0.524	0.552	-0.354	0	0	0	0	0	0	0	0	0
Dez	3	0.278	0.0229	0.24	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	116.73	135.02	148.23	110.62	78.26	63.61	58.14	53.93	52.62	56.3	66.05	88.32
DESVIO	38.02	36.98	52.72	31.12	17.92	9.7	9.47	8.88	8.76	10.26	17.58	27.82

2.71. PASSO SÃO JOÃO

VERSÃO 3.10	PASSO S JOAO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	2	0.424	0.255	0	0	0	0	0	0	0	0	0
Fev	3	0.605	-0.131	0.311	0	0	0	0	0	0	0	0
Mar	1	0.659	0	0	0	0	0	0	0	0	0	0
Abr	1	0.517	0	0	0	0	0	0	0	0	0	0
Mai	2	0.454	0.299	0	0	0	0	0	0	0	0	0
Jun	1	0.49	0	0	0	0	0	0	0	0	0	0
Jul	2	0.376	0.473	0	0	0	0	0	0	0	0	0
Ago	1	0.597	0	0	0	0	0	0	0	0	0	0
Set	1	0.44	0	0	0	0	0	0	0	0	0	0
Out	1	0.414	0	0	0	0	0	0	0	0	0	0
Nov	1	0.573	0	0	0	0	0	0	0	0	0	0
Dez	1	0.541	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	161.26	147.1	125.89	191.57	253.02	307.31	301.11	291.92	340.57	381.39	280.68	213.92
DESVIO	111.39	119.62	96.33	174.46	253.25	237.91	200.42	190.29	223.1	269.53	231.53	179.19

VERSÃO 5.4	PASSO S JOAO	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	2	0.424	0.255	0	0	0	0	0	0	0	0	0
Fev	3	0.605	-0.131	0.311	0	0	0	0	0	0	0	0
Mar	1	0.659	0	0	0	0	0	0	0	0	0	0
Abr	1	0.517	0	0	0	0	0	0	0	0	0	0
Mai	2	0.454	0.299	0	0	0	0	0	0	0	0	0
Jun	1	0.49	0	0	0	0	0	0	0	0	0	0
Jul	2	0.376	0.473	0	0	0	0	0	0	0	0	0
Ago	1	0.597	0	0	0	0	0	0	0	0	0	0
Set	1	0.44	0	0	0	0	0	0	0	0	0	0
Out	1	0.414	0	0	0	0	0	0	0	0	0	0
Nov	1	0.573	0	0	0	0	0	0	0	0	0	0
Dez	1	0.541	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	161.26	147.1	125.89	191.57	253.02	307.31	301.11	291.92	340.57	381.39	280.68	213.92
DESVIO	111.39	119.62	96.33	174.46	253.25	237.91	200.42	190.29	223.1	269.53	231.53	179.19

2.72. BALBINA

VERSÃO 3.10	BALBINA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	2	0.586	0.237	0	0	0	0	0	0	0	0	0
Fev	1	0.781	0	0	0	0	0	0	0	0	0	0
Mar	1	0.828	0	0	0	0	0	0	0	0	0	0
Abr	4	0.835	-0.141	0.242	-0.266	0	0	0	0	0	0	0
Mai	1	0.711	0	0	0	0	0	0	0	0	0	0
Jun	2	0.849	-0.296	0	0	0	0	0	0	0	0	0
Jul	1	0.879	0	0	0	0	0	0	0	0	0	0
Ago	1	0.873	0	0	0	0	0	0	0	0	0	0
Set	1	0.762	0	0	0	0	0	0	0	0	0	0
Out	5	0.917	-0.363	0.226	-0.302	0.305	0	0	0	0	0	0
Nov	1	0.799	0	0	0	0	0	0	0	0	0	0
Dez	2	0.489	0.246	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	383.9	586.5	749.9	1022.9	1187.5	1053.5	673.2	423.5	315.1	269.9	265.1	294.8
DESVIO	213.0	279.0	313.7	287.62	369.92	448.56	243.1	148.0	108	123.5	139.8	158.9
	3	4	3				3	9		1	2	8

VERSÃO 5.4	BALBINA	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	2	0.586	0.237	0	0	0	0	0	0	0	0	0
Fev	1	0.781	0	0	0	0	0	0	0	0	0	0
Mar	1	0.828	0	0	0	0	0	0	0	0	0	0
Abr	4	0.835	-0.141	0.242	-0.266	0	0	0	0	0	0	0
Mai	1	0.711	0	0	0	0	0	0	0	0	0	0
Jun	2	0.849	-0.296	0	0	0	0	0	0	0	0	0
Jul	1	0.879	0	0	0	0	0	0	0	0	0	0
Ago	1	0.873	0	0	0	0	0	0	0	0	0	0
Set	1	0.762	0	0	0	0	0	0	0	0	0	0
Out	5	0.917	-0.363	0.226	-0.302	0.305	0	0	0	0	0	0
Nov	1	0.799	0	0	0	0	0	0	0	0	0	0
Dez	2	0.489	0.246	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	383.9	586.5	749.9	1022.9	1187.5	1053.5	673.2	423.5	315.1	269.9	265.1	294.8
DESVIO	213.0	279.0	313.7	287.62	369.92	448.56	243.1	148.0	108	123.5	139.8	158.9
	3	4	3				3	9		1	2	8

2.73. SANTO ANTÔNIO DO JARI

VERSÃO 3.10		STO ANT JARI		Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10	11	
Jan	1		0.546	0	0	0	0	0	0	0	0	0	0	
Fev	2		0.445	0.256	0	0	0	0	0	0	0	0	0	
Mar	6		0.496	0.114	-0.0591	0.00998	-0.0136	0.285	0	0	0	0	0	
Abr	1		0.681	0	0	0	0	0	0	0	0	0	0	
Mai	1		0.604	0	0	0	0	0	0	0	0	0	0	
Jun	6		0.342	-0.0458	0.207	0.0188	0.00983	0.232	0	0	0	0	0	
Jul	2		0.48	0.262	0	0	0	0	0	0	0	0	0	
Ago	2		0.4	0.391	0	0	0	0	0	0	0	0	0	
Set	6		0.456	0.121	-0.192	0.0897	-0.0506	0.269	0	0	0	0	0	
Out	5		0.66	0.137	-0.0474	-0.0923	0.22	0	0	0	0	0	0	
Nov	3		0.327	0.0815	0.222	0	0	0	0	0	0	0	0	
Dez	1		0.484	0	0	0	0	0	0	0	0	0	0	

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	691.8 6	1079.6 1	1369.4 3	1819. 8	2131.3 5	2085.8 8	1457. 8	966.9	599.4 6	342.7 9	250.1 4	350.0 7
DESVI	317.9 5	486.33	533.14	711.0 9	751.85	778.74	537.2 1	294.1 5	188.1 5	148.5	123.0 7	192.4 8

VERSÃO 5.4		STO ANT JARI		Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10	11	
Jan	1		0.546	0	0	0	0	0	0	0	0	0	0	
Fev	2		0.445	0.256	0	0	0	0	0	0	0	0	0	
Mar	6		0.496	0.114	-0.0591	0.00998	-0.0136	0.285	0	0	0	0	0	
Abr	1		0.681	0	0	0	0	0	0	0	0	0	0	
Mai	1		0.604	0	0	0	0	0	0	0	0	0	0	
Jun	6		0.342	-0.0458	0.207	0.0188	0.00983	0.232	0	0	0	0	0	
Jul	2		0.48	0.262	0	0	0	0	0	0	0	0	0	
Ago	2		0.4	0.391	0	0	0	0	0	0	0	0	0	
Set	6		0.456	0.121	-0.192	0.0897	-0.0506	0.269	0	0	0	0	0	
Out	5		0.66	0.137	-0.0474	-0.0923	0.22	0	0	0	0	0	0	
Nov	3		0.327	0.0815	0.222	0	0	0	0	0	0	0	0	
Dez	1		0.484	0	0	0	0	0	0	0	0	0	0	

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	691.8 6	1079.6 1	1369.4 3	1819. 8	2131.3 5	2085.8 8	1457. 8	966.9	599.4 6	342.7 9	250.1 4	350.0 7
DESVI	317.9 5	486.33	533.14	711.0 9	751.85	778.74	537.2 1	294.1 5	188.1 5	148.5	123.0 7	192.4 8

2.74. FERREIRA GOMES

VERSÃO 3.10	FERREIRA GOM	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	5	0.67	0.0761	-0.23	0.489	-0.324	0	0	0	0	0	0
Fev	8	0.56	0.0613	0.0161	0.0411	0.291	0.0473	-0.115	-0.24	0	0	0
Mar	6	0.643	-0.0363	-0.133	-0.014	0.651	-0.362	0	0	0	0	0
Abr	1	0.637	0	0	0	0	0	0	0	0	0	0
Mai	1	0.506	0	0	0	0	0	0	0	0	0	0
Jun	10	0.514	0.0189	0.147	0.106	0.111	0.065	0.119	0.127	0.0112	-0.262	0
Jul	10	0.917	-0.0456	-0.0526	0.118	-0.0429	0.0455	0.0011	0.0217	-0.326	0.269	0
Ago	1	0.854	0	0	0	0	0	0	0	0	0	0
Set	3	0.92	-0.207	0.224	0	0	0	0	0	0	0	0
Out	4	0.77	0.0382	-0.164	0.313	0	0	0	0	0	0	0
Nov	1	0.698	0	0	0	0	0	0	0	0	0	0
Dez	3	0.508	0.457	-0.273	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	536.7 5	1008.3 6	1531.1 1	1888.7 1	2028.3 7	1604.2 6	1184.5 4	797.8 1	461.3 3	279.9 3	200.2 4	232.4 5
DESVI O	274.6	394.71	433.85	492.52	463.15	402.78	300.92	208.2 2	139.6 5	91.59	78.13	135.9 9

VERSÃO 5.4	FERREIRA GOM	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	5	0.67	0.0761	-0.23	0.489	-0.324	0	0	0	0	0	0
Fev	8	0.56	0.0613	0.0161	0.0411	0.291	0.0473	-0.115	-0.24	0	0	0
Mar	6	0.643	-0.0363	-0.133	-0.014	0.651	-0.362	0	0	0	0	0
Abr	1	0.637	0	0	0	0	0	0	0	0	0	0
Mai	1	0.506	0	0	0	0	0	0	0	0	0	0
Jun	10	0.514	0.0189	0.147	0.106	0.111	0.065	0.119	0.127	0.0112	-0.262	0
Jul	10	0.917	-0.0456	-0.0526	0.118	-0.0429	0.0455	0.0011	0.0217	-0.326	0.269	0
Ago	1	0.854	0	0	0	0	0	0	0	0	0	0
Set	3	0.92	-0.207	0.224	0	0	0	0	0	0	0	0
Out	4	0.77	0.0382	-0.164	0.313	0	0	0	0	0	0	0
Nov	1	0.698	0	0	0	0	0	0	0	0	0	0
Dez	3	0.508	0.457	-0.273	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	536.7 5	1008.3 6	1531.1 1	1888.7 1	2028.3 7	1604.2 6	1184.5 4	797.8 1	461.3 3	279.9 3	200.2 4	232.4 5
DESVI O	274.6	394.71	433.85	492.52	463.15	402.78	300.92	208.2 2	139.6 5	91.59	78.13	135.9 9

2.75. TELES PIRES

VERSÃO 3.10	TELES PIRES	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.618	0	0	0	0	0	0	0	0	0	0
Fev	5	0.478	0.0548	0.0738	-0.0424	0.277	0	0	0	0	0	0
Mar	3	0.519	0.323	-0.216	0	0	0	0	0	0	0	0
Abr	4	0.614	0.174	0.178	-0.269	0	0	0	0	0	0	0
Mai	1	0.867	0	0	0	0	0	0	0	0	0	0
Jun	1	0.908	0	0	0	0	0	0	0	0	0	0
Jul	2	1.29	-0.365	0	0	0	0	0	0	0	0	0
Ago	2	1.51	-0.559	0	0	0	0	0	0	0	0	0
Set	4	2.25	-1.71	0.0665	0.4	0	0	0	0	0	0	0
Out	3	0.235	0.465	-0.245	0	0	0	0	0	0	0	0
Nov	1	0.426	0	0	0	0	0	0	0	0	0	0
Dez	1	0.385	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	3710.3 6	4319.2 7	4501.0 1	3595. 5	2300.1 3	1482.2 6	1053.2 4	811.9 6	706.4 9	889.2 4	1487.5 4	2585.1 4
DESVI O	969.6	893.57	1135.0 2	969.5 6	596.68	346.47	246.75	197.2 2	180.7 3	371.2 5	537.43	864.5

VERSÃO 5.4	TELES PIRES	Coeficiente										
		Ordem	1	2	3	4	5	6	7	8	9	10
Jan	1	0.618	0	0	0	0	0	0	0	0	0	0
Fev	5	0.478	0.0548	0.0738	-0.0424	0.277	0	0	0	0	0	0
Mar	3	0.519	0.323	-0.216	0	0	0	0	0	0	0	0
Abr	4	0.614	0.174	0.178	-0.269	0	0	0	0	0	0	0
Mai	1	0.867	0	0	0	0	0	0	0	0	0	0
Jun	1	0.908	0	0	0	0	0	0	0	0	0	0
Jul	2	1.29	-0.365	0	0	0	0	0	0	0	0	0
Ago	2	1.51	-0.559	0	0	0	0	0	0	0	0	0
Set	4	2.25	-1.71	0.0665	0.4	0	0	0	0	0	0	0
Out	3	0.235	0.465	-0.245	0	0	0	0	0	0	0	0
Nov	1	0.426	0	0	0	0	0	0	0	0	0	0
Dez	1	0.385	0	0	0	0	0	0	0	0	0	0

	Jan	Fev	Mar	Abr	Mai	Jun	Jul	Ago	Set	Out	Nov	Dez
MÉDIA	3710.3 6	4319.2 7	4501.0 1	3595. 5	2300.1 3	1482.2 6	1053.2 4	811.9 6	706.4 9	889.2 4	1487.5 4	2585.1 4
DESVI O	969.6	893.57	1135.0 2	969.5 6	596.68	346.47	246.75	197.2 2	180.7 3	371.2 5	537.43	864.5

3. GERAÇÃO EM FORMATO PARALELO

Buscando mostrar que não há diferenças significativas nas médias geradas pelo processo de geração em formato paralelo entre as versões 3.10 e 5.4, elencou-se as médias geradas por ambas as versões e calculou-se a diferença entre elas, Tabela 3. Somente o posto de A. Vermelha, destacado na tabela abaixo, apresentou diferenças; mesmo assim, essas são da ordem de 0.01.

Tabela 3 – Média dos cenários gerados

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
CAMARGOS - 3.10	250.7	227.3	201.6	138	103.7	87.8	73.6	63.3	65.9	78.2	110.1	180
CAMARGOS - 5.4	250.7	227.3	201.6	138	103.7	87.8	73.6	63.3	65.9	78.2	110.1	180
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
ITUTINGA - 3.10	250.7	227.3	201.6	138	103.7	87.8	73.6	63.3	65.9	78.2	110.1	180
ITUTINGA - 5.4	250.7	227.3	201.6	138	103.7	87.8	73.6	63.3	65.9	78.2	110.1	180
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
FUNIL-GRANDE - 3.10	586.7	522.1	462.1	320	235.4	195.9	165.2	141	143.5	172.2	252.7	426
FUNIL-GRANDE - 5.4	586.7	522.1	462.1	320	235.4	195.9	165.2	141	143.5	172.2	252.7	426
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
EMBORCACAO - 3.10	894.2	893.4	853.9	625	396.4	304.7	243.9	195.6	171.9	205.7	351.9	657.9
EMBORCACAO - 5.4	894.2	893.4	853.9	625	396.4	304.7	243.9	195.6	171.9	205.7	351.9	657.9
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CAPIM BRANC1 - 3.10	613.8	620.2	584.7	446.2	305.1	238.6	197.8	163.6	150.1	182	266.8	440.6
CAPIM BRANC1 - 5.4	613.8	620.2	584.7	446.2	305.1	238.6	197.8	163.6	150.1	182	266.8	440.6
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CAPIM BRANC2 - 3.10	637.6	646.6	609.4	467.2	319.1	249.8	207.1	172	157.4	189.6	277.6	457.1
CAPIM BRANC2 - 5.4	637.6	646.6	609.4	467.2	319.1	249.8	207.1	172	157.4	189.6	277.6	457.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
NOVA PONTE - 3.10	524.8	527.1	495.8	374.1	256.1	199.4	164.9	134.3	122.4	151	223.8	375.3
NOVA PONTE - 5.4	524.8	527.1	495.8	374.1	256.1	199.4	164.9	134.3	122.4	151	223.8	375.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
SAO SIMAO - 3.10	4068.3	4228.5	4206.2	3223.5	2100.8	1638.5	1320.1	1076.3	972.4	1153.2	1760.3	2980
SAO SIMAO - 5.4	4068.3	4228.5	4206.2	3223.5	2100.8	1638.5	1320.1	1076.3	972.4	1153.2	1760.3	2980
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
TRES MARIAS - 3.10	1462	1361.9	1128.2	751	449.9	338.7	272.7	222.9	217.5	298.3	596.2	1105.2
TRES MARIAS - 5.4	1462	1361.9	1128.2	751	449.9	338.7	272.7	222.9	217.5	298.3	596.2	1105.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
JAGUARA - 3.10	2017.3	1909.7	1705.3	1182.9	856.7	705.9	580.6	476.7	488.8	576.5	808	1385.4
JAGUARA - 5.4	2017.3	1909.7	1705.3	1182.9	856.7	705.9	580.6	476.7	488.8	576.5	808	1385.4
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
VOLTA GRANDE - 3.10	2179.9	2098.8	1877	1318	944.8	775.1	635.1	520.2	526.8	620.7	864.3	1473.3
VOLTA GRANDE - 5.4	2179.9	2098.8	1877	1318	944.8	775.1	635.1	520.2	526.8	620.7	864.3	1473.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SALTO GRANDE - 3.10	294.7	239.5	214.2	162.1	116.1	95.4	81.1	70.4	67.5	86.2	160.8	256.1
SALTO GRANDE - 5.4	294.7	239.5	214.2	162.1	116.1	95.4	81.1	70.4	67.5	86.2	160.8	256.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
MIRANDA - 3.10	603.6	608.7	573.7	436.8	298.9	233.7	193.7	159.9	146.8	178.6	262.3	433.6
MIRANDA - 5.4	603.6	608.7	573.7	436.8	298.9	233.7	193.7	159.9	146.8	178.6	262.3	433.6
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
IGARAPAVA - 3.10	2066.8	1970.5	1760.2	1226.9	884.3	727.5	597.7	490.2	499.9	589.6	824.2	1409.2
IGARAPAVA - 5.4	2066.8	1970.5	1760.2	1226.9	884.3	727.5	597.7	490.2	499.9	589.6	824.2	1409.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
AIMORES - 3.10	1605	1256.8	1103.1	855.1	619.9	519.1	459.8	408.9	393.2	492.1	831.7	1403.1
AIMORES - 5.4	1605	1256.8	1103.1	855.1	619.9	519.1	459.8	408.9	393.2	492.1	831.7	1403.1

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
QUEIMADO - 3.10	81.6	82.9	85.8	68	47.2	39.6	34.4	29.5	27.1	32.5	51	78.2
QUEIMADO - 5.4	81.6	82.9	85.8	68	47.2	39.6	34.4	29.5	27.1	32.5	51	78.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
IRAPE - 3.10	343.6	234.5	211	131.9	70.2	52.7	43.7	36.3	35	67	199.2	358.5
IRAPE - 5.4	343.6	234.5	211	131.9	70.2	52.7	43.7	36.3	35	67	199.2	358.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
ROSAL - 3.10	63.2	46.6	45.5	37.7	26	20.3	17.7	14.7	14.6	19.6	37.4	57.7
ROSAL - 5.4	63.2	46.6	45.5	37.7	26	20.3	17.7	14.7	14.6	19.6	37.4	57.7
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
GUILMAN-AMOR - 3.10	151.8	116.4	104.8	76	56.9	48.6	42.8	37.9	38.1	48	78.6	130.1
GUILMAN-AMOR - 5.4	151.8	116.4	104.8	76	56.9	48.6	42.8	37.9	38.1	48	78.6	130.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SA CARVALHO - 3.10	165.8	127.1	114.4	83.1	62.1	53	46.8	41.5	41.6	52.4	85.8	142.2
SA CARVALHO - 5.4	165.8	127.1	114.4	83.1	62.1	53	46.8	41.5	41.6	52.4	85.8	142.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
BAGUARI - 3.10	1042.8	853.4	753.3	591.9	442.9	376.2	333.3	298.6	289.8	349.2	558.8	903.3
BAGUARI - 5.4	1042.8	853.4	753.3	591.9	442.9	376.2	333.3	298.6	289.8	349.2	558.8	903.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CACONDE - 3.10	95.7	98.4	86	59.6	43.7	35.7	29.1	24.5	25.1	31	39.6	69.8
CACONDE - 5.4	95.7	98.4	86	59.6	43.7	35.7	29.1	24.5	25.1	31	39.6	69.8
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
A. VERMELHA - 3.10	3629.8	3785.9	3428.8	2497.9	1783.2	1482.6	1217	1017	997.2	1147.6	1505	2441.8
A. VERMELHA - 5.4	3629.9	3785.9	3428.8	2497.9	1783.2	1482.6	1217	1017	997.2	1147.6	1505	2441.8

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
Diferença	0.1	0	0	0	0	0	0	0	0	0	0	0
BARRA BONITA - 3.10	738.8	779	664.6	438.8	346.4	341.2	272.6	230.9	254.2	312.4	337.2	509.8
BARRA BONITA - 5.4	738.8	779	664.6	438.8	346.4	341.2	272.6	230.9	254.2	312.4	337.2	509.8
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
PROMISSAO - 3.10	1150.2	1222.5	1064	723.4	575.9	562.9	460.9	400.2	428	501.4	538.5	802.1
PROMISSAO - 5.4	1150.2	1222.5	1064	723.4	575.9	562.9	460.9	400.2	428	501.4	538.5	802.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
NAVANHANDAVA - 3.10	1233.4	1315.4	1140.9	773.1	611.5	599.3	488.7	423.7	452	532.2	572.7	855.2
NAVANHANDAVA - 5.4	1233.4	1315.4	1140.9	773.1	611.5	599.3	488.7	423.7	452	532.2	572.7	855.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
E. DA CUNHA - 3.10	156.3	161.6	140.5	95.9	70.5	58.4	48.1	40.7	41.9	50.2	64	112.9
E. DA CUNHA - 5.4	156.3	161.6	140.5	95.9	70.5	58.4	48.1	40.7	41.9	50.2	64	112.9
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
A.S.OLIVEIRA - 3.10	158.6	164.2	142.6	97.5	71.6	59.4	48.8	41.4	42.5	51	65	114.5
A.S.OLIVEIRA - 5.4	158.6	164.2	142.6	97.5	71.6	59.4	48.8	41.4	42.5	51	65	114.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
A.S. LIMA - 3.10	819.8	868.8	743.1	494.7	390.6	385.7	307	261.3	285.2	346.2	375.4	563.7
A.S. LIMA - 5.4	819.8	868.8	743.1	494.7	390.6	385.7	307	261.3	285.2	346.2	375.4	563.7
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
IBITINGA - 3.10	962.9	1018.8	878.2	601	477.9	469	380.1	326.2	350.7	417.6	451.3	672.1
IBITINGA - 5.4	962.9	1018.8	878.2	601	477.9	469	380.1	326.2	350.7	417.6	451.3	672.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
TAQUARUCU - 3.10	1546.1	1618.2	1343.3	1029.6	1026.2	1122.8	1017	841.7	932.6	1163.4	1055.6	1148.7
TAQUARUCU - 5.4	1546.1	1618.2	1343.3	1029.6	1026.2	1122.8	1017	841.7	932.6	1163.4	1055.6	1148.7

Centro de Pesquisas de Energia Elétrica - CEPEL

Relatório Técnico – 23953 / 2016

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
ROSANA - 3.10	1707.7	1792	1507.2	1159.1	1149.7	1261.2	1143.8	955.6	1045.8	1306.6	1197.1	1287
ROSANA - 5.4	1707.7	1792	1507.2	1159.1	1149.7	1261.2	1143.8	955.6	1045.8	1306.6	1197.1	1287
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CANOAS I - 3.10	681.7	743.8	636.5	473.8	431.1	454.6	391.3	329	358.8	422.5	400.4	492.2
CANOAS I - 5.4	681.7	743.8	636.5	473.8	431.1	454.6	391.3	329	358.8	422.5	400.4	492.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CANOAS II - 3.10	659	717.5	612.2	454.5	414.1	436.5	376.1	315.8	345.3	406.8	384.8	474.5
CANOAS II - 5.4	659	717.5	612.2	454.5	414.1	436.5	376.1	315.8	345.3	406.8	384.8	474.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
A.A. LAYDNER - 3.10	323.8	362.5	309.3	218.8	191.2	202.6	176	147.3	159.2	191.1	182.6	234
A.A. LAYDNER - 5.4	323.8	362.5	309.3	218.8	191.2	202.6	176	147.3	159.2	191.1	182.6	234
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CHAVANTES - 3.10	500.9	537.7	448.4	324.3	299.3	316.8	276.4	228.3	255.3	305.5	283.7	352.5
CHAVANTES - 5.4	500.9	537.7	448.4	324.3	299.3	316.8	276.4	228.3	255.3	305.5	283.7	352.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CAPIVARA - 3.10	1473.6	1539.8	1274.2	975.7	973.3	1065.2	960.2	794.4	885.1	1099.7	996.3	1091
CAPIVARA - 5.4	1473.6	1539.8	1274.2	975.7	973.3	1065.2	960.2	794.4	885.1	1099.7	996.3	1091
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
L.N. GARCEZ - 3.10	649	705	600.5	445.1	406.2	428	368.8	309.4	339	399.4	377.5	466.4
L.N. GARCEZ - 5.4	649	705	600.5	445.1	406.2	428	368.8	309.4	339	399.4	377.5	466.4
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
JUPIA - 3.10	10560.4	11165.7	10615.2	7966.5	5590.6	4706.3	3893.6	3324.9	3207.2	3685.2	4792.5	7487.4
JUPIA - 5.4	10560.4	11165.7	10615.2	7966.5	5590.6	4706.3	3893.6	3324.9	3207.2	3685.2	4792.5	7487.4
Diferença	0	0	0	0	0	0	0	0	0	0	0	0

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
I. SOLT. EQV - 3.10	10148.2	10708.7	10183	7602.1	5279.9	4408.4	3614.5	3048.3	2941.7	3412.6	4498.5	7154.7
I. SOLT. EQV - 5.4	10148.2	10708.7	10183	7602.1	5279.9	4408.4	3614.5	3048.3	2941.7	3412.6	4498.5	7154.7
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
P. PRIMAVERA - 3.10	11421.3	12277.5	11718	9006	6478.4	5587.5	4606.5	3933.7	3813.7	4344.6	5450.5	8141.3
P. PRIMAVERA - 5.4	11421.3	12277.5	11718	9006	6478.4	5587.5	4606.5	3933.7	3813.7	4344.6	5450.5	8141.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
JAGUARI - 3.10	45.5	48.3	46	33.7	26.9	23.6	19.9	17.3	18	20.3	23.4	33.6
JAGUARI - 5.4	45.5	48.3	46	33.7	26.9	23.6	19.9	17.3	18	20.3	23.4	33.6
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
PARAIBUNA - 3.10	105.5	110.4	101.5	79.4	61.3	54.1	47.7	42.2	44.8	50.8	58.2	78.8
PARAIBUNA - 5.4	105.5	110.4	101.5	79.4	61.3	54.1	47.7	42.2	44.8	50.8	58.2	78.8
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
FURNAS - 3.10	1756.7	1634	1456.1	1003	732.6	608.5	501.5	412.6	428.5	505.7	715.5	1231.3
FURNAS - 5.4	1756.7	1634	1456.1	1003	732.6	608.5	501.5	412.6	428.5	505.7	715.5	1231.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
M. DE MORAES - 3.10	1958.6	1838.4	1640.5	1131	823.8	680	560.1	460.4	475.1	560.9	788.8	1356.6
M. DE MORAES - 5.4	1958.6	1838.4	1640.5	1131	823.8	680	560.1	460.4	475.1	560.9	788.8	1356.6
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
ESTREITO - 3.10	2001.1	1888.2	1685.8	1166.6	846.8	698.1	574.3	471.7	484.8	572.2	803.1	1378.9
ESTREITO - 5.4	2001.1	1888.2	1685.8	1166.6	846.8	698.1	574.3	471.7	484.8	572.2	803.1	1378.9
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
P. COLOMBIA - 3.10	2460	2397	2151.6	1522.2	1085	884.5	721.5	589.4	591.8	697.9	969.5	1647.2
P. COLOMBIA - 5.4	2460	2397	2151.6	1522.2	1085	884.5	721.5	589.4	591.8	697.9	969.5	1647.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
MARIMBONDO - 3.10	3260.5	3345	3008.5	2177.1	1561.5	1294.3	1060.7	881.4	870.8	1000.5	1337.8	2210.9

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
MARIMBONDO - 5.4	3260.5	3345	3008.5	2177.1	1561.5	1294.3	1060.7	881.4	870.8	1000.5	1337.8	2210.9
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
ITUMBIARA - 3.10	2716.1	2812	2740.9	2056.9	1327.9	1022.9	815	653.4	578.5	702.5	1132.1	1972.3
ITUMBIARA - 5.4	2716.1	2812	2740.9	2056.9	1327.9	1022.9	815	653.4	578.5	702.5	1132.1	1972.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CORUMBA I - 3.10	750.8	826	831.5	644.6	406.1	301.5	236.9	186.6	160.7	202.1	336.9	555.2
CORUMBA I - 5.4	750.8	826	831.5	644.6	406.1	301.5	236.9	186.6	160.7	202.1	336.9	555.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SERRA MESA - 3.10	1416.8	1613.4	1498	1062.2	561.8	388.7	292.8	225.8	214.4	313.8	567.3	1060.7
SERRA MESA - 5.4	1416.8	1613.4	1498	1062.2	561.8	388.7	292.8	225.8	214.4	313.8	567.3	1060.7
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
MANSO - 3.10	306.9	346.2	324.5	215.1	122.4	91.7	77.3	68.6	70	94	131	210.4
MANSO - 5.4	306.9	346.2	324.5	215.1	122.4	91.7	77.3	68.6	70	94	131	210.4
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
FUNIL - 3.10	378	397.2	382.8	274.6	191.3	165.5	141.1	120.5	124.6	148.8	185	267.5
FUNIL - 5.4	378	397.2	382.8	274.6	191.3	165.5	141.1	120.5	124.6	148.8	185	267.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SIMPLICIO - 3.10	963.3	959	898.3	658.8	470.3	393.8	334.2	286.5	290.5	344.3	467.1	697.2
SIMPLICIO - 5.4	963.3	959	898.3	658.8	470.3	393.8	334.2	286.5	290.5	344.3	467.1	697.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
BATALHA - 3.10	191.3	195	197.7	150.2	96	72.9	57.5	45.2	38.6	45.7	78	145.9
BATALHA - 5.4	191.3	195	197.7	150.2	96	72.9	57.5	45.2	38.6	45.7	78	145.9
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
STO ANTONIO - 3.10	23805.5	30639.8	35397.7	34321.3	26314.9	18261.2	11697.2	7193.3	5355.1	6477.6	10274.2	16370.8
STO ANTONIO - 5.4	23805.5	30639.8	35397.7	34321.3	26314.9	18261.2	11697.2	7193.3	5355.1	6477.6	10274.2	16370.8

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
PEIXE ANGIC - 3.10	3089.8	3494.2	3365.1	2387	1188.7	780.7	597.9	479.1	456	629.7	1189.1	2323.1
PEIXE ANGIC - 5.4	3089.8	3494.2	3365.1	2387	1188.7	780.7	597.9	479.1	456	629.7	1189.1	2323.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SANTA BRANCA - 3.10	120.1	126.7	115	90.2	70.1	62.1	54.5	48	51.2	57.8	66.4	89.1
SANTA BRANCA - 5.4	120.1	126.7	115	90.2	70.1	62.1	54.5	48	51.2	57.8	66.4	89.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
LAJES - 3.10	10.2	9.3	9.3	6.7	4.5	3.5	2.8	2.3	2.7	3.2	4.9	7.9
LAJES - 5.4	10.2	9.3	9.3	6.7	4.5	3.5	2.8	2.3	2.7	3.2	4.9	7.9
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
ILHA POMBOS - 3.10	1076.2	1075.5	1007.4	732.8	519.4	434.4	367.3	314.6	319.4	380.9	517.2	778.5
ILHA POMBOS - 5.4	1076.2	1075.5	1007.4	732.8	519.4	434.4	367.3	314.6	319.4	380.9	517.2	778.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
STA CECILIA - 3.10	495.7	515.2	489.9	346.7	242.9	208	175	148.8	153.6	184.3	239.5	349.5
STA CECILIA - 5.4	495.7	515.2	489.9	346.7	242.9	208	175	148.8	153.6	184.3	239.5	349.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
TOCOS - 3.10	24.3	24.5	22.8	17.9	12.2	8.9	7.4	6.3	6.5	7.9	11.8	18.4
TOCOS - 5.4	24.3	24.5	22.8	17.9	12.2	8.9	7.4	6.3	6.5	7.9	11.8	18.4
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SANTANA - 3.10	41	41.4	38.2	30.2	20.7	15.1	12.5	10.8	11.1	13.5	19.9	30.8
SANTANA - 5.4	41	41.4	38.2	30.2	20.7	15.1	12.5	10.8	11.1	13.5	19.9	30.8
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
EDGARD SOUZA - 3.10	175.7	182.4	160.2	106.9	82.6	76.4	64	54.7	70.1	89.6	98.1	130.7
EDGARD SOUZA -	175.7	182.4	160.2	106.9	82.6	76.4	64	54.7	70.1	89.6	98.1	130.7

