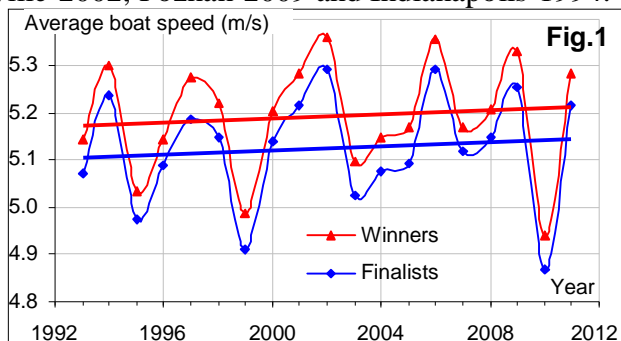


**News**

• The latest World rowing championship 2011 in Bled, Slovenia was the fifth fastest after Eton-2006, Seville-2002, Poznan-2009 and Indianapolis-1994:



The trend lines of speeds of both winners and finalists in Olympic events go nearly parallel and show a long-term growth of performance about 0.2% per year.

• The four-day format of the final races in Bled and changing weather conditions make it difficult to compare the boat speed in various events. The fastest speeds were shown during the first three days of finals A. One more time we must notice exceptionally fast speed of New Zealand men's pair.

N	Boat	Day	G.St	Winner	%%	Av.Rate
1	M2-	3	06:14.3	6:14.77	99.87%	39.4
2	W2-	1	06:52.9	6:58.16	98.74%	39.7
3	W2x	3	06:39.5	6:44.73	98.71%	36.6
4	M1x	3	06:32.5	6:39.56	98.23%	35.4
5	M4x	3	05:33.2	5:39.31	98.20%	38.1
6	M2x	2	06:02.1	6:10.76	97.66%	37.4
7	LM4-	2	05:46.2	5:55.10	97.49%	38.9
8	W4x	1	06:08.5	6:18.37	97.39%	35.4
9	W8+	2	05:53.1	6:03.65	97.10%	37.4
10	LW2x	4	06:47.0	6:59.80	96.95%	36.1
11	M8+	1	05:18.6	5:28.81	96.89%	38.7
12	W1x	4	07:11.5	7:26.64	96.61%	32.3
13	M4-	4	05:41.0	5:55.18	96.01%	38.0
14	LM2x	4	06:07.2	6:18.67	94.79%	38.9

• Accuracy of GPS speed data was higher than before (RBN 2011/05): the deviation of the average speed based on GPS from the official results was 1.18% on average and correct ranking was observed in 43 cases out of 84 finalists in Olympic events (51.2%).

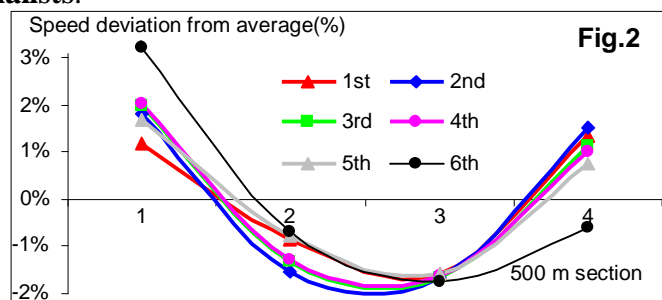
The average stroke rate based on GPS was 37.3 str/min for winners, 37.2 for medallists and 36.9 for finalists in Olympic events, which is 0.3-0.5 str/min higher than in Worlds-2010 in Karapiro. This difference could be related to the possibility of higher boat speed because of better weather conditions. It is interesting that the highest average stroke rate over the race was found in W2- NZL 39.7 str/min (Table 1).

• **The margin between the world's leading rowing nations and the rest of the rowing world is increasing.** During the 2010 Worlds in Karapiro the

best three countries (Great Britain, New Zealand and Australia) won 20 out of 42 medals in Olympic events (47.6%), while this year these **three Commonwealth nations managed to win 23 medals (54.8%)**. Obviously, this success is attributed to their effective national team systems and massive commitments to rowing science.

N	Country	Number of places							Entries	Medals	Points	Licenses
		1	2	3	4	5	6	7				
1	GBR	3	3	4			1	2	14	10	66	13
2	NZL	4	1	3			1		12	8	55	11
3	AUS	2	1	2	3	1		1	11	5	48	10
4	GER	2	2		2	1	2	1	14	4	44	11
5	CAN		2	1		1		1	10	3	21	7
6	ITA		1	2			1	1	9	3	19	6
7	USA	1	1		2				14	2	22	8
8	GRE	1	1		1				4	2	18	4
9	CZE	1	1				1		10	2	16	4
10	BLR		1						5	1	6	2
11	FRA			1				1	9	1	6	3
12	CRO			1					4	1	5	1
13	CHN				3	1	2	1	14	0	20	8
14	POL				1	2		1	10	0	11	4
15	UKR				1		1	2	6	0	8	4
16	NED					1	2		6	0	7	4
17	ROU				1	1			5	0	7	2
18	DEN					2			6	0	6	3
19	SWE					2			4	0	6	2
20	RUS					1			5	0	3	2

• When analysing race strategies, on average winners in Olympic events have shown relatively slower speed over the first 500m than all other finalists:



This trend is opposite to what was found in previous World regattas (RBN 2001/05, 2002/10, 2008/09), where the winners were usually faster during the first 500m. The main "contributors" to this phenomenon in Bled are four winners: Mirka Knapkova in W1x CZE (-4.1% in the first 500m), W8+ USA (-0.5%), LM4-AUS (-0.3%) and M4- GBR (-0.2%). This fact is still significant even if we reject W1x split times as an error. Future competitions will show us if this phenomenon is an occasional coincidence or a new trend of leading crews.

**Appendix 1 to the Rowing Biomechanics Newsletter 2011/08**

Based on GPS data: Boat speed, stroke rate and relative Effective Work per Stroke in the finals A of Rowing World Championships in Bled, Slovenia