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
5.4												
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
GUARAPIRANGA - 3.10	19.3	20.1	17.9	12.7	10.3	9.8	8.5	7.4	9.1	11.1	11.1	14.5
GUARAPIRANGA - 5.4	19.3	20.1	17.9	12.7	10.3	9.8	8.5	7.4	9.1	11.1	11.1	14.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
BILLINGS - 3.10	29.9	29.7	26.7	18	12.5	11	9.6	8.8	13.5	17.8	18.1	24.1
BILLINGS - 5.4	29.9	29.7	26.7	18	12.5	11	9.6	8.8	13.5	17.8	18.1	24.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CACH.DOURADA - 3.10	2842.4	2952.7	2877.2	2165	1399.8	1079.9	863	693.4	614.6	739.6	1186.8	2063.3
CACH.DOURADA - 5.4	2842.4	2952.7	2877.2	2165	1399.8	1079.9	863	693.4	614.6	739.6	1186.8	2063.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
P. ESTRELA - 3.10	307.4	249.8	223.3	169.2	121.2	99.6	84.6	73.5	70.4	89.9	167.5	266.8
P. ESTRELA - 5.4	307.4	249.8	223.3	169.2	121.2	99.6	84.6	73.5	70.4	89.9	167.5	266.8
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CANDONGA - 3.10	270.5	231.3	205.4	159.6	122.6	106.7	95.5	85.6	85	100.2	145.3	227.9
CANDONGA - 5.4	270.5	231.3	205.4	159.6	122.6	106.7	95.5	85.6	85	100.2	145.3	227.9
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SALTO - 3.10	242.2	261.3	263.7	212.3	165.1	143.3	128.2	118.8	121.9	139.6	165.5	205.6
SALTO - 5.4	242.2	261.3	263.7	212.3	165.1	143.3	128.2	118.8	121.9	139.6	165.5	205.6
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
GARIBALDI - 3.10	208.2	253.1	209.7	190.3	248.1	276.7	329.6	345.1	416.1	436.8	286.6	204.2
GARIBALDI - 5.4	208.2	253.1	209.7	190.3	248.1	276.7	329.6	345.1	416.1	436.8	286.6	204.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
MASCARENHAS - 3.10	1870.3	1459.4	1280.9	992.3	718.8	599.6	530.4	470.1	450.7	566.3	965.9	1636.2
MASCARENHAS - 5.4	1870.3	1459.4	1280.9	992.3	718.8	599.6	530.4	470.1	450.7	566.3	965.9	1636.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
ITAIPU - 3.10	14681	16026	15018.5	11964.2	9539	8827.2	7457.5	6293.2	6343.8	7640.4	8402.2	11042.5
ITAIPU - 5.4	14681	16026	15018.5	11964.2	9539	8827.2	7457.5	6293.2	6343.8	7640.4	8402.2	11042.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
ERNESTINA - 3.10	20.6	19.3	15.5	19.7	27.2	33	38.9	40.4	43.1	45.7	32.4	23.5
ERNESTINA - 5.4	20.6	19.3	15.5	19.7	27.2	33	38.9	40.4	43.1	45.7	32.4	23.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
PASSO REAL - 3.10	133.4	122.1	104.8	137.6	190.9	237.2	267.1	275.8	314.1	317.4	223.2	170.8
PASSO REAL - 5.4	133.4	122.1	104.8	137.6	190.9	237.2	267.1	275.8	314.1	317.4	223.2	170.8
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
JACUI - 3.10	134.8	123.1	105.8	138.8	192.6	239.2	269.3	277.9	316.6	319.8	224.9	172.1
JACUI - 5.4	134.8	123.1	105.8	138.8	192.6	239.2	269.3	277.9	316.6	319.8	224.9	172.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
ITAUBA - 3.10	166.6	153.6	132.7	177.2	245.6	304.9	347	350.9	402.2	405.2	290.4	214.1
ITAUBA - 5.4	166.6	153.6	132.7	177.2	245.6	304.9	347	350.9	402.2	405.2	290.4	214.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
D. FRANCISCA - 3.10	202.6	190.6	165.2	225.8	300.8	388.3	438.2	428.3	487.9	489	346.8	257.9
D. FRANCISCA - 5.4	202.6	190.6	165.2	225.8	300.8	388.3	438.2	428.3	487.9	489	346.8	257.9
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
G.B. MUNHOZ - 3.10	590.1	655.9	602	479.7	572	695.9	723.7	616.5	735.1	939.4	700.6	576.8
G.B. MUNHOZ - 5.4	590.1	655.9	602	479.7	572	695.9	723.7	616.5	735.1	939.4	700.6	576.8
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SEGREDO - 3.10	674.2	744.9	681	559.9	674.4	822.7	839.8	708.7	847.6	1088.6	814.6	661

Centro de Pesquisas de Energia Elétrica - CEPEL



Relatório Técnico – 23953 / 2016

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
SEGREDO - 5.4	674.2	744.9	681	559.9	674.4	822.7	839.8	708.7	847.6	1088.6	814.6	661
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SALTO CAXIAS - 3.10	1131	1230.9	1103.3	1018.7	1303.2	1597.5	1521.4	1256.3	1475.9	1974.2	1487.2	1159.3
SALTO CAXIAS - 5.4	1131	1230.9	1103.3	1018.7	1303.2	1597.5	1521.4	1256.3	1475.9	1974.2	1487.2	1159.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
G.P. SOUZA - 3.10	25	26.9	23.9	18	17	16.6	16.5	14.4	18.2	20.3	19.5	20.4
G.P. SOUZA - 5.4	25	26.9	23.9	18	17	16.6	16.5	14.4	18.2	20.3	19.5	20.4
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
JORDAO - 3.10	111.5	113.7	99.3	99.8	131.6	159.9	146.8	112	139.9	175.1	137.5	113.1
JORDAO - 5.4	111.5	113.7	99.3	99.8	131.6	159.9	146.8	112	139.9	175.1	137.5	113.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
STA CLARA PR - 3.10	90.1	92.5	79.8	80	105.3	128.3	117.6	89.6	112.5	142.6	110.4	91.4
STA CLARA PR - 5.4	90.1	92.5	79.8	80	105.3	128.3	117.6	89.6	112.5	142.6	110.4	91.4
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
FUNDAO - 3.10	94.4	97	83.8	83.9	110.4	134.4	123.2	94	117.9	149.5	115.8	95.8
FUNDAO - 5.4	94.4	97	83.8	83.9	110.4	134.4	123.2	94	117.9	149.5	115.8	95.8
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
MAUA - 3.10	296.7	305.9	253.4	190.7	230.9	276.8	278.7	226.9	263	344.3	283.3	252.5
MAUA - 5.4	296.7	305.9	253.4	190.7	230.9	276.8	278.7	226.9	263	344.3	283.3	252.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SLT.SANTIAGO - 3.10	876	955.9	856.7	753.6	929.9	1143.4	1130.2	930.7	1117	1452.4	1088.5	868.2
SLT.SANTIAGO - 5.4	876	955.9	856.7	753.6	929.9	1143.4	1130.2	930.7	1117	1452.4	1088.5	868.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SALTO OSORIO -	912.2	995.5	894.3	788.8	977.3	1199.5	1183.2	973.9	1162.1	1528.6	1147.3	909.8

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
3.10												
SALTO OSORIO - 5.4	912.2	995.5	894.3	788.8	977.3	1199.5	1183.2	973.9	1162.1	1528.6	1147.3	909.8
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
PASSO FUNDO - 3.10	33.6	32.8	28.4	35.7	54.3	69	76.9	71.7	79.5	86	59.6	43.9
PASSO FUNDO - 5.4	33.6	32.8	28.4	35.7	54.3	69	76.9	71.7	79.5	86	59.6	43.9
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
MACHADINHO - 3.10	491.1	611.8	491.9	492.9	669	755.1	912	963.3	1123.2	1116.4	702.1	511.4
MACHADINHO - 5.4	491.1	611.8	491.9	492.9	669	755.1	912	963.3	1123.2	1116.4	702.1	511.4
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
ITA - 3.10	666.7	828.1	670.5	698.1	962.4	1103.4	1291.2	1368.8	1586.8	1586.8	1000.1	718.6
ITA - 5.4	666.7	828.1	670.5	698.1	962.4	1103.4	1291.2	1368.8	1586.8	1586.8	1000.1	718.6
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CANA BRAVA - 3.10	1580.4	1796.8	1672.3	1187.3	631.9	437.3	331.6	258.5	243.9	355.8	639.9	1182.1
CANA BRAVA - 5.4	1580.4	1796.8	1672.3	1187.3	631.9	437.3	331.6	258.5	243.9	355.8	639.9	1182.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SAO SALVADOR - 3.10	1737.8	1981.3	1861.1	1343.3	709.8	480.1	363.3	283.4	267.1	382.5	694.1	1301.8
SAO SALVADOR - 5.4	1737.8	1981.3	1861.1	1343.3	709.8	480.1	363.3	283.4	267.1	382.5	694.1	1301.8
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
ESTREITO TOC - 3.10	6855.8	8259.6	8792.6	7312.6	4100.2	2339.1	1656.6	1274.9	1149.2	1485.9	2587.3	4766.2
ESTREITO TOC - 5.4	6855.8	8259.6	8792.6	7312.6	4100.2	2339.1	1656.6	1274.9	1149.2	1485.9	2587.3	4766.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
PONTE PEDRA - 3.10	86.5	90.9	92	84.8	76.9	71.1	67	63.6	63.1	66.5	71.9	78.8
PONTE PEDRA - 5.4	86.5	90.9	92	84.8	76.9	71.1	67	63.6	63.1	66.5	71.9	78.8

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
BARRA GRANDE - 3.10	180	229.1	177.4	184.7	248.6	283.1	353.5	382.9	437.3	391.3	239.1	186
BARRA GRANDE - 5.4	180	229.1	177.4	184.7	248.6	283.1	353.5	382.9	437.3	391.3	239.1	186
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CAMPOS NOVOS - 3.10	225.3	274.4	226.8	209.8	276	308.3	366.7	383.9	461.8	484.6	316.4	224
CAMPOS NOVOS - 5.4	225.3	274.4	226.8	209.8	276	308.3	366.7	383.9	461.8	484.6	316.4	224
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CASTRO ALVES - 3.10	94.9	118.7	92.3	100	126.3	173.3	219.6	232.7	252.1	207.2	125.2	98.3
CASTRO ALVES - 5.4	94.9	118.7	92.3	100	126.3	173.3	219.6	232.7	252.1	207.2	125.2	98.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
MONTE CLARO - 3.10	162.6	200.7	156.5	175.1	238.6	317.4	407.6	423.7	471.1	395.2	230.3	182.5
MONTE CLARO - 5.4	162.6	200.7	156.5	175.1	238.6	317.4	407.6	423.7	471.1	395.2	230.3	182.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
14 DE JULHO - 3.10	168	207.2	162.2	180.6	246.4	327.9	421.6	438.4	487	409.6	238.9	188.7
14 DE JULHO - 5.4	168	207.2	162.2	180.6	246.4	327.9	421.6	438.4	487	409.6	238.9	188.7
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
FOZ CHAPECO - 3.10	803.5	976.6	805.9	856.1	1189.1	1381.4	1597.6	1675.3	1915.3	1930.7	1249.7	897.3
FOZ CHAPECO - 5.4	803.5	976.6	805.9	856.1	1189.1	1381.4	1597.6	1675.3	1915.3	1930.7	1249.7	897.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SOBRADINHO - 3.10	4797.8	4821.8	4609.5	3535.8	2146.8	1500.8	1267.4	1100.2	1002.4	1161.9	1995.9	3608.6
SOBRADINHO - 5.4	4797.8	4821.8	4609.5	3535.8	2146.8	1500.8	1267.4	1100.2	1002.4	1161.9	1995.9	3608.6
Diferença	0	0	0	0	0	0	0	0	0	0	0	0

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
ITAPARICA - 3.10	4907.3	4964.2	4831.8	3730.7	2212.1	1518.7	1278.5	1114.3	1023.9	1184.4	2033.8	3692.3
ITAPARICA - 5.4	4907.3	4964.2	4831.8	3730.7	2212.1	1518.7	1278.5	1114.3	1023.9	1184.4	2033.8	3692.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
MOXOTO - 3.10	4907.3	4964.2	4831.8	3730.7	2212.1	1518.7	1278.5	1114.3	1023.9	1184.4	2033.8	3692.3
MOXOTO - 5.4	4907.3	4964.2	4831.8	3730.7	2212.1	1518.7	1278.5	1114.3	1023.9	1184.4	2033.8	3692.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
P.AFONSO 123 - 3.10	4907.3	4964.2	4831.8	3730.7	2212.1	1518.7	1278.5	1114.3	1023.9	1184.4	2033.8	3692.3
P.AFONSO 123 - 5.4	4907.3	4964.2	4831.8	3730.7	2212.1	1518.7	1278.5	1114.3	1023.9	1184.4	2033.8	3692.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
XINGO - 3.10	4907.3	4964.2	4831.8	3730.7	2212.1	1518.7	1278.5	1114.3	1023.9	1184.4	2033.8	3692.3
XINGO - 5.4	4907.3	4964.2	4831.8	3730.7	2212.1	1518.7	1278.5	1114.3	1023.9	1184.4	2033.8	3692.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
B. ESPERANCA - 3.10	652.3	723.5	766	677.1	438.8	305.1	263.6	240.6	235.1	285.9	398	531.7
B. ESPERANCA - 5.4	652.3	723.5	766	677.1	438.8	305.1	263.6	240.6	235.1	285.9	398	531.7
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
P. CAVALO - 3.10	162.3	158.4	156.1	132.2	79.8	54.7	55.2	43.9	30.3	36	95.7	205.9
P. CAVALO - 5.4	162.3	158.4	156.1	132.2	79.8	54.7	55.2	43.9	30.3	36	95.7	205.9
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
TUCURUI - 3.10	15012.4	20442.9	24039.3	23949.1	15580.6	7272.1	4187.2	2933.5	2316	2601.5	4323.6	8539.3
TUCURUI - 5.4	15012.4	20442.9	24039.3	23949.1	15580.6	7272.1	4187.2	2933.5	2316	2601.5	4323.6	8539.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CURUA-UNA - 3.10	145	212.8	324.4	408.6	392	271.1	200.1	150.7	130.3	116.3	116.4	120
CURUA-UNA - 5.4	145	212.8	324.4	408.6	392	271.1	200.1	150.7	130.3	116.3	116.4	120
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SAMUEL - 3.10	480.8	748.4	842.6	754	461.7	243.1	143.7	88.9	62.7	60.6	117.1	242.1

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
SAMUEL - 5.4	480.8	748.4	842.6	754	461.7	243.1	143.7	88.9	62.7	60.6	117.1	242.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
COARACY NUNE - 3.10	541.2	1001.9	1517	1872.3	2001.4	1592.4	1175.4	789.9	457.4	278.3	203.2	237
COARACY NUNE - 5.4	541.2	1001.9	1517	1872.3	2001.4	1592.4	1175.4	789.9	457.4	278.3	203.2	237
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CACH.CALDEIR - 3.10	540	999.3	1513	1867.4	1996.2	1588.3	1172.4	787.9	456.3	277.5	202.8	236.5
CACH.CALDEIR - 5.4	540	999.3	1513	1867.4	1996.2	1588.3	1172.4	787.9	456.3	277.5	202.8	236.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SOBRAGI - 3.10	128.7	124.1	113.2	83.9	65	56.1	48.9	43.6	44	50.5	69.1	101.2
SOBRAGI - 5.4	128.7	124.1	113.2	83.9	65	56.1	48.9	43.6	44	50.5	69.1	101.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
PICADA - 3.10	64.2	63.2	57.7	42.7	32.9	28.4	24.7	21.8	21.5	24.6	33.9	48.6
PICADA - 5.4	64.2	63.2	57.7	42.7	32.9	28.4	24.7	21.8	21.5	24.6	33.9	48.6
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
STA CLARA MG - 3.10	175.6	124.7	122	107.7	73.8	62.3	60.5	50.9	44.7	62.2	124.1	185.2
STA CLARA MG - 5.4	175.6	124.7	122	107.7	73.8	62.3	60.5	50.9	44.7	62.2	124.1	185.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
LAJEADO - 3.10	4411	5087.9	5137	3831.5	1891.2	1123.6	808.7	619.2	563.5	788.7	1563.7	3167.3
LAJEADO - 5.4	4411	5087.9	5137	3831.5	1891.2	1123.6	808.7	619.2	563.5	788.7	1563.7	3167.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
PIRAJU - 3.10	330.9	371.2	317.2	224.5	195.7	207.8	180.4	151.1	162.8	195.7	187.1	239.1
PIRAJU - 5.4	330.9	371.2	317.2	224.5	195.7	207.8	180.4	151.1	162.8	195.7	187.1	239.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
OURINHOS - 3.10	506.7	544.1	454.2	328.7	303	321	280.1	231.5	258.6	309.5	287.4	356.5
OURINHOS - 5.4	506.7	544.1	454.2	328.7	303	321	280.1	231.5	258.6	309.5	287.4	356.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SLT VERDINHO - 3.10	263.5	284.3	287	231.5	179.7	156	139.5	129.2	132.6	151.9	179.9	223.7
SLT VERDINHO - 5.4	263.5	284.3	287	231.5	179.7	156	139.5	129.2	132.6	151.9	179.9	223.7
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
ITIQUEIRA I - 3.10	102.2	114.9	112.8	89.6	66.6	56.5	51	47.1	47.7	52.2	61.6	80.9
ITIQUEIRA I - 5.4	102.2	114.9	112.8	89.6	66.6	56.5	51	47.1	47.7	52.2	61.6	80.9
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
JAURO - 3.10	97.7	102.3	110.1	95.6	84.4	78.7	75.6	71.9	71	74.7	79.1	87.7
JAURO - 5.4	97.7	102.3	110.1	95.6	84.4	78.7	75.6	71.9	71	74.7	79.1	87.7
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
GUAPORE - 3.10	35.4	37.4	39.2	36.8	33.7	31.5	30.2	29.5	29.3	30.1	31.2	32.9
GUAPORE - 5.4	35.4	37.4	39.2	36.8	33.7	31.5	30.2	29.5	29.3	30.1	31.2	32.9
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
QUEBRA QUEIX - 3.10	55.3	65.5	56.8	57.9	81.5	92.6	91.8	88.4	100.4	123.7	84.1	61.6
QUEBRA QUEIX - 5.4	55.3	65.5	56.8	57.9	81.5	92.6	91.8	88.4	100.4	123.7	84.1	61.6
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CORUMBA III - 3.10	270.5	297.6	299.3	235.3	147.7	108.6	84.8	66.8	57.8	75.3	123.6	201.4
CORUMBA III - 5.4	270.5	297.6	299.3	235.3	147.7	108.6	84.8	66.8	57.8	75.3	123.6	201.4
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
ITAPEBI - 3.10	819.3	604.8	496.1	341.7	207.9	165	139.3	117.8	107.3	170.7	469.6	892
ITAPEBI - 5.4	819.3	604.8	496.1	341.7	207.9	165	139.3	117.8	107.3	170.7	469.6	892
Diferença	0	0	0	0	0	0	0	0	0	0	0	0

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
CORUMBA IV - 3.10	216.8	240.1	240.2	190.4	119	87.2	67.9	53.6	46.3	60.1	98.7	161.1
CORUMBA IV - 5.4	216.8	240.1	240.2	190.4	119	87.2	67.9	53.6	46.3	60.1	98.7	161.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
MONJOLINHO - 3.10	58.9	56.7	49.5	62.2	94.5	117.7	132.4	120	131.9	149.4	104.4	76.1
MONJOLINHO - 5.4	58.9	56.7	49.5	62.2	94.5	117.7	132.4	120	131.9	149.4	104.4	76.1
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SALTO PILAO - 3.10	112.8	131.4	104.6	75.6	91.7	93.2	119.4	132.5	163.2	172	116.3	96.4
SALTO PILAO - 5.4	112.8	131.4	104.6	75.6	91.7	93.2	119.4	132.5	163.2	172	116.3	96.4
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
RETIRO BAIXO - 3.10	330.4	283	238.3	158.7	109.7	89.4	72.8	62.2	60.1	76.5	130.9	249.2
RETIRO BAIXO - 5.4	330.4	283	238.3	158.7	109.7	89.4	72.8	62.2	60.1	76.5	130.9	249.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
CACU - 3.10	287.4	319.3	327	253.2	176.8	138.8	115.7	100.9	102.7	127.2	166	231.3
CACU - 5.4	287.4	319.3	327	253.2	176.8	138.8	115.7	100.9	102.7	127.2	166	231.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
B. COQUEIROS - 3.10	298.8	332.1	340.1	263.5	184.2	144.5	120.5	105	106.8	132.3	172.7	240.7
B. COQUEIROS - 5.4	298.8	332.1	340.1	263.5	184.2	144.5	120.5	105	106.8	132.3	172.7	240.7
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
DARDANELOS - 3.10	505.8	750.9	835.7	726.8	461	214.1	98.9	57	46.8	53.3	93.3	227.4
DARDANELOS - 5.4	505.8	750.9	835.7	726.8	461	214.1	98.9	57	46.8	53.3	93.3	227.4
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
FOZ R. CLARO - 3.10	319.7	356	364.2	283	197.7	155.5	129.6	113	114.9	142.1	184.8	257.6
FOZ R. CLARO - 5.4	319.7	356	364.2	283	197.7	155.5	129.6	113	114.9	142.1	184.8	257.6
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SERRA FACAO - 3.10	318.9	320.1	320.6	241.9	152.5	115.3	90.8	71.3	60.7	73.1	126.4	241.8

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USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
SERRA FACAO - 5.4	318.9	320.1	320.6	241.9	152.5	115.3	90.8	71.3	60.7	73.1	126.4	241.8
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
ESPORA - 3.10	80.2	84.7	85.4	72.8	59.7	53.5	48.9	46	46.5	50.9	58.1	69.5
ESPORA - 5.4	80.2	84.7	85.4	72.8	59.7	53.5	48.9	46	46.5	50.9	58.1	69.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
SAO JOSE - 3.10	154.3	140.8	121.5	184.9	241.4	290.4	287.2	284.1	329.4	373.1	271.4	206.3
SAO JOSE - 5.4	154.3	140.8	121.5	184.9	241.4	290.4	287.2	284.1	329.4	373.1	271.4	206.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
RONDON II - 3.10	116.5	135.4	148.6	109.8	78.1	63.6	58.1	53.9	52.6	56.2	65.9	88.3
RONDON II - 5.4	116.5	135.4	148.6	109.8	78.1	63.6	58.1	53.9	52.6	56.2	65.9	88.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
PASSO S JOAO - 3.10	160.5	146.1	126.2	190.8	249.7	301.5	298.6	295.1	340.9	387.5	283.1	214.5
PASSO S JOAO - 5.4	160.5	146.1	126.2	190.8	249.7	301.5	298.6	295.1	340.9	387.5	283.1	214.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
BALBINA - 3.10	390.7	593.3	756.1	1025	1190.9	1061.9	677.6	425.5	317.5	271.3	266.5	297.5
BALBINA - 5.4	390.7	593.3	756.1	1025	1190.9	1061.9	677.6	425.5	317.5	271.3	266.5	297.5
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
JIRAU - 3.10	23453.3	30194.6	34872.6	33799.1	25916.7	17982	11517	7083.4	5274.3	6383.5	10124.8	16133
JIRAU - 5.4	23453.3	30194.6	34872.6	33799.1	25916.7	17982	11517	7083.4	5274.3	6383.5	10124.8	16133
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
STO ANT JARI - 3.10	695.9	1072.2	1382	1829.9	2138.4	2102.2	1469.1	968.1	603.1	343.6	250.6	351.4
STO ANT JARI - 5.4	695.9	1072.2	1382	1829.9	2138.4	2102.2	1469.1	968.1	603.1	343.6	250.6	351.4
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
FERREIRA GOM - 3.10	544.4	1012	1532.1	1892	2027.1	1607.3	1186.4	797.1	460.7	279.5	199.7	235.2

USINA - VERSÃO	JAN	FEV	MAR	ABR	MAI	JUN	JUL	AGO	SET	OUT	NOV	DEZ
FERREIRA GOM - 5.4	544.4	1012	1532.1	1892	2027.1	1607.3	1186.4	797.1	460.7	279.5	199.7	235.2
Diferença	0	0	0	0	0	0	0	0	0	0	0	0
TELES PIRES - 3.10	3701.5	4311.3	4489.1	3576.6	2288	1473.7	1046.5	806.2	701.5	886.8	1479.8	2574.3
TELES PIRES - 5.4	3701.5	4311.3	4489.1	3576.6	2288	1473.7	1046.5	806.2	701.5	886.8	1479.8	2574.3
Diferença	0	0	0	0	0	0	0	0	0	0	0	0

As imagens abaixo mostram os resultados das comparações de dois arquivos VAZOEST.REL gerados pelas versões 3.10 e 5.4, respectivamente. Verifica-se que os cenários gerados são idênticos para a usina hidrelétrica de Camargos. O mesmo comportamento é observado para as demais usinas.

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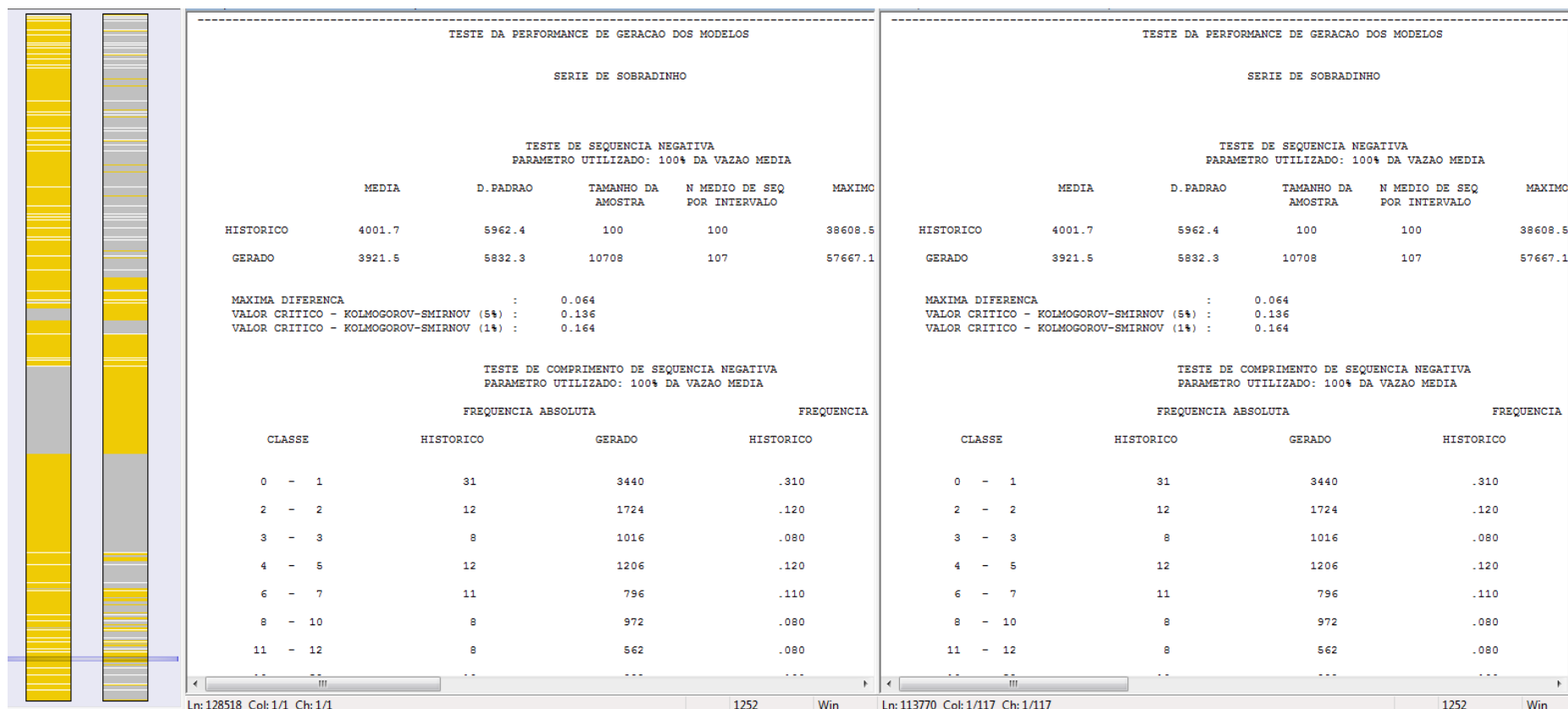
POSTO: ,CAMARGOS											POSTO: ,CAMARGOS (POSTO: 1)										
CENÁRIO,	1,	2,	3,	4,	5,	6,	7,	8,	9,	10,	CENÁRIO,	1,	2,	3,	4,	5,	6,	7,	8,	9,	10,
1,	161.0,	253.7,	185.6,	198.2,	161.2,	115.4,	87.9,	75.0,	57.7,	95.7,	1,	161.0,	253.7,	185.6,	198.2,	161.2,	115.4,	87.9,	75.0,	57.7,	95.7,
2,	166.3,	95.3,	156.3,	105.7,	104.9,	71.0,	62.5,	54.6,	44.2,	44.7,	2,	166.3,	95.3,	156.3,	105.7,	104.9,	71.0,	62.5,	54.6,	44.2,	44.7,
3,	439.6,	264.8,	190.3,	141.1,	139.8,	78.4,	67.9,	57.2,	106.9,	100.2,	3,	439.6,	264.8,	190.3,	141.1,	139.8,	78.4,	67.9,	57.2,	106.9,	100.2,
4,	434.0,	252.2,	218.3,	125.0,	124.2,	83.1,	73.3,	69.9,	74.9,	61.1,	4,	434.0,	252.2,	218.3,	125.0,	124.2,	83.1,	73.3,	69.9,	74.9,	61.1,
5,	230.1,	243.5,	233.7,	199.3,	128.5,	94.3,	87.4,	70.7,	66.7,	93.3,	5,	230.1,	243.5,	233.7,	199.3,	128.5,	94.3,	87.4,	70.7,	66.7,	93.3,
6,	158.1,	259.8,	310.2,	191.6,	112.1,	102.6,	80.5,	71.6,	73.7,	71.8,	6,	158.1,	259.8,	310.2,	191.6,	112.1,	102.6,	80.5,	71.6,	73.7,	71.8,
7,	79.8,	148.5,	102.4,	61.3,	55.9,	43.2,	38.1,	36.1,	17.2,	24.2,	7,	79.8,	148.5,	102.4,	61.3,	55.9,	43.2,	38.1,	36.1,	17.2,	24.2,
8,	276.4,	210.0,	194.2,	120.4,	86.6,	86.2,	70.7,	68.2,	54.8,	41.3,	8,	276.4,	210.0,	194.2,	120.4,	86.6,	86.2,	70.7,	68.2,	54.8,	41.3,
9,	255.0,	157.8,	104.1,	42.4,	60.0,	42.9,	50.3,	46.1,	24.0,	48.9,	9,	255.0,	157.8,	104.1,	42.4,	60.0,	42.9,	50.3,	46.1,	24.0,	48.9,
10,	417.0,	233.7,	154.1,	79.2,	53.4,	145.4,	88.6,	62.4,	104.9,	98.5,	10,	417.0,	233.7,	154.1,	79.2,	53.4,	145.4,	88.6,	62.4,	104.9,	98.5,
11,	333.6,	162.3,	119.4,	81.4,	88.7,	72.5,	52.6,	41.8,	35.5,	38.4,	11,	333.6,	162.3,	119.4,	81.4,	88.7,	72.5,	52.6,	41.8,	35.5,	38.4,
12,	344.7,	262.9,	156.4,	89.6,	68.1,	66.1,	54.9,	40.9,	33.2,	45.0,	12,	344.7,	262.9,	156.4,	89.6,	68.1,	66.1,	54.9,	40.9,	33.2,	45.0,
13,	395.8,	245.7,	115.9,	136.8,	97.4,	79.6,	75.7,	60.4,	95.6,	95.3,	13,	395.8,	245.7,	115.9,	136.8,	97.4,	79.6,	75.7,	60.4,	95.6,	95.3,
14,	131.3,	247.2,	203.9,	212.1,	154.8,	81.8,	77.4,	62.8,	124.9,	79.7,	14,	131.3,	247.2,	203.9,	212.1,	154.8,	81.8,	77.4,	62.8,	124.9,	79.7,
15,	261.7,	141.4,	88.1,	115.3,	72.6,	61.0,	48.1,	37.4,	69.7,	67.5,	15,	261.7,	141.4,	88.1,	115.3,	72.6,	61.0,	48.1,	37.4,	69.7,	67.5,
16,	159.4,	147.8,	111.1,	89.9,	79.1,	31.9,	45.7,	40.8,	23.4,	64.3,	16,	159.4,	147.8,	111.1,	89.9,	79.1,	31.9,	45.7,	40.8,	23.4,	64.3,
17,	248.3,	193.4,	135.5,	137.4,	112.7,	66.4,	56.3,	51.8,	38.8,	45.2,	17,	248.3,	193.4,	135.5,	137.4,	112.7,	66.4,	56.3,	51.8,	38.8,	45.2,
18,	389.1,	182.6,	137.9,	159.3,	115.8,	112.6,	89.8,	74.6,	96.6,	100.7,	18,	389.1,	182.6,	137.9,	159.3,	115.8,	112.6,	89.8,	74.6,	96.6,	100.7,
19,	213.3,	322.5,	207.9,	84.7,	69.2,	47.3,	48.7,	51.1,	31.6,	60.2,	19,	213.3,	322.5,	207.9,	84.7,	69.2,	47.3,	48.7,	51.1,	31.6,	60.2,
20,	472.8,	252.7,	345.2,	161.9,	125.9,	103.2,	79.0,	66.3,	64.8,	75.5,	20,	472.8,	252.7,	345.2,	161.9,	125.9,	103.2,	79.0,	66.3,	64.8,	75.5,
21,	219.6,	160.8,	136.9,	120.6,	93.5,	79.8,	88.5,	84.3,	80.5,	80.3,	21,	219.6,	160.8,	136.9,	120.6,	93.5,	79.8,	88.5,	84.3,	80.5,	80.3,
22,	229.0,	276.5,	228.9,	87.2,	73.9,	75.2,	75.8,	69.5,	63.3,	59.2,	22,	229.0,	276.5,	228.9,	87.2,	73.9,	75.2,	75.8,	69.5,	63.3,	59.2,
23,	354.2,	346.8,	187.2,	211.1,	178.4,	112.3,	87.1,	75.3,	87.1,	93.2,	23,	354.2,	346.8,	187.2,	211.1,	178.4,	112.3,	87.1,	75.3,	87.1,	93.2,
24,	135.0,	141.6,	228.6,	143.3,	121.7,	99.9,	85.3,	73.4,	77.0,	108.8,	24,	135.0,	141.6,	228.6,	143.3,	121.7,	99.9,	85.3,	73.4,	77.0,	108.8,
25,	267.1,	202.3,	109.0,	145.1,	95.5,	109.6,	84.3,	77.8,	139.9,	120.9,	25,	267.1,	202.3,	109.0,	145.1,	95.5,	109.6,	84.3,	77.8,	139.9,	120.9,
26,	167.0,	159.1,	332.6,	171.1,	130.4,	121.6,	89.5,	67.1,	99.4,	117.2,	26,	167.0,	159.1,	332.6,	171.1,	130.4,	121.6,	89.5,	67.1,	99.4,	117.2,
27,	70.3,	96.8,	112.1,	101.5,	79.7,	53.4,	54.8,	52.1,	28.1,	41.3,	27,	70.3,	96.8,	112.1,	101.5,	79.7,	53.4,	54.8,	52.1,	28.1,	41.3,
28,	132.7,	152.8,	163.4,	69.2,	52.1,	60.5,	59.5,	61.1,	70.7,	64.3,	28,	132.7,	152.8,	163.4,	69.2,	52.1,	60.5,	59.5,	61.1,	70.7,	64.3,
29,	211.8,	211.4,	130.1,	156.0,	102.0,	103.5,	73.0,	68.7,	56.9,	80.4,	29,	211.8,	211.4,	130.1,	156.0,	102.0,	103.5,	73.0,	68.7,	56.9,	80.4,
30,	189.2,	227.2,	164.4,	228.2,	155.0,	137.2,	92.7,	75.5,	76.8,	75.8,	30,	189.2,	227.2,	164.4,	228.2,	155.0,	137.2,	92.7,	75.5,	76.8,	75.8,
31,	131.7,	192.2,	346.6,	247.2,	187.1,	192.6,	133.5,	102.8,	135.8,	109.2,	31,	131.7,	192.2,	346.6,	247.2,	187.1,	192.6,	133.5,	102.8,	135.8,	109.2,
32,	238.8,	262.7,	190.6,	90.2,	77.1,	78.1,	65.7,	60.3,	45.7,	48.5,	32,	238.8,	262.7,	190.6,	90.2,	77.1,	78.1,	65.7,	60.3,	45.7,	48.5,
33,	216.0,	378.1,	365.3,	170.5,	127.0,	125.5,	98.2,	82.9,	121.4,	103.7,	33,	216.0,	378.1,	365.3,	170.5,	127.0,	125.5,	98.2,	82.9,	121.4,	103.7,
34,	248.2,	121.6,	111.6,	78.4,	67.6,	82.8,	61.0,	49.1,	50.2,	92.5,	34,	248.2,	121.6,	111.6,	78.4,	67.6,	82.8,	61.0,	49.1,	50.2,	92.5,
35,	212.1,	302.4,	251.3,	130.0,	133.9,	110.6,	75.5,	56.9,	84.5,	84.8,	35,	212.1,	302.4,	251.3,	130.0,	133.9,	110.6,	75.5,	56.9,	84.5,	84.8,
36,	148.0,	87.9,	205.7,	245.9,	133.1,	138.5,	97.4,	84.3,	110.4,	141.5,	36,	148.0,	87.9,	205.7,	245.9,	133.1,	138.5,	97.4,	84.3,	110.4,	141.5,
37,	222.0,	562.1,	347.3,	203.5,	171.9,	103.6,	92.8,	71.8,	81.2,	99.6,	37,	222.0,	562.1,	347.3,	203.5,	171.9,	103.6,	92.8,	71.8,	81.2,	99.6,
38,	274.3,	359.6,	405.2,	256.4,	183.2,	156.4,	118.8,	99.4,	88.0,	91.2,	38,	274.3,	359.6,	405.2,	256.4,	183.2,	156.4,	118.8,	99.4,	88.0,	91.2,
39,	270.9,	216.6,	191.7,	151.9,	90.3,	121.1,	73.8,	52.2,	63.8,	101.8,	39,	270.9,	216.6,	191.7,	151.9,	90.3,	121.1,	73.8,	52.2,	63.8,	101.8,
40,	210.7,	94.0,	98.4,	65.6,	56.5,	29.6,	47.9,	52.3,	27.0,	34.0,	40,	210.7,	94.0,	98.4,	65.6,	56.5,	29.6,	47.9,	52.3,	27.0,	34.0,
41,	343.7,	417.1,	207.2,	251.6,	152.8,	147.6,	101.6,	76.9,	107.4,	139.8,	41,	343.7,	417.1,	207.2,	251.6,	152.8,	147.6,	101.6,	76.9,	107.4,	139.8,
42,	266.1,	230.1,	261.0,	119.6,	83.6,	95.9,	72.0,	56.3,	81.2,	85.1,	42,	266.1,	230.1,	261.0,	119.6,	83.6,	95.9,	72.0,	56.3,	81.2,	85.1,
43,	260.6,	144.0,	123.6,	152.3,	124.3,	102.9,	65.3,	61.5,	49.5,	63.0,	43,	260.6,	144.0,	123.6,	152.3,	124.3,	102.9,	65.3,	61.5,	49.5,	63.0,
44,	297.2,	251.0,	234.4,	125.7,	94.6,	83.5,	68.8,	64.9,	54.1,	60.0,	44,	297.2,	251.0,	234.4,	125.7,	94.6,	83.5,	68.8,	64.9,	54.1,	60.0,

Observa-se que a usina hidrelétrica A.Vermelha não apresentou diferenças em seus cenários, apesar da diferença na médias geradas entre a versões 3.10 e 5.4. Isso ocorreu por causa da quantidade de casas decimais impressas no relatório. Caso houvesse mais casas decimais na representação destes números, surgiriam diferenças entre seus cenários; estas diferenças, todavia, seriam exígias.

POSTO: ,A. VERMELHA											POSTO: ,A. VERMELHA ,										
CENÁRIO,	1,	2,	3,	4,	5,	6,	7,	8,	9,	10,	CENÁRIO,	1,	2,	3,	4,	5,	6,	7,	8,	9,	10,
1,	2155.7,	3807.7,	3331.9,	2595.0,	2126.3,	1713.7,	1421.0,	1267.8,	991.5,	1255.1,	1,	2155.7,	3807.7,	3331.9,	2595.0,	2126.3,	1713.7,	1421.0,	1267.8,	991.5,	1255.1,
2,	2922.5,	1887.6,	3148.4,	2116.5,	1552.9,	1368.4,	1205.6,	987.4,	933.3,	888.5,	2,	2922.5,	1887.6,	3148.4,	2116.5,	1552.9,	1368.4,	1205.6,	987.4,	933.3,	888.5,
3,	5985.2,	4844.2,	3035.7,	2765.6,	2573.2,	1654.9,	1335.0,	1006.6,	1858.6,	1511.8,	3,	5985.2,	4844.2,	3035.7,	2765.6,	2573.2,	1654.9,	1335.0,	1006.6,	1858.6,	1511.8,
4,	5501.9,	4524.5,	3467.5,	2587.9,	2236.3,	1579.8,	1265.5,	1195.1,	1389.1,	1273.9,	4,	5501.9,	4524.5,	3467.5,	2587.9,	2236.3,	1579.8,	1265.5,	1195.1,	1389.1,	1273.9,
5,	3505.1,	3465.5,	3424.1,	2850.2,	1645.5,	1047.3,	1186.7,	832.0,	632.0,	792.7,	5,	3505.1,	3465.5,	3424.1,	2850.2,	1645.5,	1047.3,	1186.7,	832.0,	632.0,	792.7,
6,	1577.7,	4436.8,	5830.2,	3580.0,	1841.7,	1595.6,	1176.0,	992.7,	963.4,	942.7,	6,	1577.7,	4436.8,	5830.2,	3580.0,	1841.7,	1595.6,	1176.0,	992.7,	963.4,	942.7,
7,	1571.6,	1686.9,	2101.3,	1141.3,	1103.8,	1116.3,	789.4,	732.6,	480.0,	690.0,	7,	1571.6,	1686.9,	2101.3,	1141.3,	1103.8,	1116.3,	789.4,	732.6,	480.0,	690.0,
8,	3600.5,	3005.3,	3443.1,	2103.2,	1373.7,	1085.3,	864.2,	944.4,	797.8,	514.2,	8,	3600.5,	3005.3,	3443.1,	2103.2,	1373.7,	1085.3,	864.2,	944.4,	797.8,	514.2,
9,	3507.1,	2472.3,	1639.8,	805.0,	1094.6,	950.3,	817.6,	701.5,	414.6,	709.2,	9,	3507.1,	2472.3,	1639.8,	805.0,	1094.6,	950.3,	817.6,	701.5,	414.6,	709.2,
10,	4434.3,	3568.0,	2302.2,	2348.2,	1168.3,	2192.5,	1250.0,	996.1,	1287.1,	1478.5,	10,	4434.3,	3568.0,	2302.2,	2348.2,	1168.3,	2192.5,	1250.0,	996.1,	1287.1,	1478.5,
11,	3602.4,	2385.0,	2327.5,	2057.1,	1841.0,	1594.9,	1161.2,	976.8,	751.0,	706.3,	11,	3602.4,	2385.0,	2327.5,	2057.1,	1841.0,	1594.9,	1161.2,	976.8,	751.0,	706.3,
12,	3000.4,	4383.2,	3174.1,	2145.4,	1520.9,	1172.7,	913.7,	619.7,	388.0,	582.3,	12,	3000.4,	4383.2,	3174.1,	2145.4,	1520.9,	1172.7,	913.7,	619.7,	388.0,	582.3,
13,	4419.2,	4650.5,	2407.2,	2570.9,	1637.8,	1683.9,	1427.1,	1074.0,	2089.0,	1980.9,	13,	4419.2,	4650.5,	2407.2,	2570.9,	1637.8,	1683.9,	1427.1,	1074.0,	2089.0,	1980.9,
14,	1688.8,	4225.3,	3140.3,	3063.6,	2287.1,	1172.6,	1313.8,	1052.4,	1537.9,	1126.5,	14,	1688.8,	4225.3,	3140.3,	3063.6,	2287.1,	1172.6,	1313.8,	1052.4,	1537.9,	1126.5,
15,	3714.5,	2268.0,	1459.7,	1306.7,	883.3,	660.3,	517.8,	380.4,	287.1,	387.5,	15,	3714.5,	2268.0,	1459.7,	1306.7,	883.3,	660.3,	517.8,	380.4,	287.1,	387.5,
16,	2430.3,	2484.6,	2259.7,	1588.7,	1228.1,	517.8,	689.5,	520.2,	487.9,	671.5,	16,	2430.3,	2484.6,	2259.7,	1588.7,	1228.1,	517.8,	689.5,	520.2,	487.9,	671.5,
17,	2728.9,	2207.2,	1743.9,	2008.6,	1470.9,	1054.6,	854.5,	720.1,	531.8,	410.1,	17,	2728.9,	2207.2,	1743.9,	2008.6,	1470.9,	1054.6,	854.5,	720.1,	531.8,	410.1,
18,	5887.4,	3263.3,	2759.3,	2312.0,	1801.0,	1515.1,	1370.0,	1104.4,	1408.7,	1207.7,	18,	5887.4,	3263.3,	2759.3,	2312.0,	1801.0,	1515.1,	1370.0,	1104.4,	1408.7,	1207.7,
19,	2787.8,	4567.3,	3686.1,	2124.7,	1816.6,	1272.2,	820.5,	894.7,	776.4,	1044.8,	19,	2787.8,	4567.3,	3686.1,	2124.7,	1816.6,	1272.2,	820.5,	894.7,	776.4,	1044.8,
20,	6552.7,	5373.1,	5750.2,	3341.5,	2416.9,	1957.8,	1425.7,	1211.6,	1153.9,	1533.0,	20,	6552.7,	5373.1,	5750.2,	3341.5,	2416.9,	1957.8,	1425.7,	1211.6,	1153.9,	1533.0,
21,	2879.8,	1995.3,	2655.3,	2182.3,	1224.8,	980.7,	1300.9,	1223.8,	1087.2,	892.3,	21,	2879.8,	1995.3,	2655.3,	2182.3,	1224.8,	980.7,	1300.9,	1223.8,	1087.2,	892.3,
22,	3373.2,	3799.4,	3386.9,	1606.8,	1562.2,	1459.4,	1288.4,	1095.5,	1023.6,	820.5,	22,	3373.2,	3799.4,	3386.9,	1606.8,	1562.2,	1459.4,	1288.4,	1095.5,	1023.6,	820.5,
23,	5862.6,	5777.7,	3299.6,	3988.0,	3074.8,	2184.6,	1848.8,	1584.1,	1597.3,	1695.4,	23,	5862.6,	5777.7,	3299.6,	3988.0,	3074.8,	2184.6,	1848.8,	1584.1,	1597.3,	1695.4,
24,	2775.4,	3573.1,	4940.4,	3245.2,	2217.1,	2084.7,	1719.1,	1315.6,	1220.5,	1983.3,	24,	2775.4,	3573.1,	4940.4,	3245.2,	2217.1,	2084.7,	1719.1,	1315.6,	1220.5,	1983.3,
25,	3127.5,	3339.3,	2053.2,	2455.1,	1420.6,	1581.3,	1228.9,	1136.3,	1752.4,	1450.7,	25,	3127.5,	3339.3,	2053.2,	2455.1,	1420.6,	1581.3,	1228.9,	1136.3,	1752.4,	1450.7,
26,	2941.2,	3307.3,	4850.1,	2669.7,	1929.5,	1583.3,	1138.3,	880.4,	1117.5,	1462.8,	26,	2941.2,	3307.3,	4850.1,	2669.7,	1929.5,	1583.3,	1138.3,	880.4,	1117.5,	1462.8,
27,	1072.5,	3082.6,	2472.6,	2159.4,	1318.1,	736.2,	750.1,	679.8,	340.8,	437.0,	27,	1072.5,	3082.6,	2472.6,	2159.4,	1318.1,	736.2,	750.1,	679.8,	340.8,	437.0,
28,	2436.6,	2867.9,	2589.3,	1193.8,	943.1,	1122.3,	1075.7,	975.6,	1030.7,	810.9,	28,	2436.6,	2867.9,	2589.3,	1193.8,	943.1,	1122.3,	1075.7,	975.6,	1030.7,	810.9,
29,	3532.4,	3887.4,	2620.0,	2635.6,	1656.0,	1606.3,	1211.5,	1219.1,	917.1,	1446.5,	29,	3532.4,	3887.4,	2620.0,	2635.6,	1656.0,	1606.3,	1211.5,	1219.1,	917.1,	1446.5,
30,	2501.6,	2536.4,	2057.1,	2720.8,	1650.2,	1369.4,	1116.6,	1029.4,	751.6,	777.6,	30,	2501.6,	2536.4,	2057.1,	2720.8,	1650.2,	1369.4,	1116.6,	1029.4,	751.6,	777.6,
31,	2310.9,	3231.8,	4440.5,	3313.7,	2410.6,	2511.6,	1821.2,	1490.8,	1453.0,	1286.5,	31,	2310.9,	3231.8,	4440.5,	3313.7,	2410.6,	2511.6,	1821.2,	1490.8,	1453.0,	1286.5,
32,	2324.6,	4237.8,	2890.2,	2021.2,	1446.7,	1315.1,	1037.5,	849.9,	625.1,	513.9,	32,	2324.6,	4237.8,	2890.2,	2021.2,	1446.7,	1315.1,	1037.5,	849.9,	625.1,	513.9,
33,	2587.6,	4491.7,	6969.9,	3431.2,	2344.9,	2243.2,	1655.3,	1335.5,	1595.9,	1415.1,	33,	2587.6,	4491.7,	6969.9,	3431.2,	2344.9,	2243.2,	1655.3,	1335.5,	1595.9,	1415.1,
34,	2586.8,	1886.1,	1763.6,	1574.2,	1035.2,	1059.4,	888.2,	799.7,	697.8,	1072.0,	34,	2586.8,	1886.1,	1763.6,	1574.2,	1035.2,	1059.4,	888.2,	799.7,	697.8,	1072.0,
35,	2326.0,	4391.7,	3728.5,	2383.8,	2126.0,	2094.2,	1497.4,	1238.1,	1449.8,	1450.0,	35,	2326.0,	4391.7,	3728.5,	2383.8,	2126.0,	2094.2,	1497.4,	1238.1,	1449.8,	1450.0,
36,	2711.3,	1996.6,	3242.3,	2958.9,	1408.7,	1202.9,	970.6,	1034.6,	1110.8,	1528.6,	36,	2711.3,	1996.6,	3242.3,	2958.9,	1408.7,	1202.9,	970.6,	1034.6,	1110.8,	1528.6,
37,	3337.0,	9577.2,	6570.2,	4109.9,	3351.6,	2430.6,	1917.6,	1367.5,	1463.2,	1620.7,	37,	3337.0,	9577.2,	6570.2,	4109.9,	3351.6,	2430.6,	1917.6,	1367.5,	1463.2,	1620.7,
38,	2484.6,	4485.4,	5224.9,	3616.2,	2655.6,	2080.7,	1561.1,	1285.0,	992.4,	1257.8,	38,	2484.6,	4485.4,	5224.9,	3616.2,	2655.6,	2080.7,	1561.1,	1285.0,	992.4,	1257.8,
39,	3164.1,	2998.2,	3059.1,	2447.6,	1245.2,	1325.5,	849.7,	672.5,	633.1,	1493.4,	39,	3164.1,	2998.2,	3059.1,	2447.6,	1245.2,	1325.5,	849.7,	672.5,	633.1,	1493.4,
40,	3851.9,	2079.4,	1952.8,	1347.2,	951.6,	458.4,	663.9,	674.8,	513.5,	295.1,	40,	3851.9,	2079.4,	1952.8,	1347.2,	951.6,	458.4,	663.9,	674.8,	513.5,	295.1,
41,	4277.5,	6896.9,	4310.3,	4363.6,	2457.2,	2070.1,	1724.9,	1303.8,	1352.5,	2413.6,	41,	4277.5,	6896.9,	4310.3,	4363.6,	2457.2,	2070.1,	1724.9,	1303.8,	1352.5,	2413.6,
42,	3015.6,	4725.3,	5047.7,	3073.7,	1978.8,	1842.3,	1300.4,	1029.9,	977.4,	888.5,	42,	3015.6,	4725.3,	5047.7,	3073.7,	1978.8,	1842.3,	1300.4,	1029.9,	977.4,	888.5,
43,	3605.7,	2367.9,	2296.6,	2409.4,	1730.7,	1662.4,	1130.4,	1060.5,	899.4,	845.9,	43,	3605.7,	2367.9,	2296.6,	2409.4,	1730.7,	1662.4,	1130.4,	1060.5,	899.4,	845.9,
44,	3424.2,	3780.5,	3592.2,	2277.7,	1645.8,	1655.4,	1244.6,	1099.9,	960.1,	780.1,	44,	3424.2,	3780.5,	3592.2,	2277.7,	1645.8,	1655.4,	1244.6,	1099.9,	960.1,	780.1,
45,	6541.6,	3783.4,	2451.7,	1987.4,	1149.7,	839.7,	688.7,	673.2,	351.1,	490.5,	45,	6541.6,	3783.4,	2451.7,	1987.4,	1149.7,	839.7,	688.7,	673.2,	351.1,	490.5,

As demais usinas apresentaram comportamento similar, isto é, os cenários gerados em ambas versões são idênticos quando comparados os arquivos VAZOEI.REL

Para os testes de sequência negativa, os resultados permanecem iguais na maioria dos casos, como por exemplo, apresentado na figura abaixo, que ilustra o teste de sequência negativa para usina de Sobradinho.



As únicas exceções ocorrem em usinas cujo número de sequências negativas do histórico ultrapasse o valor de 150. Das 146 usinas hidrelétricas presentes na configuração, apenas 19 usinas hidrelétricas, listadas na Tabela 4, apresentam esta característica.

Tabela 4 – Lista de usinas

Usinas	Nº de sequências negativas
Lajes	153
Edgard Souza	152
Guarapiranga	168
Billings	167
Garibaldi	154
Salto Caxias	154
Santa Clara PR	152
Salto Santiago	153
Salto Osório	152
Machadinho	155
Itá	158
Barra Grande	167
Campos Novos	155
Castro Alves	171
Monte Claro	161
Foz Chapecó	155
Quebra Queixo	151
Salto Pilão	161
14 de Julho	162

Na versão 3.10 do programa GEVAZP, a dimensão máxima de sequências negativas do histórico era 150. Com isso, para usinas cujos históricos apresentassem números de sequências negativas superiores ao valor máximo estipulado, ocorriam violações de cálculo que ocasionavam distorções em todos os resultados históricos e, conseqüentemente, na divisão de classes.

Na versão 5.4 adota-se o número máximo de 300 sequências negativas para o histórico, assim, garante-se que os testes serão realizados corretamente para todas as usinas hidrelétricas em questão. A imagem abaixo apresenta um exemplo em que houve mudança, sendo a parte esquerda da comparação o resultado da versão 3.10 e a parte da direita, da versão 5.4.

SERIE DE GUARAPIRANGA

TESTE DE SEQUENCIA NEGATIVA
PARAMETRO UTILIZADO: 100% DA VAZAO MEDIA

	MEDIA	D. PADRAO	TAMANHO DA AMOSTRA	N MEDIO DE SEQ POR INTERVALO	MAXIMO
HISTORICO	32.9	191.5	168	168	2351.3
GERADO	13.8	19.5	15475	154	228.1

MAXIMA DIFERENCA	:	0.717
VALOR CRITICO - KOLMOGOROV-SMIRNOV (5%)	:	0.105
VALOR CRITICO - KOLMOGOROV-SMIRNOV (1%)	:	0.126

TESTE DE COMPRIMENTO DE SEQUENCIA NEGATIVA
PARAMETRO UTILIZADO: 100% DA VAZAO MEDIA

CLASSE	FREQUENCIA ABSOLUTA		FREQUENCIA
	HISTORICO	GERADO	HISTORICO
0 - 0	8	0	.048
1 - 0	8	0	.048
1 - 1	56	5680	.333
2 - 2	31	3043	.185
3 - 3	16	1759	.095
4 - 4	12	1103	.071
5 - 6	10	1394	.060
7 - 8	12	907	.071

Ln: 119414 Col: 1/1 Ch: 1/1 1252 Win

SERIE DE GUARAPIRANGA

TESTE DE SEQUENCIA NEGATIVA
PARAMETRO UTILIZADO: 100% DA VAZAO MEDIA

	MEDIA	D. PADRAO	TAMANHO DA AMOSTRA	N MEDIO DE SEQ POR INTERVALO	MAXIMO
HISTORICO	12.1	18.7	168	168	135.7
GERADO	13.8	19.5	15475	154	228.1

MAXIMA DIFERENCA	:	0.060
VALOR CRITICO - KOLMOGOROV-SMIRNOV (5%)	:	0.105
VALOR CRITICO - KOLMOGOROV-SMIRNOV (1%)	:	0.126

TESTE DE COMPRIMENTO DE SEQUENCIA NEGATIVA
PARAMETRO UTILIZADO: 100% DA VAZAO MEDIA

CLASSE	FREQUENCIA ABSOLUTA		FREQUENCIA
	HISTORICO	GERADO	HISTORICO
0 - 1	60	5698	.357
2 - 2	35	3043	.208
3 - 3	20	1759	.119
4 - 4	15	1103	.089
5 - 6	11	1394	.065
7 - 8	12	907	.071

Ln: 100672 Col: 1/61 Ch: 1/61 1252 Win

4. GERAÇÃO EM FORMATO ÁRVORE SEM AGREGAÇÃO

As Tabelas 5 e 6 apresentadas a seguir possuem dados gerados pela versão 3.10 e pela versão 5.4 do programa GEVAZP em formato árvore sem agregação por conglomerados. Para todas as usinas são gerados cenários de vazão total, encontrados no VAZOEST.REL.

Na Tabela 5 elencou-se as médias e desvios padrão de todas as usinas hidrelétricas. Adicionalmente, calculou-se a diferença entre os valores gerados pela versão 3.10 e pela versão 5.4. O mesmo ocorre para a Tabela 6, mas nesta, listou-se os valores de vazões máximas e mínimas, assim como suas diferenças entre ambas as versões. Observa-se que as diferenças não passam de 0.01.

Tabela 5 – Média e desvio dos cenários gerados

Usina	Média			Desvio Padrão		
	(i)	(ii)	(iii) = (i-ii)	(v)	(vi)	(vii) = (vi-v)
	v.3.10	v.5.4	Diferença	v.3.10	v.5.4	Diferença
CAMARGOS	45.37	45.36	0.01	5.58	5.58	0.00
ITUTINGA	45.37	45.36	0.01	5.58	5.58	0.00
FUNIL-GRANDE	106.58	106.57	0.01	11.72	11.72	0.00
EMBORCACAO	87.38	87.39	0.01	17.13	17.13	0.00
CAPIM BRANC1	107.53	107.53	0.00	12.54	12.54	0.00
CAPIM BRANC2	113.05	113.05	0.00	13.19	13.19	0.00
NOVA PONTE	88.27	88.27	0.00	10.29	10.29	0.00
SAO SIMAO	701.68	701.68	0.00	91.51	91.51	0.00
TRES MARIAS	130.32	130.32	0.00	26.47	26.47	0.00
JAGUARA	389.93	389.93	0.00	49.08	49.08	0.00
VOLTA GRANDE	426.60	426.60	0.00	54.00	54.00	0.00
SALTO GRANDE	27.82	27.82	0.00	4.93	4.93	0.00
MIRANDA	105.10	105.10	0.00	12.26	12.26	0.00
IGARAPAVA	401.31	401.31	0.00	50.60	50.60	0.00
AIMORES	154.24	154.24	0.00	35.44	35.44	0.00
QUEIMADO	4.89	4.89	0.00	2.29	2.29	0.00
IRAPE	8.27	8.28	0.01	3.47	3.47	0.00
ROSAL	9.17	9.17	0.00	2.06	2.06	0.00
GUILMAN-AMOR	22.88	22.88	0.00	2.91	2.91	0.00
SA CARVALHO	25.01	25.01	0.00	3.18	3.18	0.00
BAGUARI	130.53	130.52	0.01	23.88	23.88	0.00
CACONDE	27.00	27.00	0.00	3.09	3.09	0.00
A. VERMELHA	1073.68	1073.68	0.00	103.33	103.33	0.00
BARRA BONITA	297.15	297.15	0.00	51.67	51.68	0.01
PROMISSAO	529.77	529.77	0.00	89.12	89.12	0.00
NAVANHANDEVA	562.07	562.07	0.00	94.35	94.35	0.00
E. DA CUNHA	44.90	44.90	0.00	5.14	5.15	0.01
A.S.OLIVEIRA	45.63	45.64	0.01	5.23	5.23	0.00
A.S. LIMA	338.93	338.92	0.01	58.36	58.36	0.00
IBITINGA	428.02	428.02	0.00	72.69	72.69	0.00
TAQUARUCU	1044.59	1044.59	0.00	322.79	322.79	0.00

Usina	Média			Desvio Padrão		
	(i)	(ii)	(iii) = (i-ii)	(v)	(vi)	(vii) = (vi-v)
	v.3.10	v.5.4	Diferença	v.3.10	v.5.4	Diferença
ROSANA	1192.61	1192.61	0.00	365.25	365.25	0.00
CANOAS I	413.96	413.96	0.00	92.05	92.05	0.00
CANOAS II	397.27	397.27	0.00	88.34	88.34	0.00
A.A. LAYDNER	185.36	185.36	0.00	41.21	41.21	0.00
CHAVANTES	287.28	287.28	0.00	63.87	63.88	0.01
CAPIVARA	983.16	983.16	0.00	305.38	305.38	0.00
L.N. GARCEZ	389.26	389.26	0.00	86.55	86.55	0.00
JUPIA	3214.59	3214.58	0.01	326.76	326.76	0.00
I. SOLT. EQV	2889.15	2889.16	0.01	291.76	291.76	0.00
P. PRIMAVERA	3931.03	3931.02	0.01	413.59	413.59	0.00
JAGUARI	12.35	12.35	0.00	2.59	2.59	0.00
PARAIBUNA	36.82	36.82	0.00	5.75	5.75	0.00
FURNAS	335.84	335.84	0.00	41.83	41.83	0.00
M. DE MORAES	376.18	376.18	0.00	47.24	47.24	0.00
ESTREITO	385.71	385.71	0.00	48.51	48.51	0.00
P. COLOMBIA	485.05	485.05	0.00	61.85	61.85	0.00
MARIMBONDO	883.08	883.08	0.00	89.22	89.22	0.00
ITUMBIARA	368.60	368.60	0.00	58.41	58.41	0.00
CORUMBA I	85.88	85.89	0.01	17.79	17.79	0.00
SERRA MESA	100.09	100.09	0.00	16.03	16.03	0.00
MANSO	41.62	41.62	0.00	6.47	6.47	0.00
FUNIL	114.30	114.29	0.01	17.92	17.93	0.01
SIMPLICIO	260.80	260.80	0.00	37.03	37.03	0.00
BATALHA	22.59	22.59	0.00	3.09	3.09	0.00
STO ANTONIO	4730.05	4730.05	0.00	1255.83	1255.83	0.00
PEIXE ANGIC	212.38	212.38	0.00	34.01	34.01	0.00
SANTA BRANCA	41.94	41.94	0.00	6.55	6.55	0.00
LAJES	2.03	2.03	0.00	0.92	0.92	0.00
ILHA POMBOS	285.13	285.14	0.01	40.80	40.80	0.00
STA CECILIA	145.07	145.07	0.00	22.87	22.87	0.00
TOCOS	5.11	5.11	0.00	1.25	1.25	0.00
SANTANA	8.75	8.74	0.01	2.14	2.14	0.00
EDGARD SOUZA	55.00	55.00	0.00	15.17	15.17	0.00
GUARAPIRANGA	11.59	11.59	0.00	1.76	1.75	0.01
BILLINGS	8.42	8.42	0.00	3.93	3.93	0.00
CACH.DOURADA	401.78	401.77	0.01	64.67	64.67	0.00
P. ESTRELA	29.02	29.02	0.00	5.14	5.14	0.00
CANDONGA	55.41	55.41	0.00	6.54	6.54	0.00
SALTO	103.56	103.56	0.00	5.82	5.83	0.01
GARIBALDI	279.34	279.34	0.00	223.22	223.22	0.00
MASCARENHAS	167.40	167.40	0.00	41.98	41.98	0.00
ITAIPU	7929.39	7929.39	0.00	1250.94	1250.94	0.00
ERNESTINA	57.03	57.03	0.00	20.09	20.09	0.00
PASSO REAL	239.64	239.64	0.00	133.94	133.94	0.00
JACUI	241.30	241.30	0.00	135.00	135.00	0.00
ITAUBA	297.89	297.89	0.00	171.16	171.16	0.00
D. FRANCISCA	357.93	357.93	0.00	209.57	209.57	0.00
G.B. MUNHOZ	593.72	593.72	0.00	380.43	380.43	0.00
SEGREDO	682.48	682.48	0.00	437.31	437.31	0.00
SALTO CAXIAS	1209.83	1209.82	0.01	775.22	775.22	0.00

Usina	Média			Desvio Padrão		
	(i)	(ii)	(iii) = (i-ii)	(v)	(vi)	(vii) = (vi-v)
	v.3.10	v.5.4	Diferença	v.3.10	v.5.4	Diferença
G.P. SOUZA	16.19	16.19	0.00	4.87	4.87	0.00
JORDAO	107.19	107.19	0.00	71.48	71.48	0.00
STA CLARA PR	85.59	85.59	0.00	58.04	58.04	0.00
FUNDAO	89.81	89.81	0.00	60.91	60.91	0.00
MAUA	259.21	259.21	0.00	141.45	141.45	0.00
SLT.SANTIAGO	896.06	896.06	0.00	574.27	574.27	0.00
SALTO OSORIO	937.71	937.71	0.00	600.94	600.94	0.00
PASSO FUNDO	56.96	56.96	0.00	38.13	38.13	0.00
MACHADINHO	779.64	779.64	0.00	623.00	623.00	0.00
ITA	1107.84	1107.84	0.00	885.24	885.24	0.00
CANA BRAVA	114.57	114.57	0.00	18.35	18.35	0.00
SAO SALVADOR	125.61	125.61	0.00	20.12	20.12	0.00
ESTREITO TOC	591.22	591.22	0.00	85.68	85.68	0.00
PONTE PEDRA	64.79	64.79	0.00	2.86	2.86	0.00
BARRA GRANDE	309.94	309.94	0.00	247.67	247.67	0.00
CAMPOS NOVOS	310.72	310.72	0.00	248.28	248.29	0.01
CASTRO ALVES	183.15	183.15	0.00	164.64	164.64	0.00
MONTE CLARO	333.47	333.46	0.01	299.75	299.75	0.00
14 DE JULHO	345.01	345.01	0.00	310.13	310.13	0.00
FOZ CHAPECO	1355.92	1355.92	0.00	1083.49	1083.49	0.00
SOBRADINHO	452.69	452.69	0.00	87.75	87.75	0.00
ITAPARICA	457.97	457.97	0.00	88.83	88.83	0.00
MOXOTO	457.97	457.97	0.00	88.83	88.83	0.00
P.AFONSO 123	457.97	457.97	0.00	88.83	88.83	0.00
XINGO	457.97	457.97	0.00	88.83	88.83	0.00
B. ESPERANCA	186.07	186.07	0.00	11.19	11.19	0.00
P. CAVALO	14.15	14.15	0.00	21.69	21.69	0.00
TUCURUI	1401.01	1401.00	0.01	230.53	230.53	0.00
CURUA-UNA	86.85	86.85	0.00	17.74	17.74	0.00
SAMUEL	24.56	24.56	0.00	9.35	9.35	0.00
COARACY NUNE	592.34	592.34	0.00	110.63	110.63	0.00
CACH.CALDEIR	590.84	590.84	0.00	110.35	110.35	0.00
SOBRAGI	34.81	34.81	0.00	3.05	3.05	0.00
PICADA	15.23	15.22	0.01	1.51	1.51	0.00
STA CLARA MG	10.11	10.11	0.00	13.73	13.73	0.00
LAJEADO	274.49	274.49	0.00	43.96	43.96	0.00
PIRAJU	190.11	190.11	0.00	42.27	42.27	0.00
OURINHOS	291.24	291.24	0.00	64.76	64.76	0.00
SLT VERDINHO	112.67	112.67	0.00	6.33	6.33	0.00
ITIQUEIRA I	46.32	46.32	0.00	3.16	3.16	0.00
JAURO	63.59	63.59	0.00	2.41	2.41	0.00
GUAPORE	29.77	29.77	0.00	0.74	0.74	0.00
QUEBRA QUEIX	82.83	82.83	0.00	56.02	56.02	0.00
CORUMBA III	27.66	27.66	0.00	6.57	6.57	0.00
ITAPEBI	22.00	22.00	0.00	12.65	12.65	0.00
CORUMBA IV	21.23	21.23	0.00	5.40	5.40	0.00
MONJOLINHO	114.90	114.90	0.00	61.70	61.70	0.00
SALTO PILAO	126.57	126.57	0.00	90.72	90.72	0.00
RETIRO BAIXO	43.00	43.00	0.00	5.69	5.69	0.00
CACU	88.32	88.32	0.00	8.15	8.15	0.00

Usina	Média			Desvio Padrão		
	(i)	(ii)	(iii) = (i-ii)	(v)	(vi)	(vii) = (vi-v)
	v.3.10	v.5.4	Diferença	v.3.10	v.5.4	Diferença
B. COQUEIROS	91.90	91.90	0.00	8.48	8.48	0.00
DARDANELOS	40.76	40.76	0.00	10.51	10.51	0.00
FOZ R. CLARO	98.94	98.94	0.00	9.13	9.13	0.00
SERRA FACAO	33.83	33.84	0.01	5.46	5.46	0.00
ESFORA	54.23	54.23	0.00	2.39	2.39	0.00
SAO JOSE	217.98	217.98	0.00	149.70	149.70	0.00
RONDON II	53.92	53.92	0.00	3.23	3.23	0.00
PASSO S JOAO	226.39	226.38	0.01	155.47	155.47	0.00
BALBINA	319.32	319.32	0.00	74.75	74.75	0.00
JIRAU	4657.95	4657.95	0.00	1236.57	1236.57	0.00
STO ANT JARI	643.88	643.89	0.01	212.27	212.27	0.00
FERREIRA GOM	597.75	597.75	0.00	111.64	111.64	0.00
TELES PIRES	539.00	539.00	0.00	28.17	28.17	0.00
PIMENTAL	1154.86	1154.86	0.00	169.76	169.76	0.00

Tabela 6 – Máximos e mínimos dos cenários gerados

Usina	Valores Máximos			Valores Mínimos		
	(i)	(ii)	(iii) = (i-ii)	(v)	(vi)	(vii) = (vi-v)
	v.3.10	v.5.4	Diferença	v.3.10	v.5.4	Diferença
CAMARGOS	64.1	64.1	0.00	5.58	5.58	0.00
ITUTINGA	64.1	64.1	0.00	5.58	5.58	0.00
FUNIL-GRANDE	156.7	156.7	0.00	11.72	11.72	0.00
EMBORCACAO	140	140	0.00	17.13	17.13	0.00
CAPIM BRANC1	144.6	144.6	0.00	12.54	12.54	0.00
CAPIM BRANC2	152	152	0.00	13.19	13.19	0.00
NOVA PONTE	118.7	118.7	0.00	10.29	10.29	0.00
SAO SIMAO	1063.2	1063.2	0.00	91.51	91.51	0.00
TRES MARIAS	251.2	251.2	0.00	26.47	26.47	0.00
JAGUARA	578.5	578.5	0.00	49.08	49.08	0.00
VOLTA GRANDE	633.1	633.1	0.00	54	54	0.00
SALTO GRANDE	42.7	42.7	0.00	4.93	4.93	0.00
MIRANDA	141.4	141.4	0.00	12.26	12.26	0.00
IGARAPAVA	595.5	595.5	0.00	50.6	50.6	0.00
AIMORES	299.4	299.4	0.00	35.44	35.44	0.00
QUEIMADO	13.3	13.3	0.00	2.29	2.29	0.00
IRAPE	25.6	25.6	0.00	3.47	3.47	0.00
ROSAL	17.5	17.5	0.00	2.06	2.06	0.00
GUILMAN-AMOR	32.5	32.5	0.00	2.91	2.91	0.00
SA CARVALHO	35.5	35.5	0.00	3.18	3.18	0.00
BAGUARI	217	217	0.00	23.88	23.88	0.00
CACONDE	37.8	37.8	0.00	3.09	3.09	0.00
A. VERMELHA	1441.4	1441.4	0.00	103.33	103.33	0.00
BARRA BONITA	578	578	0.00	51.67	51.68	0.01
PROMISSAO	1025	1025	0.00	89.12	89.12	0.00
NAVANHANDAVA	1087	1087	0.00	94.35	94.35	0.00
E. DA CUNHA	62.8	62.8	0.00	5.14	5.15	0.01
A.S.OLIVEIRA	63.8	63.8	0.00	5.23	5.23	0.00
A.S. LIMA	658.2	658.2	0.00	58.36	58.36	0.00

Usina	Valores Máximos			Valores Mínimos		
	(i)	(ii)	(iii) = (i-ii)	(v)	(vi)	(vii) = (vi-v)
	v.3.10	v.5.4	Diferença	v.3.10	v.5.4	Diferença
IBITINGA	829.4	829.4	0.00	72.69	72.69	0.00
TAQUARUCU	2431.3	2431.3	0.00	322.79	322.79	0.00
ROSANA	2791.2	2791.2	0.00	365.25	365.25	0.00
CANOAS I	902.9	902.9	0.00	92.05	92.05	0.00
CANOAS II	866.5	866.5	0.00	88.34	88.34	0.00
A.A. LAYDNER	404.3	404.3	0.00	41.21	41.21	0.00
CHAVANTES	626.6	626.6	0.00	63.87	63.88	0.01
CAPIVARA	2295.4	2295.4	0.00	305.38	305.38	0.00
L.N. GARCEZ	849	849	0.00	86.55	86.55	0.00
JUPIA	4601	4601	0.00	326.76	326.76	0.00
I. SOLT. EQV	4129.7	4129.7	0.00	291.76	291.76	0.00
P. PRIMAVERA	5638.5	5638.5	0.00	413.59	413.59	0.00
JAGUARI	21.5	21.5	0.00	2.59	2.59	0.00
PARAIBUNA	60.5	60.5	0.00	5.75	5.75	0.00
FURNAS	498	498	0.00	41.83	41.83	0.00
M. DE MORAES	558.1	558.1	0.00	47.24	47.24	0.00
ESTREITO	572.2	572.2	0.00	48.51	48.51	0.00
P. COLOMBIA	720.1	720.1	0.00	61.85	61.85	0.00
MARIMBONDO	1194.1	1194.1	0.00	89.22	89.22	0.00
ITUMBIARA	533.1	533.1	0.00	58.41	58.41	0.00
CORUMBA I	138.5	138.5	0.00	17.79	17.79	0.00
SERRA MESA	156.3	156.3	0.00	16.03	16.03	0.00
MANSO	68.4	68.4	0.00	6.47	6.47	0.00
FUNIL	181	181	0.00	17.92	17.93	0.01
SIMPLICIO	396.9	396.9	0.00	37.03	37.03	0.00
BATALHA	31	31	0.00	3.09	3.09	0.00
STO ANTONIO	8985.7	8985.7	0.00	1255.83	1255.83	0.00
PEIXE ANGIC	331.7	331.7	0.00	34.01	34.01	0.00
SANTA BRANCA	68.9	68.9	0.00	6.55	6.55	0.00
LAJES	7	7	0.00	0.92	0.92	0.00
ILHA POMBOS	436.7	436.7	0.00	40.8	40.8	0.00
STA CECILIA	229.6	229.6	0.00	22.87	22.87	0.00
TOCOS	9.7	9.7	0.00	1.25	1.25	0.00
SANTANA	16.6	16.5	0.10	2.14	2.14	0.00
EDGARD SOUZA	129	129	0.00	15.17	15.17	0.00
GUARAPIRANGA	19.1	19.1	0.00	1.76	1.75	0.01
BILLINGS	25.8	25.8	0.00	3.93	3.93	0.00
CACH.DOURADA	582.3	582.3	0.00	64.67	64.67	0.00
P. ESTRELA	44.5	44.5	0.00	5.14	5.14	0.00
CANDONGA	72.8	72.8	0.00	6.54	6.54	0.00
SALTO	124	124	0.00	5.82	5.83	0.01
GARIBALDI	2031.5	2031.5	0.00	223.22	223.22	0.00
MASCARENHAS	348.5	348.5	0.00	41.98	41.98	0.00
ITAIPIU	13136.9	13136.9	0.00	1250.94	1250.94	0.00
ERNESTINA	134.2	134.2	0.00	20.09	20.09	0.00
PASSO REAL	1014.2	1014.2	0.00	133.94	133.94	0.00
JACUI	1022.4	1022.4	0.00	135	135	0.00
ITAUBA	1304.9	1304.9	0.00	171.16	171.16	0.00
D. FRANCISCA	1604.6	1604.6	0.00	209.57	209.57	0.00
G.B. MUNHOZ	2762	2762	0.00	380.43	380.43	0.00

Usina	Valores Máximos			Valores Mínimos		
	(i)	(ii)	(iii) = (i-ii)	(v)	(vi)	(vii) = (vi-v)
	v.3.10	v.5.4	Diferença	v.3.10	v.5.4	Diferença
SEGREDO	3175	3175	0.00	437.31	437.31	0.00
SALTO CAXIAS	5628.2	5628.2	0.00	775.22	775.22	0.00
G.P. SOUZA	33.3	33.3	0.00	4.87	4.87	0.00
JORDAO	461.5	461.5	0.00	71.48	71.48	0.00
STA CLARA PR	387.4	387.4	0.00	58.04	58.04	0.00
FUNDAO	406.5	406.5	0.00	60.91	60.91	0.00
MAUA	876.3	876.3	0.00	141.45	141.45	0.00
SLT.SANTIAGO	4156.8	4156.8	0.00	574.27	574.27	0.00
SALTO OSORIO	4352.1	4352.1	0.00	600.94	600.94	0.00
PASSO FUNDO	294.5	294.5	0.00	38.13	38.13	0.00
MACHADINHO	5669.8	5669.8	0.00	623	623	0.00
ITA	8056.5	8056.5	0.00	885.24	885.24	0.00
CANA BRAVA	178.9	178.9	0.00	18.35	18.35	0.00
SAO SALVADOR	196.2	196.2	0.00	20.12	20.12	0.00
ESTREITO TOC	872.4	872.4	0.00	85.68	85.68	0.00
PONTE PEDRA	73.2	73.1	0.10	2.86	2.86	0.00
BARRA GRANDE	2254	2254	0.00	247.67	247.67	0.00
CAMPOS NOVOS	2259.6	2259.6	0.00	248.28	248.29	0.01
CASTRO ALVES	1983.8	1983.8	0.00	164.64	164.64	0.00
MONTE CLARO	3611.8	3611.8	0.00	299.75	299.75	0.00
14 DE JULHO	3736.8	3736.8	0.00	310.13	310.13	0.00
FOZ CHAPECO	9860.6	9860.6	0.00	1083.49	1083.49	0.00
SOBRADINHO	720.1	720.1	0.00	87.75	87.75	0.00
ITAPARICA	728.6	728.6	0.00	88.83	88.83	0.00
MOXOTO	728.6	728.6	0.00	88.83	88.83	0.00
P.AFONSO 123	728.6	728.6	0.00	88.83	88.83	0.00
XINGO	728.6	728.6	0.00	88.83	88.83	0.00
B. ESPERANCA	230.2	230.2	0.00	11.19	11.19	0.00
P. CAVALO	211	211	0.00	21.69	21.69	0.00
TUCURUI	2309.5	2309.5	0.00	230.53	230.53	0.00
CURUA-UNA	150.3	150.3	0.00	17.74	17.74	0.00
SAMUEL	83.3	83.3	0.00	9.35	9.35	0.00
COARACY NUNE	1005	1005	0.00	110.63	110.63	0.00
CACH.CALDEIR	1002.4	1002.4	0.00	110.35	110.35	0.00
SOBRAGI	44.5	44.5	0.00	3.05	3.05	0.00
PICADA	20	20	0.00	1.51	1.51	0.00
STA CLARA MG	171.3	171.3	0.00	13.73	13.73	0.00
LAJEADO	428.7	428.7	0.00	43.96	43.96	0.00
PIRAJU	414.7	414.7	0.00	42.27	42.27	0.00
OURINHOS	635.2	635.2	0.00	64.76	64.76	0.00
SLT VERDINHO	134.9	134.9	0.00	6.33	6.33	0.00
ITUIQUIRA I	58.5	58.5	0.00	3.16	3.16	0.00
JAURU	71.5	71.5	0.00	2.41	2.41	0.00
GUAPORE	32	32	0.00	0.74	0.74	0.00
QUEBRA QUEIX	423.8	423.8	0.00	56.02	56.02	0.00
CORUMBA III	50.6	50.6	0.00	6.57	6.57	0.00
ITAPEBI	74	74	0.00	12.65	12.65	0.00
CORUMBA IV	40.9	40.9	0.00	5.4	5.4	0.00
MONJOLINHO	461.3	461.3	0.00	61.7	61.7	0.00
SALTO PILAO	706.6	706.6	0.00	90.72	90.72	0.00

Usina	Valores Máximos			Valores Mínimos		
	(i)	(ii)	(iii) = (i-ii)	(v)	(vi)	(vii) = (vi-v)
	v.3.10	v.5.4	Diferença	v.3.10	v.5.4	Diferença
RETIRO BAIXO	68.8	68.8	0.00	5.69	5.69	0.00
CACU	117.5	117.5	0.00	8.15	8.15	0.00
B. COQUEIROS	122.2	122.2	0.00	8.48	8.48	0.00
DARDANELOS	73.1	73.1	0.00	10.51	10.51	0.00
FOZ R. CLARO	131.6	131.6	0.00	9.13	9.13	0.00
SERRA FACA O	48.3	48.3	0.00	5.46	5.46	0.00
ESPORA	61.4	61.4	0.00	2.39	2.39	0.00
SAO JOSE	1056.1	1056.1	0.00	149.7	149.7	0.00
RONDON II	62.6	62.6	0.00	3.23	3.23	0.00
PASSO S JOAO	1096.8	1096.8	0.00	155.47	155.47	0.00
BALBINA	607.8	607.8	0.00	74.75	74.75	0.00
JIRAU	8848.3	8848.3	0.00	1236.57	1236.57	0.00
STO ANT JARI	1502.1	1502.1	0.00	212.27	212.27	0.00
FERREIRA GOM	1014.1	1014.1	0.00	111.64	111.64	0.00
TELES PIRES	640.2	640.2	0.00	28.17	28.17	0.00
PIMENTAL	1705.9	1705.9	0.00	169.76	169.76	0.00

5. GERAÇÃO EM FORMATO ÁRVORE COM AGREGAÇÃO

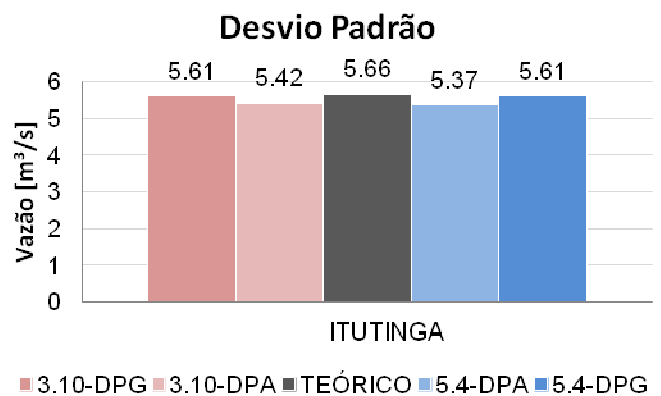
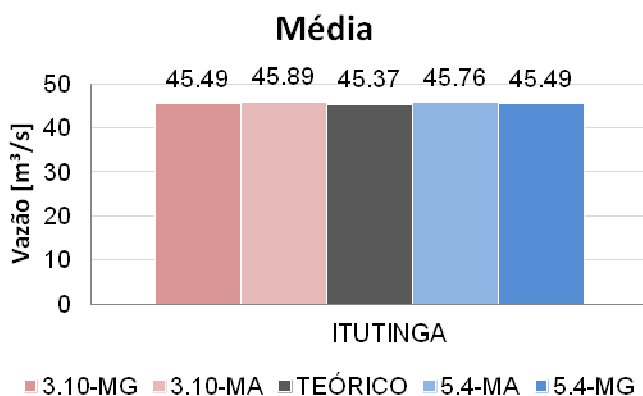
No caso analisado, PMO JUL/16 – revisão 0, na agregação de conglomerados são escolhidos 353 cenários dentre os 1000 cenários gerados por amostragem aleatória simples. A fim de mostrar os resultados obtidos pela agregação de conglomerados com as duas versões comparando com os valores teóricos e gerados, produziu-se para todas as usinas hidrelétricas classificadas como principais os gráficos apresentados abaixo.

Cada usina hidrelétrica apresenta dois gráficos; um para a média de suas vazões, e outro para seu desvio padrão. A terminologia usada para se distinguir os valores apresentados nos gráficos de média foi: 3.10-MG para média dos 1000 valores gerados pela versão 3.10; 3.10-MA para média dos 353 cenários agregados pela versão 3.10; TEÓRICO para o valor teórico esperado; 5.4-MG para a média dos 1000 valores gerados pela versão 5.4; e 5.4-MA para a média dos 353 cenários agregados pela versão 5.4. O mesmo padrão se repete para os gráficos de desvio padrão; nestes, ao invés de MG, usou-se a sigla DP para representar desvio padrão.

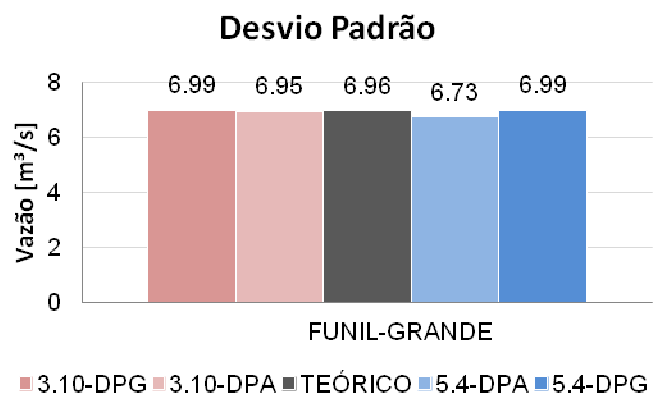
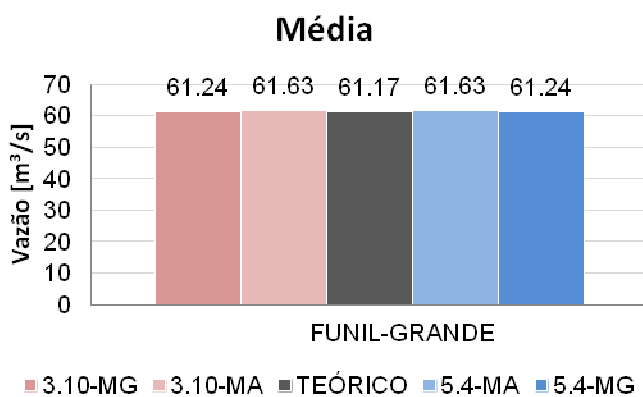
Dos gráficos abaixo, nota-se que os valores de médias e desvios padrão dos 1000 valores gerados pelas duas versões são na maioria idênticos, ocorrendo algumas diferenças não maiores que 0,01, o que é devido a mudança de compilador. Notam-se algumas diferenças entre os valores agregados das duas versões que estão explicadas no item 1 da Tabela 1 da seção 1; a saber: *“Reprodutibilidade de resultados em micros com arquitetura diferente.*

Mudança na precisão numérica de variável na rotina de cálculo de distância para o processo de agregação. Esta alteração modifica os resultados na geração em formato árvore e foi realizada, pois rodadas em máquinas com configurações diferentes poderiam gerar resultados distintos o que impossibilita a reprodutibilidade dos resultados”. É válido destacar que não há diferenças entre os valores teóricos gerados pela versão 3.10 e aqueles gerados pela versão 5.4.

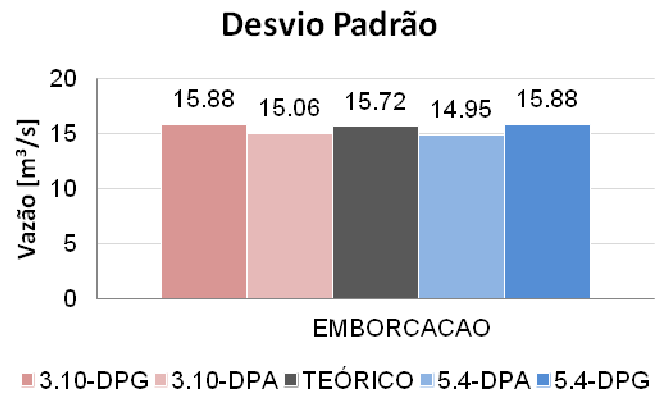
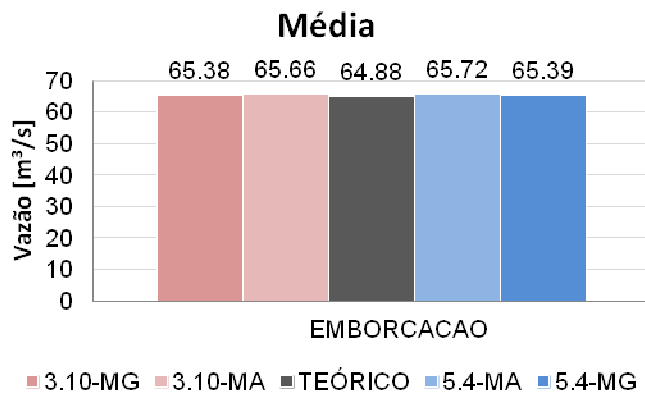
5.1. ITUTINGA



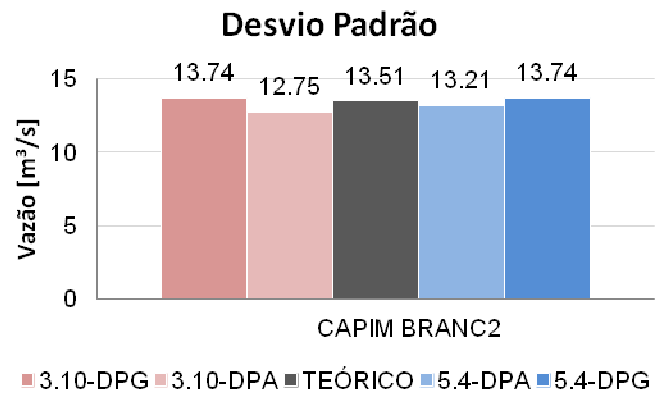
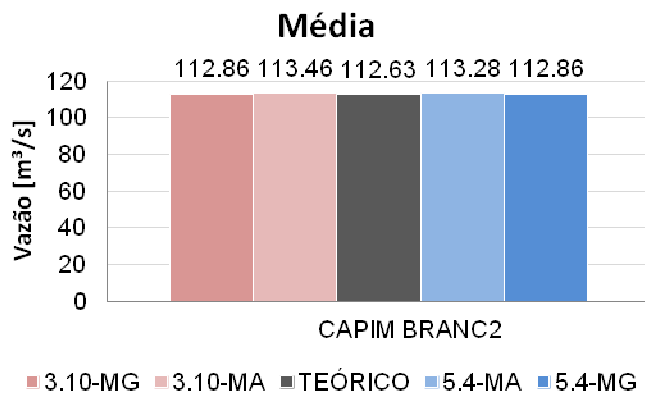
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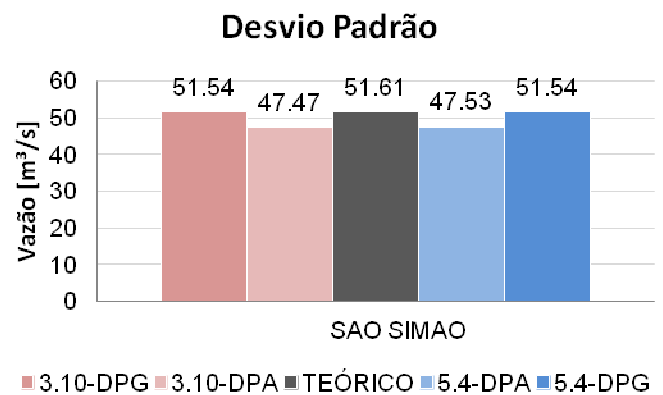
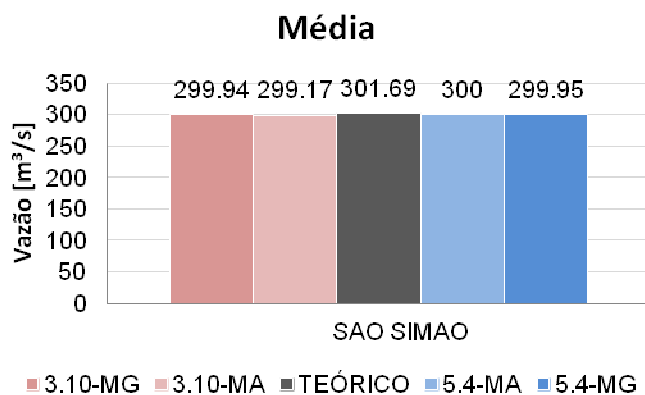
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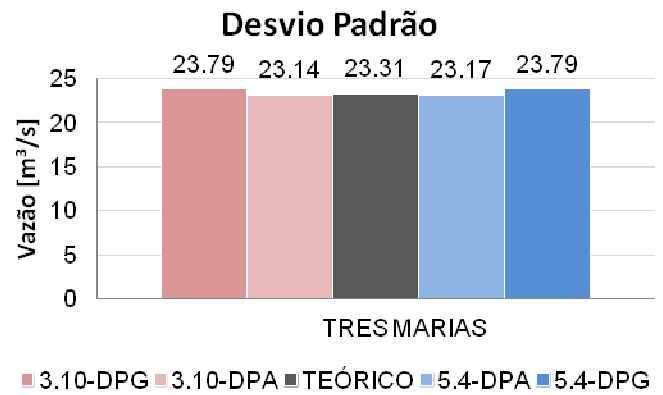
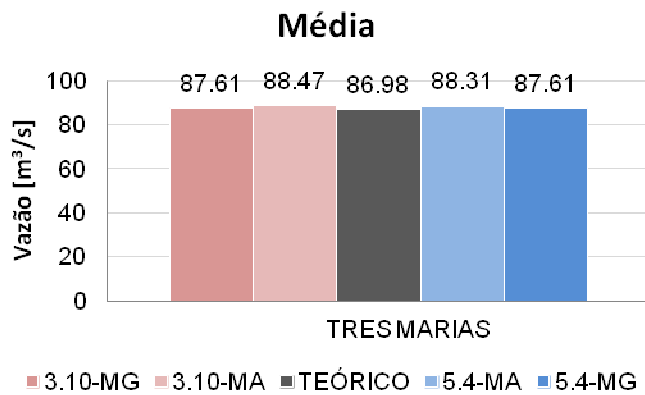
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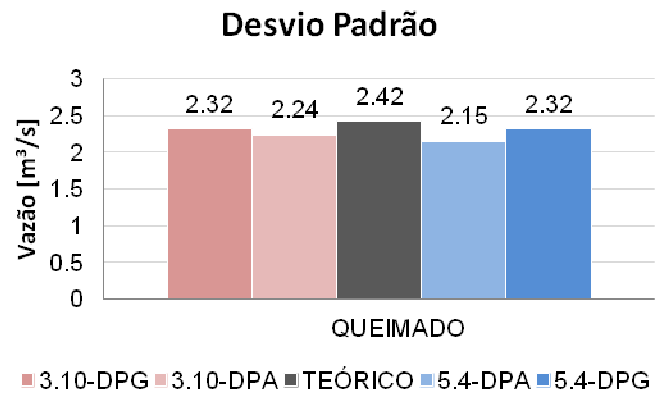
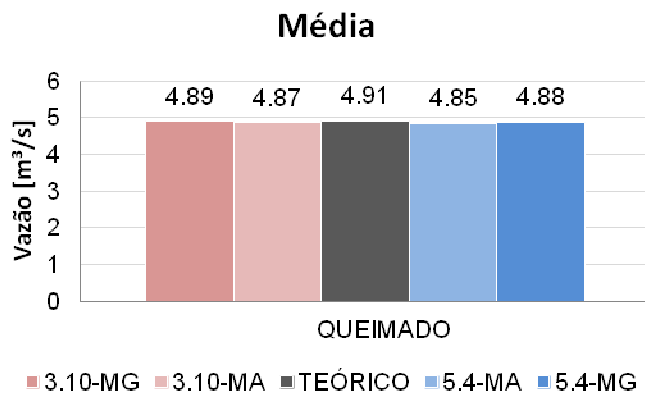
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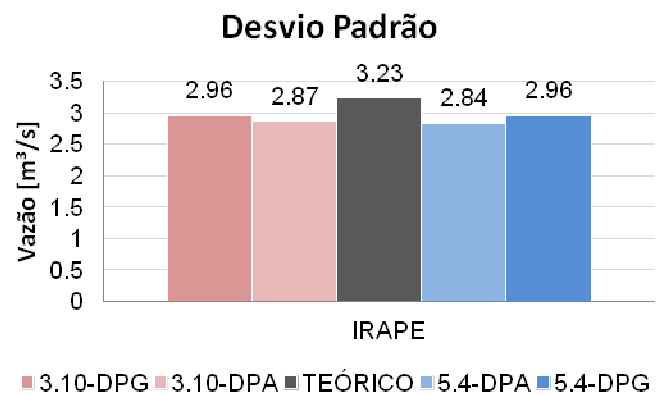
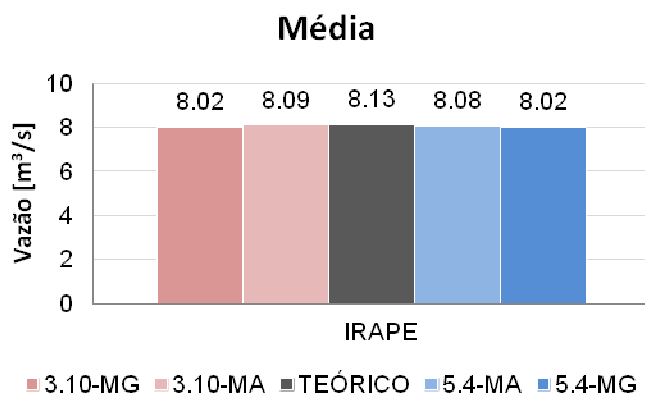
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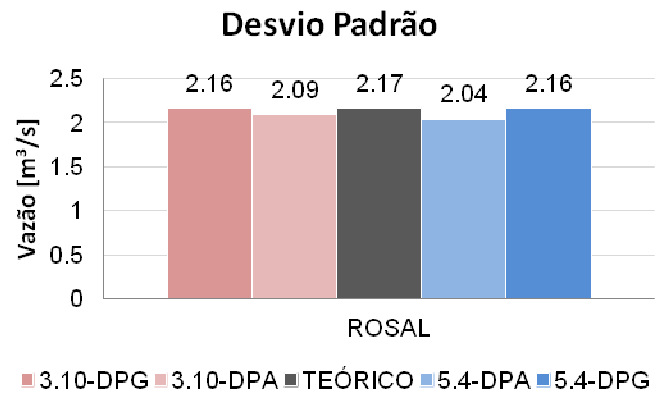
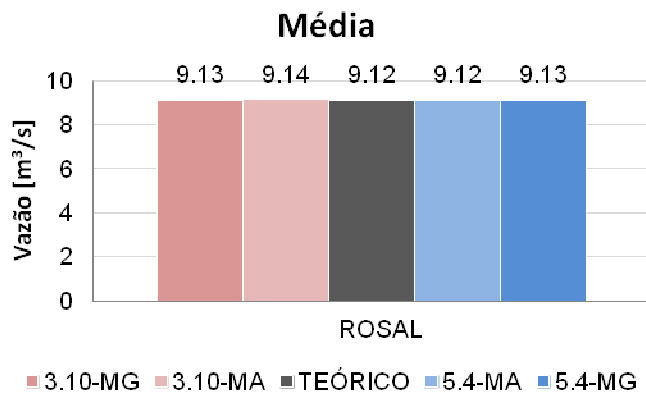
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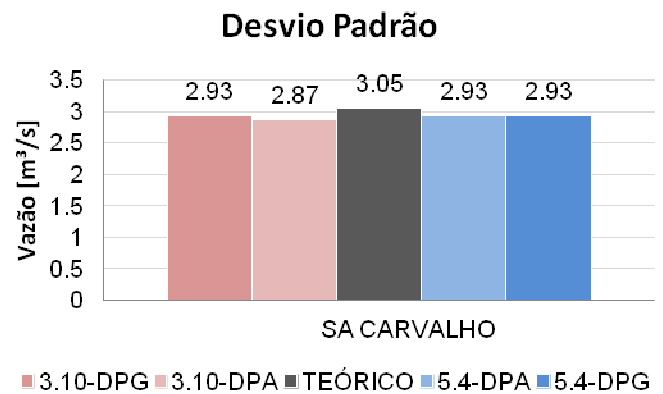
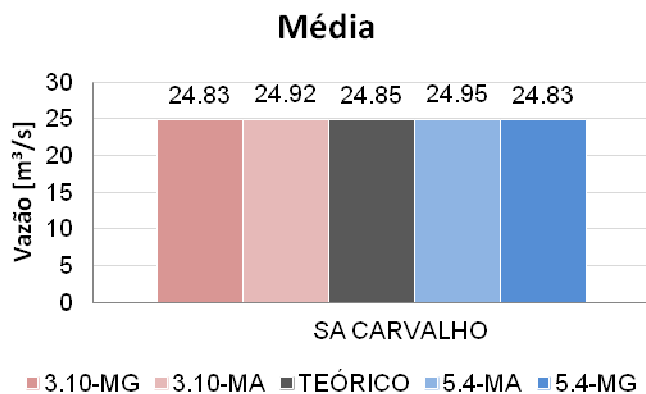
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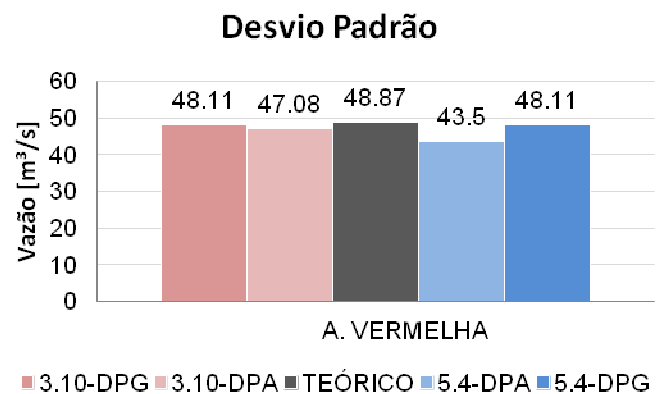
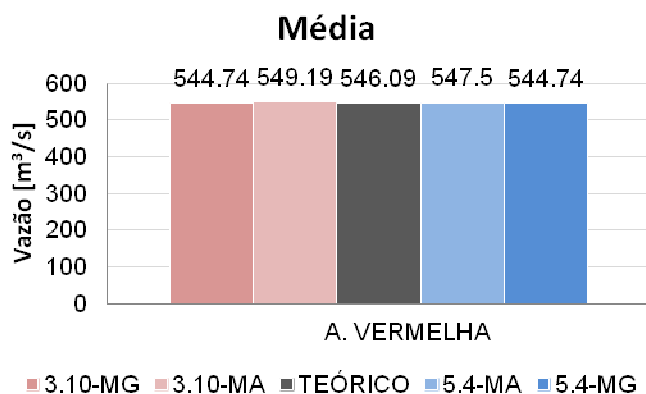
5.9. ROSAL



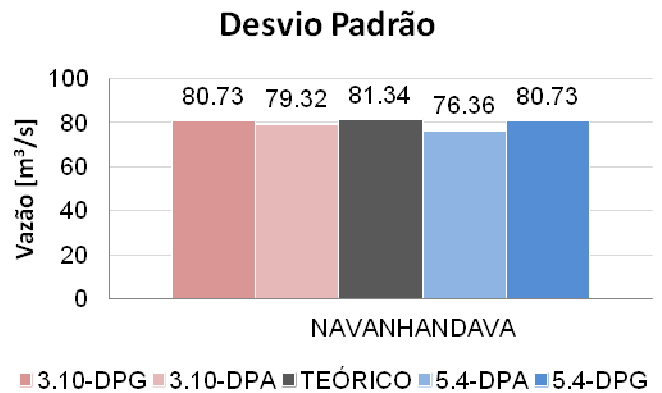
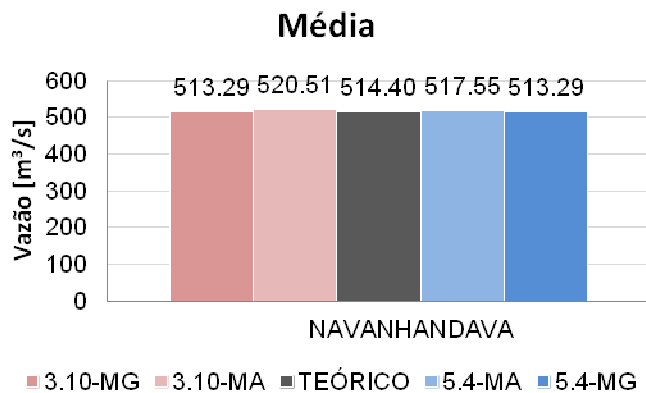
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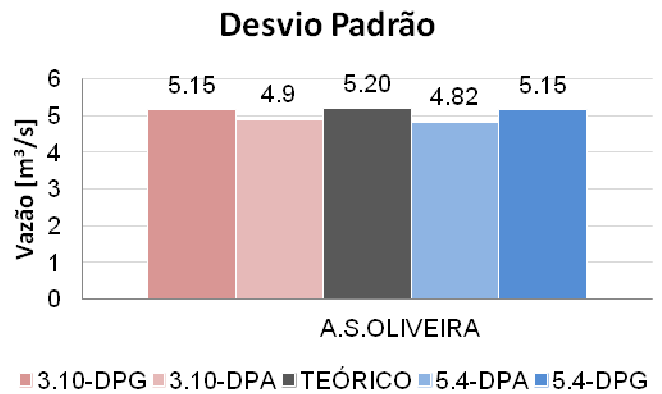
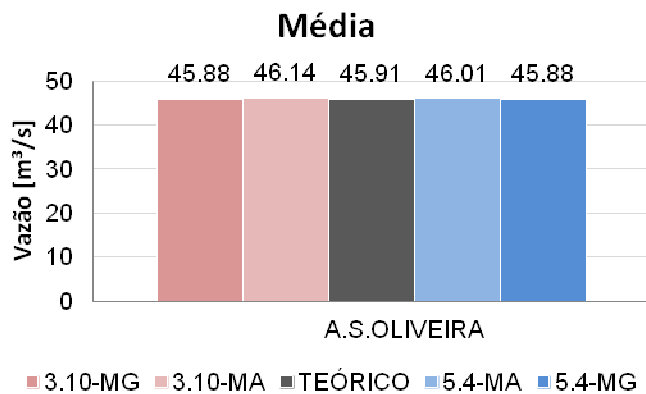
5.11. A. VERMELHA



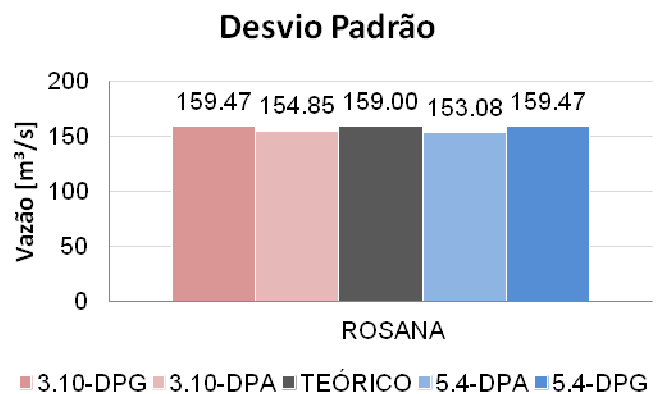
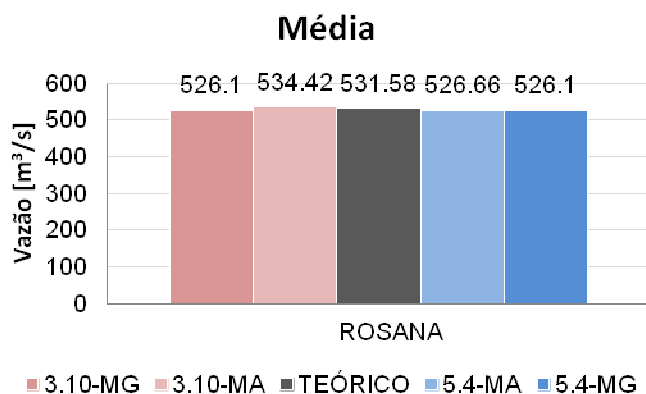
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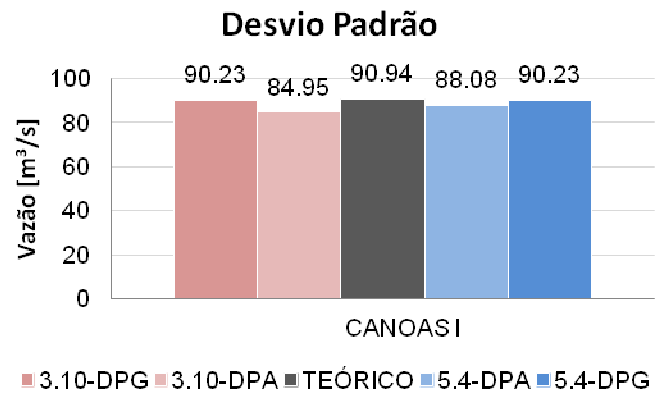
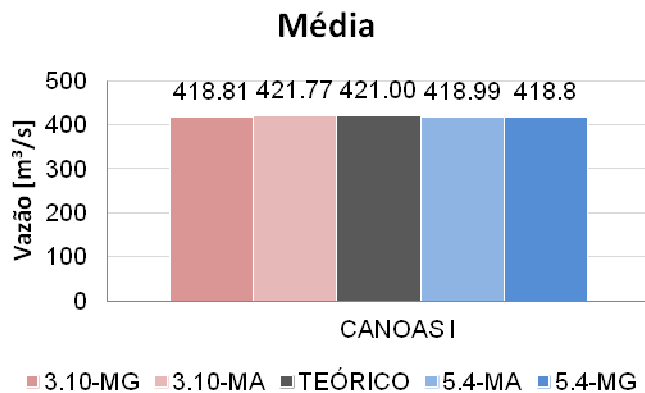
5.13. A.S.OLIVEIRA



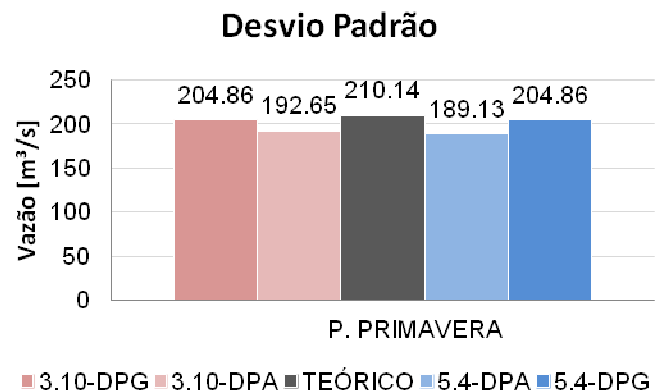
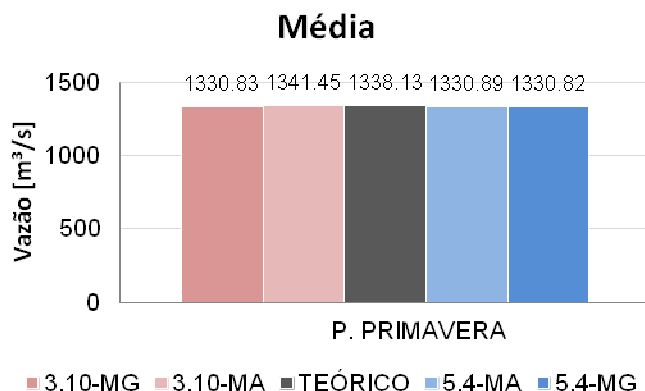
5.14. ROSANA



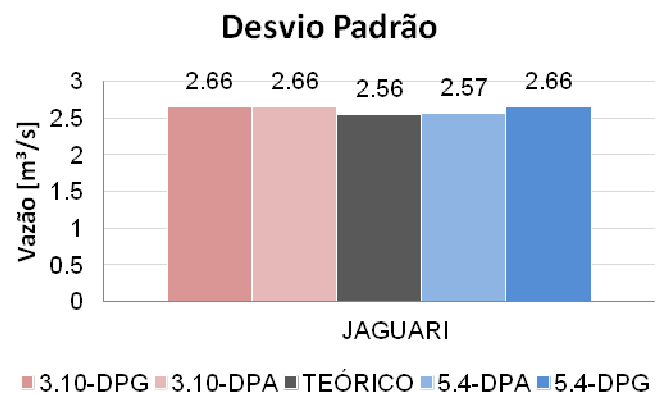
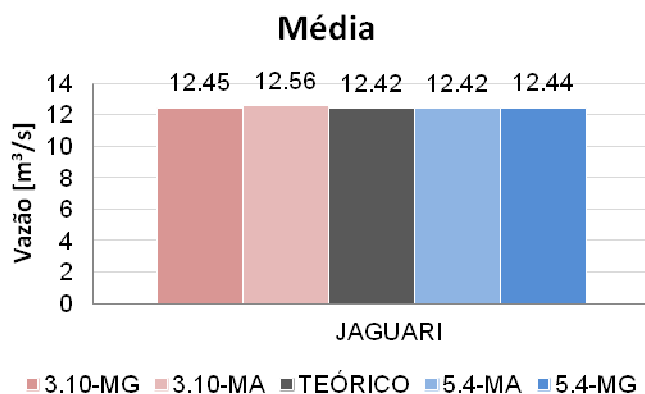
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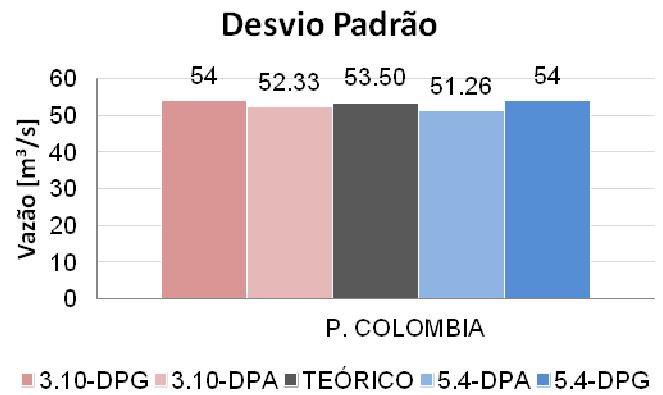
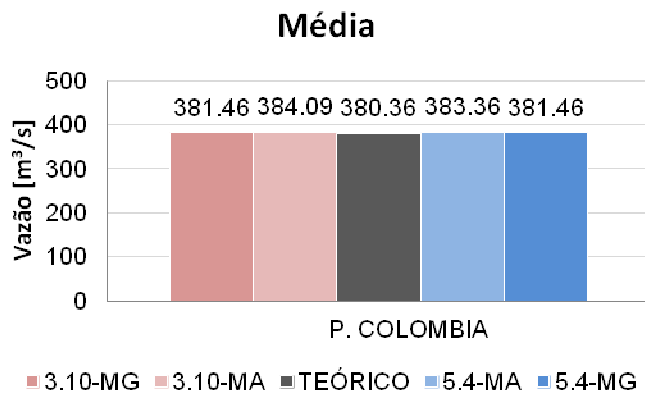
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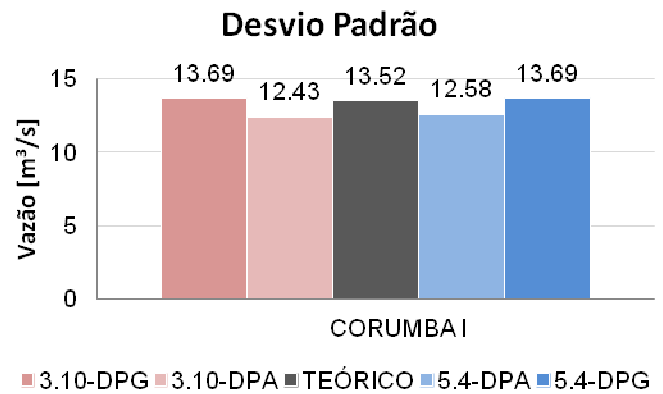
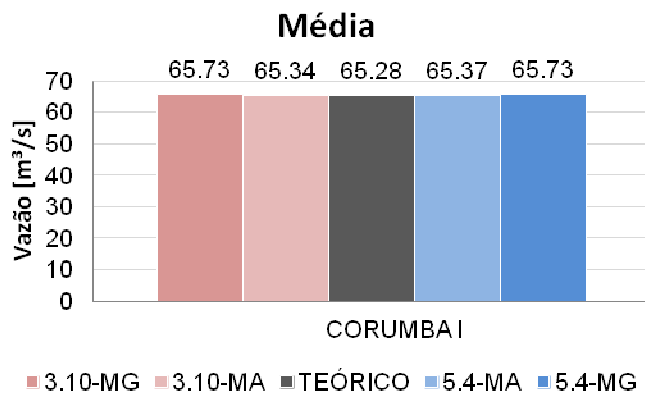
5.17. JAGUARI



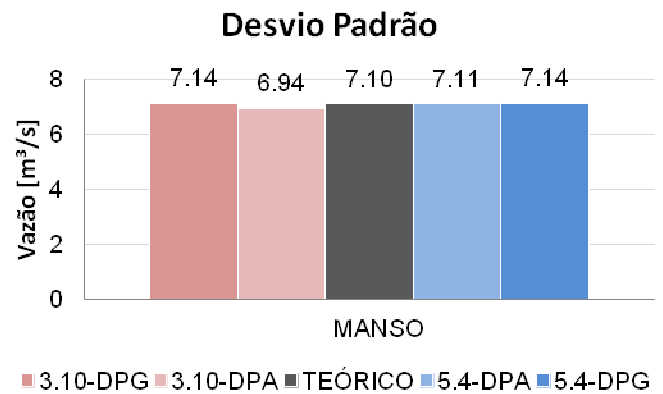
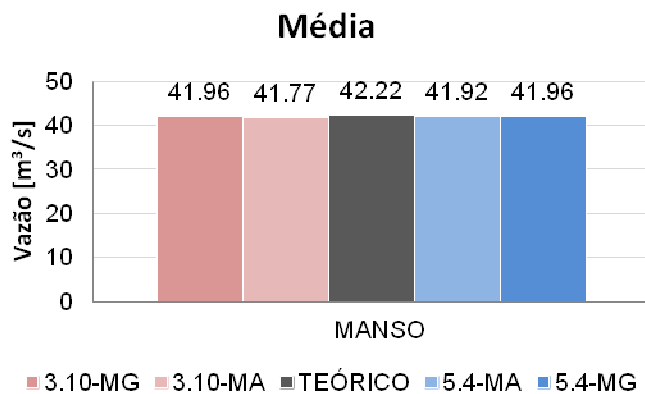
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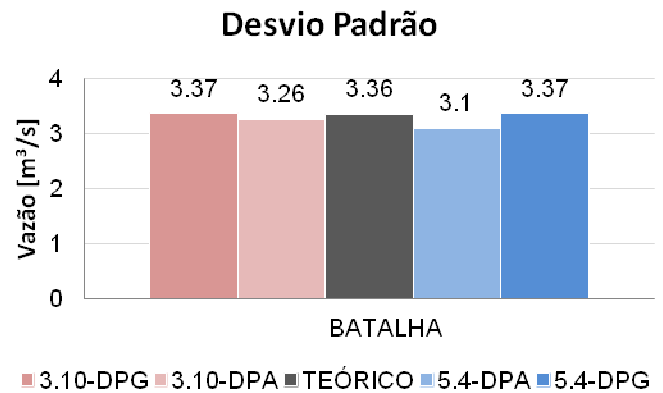
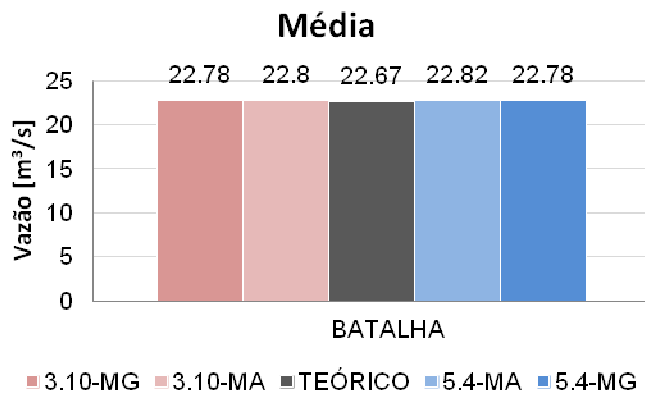
5.19. CORUMBA I



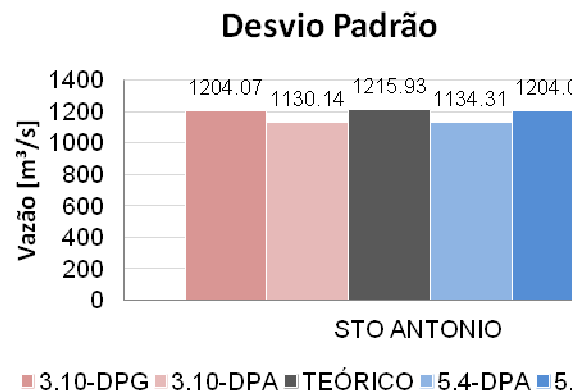
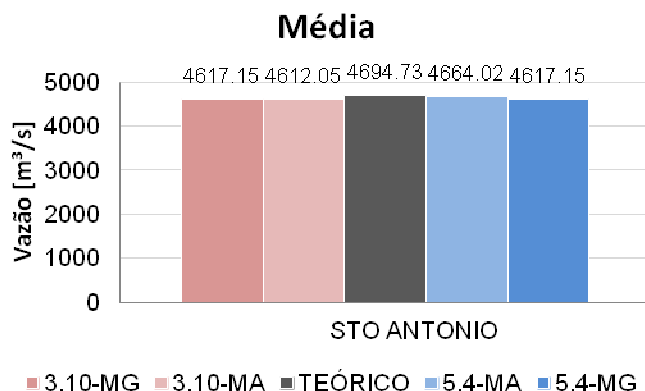
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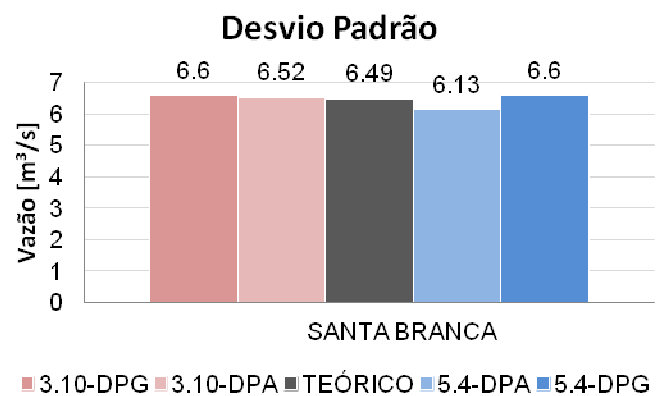
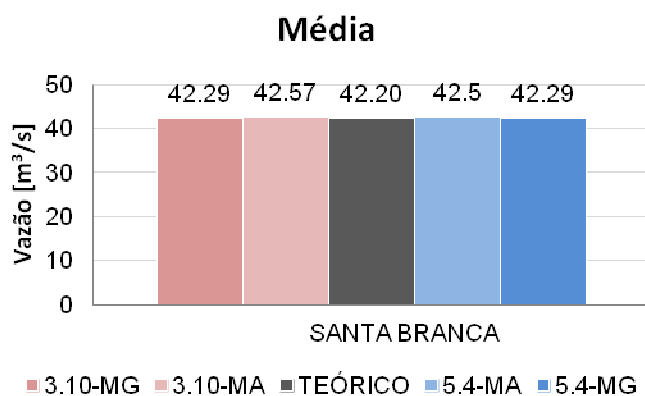
5.21. BATALHA



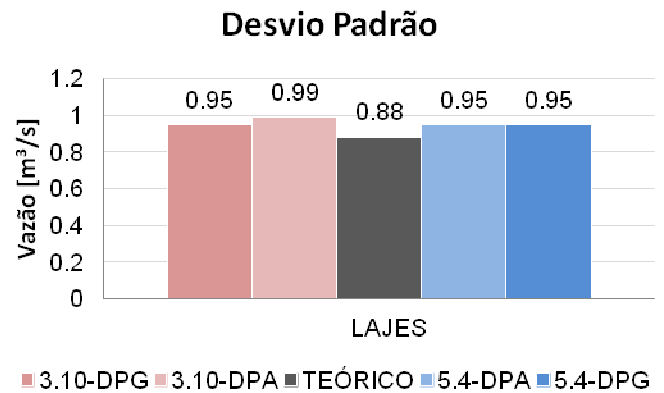
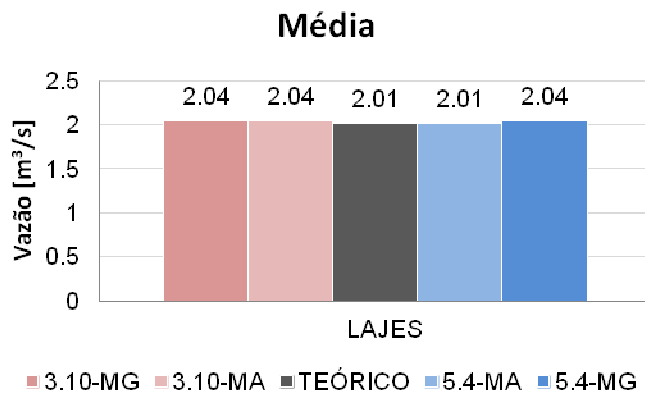
5.22. STO ANTONIO



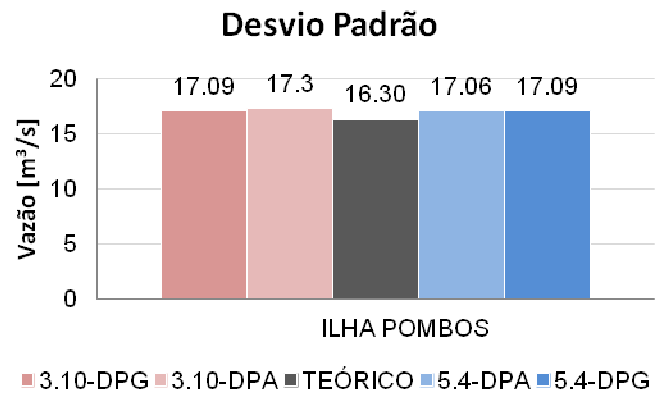
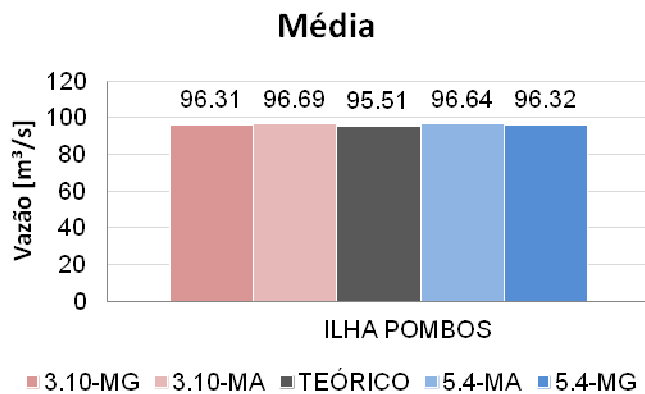
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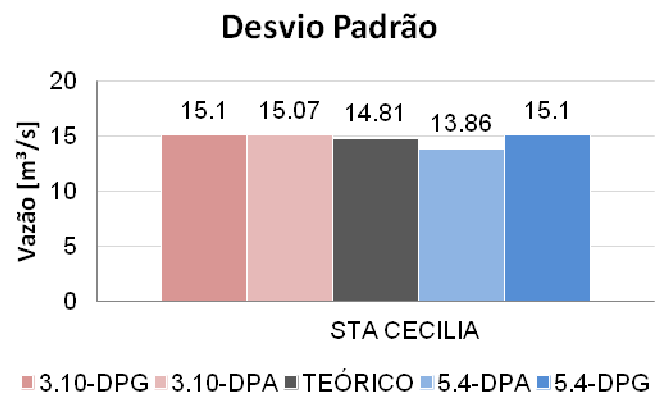
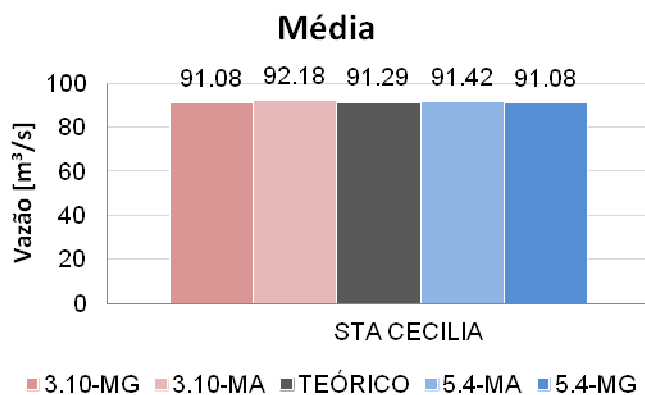
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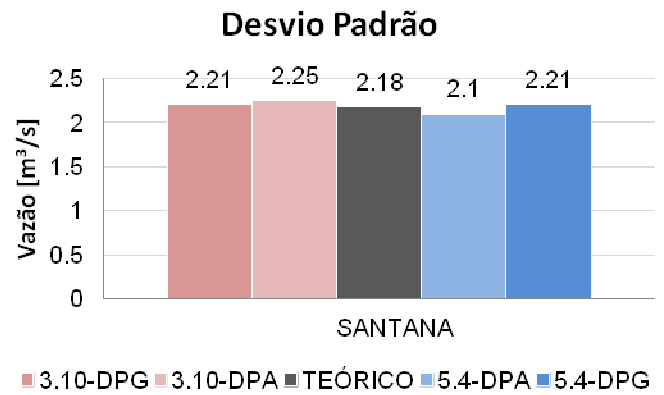
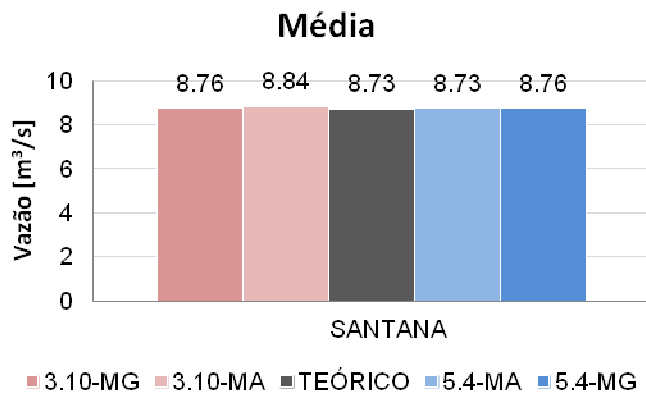
5.25. ILHA POMBOS



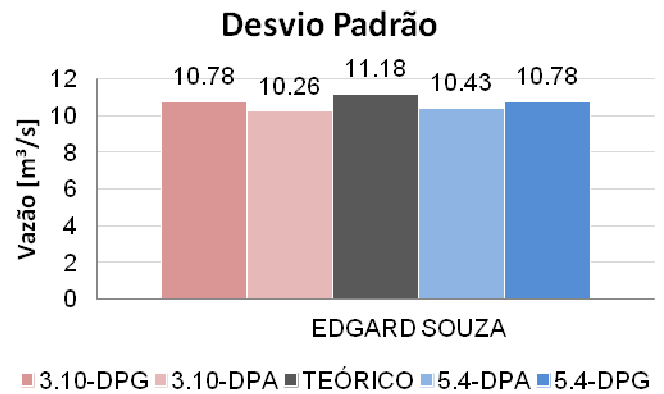
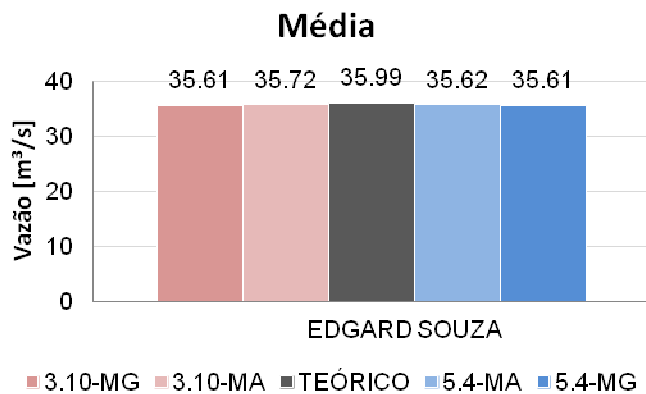
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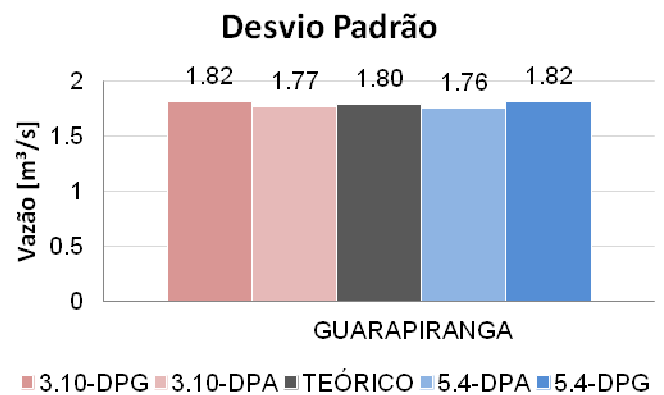
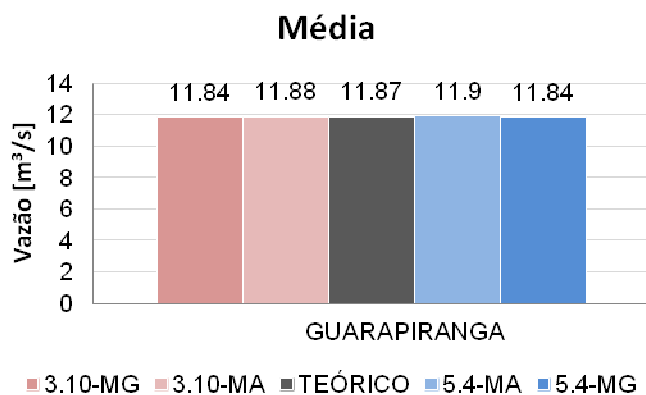
5.27. SANTANA



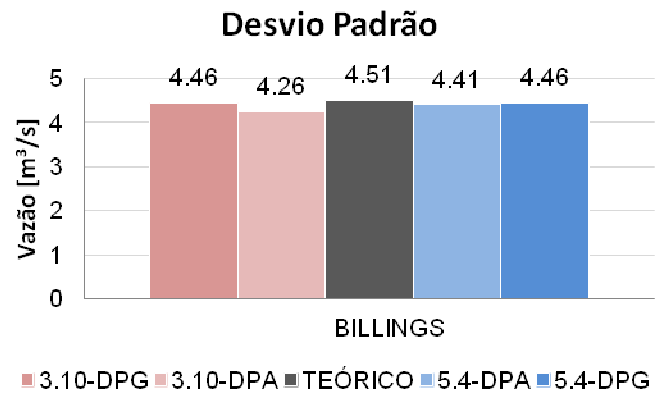
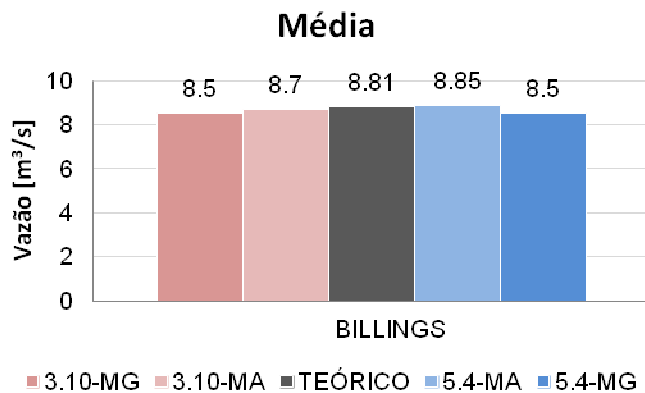
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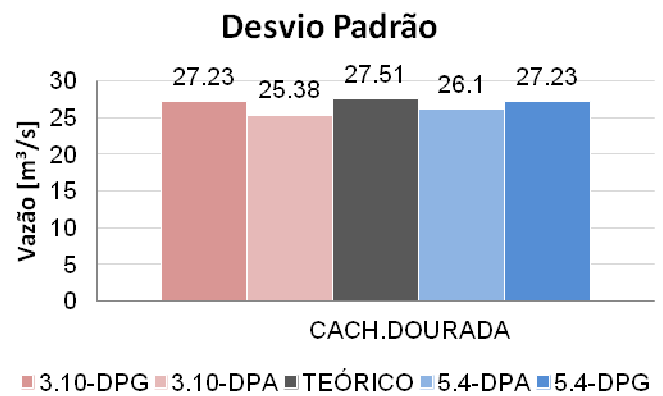
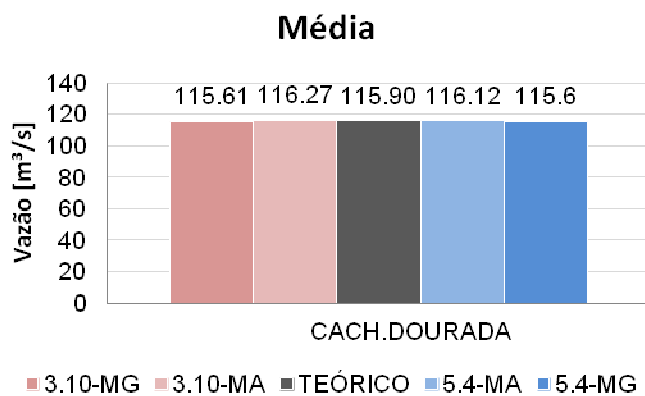
5.29. GUARAPIRANGA



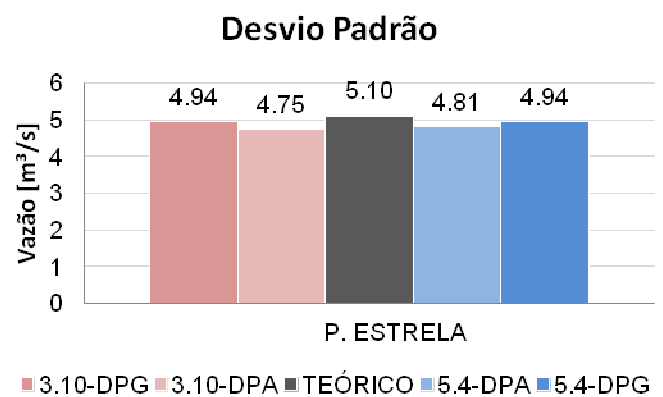
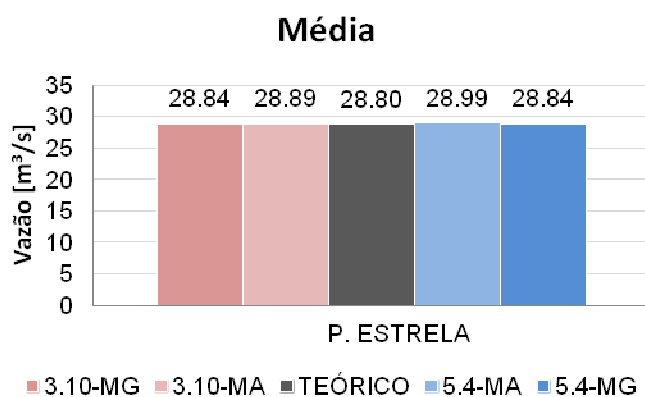
5.30. BILLINGS



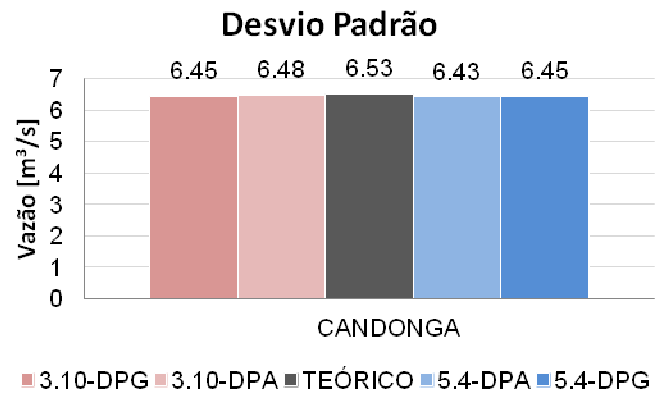
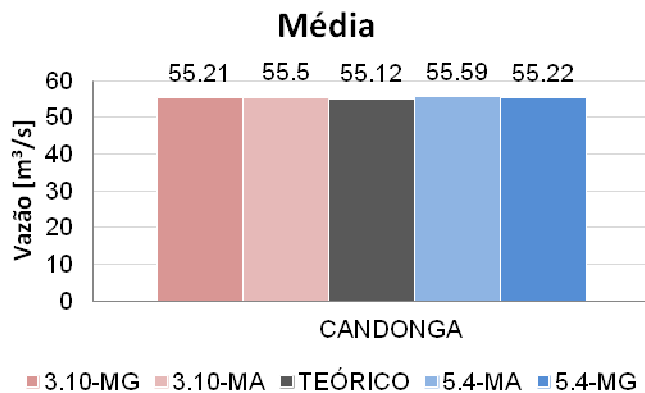
5.31. CACH.DOURADA



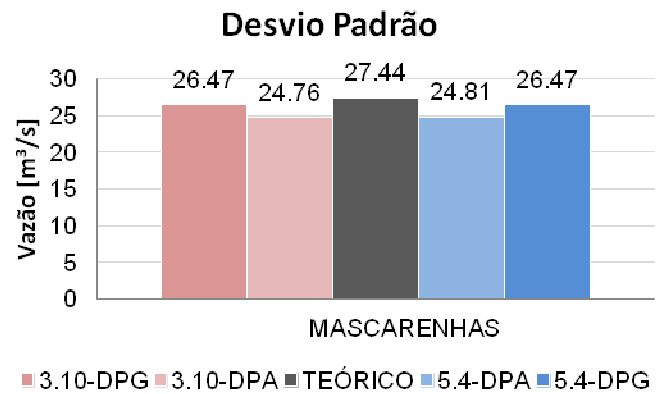
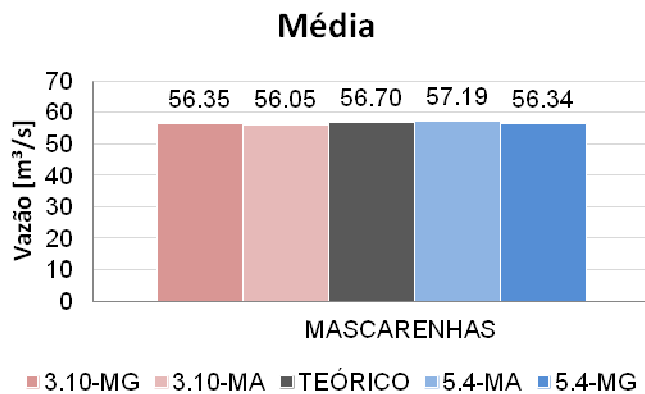
5.32. P. ESTRELA



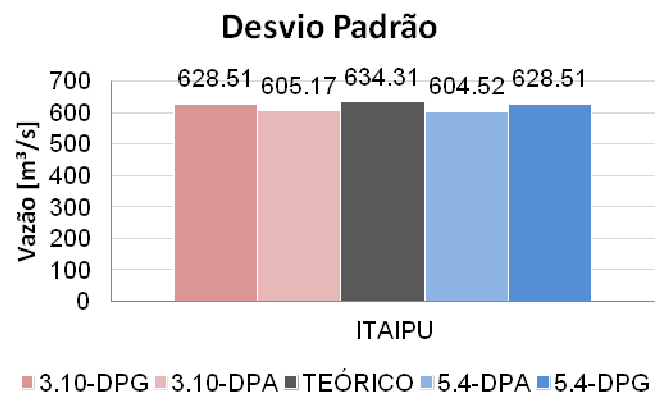
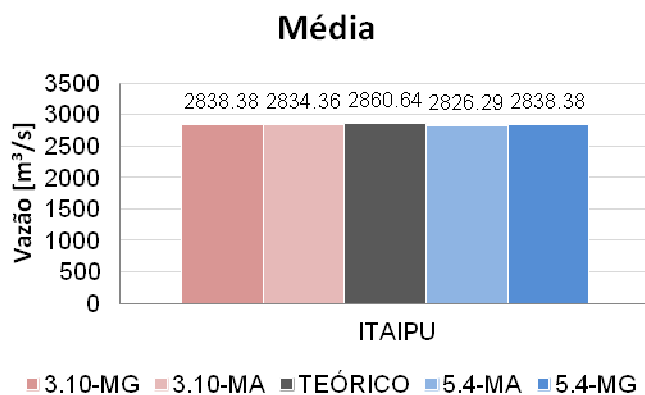
5.33. CANDONGA



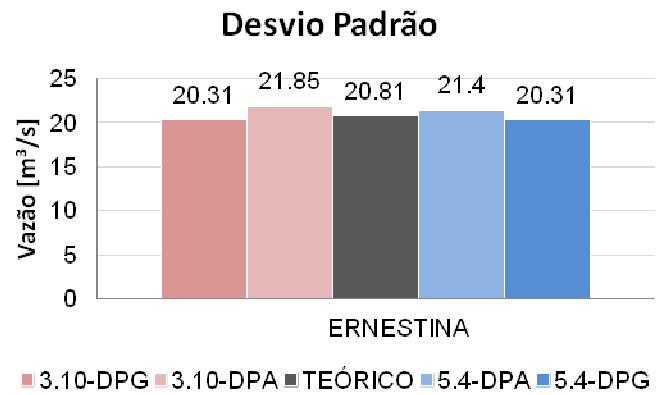
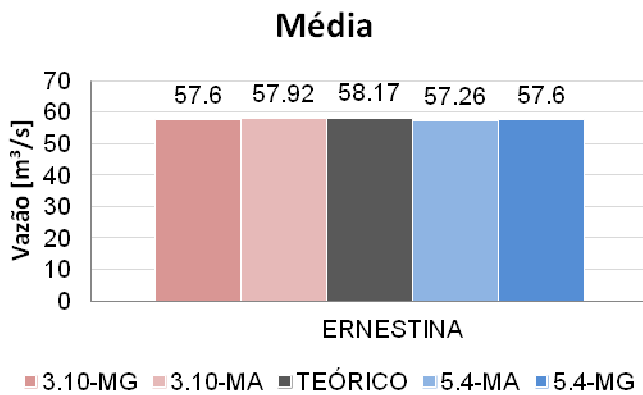
5.34. MASCARENHAS



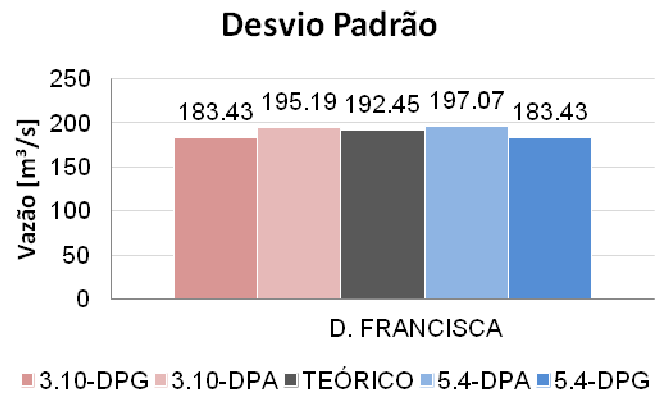
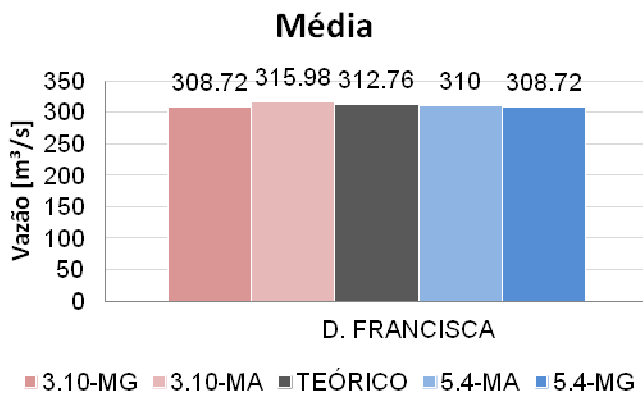
5.35. ITAIPU



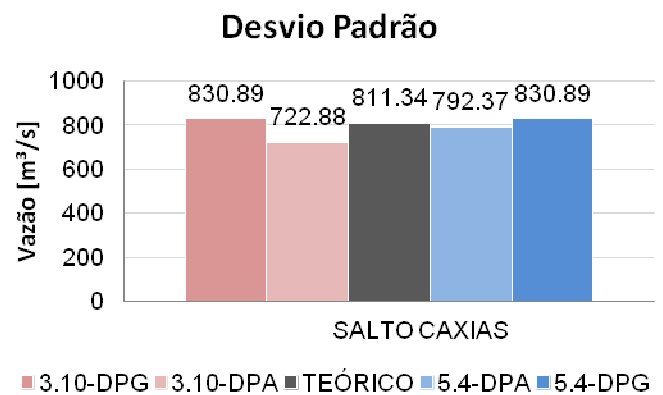
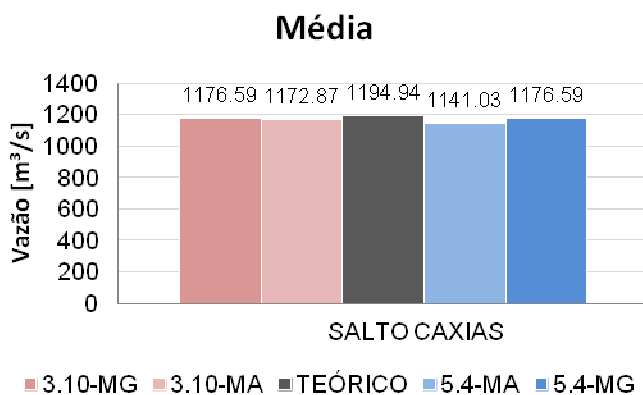
5.36. ERNESTINA



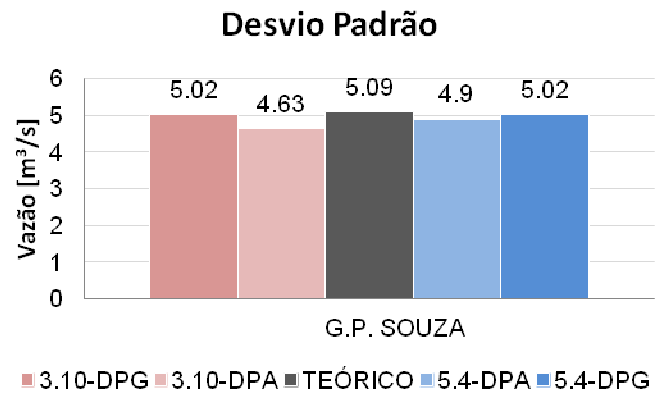
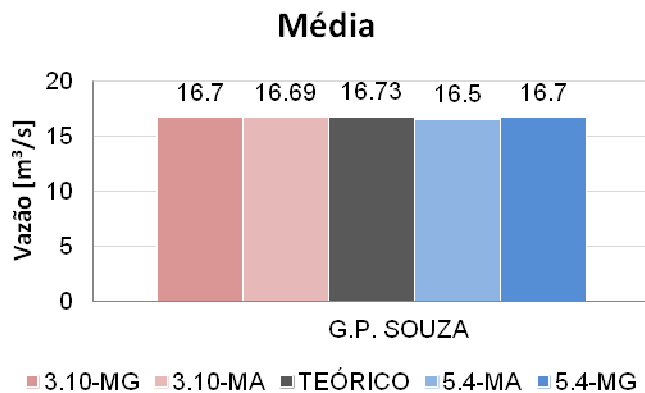
5.37. D. FRANCISCA



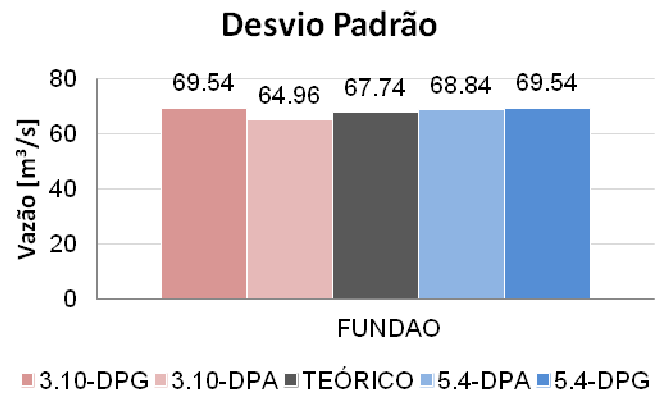
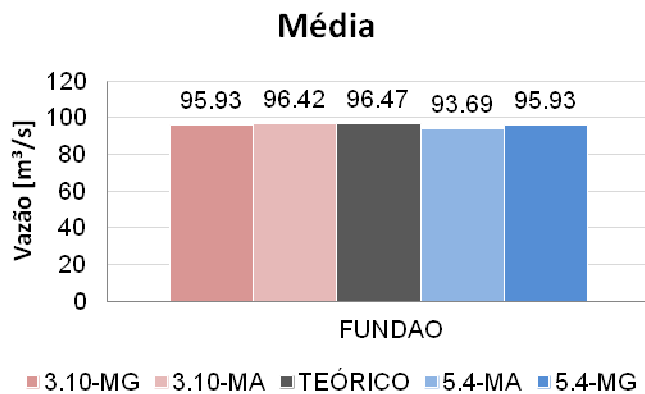
5.38. SALTO CAXIAS



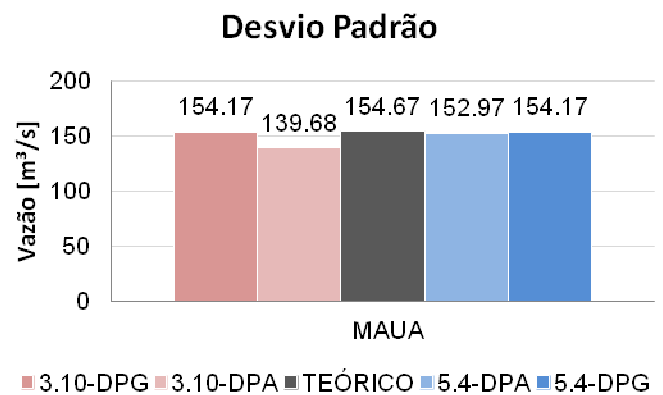
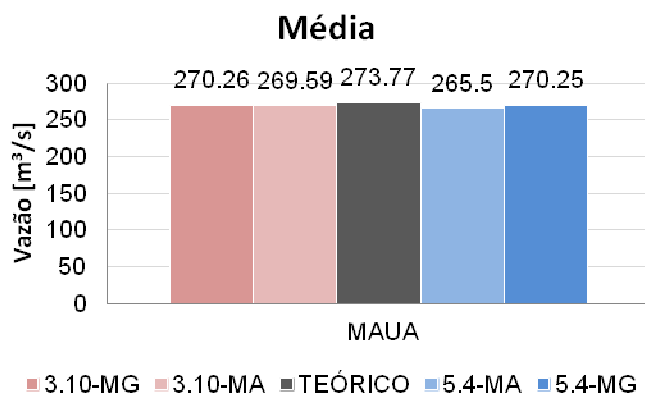
5.39. G.P. SOUZA



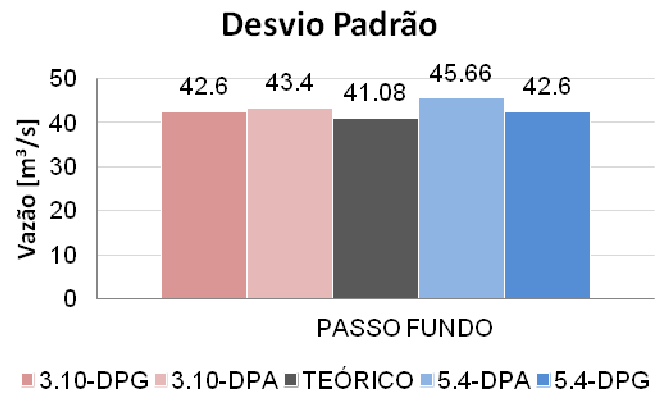
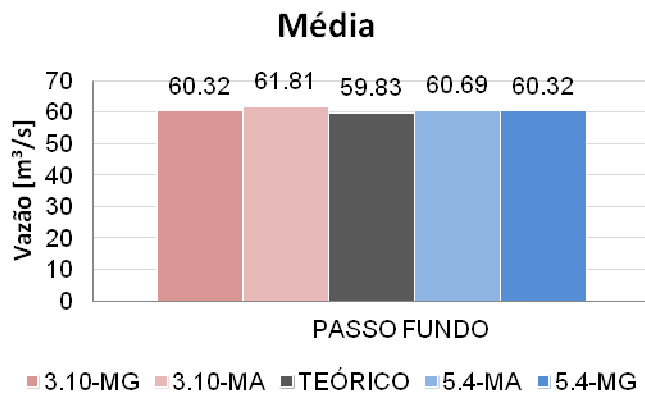
5.40. FUNDÃO



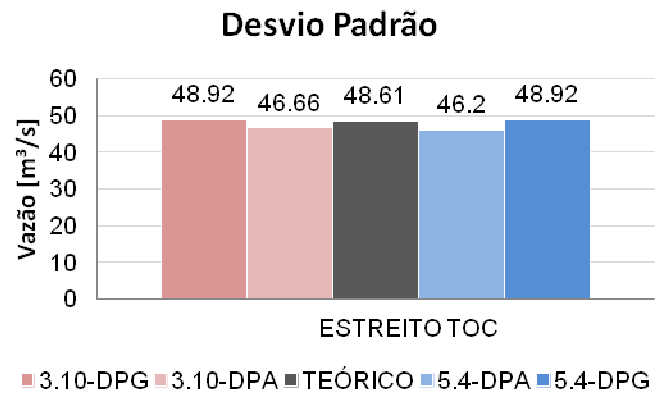
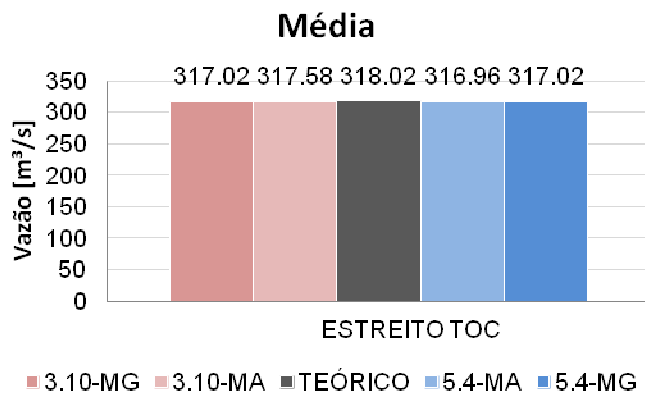
5.41. MAUA



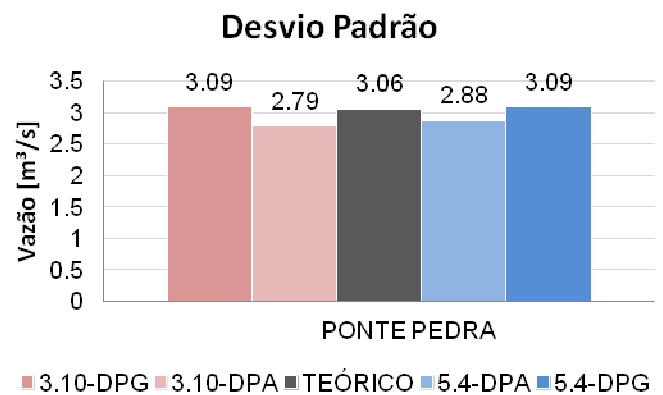
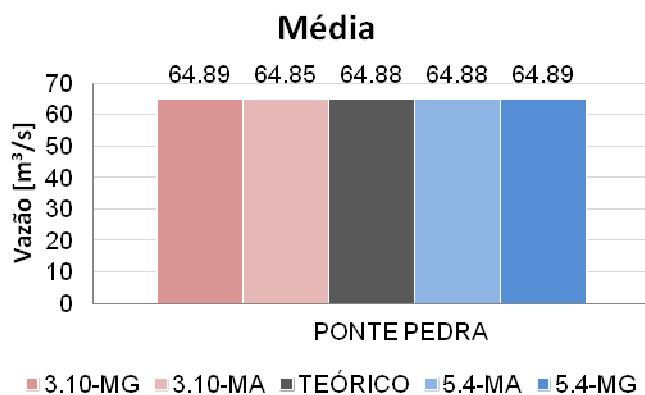
5.42. PASSO FUNDO



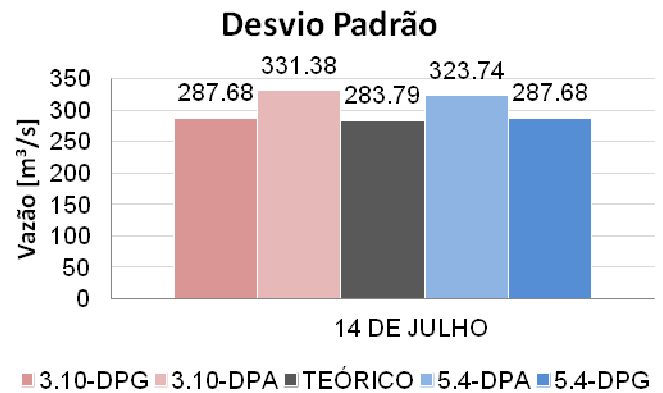
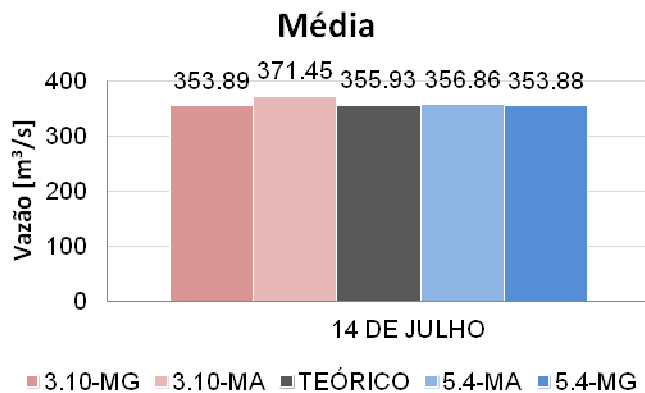
5.43. ESTREITO TOC



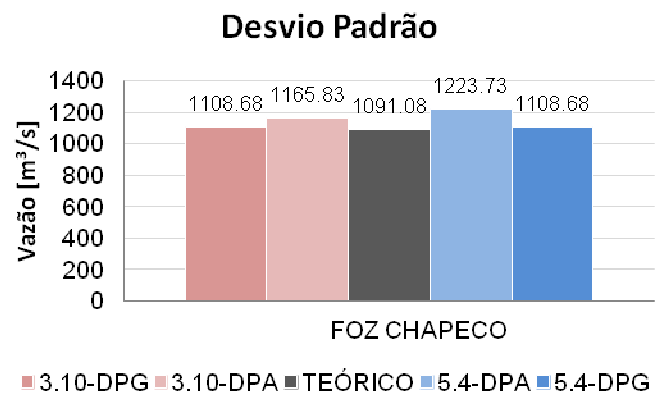
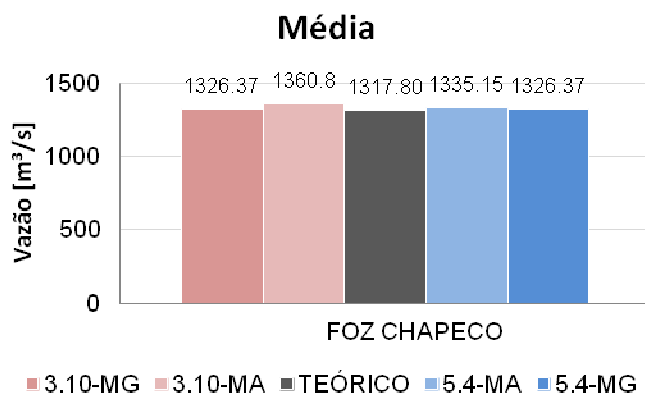
5.44. PONTE PEDRA



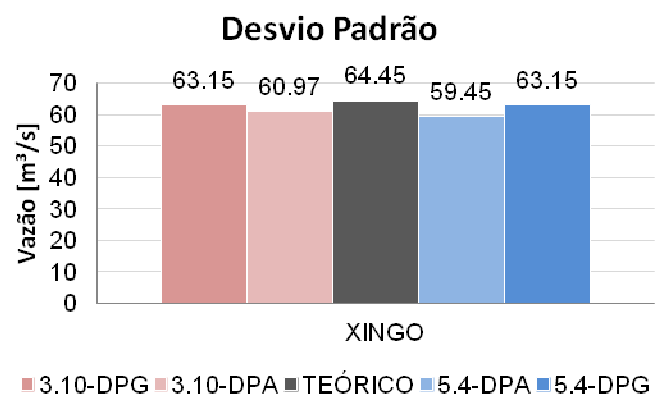
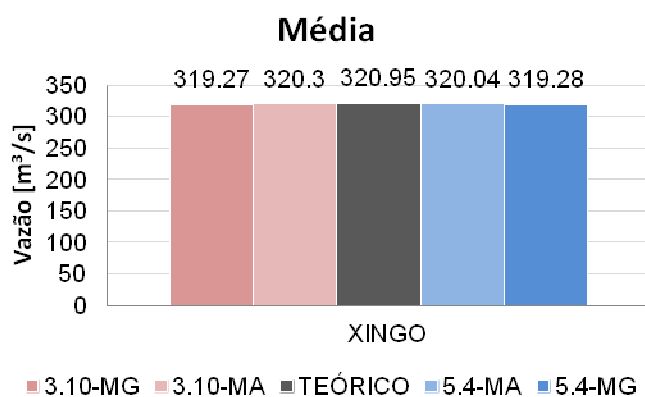
5.45. 14 DE JULHO



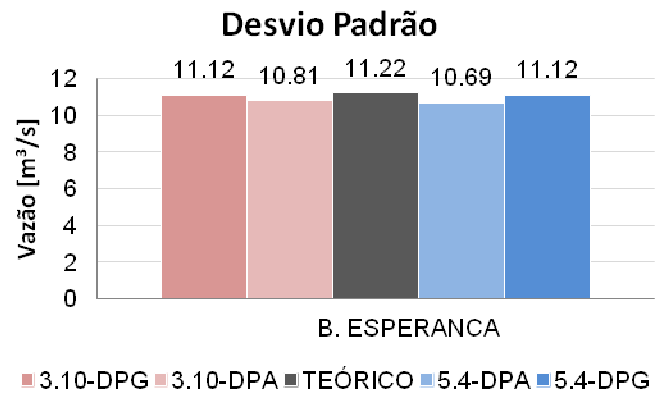
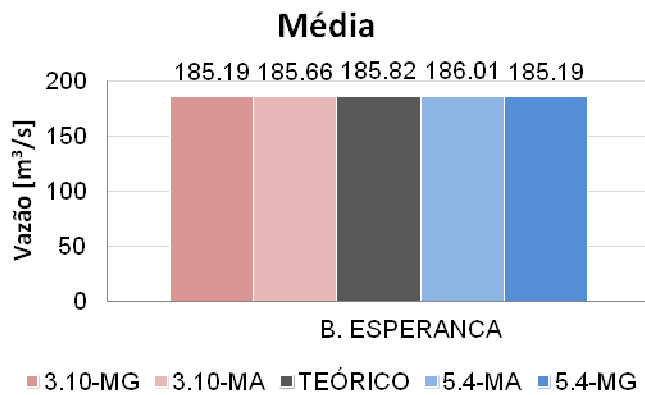
5.46. FOZ CHAPECO



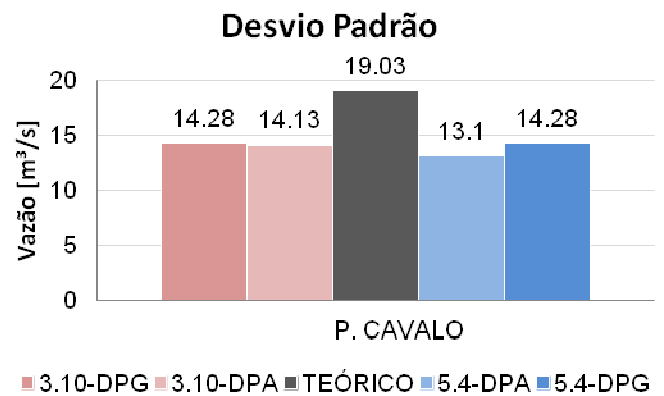
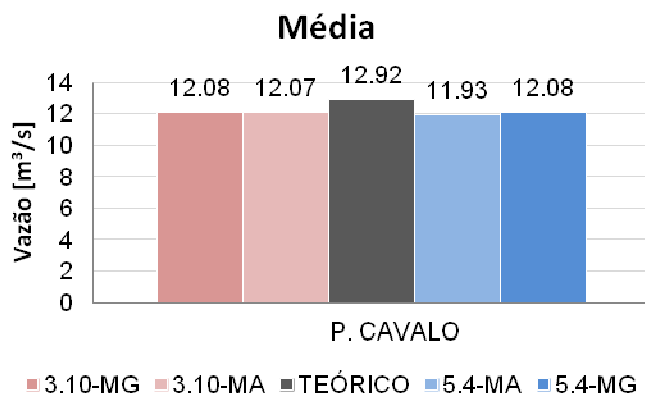
5.47. XINGO



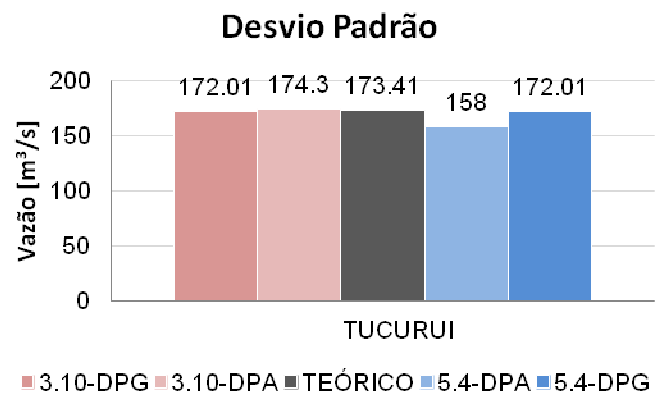
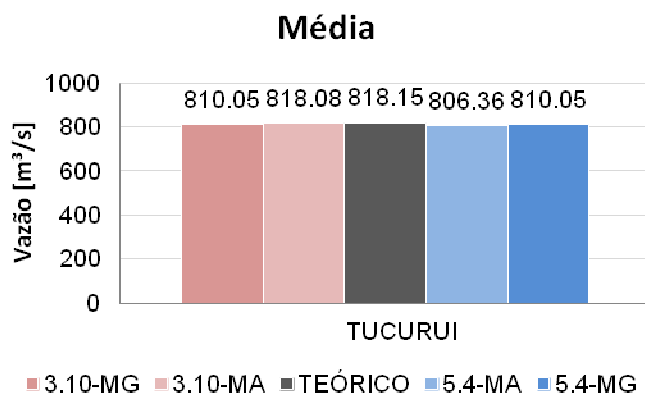
5.48. B. ESPERANCA



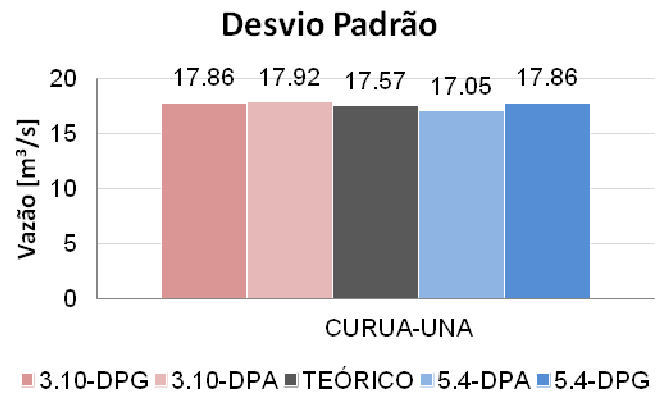
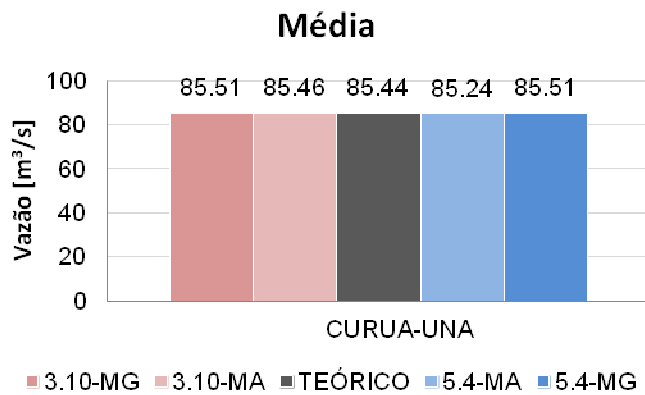
5.49. P. CAVALO



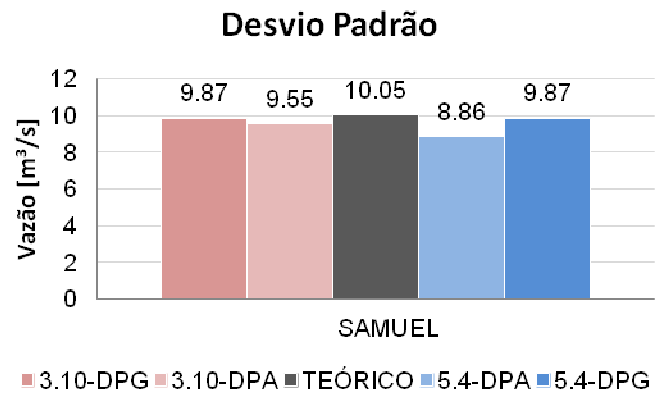
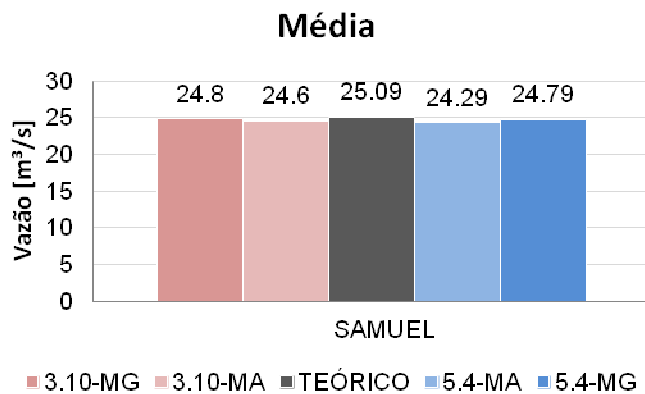
5.50. TUCURUI



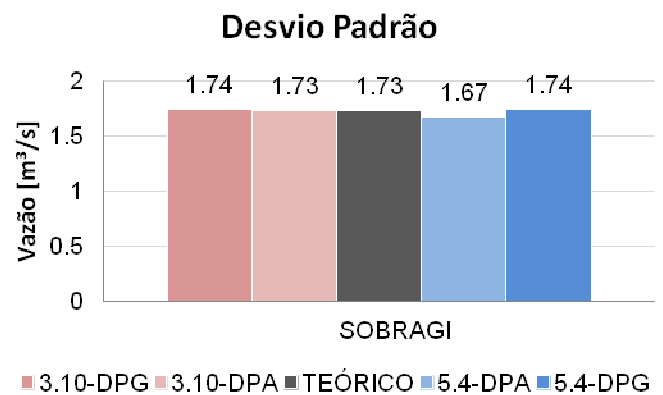
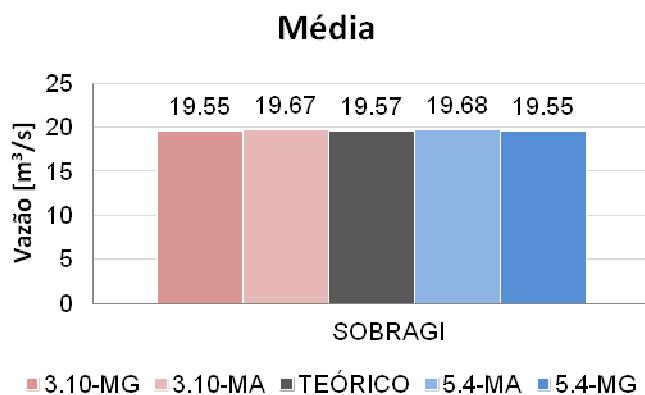
5.51. CURUA-UNA



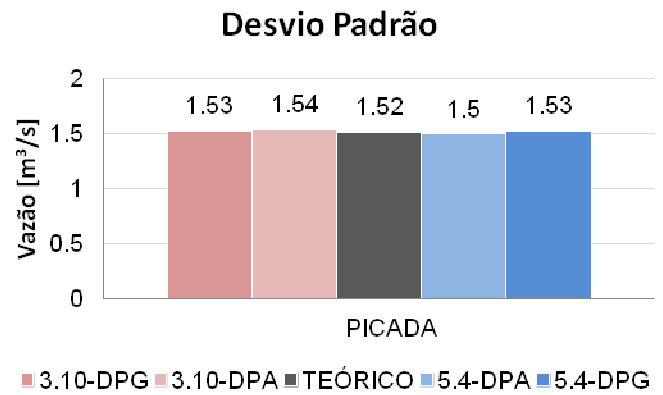
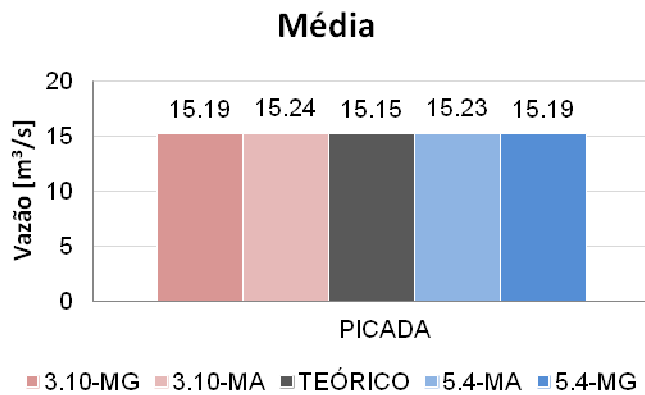
5.52. SAMUEL



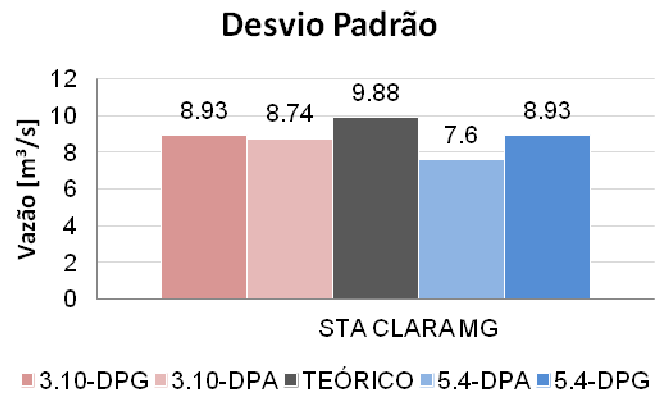
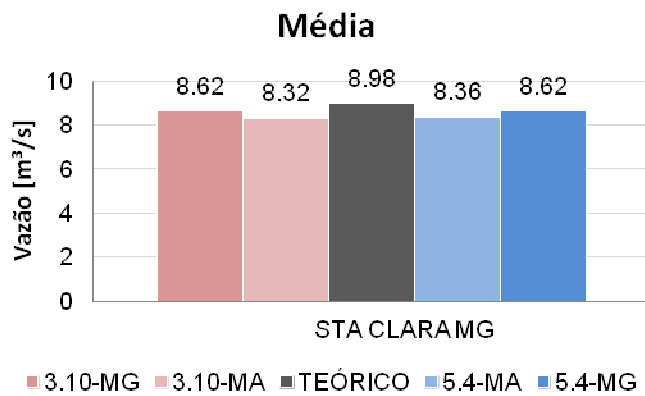
5.53. SOBRAGI



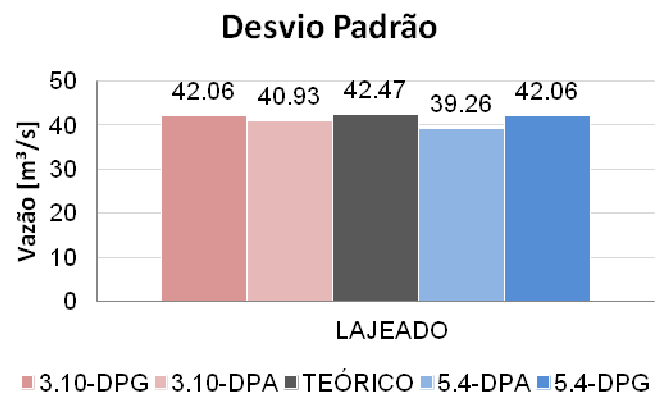
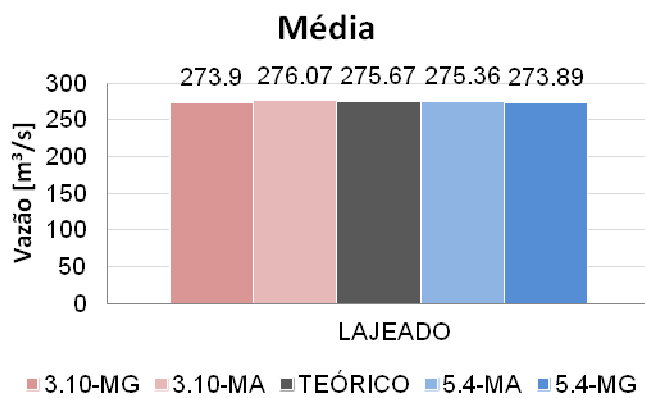
5.54. PICADA



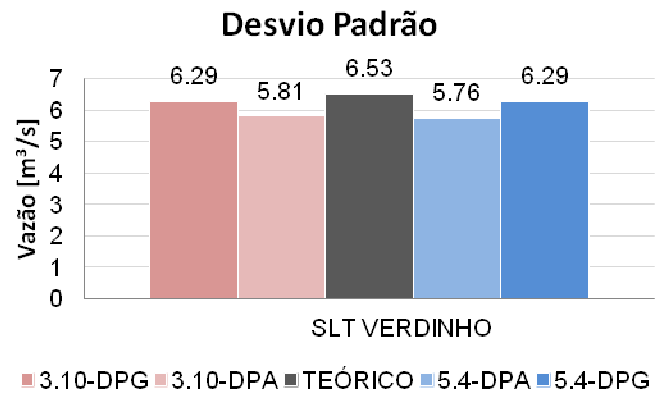
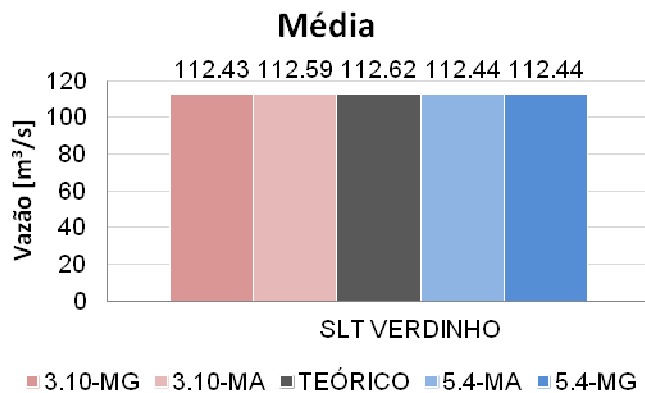
5.55. STA CLARA MG



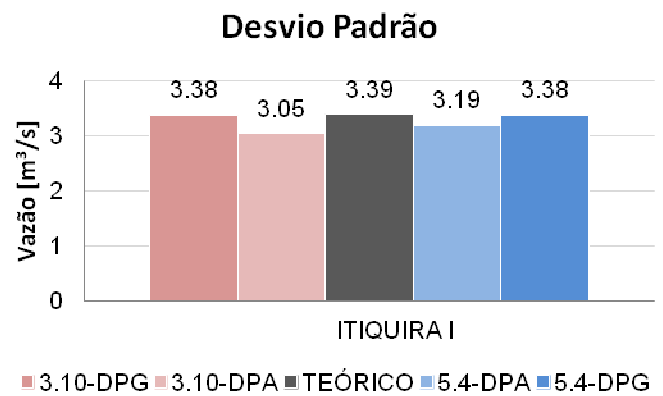
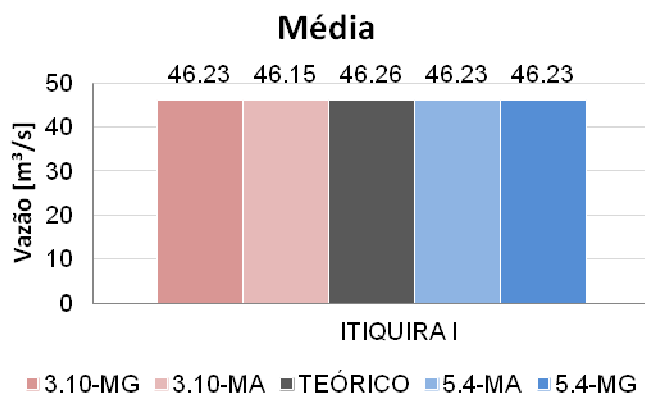
5.56. LAJEADO



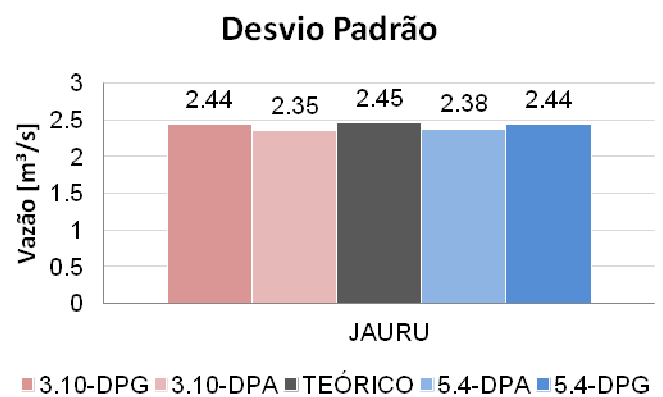
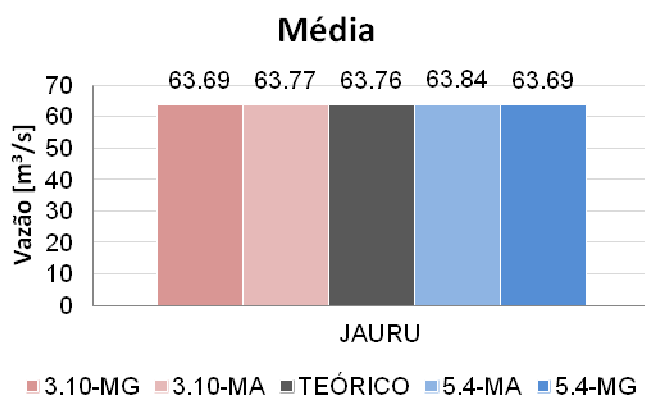
5.57. SLT VERDINHO



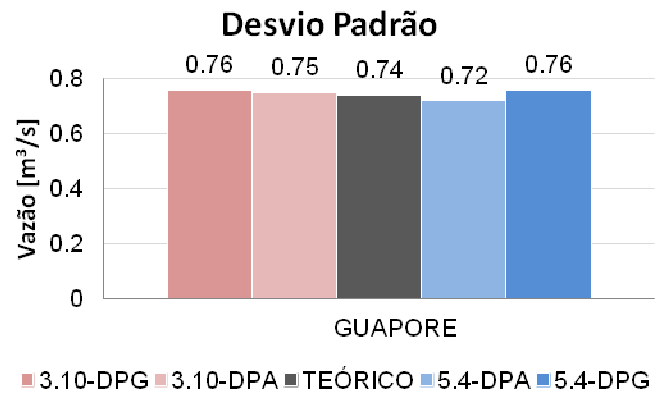
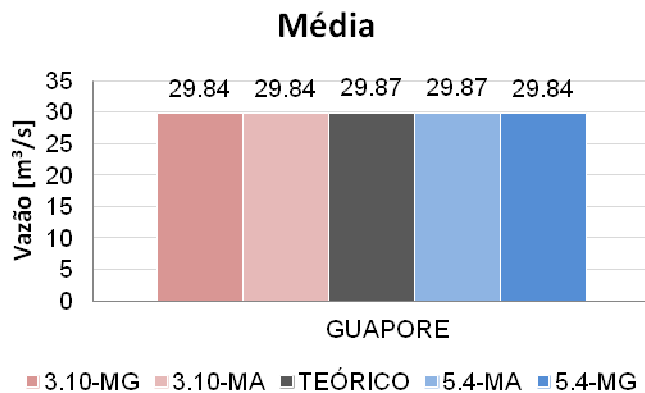
5.58. ITIQUIRA I



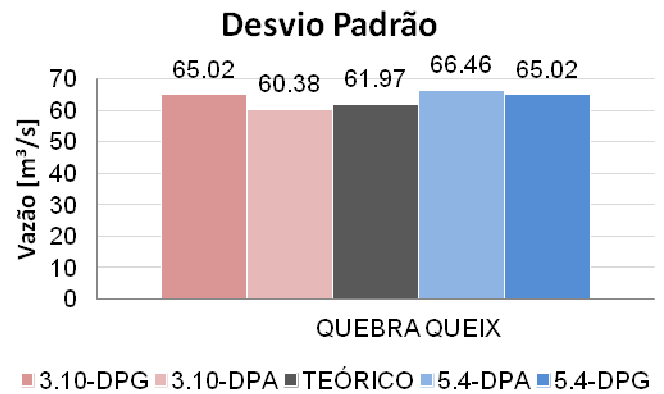
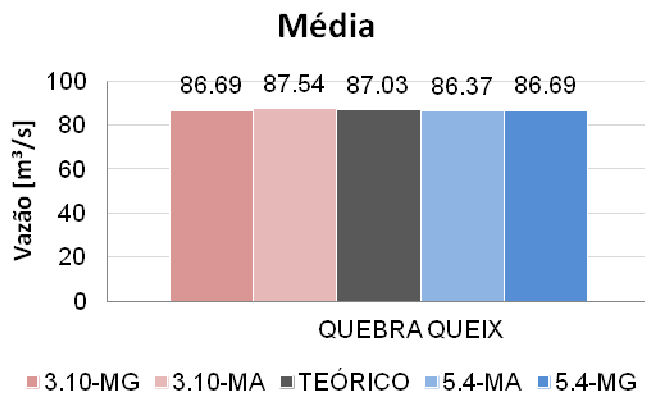
5.59. JAURU



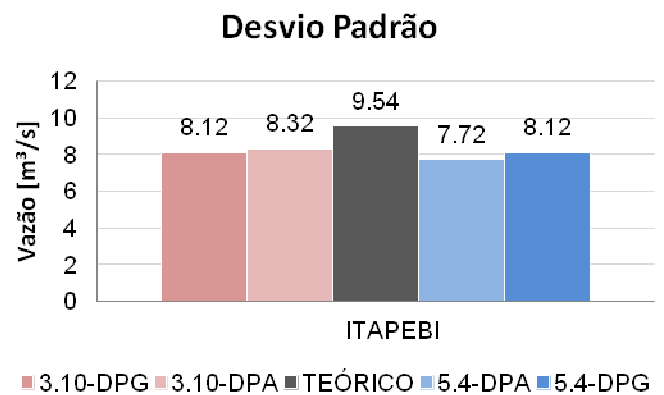
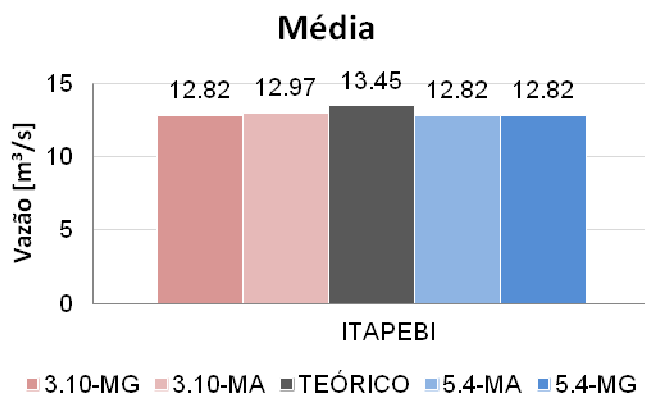
5.60. GUAPORE



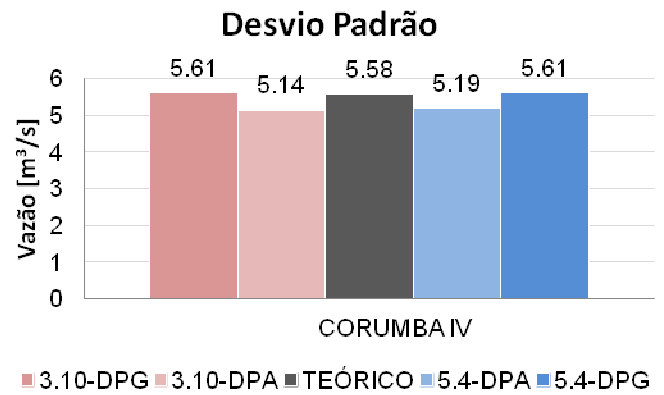
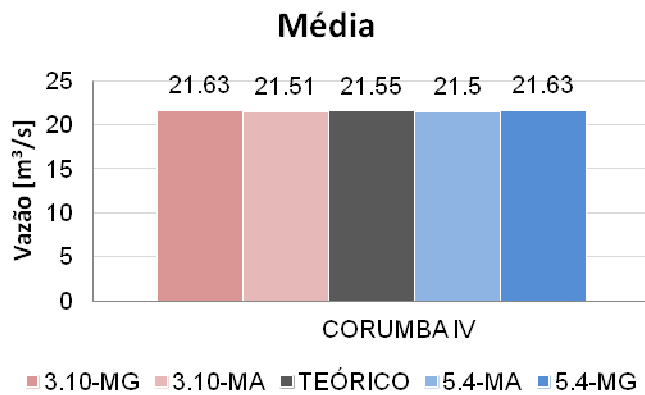
5.61. QUEBRA QUEIXO



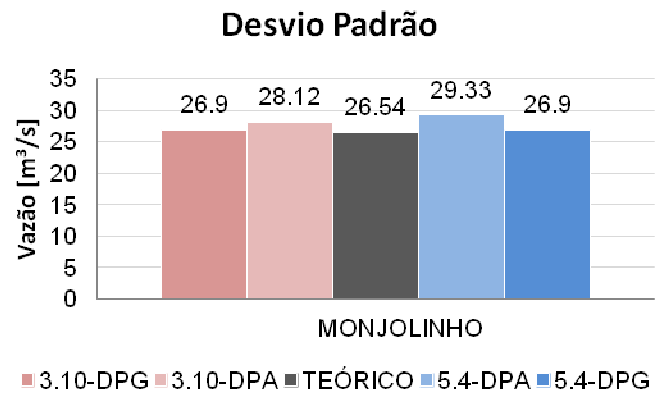
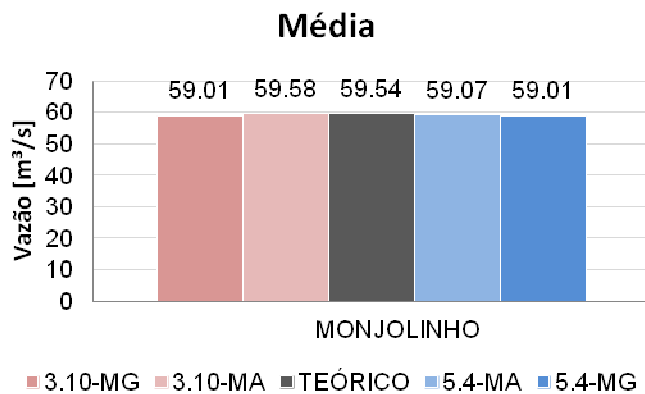
5.62. ITAPEBI



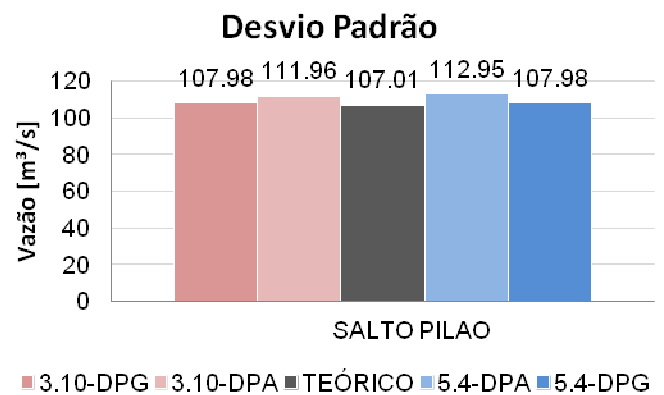
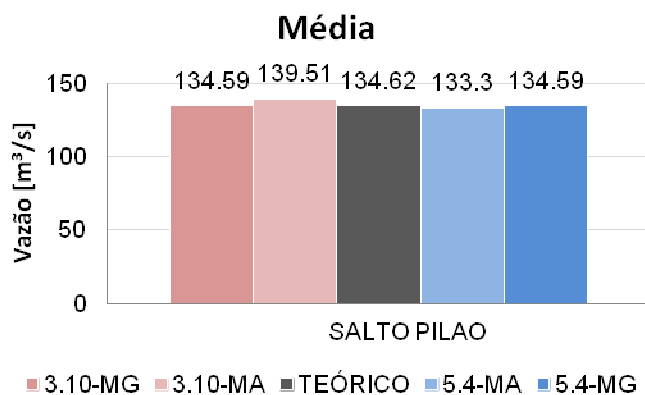
5.63. CORUMBA IV



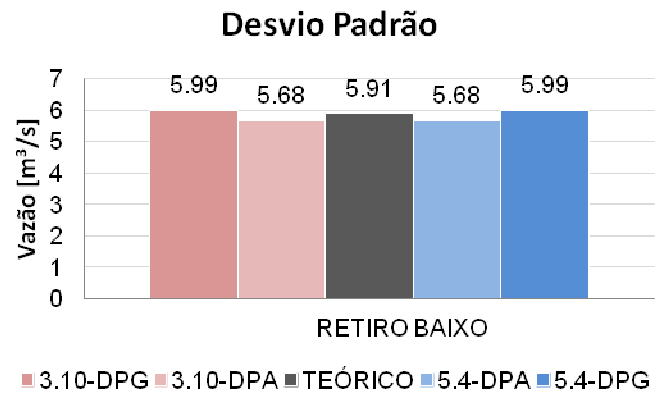
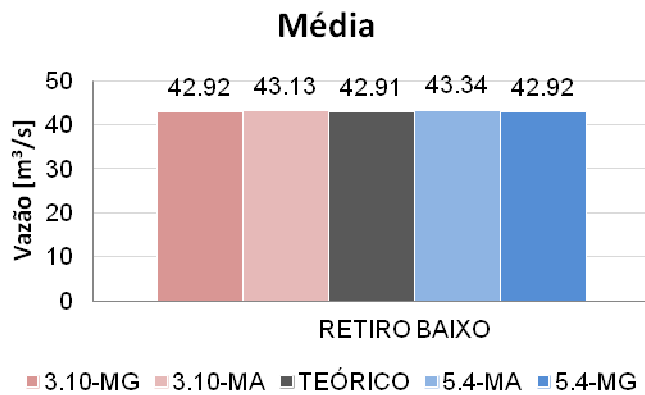
5.64. MONJOLINHO



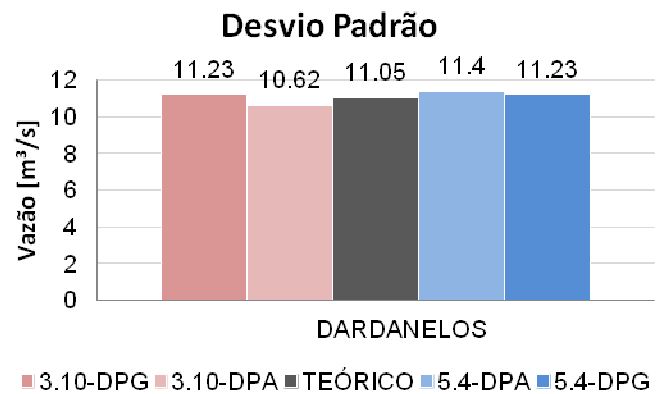
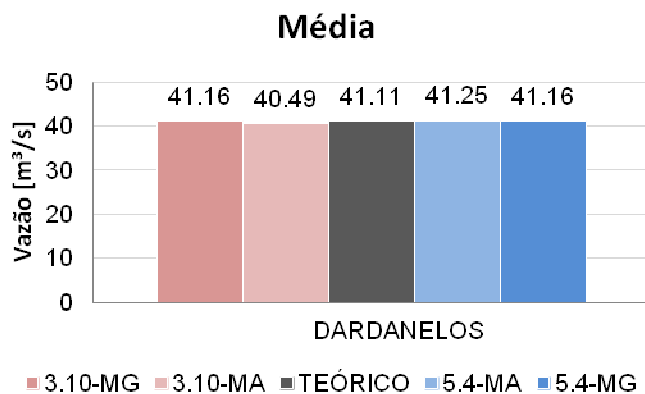
5.65. SALTO PILÃO



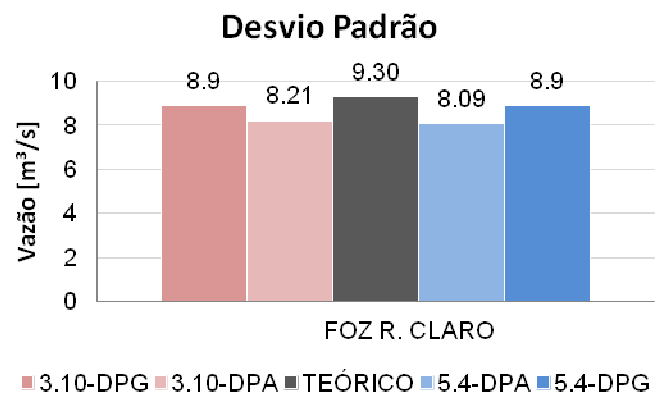
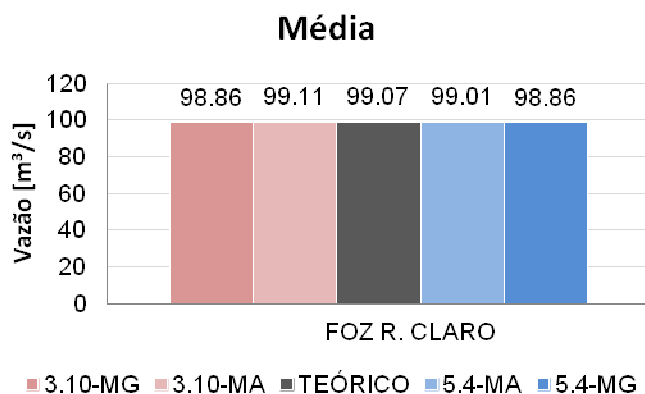
5.66. RETIRO BAIXO



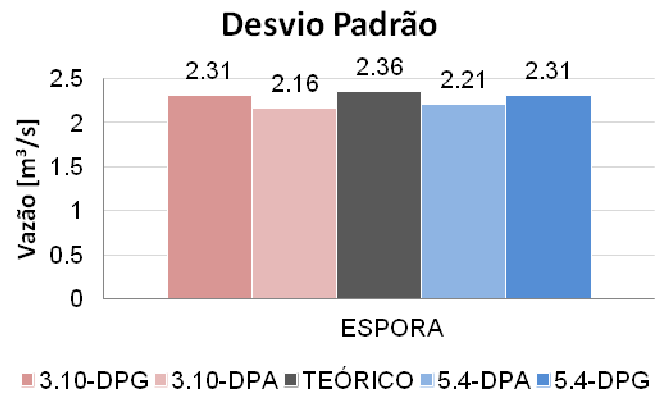
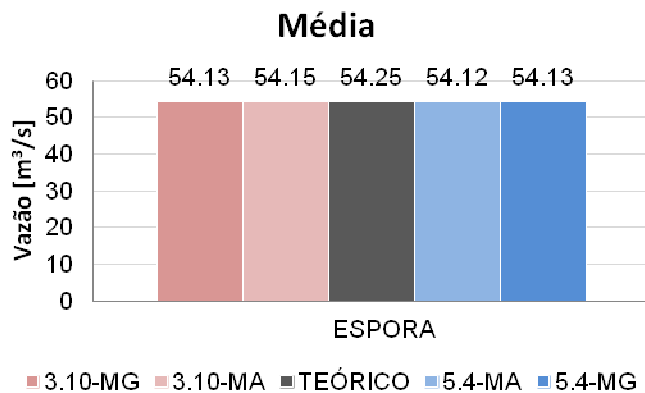
5.67. DARDANELOS



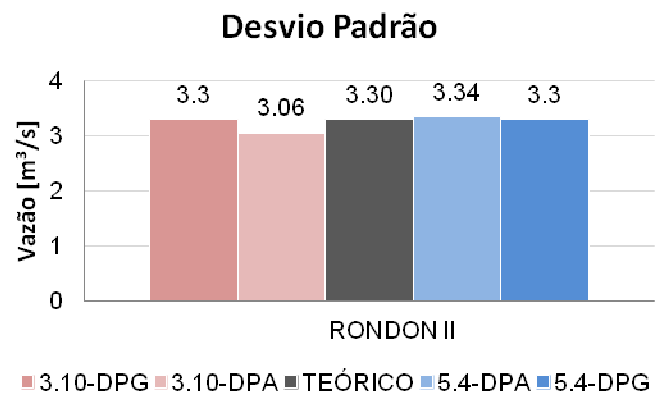
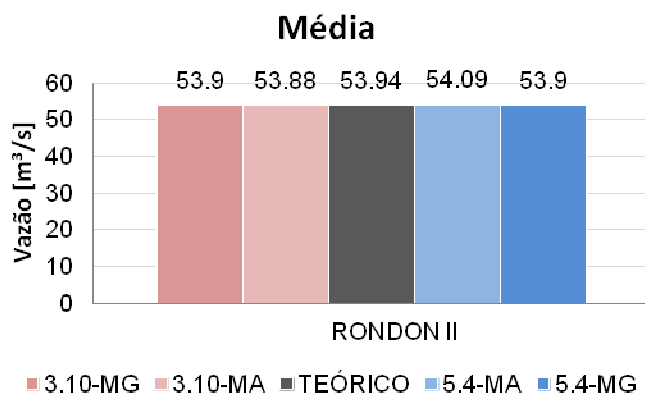
5.68. FOZ R. CLARO



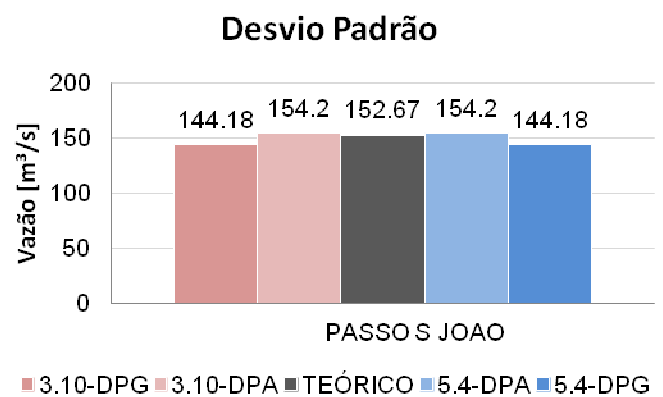
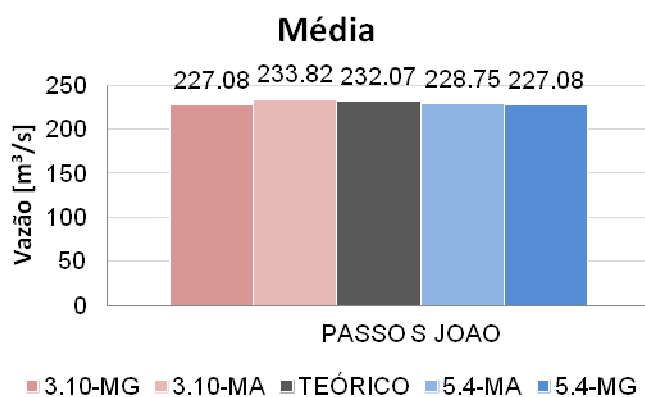
5.69. ESPORA



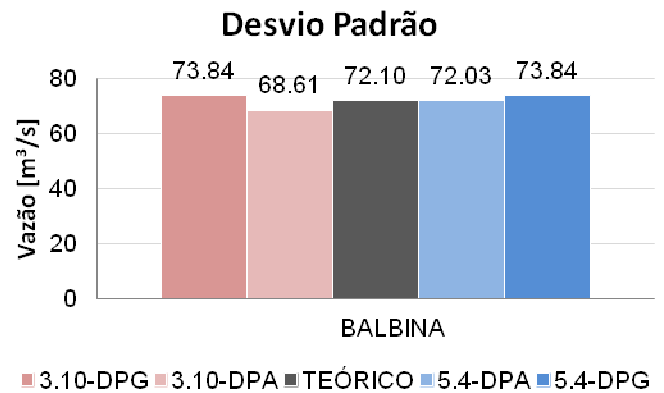
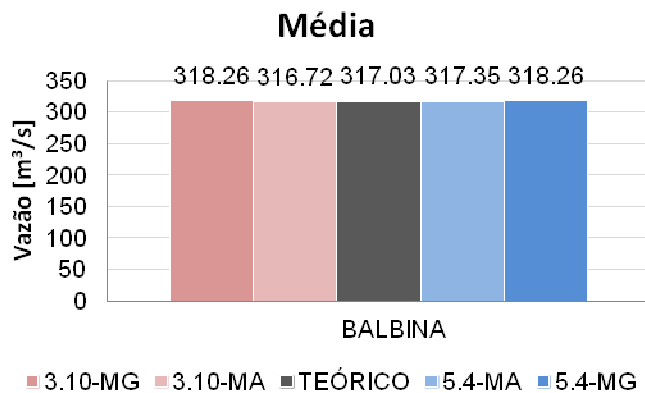
5.70. RONDON II



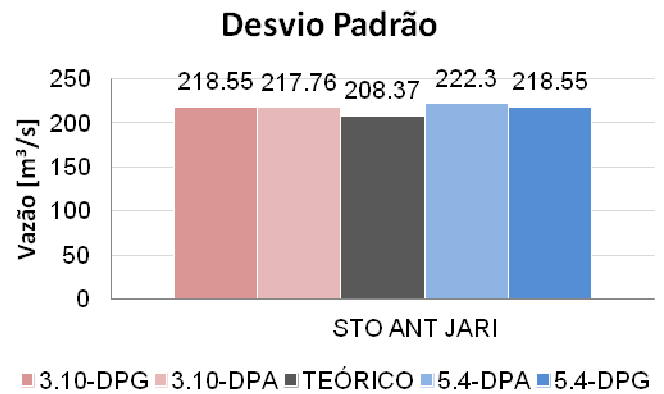
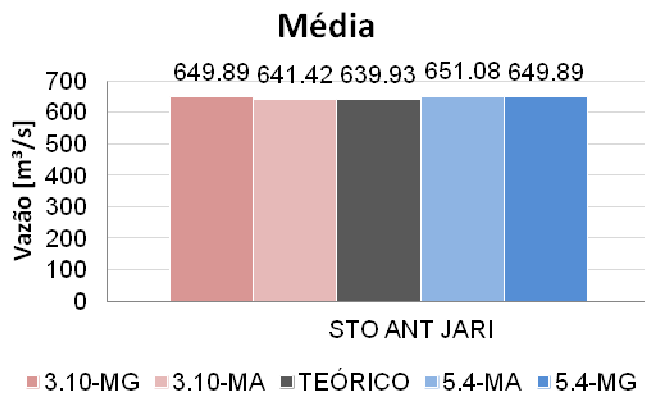
5.71. PASSO S JOÃO



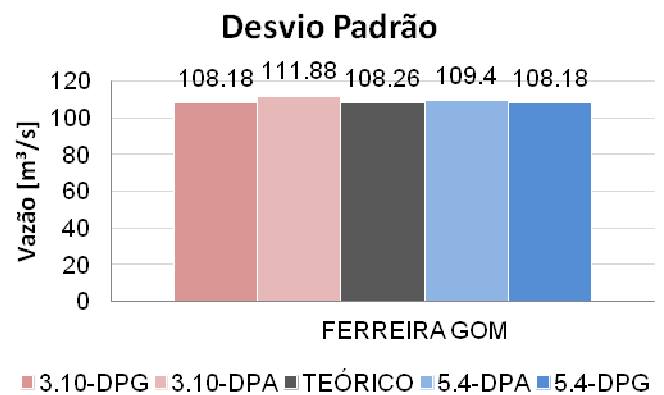
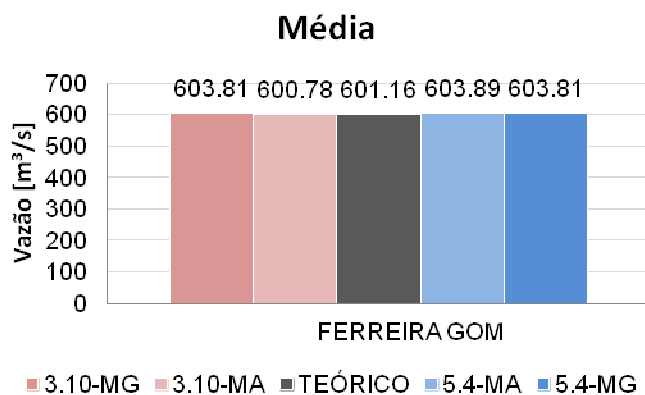
5.72. BALBINA



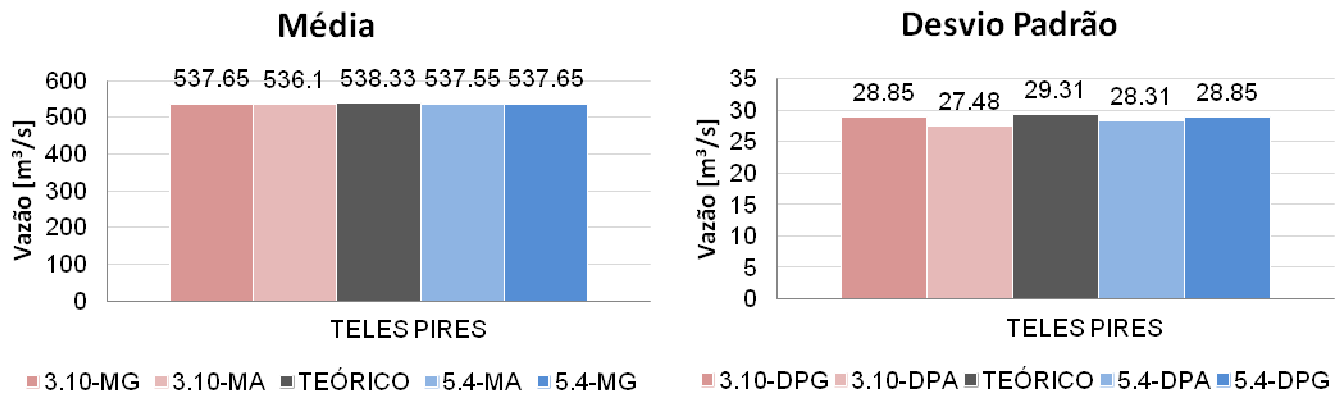
5.73. STO ANT JARI



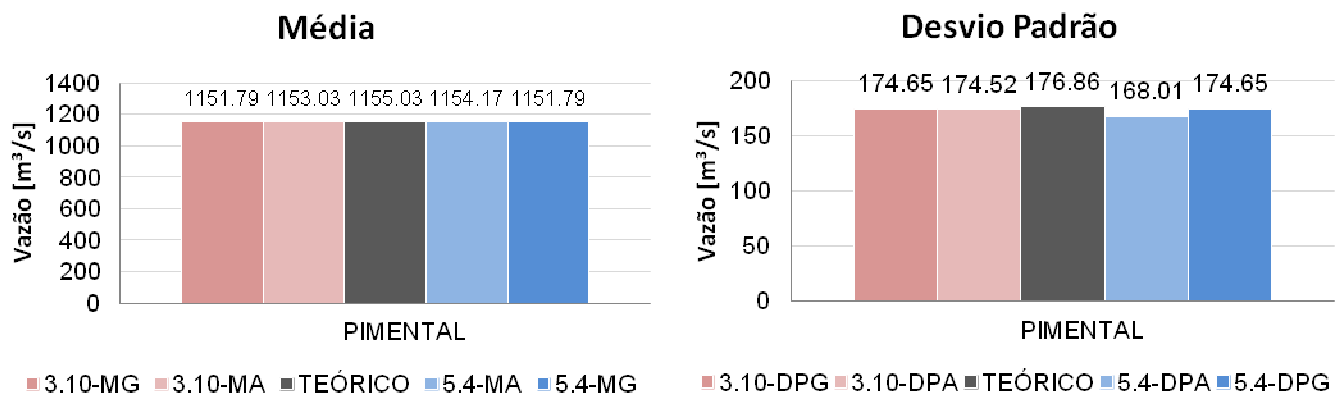
5.74. FERREIRA GOMES



5.75. TELES PIRES



5.76. PIMENTAL



A comparação entre os testes estatísticos feitos por ambas as versões, vista no quadro abaixo, demonstra a compatibilidade entre as versões 3.10 e 5.4 do programa GEVAZP. Os testes de rejeição dos momentos para valores gerados, e os testes de adaptabilidade reproduziram exatamente os mesmos resultados. Nos testes de coeficiente angular de regressão linear para média e desvio padrão os resultados das duas versões também foram idênticos, enquanto este teste para a correlação espacial indica que a versão 5.4 produziu uma maior aderência entre as amostra gerada e agregada.

Versão 5.3.2 SUMARIO DOS TESTES REALIZADOS	Versão 3.10 SUMARIO DOS TESTES REALIZADOS
MES: AGO	MES: AGO
REJEICAO DOS MOMENTOS PARA VALORES GERADOS	REJEICAO DOS MOMENTOS PARA VALORES GERADOS
1% 5%	1% 5%
MEDIA 0.00% 3.95%	MEDIA 0.00% 3.95%
D.PADRAO 1.32% 3.95%	D.PADRAO 1.32% 3.95%
*** TESTES INDICATIVOS ***	*** TESTES INDICATIVOS ***
REGRESSAO LINEAR - COEFICIENTE ANGULAR (A)	REGRESSAO LINEAR - COEFICIENTE ANGULAR (A)
A MEDIA D.PADR CORR.ESPACIAL	A MEDIA D.PADR CORR.ESPACIAL
0.9-1.1 100.00% 100.00% 96.05%	0.9-1.1 100.00% 100.00% 92.11%
0.8-1.2 100.00% 100.00% 100.00%	0.8-1.2 100.00% 100.00% 100.00%
0.7-1.3 100.00% 100.00% 100.00%	0.7-1.3 100.00% 100.00% 100.00%
0.6-1.4 100.00% 100.00% 100.00%	0.6-1.4 100.00% 100.00% 100.00%
TESTES DE ADAPTABILIDADE	TESTES DE ADAPTABILIDADE
REJEICAO NO TESTE DE ADAPTABILIDADE KOLMOGOROV-SMIRNOV (1%) : 0.00%	REJEICAO NO TESTE DE ADAPTABILIDADE KOLMOGOROV-SMIRNOV (1%) : 0.00%
REJEICAO NO TESTE DE ADAPTABILIDADE KOLMOGOROV-SMIRNOV (5%) : 0.00%	REJEICAO NO TESTE DE ADAPTABILIDADE KOLMOGOROV-SMIRNOV (5%) : 0.00%
REJEICAO NO TESTE DE ADAPTABILIDADE CRAMER-VON MISES (1%) : 0.00%	REJEICAO NO TESTE DE ADAPTABILIDADE CRAMER-VON MISES (1%) : 0.00%
REJEICAO NO TESTE DE ADAPTABILIDADE CRAMER-VON MISES (5%) : 0.00%	REJEICAO NO TESTE DE ADAPTABILIDADE CRAMER-VON MISES (5%) : 0.00%

Na análise de rejeições por usina, a Tabela 7 elenca as usinas que foram rejeitadas pelos testes descritos no documento TESTES.REL. As rejeições ocorreram em paridade entre as duas versões; ou seja, as rejeições da versão 5.4 são as mesmas da versão 3.10. Apenas 5 usinas estão nesta categoria; sendo que nenhuma das usinas da configuração do PMO JUL/16 – revisão 0 falhou nos testes não paramétricos de aderência.

Tabela 7 – Listagem de rejeições por usina

LISTAGEM DE REJEIÇÕES POR USINA															
5.3.2										3.10					
Média		D. Padrão		K.S.		C.M.		Média		D. Padrão		K.S.		C.M.	
1%	5%	1%	5%	1%	5%	1%	5%	1%	5%	1%	5%	1%	5%	1%	5%
IRAPE			X									X			
STO ANTONIO	X								X						
BILLINGS	X								X						
P. CAVALO			X								X				
ITAPEBI	X	X	X						X	X	X				

Na Tabela 8 é apresentada uma comparação entre as médias e os desvios padrão dos dados gerados por ambas as versões, 3.10 e 5.4, em formato árvore com agregação, para todas as usinas na configuração do PMO JUL/16 – revisão 0. Nota-se que as diferenças existentes entre os valores são pequenas.

Tabela 8 – Média e desvio dos cenários gerados (com agregação)

Usina	Média				Desvio Padrão			
	(i)	(ii)	(iii) = (i-ii)	(iv) = (iii)/(ii)	(v)	(vi)	(vii) = (vi-v)	(viii) = (vii)/(vi)
	v.3.10	v.5.4	Diferença	Erro (%)	v.3.10	v.5.4	Diferença	Erro (%)
CAMARGOS	45.88	45.75	0.13	0.28	5.42	5.36	0.06	1.12
ITUTINGA	45.88	45.75	0.13	0.28	5.42	5.36	0.06	1.12
FUNIL-GRANDE	107.51	107.39	0.12	0.11	11.71	11.47	0.24	2.09
EMBORCACAO	88.45	88.53	0.08	0.09	18.12	17.86	0.26	1.46
CAPIM BRANC1	107.91	107.74	0.17	0.16	12.12	12.56	0.44	3.50
CAPIM BRANC2	113.45	113.27	0.18	0.16	12.75	13.21	0.46	3.48
NOVA PONTE	88.58	88.44	0.14	0.16	9.95	10.31	0.36	3.49
SAO SIMAO	704.20	704.79	0.59	0.08	94.73	94.02	0.71	0.76
TRES MARIAS	131.60	131.64	0.04	0.03	28.01	27.96	0.05	0.18
JAGUARA	395.06	394.39	0.67	0.17	50.15	49.13	1.02	2.08
VOLTA GRANDE	432.28	431.54	0.74	0.17	55.21	54.08	1.13	2.09
SALTO GRANDE	27.70	27.79	0.09	0.32	4.55	4.60	0.05	1.09
MIRANDA	105.48	105.31	0.17	0.16	11.85	12.28	0.43	3.50
IGARAPAVA	406.61	405.92	0.69	0.17	51.72	50.67	1.05	2.07

Usina	Média				Desvio Padrão			
	(i)	(ii)	(iii) = (i-ii)	(iv) = (iii)/(ii)	(v)	(vi)	(vii) = (vi-v)	(viii) = (vii)/(vi)
	v.3.10	v.5.4	Diferença	Erro (%)	v.3.10	v.5.4	Diferença	Erro (%)
AIMORES	152.63	153.73	1.10	0.72	31.15	31.29	0.14	0.45
QUEIMADO	4.87	4.85	0.02	0.41	2.23	2.15	0.08	3.72
IRAPE	8.09	8.08	0.01	0.12	2.87	2.84	0.03	1.06
ROSAL	9.13	9.11	0.02	0.22	2.09	2.03	0.06	2.96
GUILMAN-AMOR	22.80	22.82	0.02	0.09	2.62	2.68	0.06	2.24
SA CARVALHO	24.92	24.94	0.02	0.08	2.86	2.93	0.07	2.39
BAGUARI	129.69	130.32	0.63	0.48	21.50	21.62	0.12	0.56
CACONDE	27.29	27.21	0.08	0.29	2.89	2.85	0.04	1.40
A. VERMELHA	1086.93	1084.25	2.68	0.25	104.63	99.75	4.88	4.89
BARRA BONITA	304.87	303.52	1.35	0.44	49.59	47.75	1.84	3.85
PROMISSAO	543.65	540.95	2.70	0.50	85.63	82.35	3.28	3.98
NAVANHANDEVA	576.81	573.91	2.90	0.51	90.66	87.18	3.48	3.99
E. DA CUNHA	45.40	45.26	0.14	0.31	4.82	4.74	0.08	1.69
A.S.OLIVEIRA	46.14	46.00	0.14	0.30	4.89	4.81	0.08	1.66
A.S. LIMA	347.75	346.16	1.59	0.46	56.03	53.92	2.11	3.91
IBITINGA	439.20	437.09	2.11	0.48	69.82	67.16	2.66	3.96
TAQUARUCU	1073.48	1061.07	12.41	1.17	310.26	326.71	16.45	5.04
ROSANA	1225.78	1211.15	14.63	1.21	351.85	367.62	15.77	4.29
CANOAS I	421.77	418.99	2.78	0.66	84.95	88.08	3.13	3.55
CANOAS II	404.76	402.09	2.67	0.66	81.53	84.53	3.00	3.55
A.A. LAYDNER	188.85	187.61	1.24	0.66	38.04	39.44	1.40	3.55
CHAVANTES	292.70	290.77	1.93	0.66	58.95	61.12	2.17	3.55
CAPIVARA	1010.29	998.79	11.50	1.15	293.23	309.96	16.73	5.40
L.N. GARCEZ	396.60	393.99	2.61	0.66	79.88	82.82	2.94	3.55
JUPIA	3251.40	3241.29	10.11	0.31	331.50	319.51	11.99	3.75
I. SOLT. EQV	2922.61	2915.08	7.53	0.26	296.29	284.77	11.52	4.05
P. PRIMAVERA	3975.25	3959.43	15.82	0.40	417.47	404.29	13.18	3.26
JAGUARI	12.56	12.42	0.14	1.13	2.66	2.56	0.10	3.91
PARAIBUNA	37.37	37.31	0.06	0.16	5.72	5.37	0.35	6.52
FURNAS	340.18	339.61	0.57	0.17	42.72	41.84	0.88	2.10
M. DE MORAES	381.12	380.47	0.65	0.17	48.26	47.28	0.98	2.07
ESTREITO	390.79	390.12	0.67	0.17	49.58	48.56	1.02	2.10
P. COLOMBIA	491.60	490.75	0.85	0.17	63.26	61.97	1.29	2.08
MARIMBONDO	894.15	892.06	2.09	0.23	90.60	87.00	3.60	4.14
ITUMBIARA	371.62	371.42	0.20	0.05	58.08	59.14	1.06	1.79
CORUMBA I	86.85	86.86	0.01	0.01	17.27	17.47	0.20	1.14
SERRA MESA	100.68	100.42	0.26	0.26	14.92	14.31	0.61	4.26
MANSO	41.76	41.92	0.16	0.38	6.94	7.10	0.16	2.25
FUNIL	116.06	115.35	0.71	0.62	18.20	16.96	1.24	7.31

Usina	Média				Desvio Padrão			
	(i)	(ii)	(iii) = (i-ii)	(iv) = (iii)/(ii)	(v)	(vi)	(vii) = (vi-v)	(viii) = (vii)/(vi)
	v.3.10	v.5.4	Diferença	Erro (%)	v.3.10	v.5.4	Diferença	Erro (%)
SIMPLICIO	263.36	262.26	1.10	0.42	38.13	36.46	1.67	4.58
BATALHA	22.79	22.82	0.03	0.13	3.26	3.09	0.17	5.50
STO ANTONIO	4641.89	4693.88	51.99	1.11	1130.32	1134.53	4.21	0.37
PEIXE ANGIC	213.60	213.05	0.55	0.26	31.67	30.36	1.31	4.31
SANTA BRANCA	42.57	42.49	0.08	0.19	6.52	6.13	0.39	6.36
LAJES	2.03	2.01	0.02	1.00	0.98	0.94	0.04	4.26
ILHA POMBOS	287.74	286.62	1.12	0.39	42.07	40.42	1.65	4.08
STA CECILIA	147.30	146.34	0.96	0.66	23.22	21.58	1.64	7.60
TOCOS	5.16	5.10	0.06	1.18	1.32	1.22	0.10	8.20
SANTANA	8.83	8.73	0.10	1.15	2.24	2.09	0.15	7.18
EDGARD SOUZA	56.29	56.36	0.07	0.12	14.11	14.20	0.09	0.63
GUARAPIRANGA	11.88	11.89	0.01	0.08	1.76	1.76	0.00	0.00
BILLINGS	8.69	8.84	0.15	1.70	4.25	4.40	0.15	3.41
CACH.DOURADA	405.03	404.79	0.24	0.06	64.03	65.36	1.33	2.03
P. ESTRELA	28.89	28.98	0.09	0.31	4.75	4.80	0.05	1.04
CANDONGA	55.49	55.59	0.10	0.18	6.47	6.43	0.04	0.62
SALTO	103.48	103.34	0.14	0.14	5.33	5.29	0.04	0.76
GARIBALDI	305.36	299.74	5.62	1.87	253.12	265.55	12.43	4.68
MASCARENHAS	165.35	166.71	1.36	0.82	36.60	36.76	0.16	0.44
ITAIPU	8035.40	7996.88	38.52	0.48	1206.40	1202.23	4.17	0.35
ERNESTINA	57.92	57.26	0.66	1.15	21.85	21.39	0.46	2.15
PASSO REAL	249.67	245.39	4.28	1.74	137.31	137.97	0.66	0.48
JACUI	251.41	247.09	4.32	1.75	138.38	139.05	0.67	0.48
ITAUBA	310.84	305.40	5.44	1.78	174.99	176.01	1.02	0.58
D. FRANCISCA	373.90	367.26	6.64	1.81	213.87	215.26	1.39	0.65
G.B. MUNHOZ	622.90	605.93	16.97	2.80	385.38	421.62	36.24	8.60
SEGREDO	716.03	696.52	19.51	2.80	443.00	484.66	41.66	8.60
SALTO CAXIAS	1269.28	1234.71	34.57	2.80	785.30	859.15	73.85	8.60
G.P. SOUZA	16.69	16.50	0.19	1.15	4.63	4.89	0.26	5.32
JORDAO	114.60	111.38	3.22	2.89	75.76	80.79	5.03	6.23
STA CLARA PR	91.88	89.28	2.60	2.91	61.90	65.60	3.70	5.64
FUNDAO	96.41	93.68	2.73	2.91	64.95	68.83	3.88	5.64
MAUA	269.58	265.50	4.08	1.54	139.67	152.97	13.30	8.69
SLT.SANTIAGO	940.71	915.06	25.65	2.80	582.87	637.23	54.36	8.53
SALTO OSORIO	984.33	957.49	26.84	2.80	609.73	666.69	56.96	8.54
PASSO FUNDO	61.81	60.69	1.12	1.85	43.39	45.65	2.26	4.95
MACHADINHO	852.25	836.56	15.69	1.88	706.44	741.13	34.69	4.68
ITA	1211.00	1188.71	22.29	1.88	1003.82	1053.11	49.29	4.68
CANA BRAVA	115.22	114.93	0.29	0.25	17.08	16.38	0.70	4.27

Usina	Média				Desvio Padrão			
	(i)	(ii)	(iii) = (i-ii)	(iv) = (iii)/(ii)	(v)	(vi)	(vii) = (vi-v)	(viii) = (vii)/(vi)
	v.3.10	v.5.4	Diferença	Erro (%)	v.3.10	v.5.4	Diferença	Erro (%)
SAO SALVADOR	126.34	126.01	0.33	0.26	18.73	17.96	0.77	4.29
ESTREITO TOC	593.65	592.32	1.33	0.22	81.65	79.36	2.29	2.89
PONTE PEDRA	64.85	64.87	0.02	0.03	2.78	2.88	0.10	3.47
BARRA GRANDE	338.81	332.57	6.24	1.88	280.84	294.64	13.80	4.68
CAMPOS NOVOS	339.65	333.40	6.25	1.87	281.54	295.37	13.83	4.68
CASTRO ALVES	197.19	189.44	7.75	4.09	175.92	171.86	4.06	2.36
MONTE CLARO	359.02	344.91	14.11	4.09	320.29	312.90	7.39	2.36
14 DE JULHO	371.45	356.86	14.59	4.09	331.37	323.74	7.63	2.36
FOZ CHAPECO	1482.19	1454.91	27.28	1.88	1228.60	1288.94	60.34	4.68
SOBRADINHO	451.53	451.29	0.24	0.05	82.49	81.45	1.04	1.28
ITAPARICA	456.77	456.53	0.24	0.05	83.45	82.39	1.06	1.29
MOXOTO	456.77	456.53	0.24	0.05	83.45	82.39	1.06	1.29
P.AFONSO 123	456.77	456.53	0.24	0.05	83.45	82.39	1.06	1.29
XINGO	456.77	456.53	0.24	0.05	83.45	82.39	1.06	1.29
B. ESPERANCA	185.66	186.01	0.35	0.19	10.80	10.69	0.11	1.03
P. CAVALO	12.07	11.93	0.14	1.17	14.12	13.10	1.02	7.79
TUCURUI	1411.72	1398.68	13.04	0.93	236.19	216.98	19.21	8.85
CURUA-UNA	85.45	85.24	0.21	0.25	17.92	17.04	0.88	5.16
SAMUEL	24.59	24.28	0.31	1.28	9.54	8.85	0.69	7.80
COARACY NUNE	595.34	598.42	3.08	0.51	110.86	108.41	2.45	2.26
CACH.CALDEIR	593.83	596.90	3.07	0.51	110.58	108.13	2.45	2.27
SOBRAGI	34.91	34.91	0.00	0.00	3.17	3.08	0.09	2.92
PICADA	15.23	15.22	0.01	0.07	1.53	1.50	0.03	2.00
STA CLARA MG	8.31	8.36	0.05	0.60	8.74	7.60	1.14	15.00
LAJEADO	276.07	275.36	0.71	0.26	40.93	39.25	1.68	4.28
PIRAJU	193.70	192.42	1.28	0.67	39.01	40.45	1.44	3.56
OURINHOS	296.73	294.77	1.96	0.66	59.76	61.96	2.20	3.55
SLT VERDINHO	112.58	112.44	0.14	0.12	5.80	5.75	0.05	0.87
ITIQUEIRA I	46.15	46.22	0.07	0.15	3.04	3.18	0.14	4.40
JURU	63.77	63.83	0.06	0.09	2.35	2.38	0.03	1.26
GUAPORE	29.84	29.87	0.03	0.10	0.75	0.72	0.03	4.17
QUEBRA QUEIX	87.53	86.37	1.16	1.34	60.37	66.46	6.09	9.16
CORUMBA III	28.00	27.99	0.01	0.04	6.29	6.36	0.07	1.10
ITAPEBI	21.06	20.90	0.16	0.77	10.79	10.13	0.66	6.52
CORUMBA IV	21.50	21.49	0.01	0.05	5.14	5.19	0.05	0.96
MONJOLINHO	121.39	119.75	1.64	1.37	69.32	72.14	2.82	3.91
SALTO PILAO	139.50	133.29	6.21	4.66	111.95	112.94	0.99	0.88
RETIRO BAIXO	43.13	43.33	0.20	0.46	5.68	5.67	0.01	0.18
CACU	88.47	88.39	0.08	0.09	7.32	7.22	0.10	1.39

Usina	Média				Desvio Padrão			
	(i)	(ii)	(iii) = (i-ii)	(iv) = (iii)/(ii)	(v)	(vi)	(vii) = (vi-v)	(viii) = (vii)/(vi)
	v.3.10	v.5.4	Diferença	Erro (%)	v.3.10	v.5.4	Diferença	Erro (%)
B. COQUEIROS	92.06	91.97	0.09	0.10	7.62	7.51	0.11	1.46
DARDANELOS	40.48	41.24	0.76	1.84	10.62	11.40	0.78	6.84
FOZ R. CLARO	99.10	99.01	0.09	0.09	8.20	8.09	0.11	1.36
SERRA FACAO	34.19	34.22	0.03	0.09	5.76	5.58	0.18	3.23
ESPORA	54.14	54.12	0.02	0.04	2.15	2.21	0.06	2.71
SAO JOSE	225.14	220.26	4.88	2.22	148.47	148.47	0.00	0.00
RONDON II	53.87	54.08	0.21	0.39	3.06	3.34	0.28	8.38
PASSO S JOAO	233.81	228.75	5.06	2.21	154.19	154.20	0.01	0.01
BALBINA	316.71	317.35	0.64	0.20	68.60	72.02	3.42	4.75
JIRAU	4571.14	4622.33	51.19	1.11	1112.99	1117.14	4.15	0.37
STO ANT JARI	641.41	651.08	9.67	1.49	217.76	222.30	4.54	2.04
FERREIRA GOM	600.78	603.89	3.11	0.51	111.88	109.40	2.48	2.27
TELES PIRES	536.09	537.54	1.45	0.27	27.48	28.30	0.82	2.90
PIMENTAL	1153.03	1154.16	1.13	0.10	174.52	168.01	6.51	3.87

Foi detectada na versão 3.10 do programa GEVAZP a incapacidade de se reproduzir resultados de cenários de séries de vazão sintética quando um caso era processado em computadores com arquiteturas diferentes (item 1, Tabela 1). Essas diferenças, geralmente, eram pequenas para a maior parcela das usinas hidrelétricas presentes no estudo em questão. Tabela 9 atesta tal afirmativa.

Tabela 9 – Resultados 3.10 com processadores diferentes

Usina	Média agregada			Desvio Padrão agregado		
	(i)	(ii)	(iii) = (ii - i)	(iv)	(v)	(vi) = (v - iv)
	3.10 AMD	3.10 Intel	Diferença	3.10 AMD	3.10 Intel	Diferença
Três Marias	88.31	88.47	0.16	23.17	23.14	0.03
Tucuruí	806.36	818.08	11.72	158.00	174.30	16.30
Foz Chapeco	1335.15	1360.80	25.65	1223.73	1165.83	57.90
Pimental	1154.17	1153.03	1.14	168.01	174.52	6.51
Itaipu	2826.29	2834.36	8.07	604.52	605.17	0.65

Na versão 5.4 do programa GEVAZP, a não reprodutibilidade de resultados foi corrigida, como visto na Tabela 10.

Tabela 10 – Resultados 5.4 com processadores diferentes

Usina	Média agregada			Desvio Padrão agregado		
	(i)	(ii)	(iii) = (ii - i)	(iv)	(v)	(vi) = (v - iv)
	5.4 AMD	5.4 Intel	Diferença	5.4 AMD	5.4 Intel	Diferença
Três Marias	88.31	88.31	0.00	23.17	23.17	0.00
Tucuruí	806.36	806.36	0.00	158.00	158.00	0.00
Foz Chapeco	1335.15	1335.15	0.00	1223.73	1223.73	0.00
Pimental	1154.17	1154.17	0.00	168.01	168.01	0.00
Itaipu	2826.29	2826.29	0.00	604.52	604.52	0.00

6. CONSIDERAÇÕES FINAIS

Esta Relatório Técnico teve como objetivo comparar os resultados obtidos pelo programa GEVAZP versão 3.10 com a versão 5.4, a fim de auxiliar na elaboração de testes a serem aplicados durante a validação programa GEVAZP a ser conduzida por ONS e CCEE.

Na versão 5.4 do programa GEVAZP se encontram implementados de forma operacional um conjunto de 7 itens considerados mais significativos, de acordo com a Tabela 1, reproduzida abaixo. Este Relatório Técnico compreende a análise apenas dos dois primeiros itens da Tabela 1.

Pelos resultados apresentados nas seções 2 a 4 desse Relatório Técnico pode-se verificar que os procedimentos para ajuste dos modelos autorregressivos não sofreram alteração entre as versões 3.10 e 5.4. O mesmo vale para os procedimentos de geração de cenários para o formato paralelo e árvore sem agregação. As pequenas diferenças encontradas em algumas usinas são oriundas da mudança de compilador, item 2 da Tabela 1, que pode ocasionar diferenças de precisão numérica nos resultados.

Na seção 5 são apresentados os resultados para geração no formato árvore com agregação, que sofreu modificação devido à alteração para reprodutibilidade dos resultados entre máquinas com arquitetura diferentes, item 1 da Tabela 1. Pode-se verificar que apesar dos resultados diferentes nas duas versões avaliadas, os cenários gerados em ambas versões possuem o mesmo comportamento, verificado pelos testes estatísticos empregados nessa avaliação.

Tabela 1 – Itens operacionais na versão 5.4

Item	Descrição
1	Reprodutibilidade de resultados em micros com arquitetura diferente. Mudança na precisão numérica de variável na rotina de cálculo de

	distância para o processo de agregação. Esta alteração modifica os resultados na geração em formato árvore e foi realizada, pois rodadas em máquinas com configurações diferentes poderiam gerar resultados distintos o que impossibilita a reprodutibilidade dos resultados
2	Mudança de compilador (<i>Watcom</i> para <i>Intel</i>), o que ocasionou uma redução no tempo computacional do programa
3	Possibilidade de ajustar um modelo AR(0) quando for necessário
4	Geração de cenários de forma compatível para postos de vazão total/incremental e lateral para usinas afetadas pela defasagem oriunda do tempo de viagem. Esta implementação substitui as implementações anteriores relacionadas a tempo de viagem e postos incrementais
5	Geração de cenários para postos artificiais
6	Fornecimento da tendência hidrológica recente mensal e semanal por posto no arquivo de vazões gerado para o programa DECOMP
7	Geração para postos altamente correlacionados, em cascatas diferentes, porém localizadas na mesma região hidrográfica