



# Informations générales

- Individuel ou par groupe de 2
- Introduction le 10.09.2024
- Théorie le long du semestre
- Présentation et discussion le 26.11.2024
  - 6 groupes présenterons une question chacun
- Rendu le 03.12.2024 à midi via Moodle

#### Critères d'évaluation

- Rendu sous forme de rapport / note de calcul
- Max. 12 pages de contenu
  - Sans compter page de titre, tables des matières, annexes, etc.
- Contenu minimal requis:
  - Page de titre
  - Introduction
  - Données de base
  - Méthodes (hypothèses de calcul)
  - Résultats (questions à résoudre + solution + discussion des résultats)
  - Conclusion
  - Références

#### **Attentes**

- Rapports clairs et concis
- Explication de la démarche et des hypothèses
- Équations utilisées et calculs
- Figures
  - Lisibilité de la figure
  - Légende
  - Titre des axes
- Unités
- Chiffres significatifs (le débit est de 5.306230 m³/s)
- Sources bien documentées et correctement citées

## A éviter

- Rapports écrits à la première personne
- Rapports inutilement longs
- Longs tableaux illisibles
- Contenu qui alourdit le rapport
- Rapport:
  - Contient tout ce qui est nécessaire
  - Le reste en annexe
  - (Pas besoin de redonner toute la consigne)
- Quand vous rédigez, imaginez-vous que vous êtes le lecteur final
- Mon travail
  - Donne-t-il l'impression que j'ai compris la matière ?
  - Est-il complet ?
  - Est-il agréable à lire ?

## A éviter

1969   1970													
1967   24.00   12.121807   25.660   15   6.176   6.522   12.18   0.984   2.608   10.58   22.617     1952   23.60   26.121915   25.703   10   6.186   6.521   12.28   0.984   2.408   10.58   22.617     1953   23.60   26.121915   25.703   10   6.186   6.521   12.28   0.984   2.408   10.58   22.617     1954   24.00   26.121907   25.189   11   6.195   6.681   12.28   0.987   27.08   27.58   28.58     1969   25.00   26.121907   25.189   13   6.214   6.488   1.177   0.974   27.58   27.18   28.68     1969   25.00   17.121909   22.18   10   6.214   6.205   6.218   0.987   27.56   29.99   27.18   27.18   28.68     1969   25.00   147.1916   23.197   13   6.214   6.275   1.309   0.977   27.56   29.99   27.18	- 1	1974	22.00	17.12.197	4 23.56	17	0.357	-0.616	1.106	0.993	25,466	17.243	22.912
1975   32.00   12.12197   25.060   12   6.196   6.521   1228   098   26.08   10.56   21.575		1969	25.00	12.04.196	9 25.050	18	0.157	-0.513	1.200	0.968	25.788	18,257	23,315
1961   23.00   26.171995   25.709   10   6.186   6.521   2228   0988   26.455   18.655   23.00   26.71913   26.119   11   6.115   6.453   1224   0979   26.731   95.34   27.555   19.00   26.71913   26.119   11   6.115   6.453   1.224   0979   26.731   95.34   27.555   26.75	-	1997	23.00	12.12.199	7 25.050	1.9	0.176	+0.532	1.216	0.984	26.056		
1861   24.00   26.77.1913   28.197   27	- }	1925	23.60	29.12.192	5 25,703	10	6.106	-0.521	1.228	0.081	26,465	18,855	23,990
1960   24.00   24.121997   25.189   31   6.734   6.438   3.177   6.059   2.7362   2.7312   3.446   1.939   3.500   17.121999   2.7381   3.446   1.939   3.450   3.4512   3.4	- 1	1541	24.00	01.01.1943	1 26.135	- 11	0.195	-0.491	1243	0.978	26.701	29.146	24.256
1995   23.00   17.12.1999   27.218   24   0.224   0.605   12.188   0.977   27.545   23.00   25.11   12.02   21.02   21.02   0.61.12.122   21.02   21.02   0.61.12.122   21.0	- 1	1951	24.03	16.07.1951	26.135	12	0.205	-0.461	1.257	0.976	26,994	29.434	24.554
1022   21.00   601.1372   22.317   7   60.00   1.075   1.070   1.071   1.070   1.071   1.070   1.071	-	1967	24.00	24.12.1967	7 26, 139	13	0.214	-0.432	1.273	0.974	_ /27.202	29,710	24.845
1565   2410	-		25.00	17.12.1989	27.228	24	0.224	-0.408	1.288	0.973	27,566	29,990	25.112
1976   28.00   ct. 21.976   28.311   27   C.221   C.232   C.232   C.233   C.274   C.235   State   State   C.275   C.235   C.	-			09.01.1912	23.317	23	0.253	-0.375	1.904	0.973	27.845	30.278	25.413
1916   28.00   16.07.190   24.971   28   0.242   0.279   1185   0.375   0.4668   11.073   36.271   10.00   10.071   10.00   10.071   10.00   10.071   10.000   10.0	-			34.67.1961	28.317	26	0.213	-0.347	1.325	0.973	28 121	30.354	25.068
1943   71.00   18.07.19-0   24.606   29   6221   6266   13.77   63.77   13.79   13.99   13.92   27.08   22.11.1972   24.606   30   6221   6220   6221   13.90   6037   29.107   14.44   15.79   13.99   13.92   27.08   61.60.1982   24.460   30   6220   6221   13.90   6037   29.107   14.44   15.79   13.90   62.00   61.01   14.09   6321   19.966   13.94   72.00   72.11   13.90   72.00   72.11   14.09   6321   19.966   13.94   72.00   72.11   13.90   72.00   72.11   14.00   6321   19.966   13.94   72.00   72.11   13.91   72.00   72.11   13.91   72.00   72.11   72.11   72.11   72.00   72.11   72.11   72.00   72.11   72.11   72.00   72.11   72.11   72.00   72.11   72.11   72.00   72.11   72.11   72.11   72.00   72.11   72.11   72.11   72.00   72.11   72.	-			02.12.1976	28.317	27	0.252	-0320	1/331	0.971	28.394	30.629	25.950
1872   21.06   22.11.1972   21.406   30   0.211   47.213   13.91   0.375   0.575   1.693   1	- 1			10.07.1926	28.971	28	0.262	-0.293	1.355	0.975	28 6 6 4	31.102	26227
1993   21:06   04:04:195   21:446   23   02:06   02:11   14:09   03:13   13:06   13:16   13:07:07   14:04   26:05   14:07   10:06   20:06   20:07   10:06   20:06   20:07   20:07   20:06   20:07	H		21,00	19.07.1943	29.406		0.271	-026	1.375	0.971	28.932	31.373	25.490
1986   72.00   11.05.3942   35.584   33   0.310   0.150   1.440   0.181   3.924   77.284   3.934   77.284   3.934   77.284   3.934   77.284   3.934   2.000   11.05.3942   3.15.84   33   0.310   0.150   1.440   0.181   3.9940   3.1.425   77.214   3.934   3.15.84   3.041   0.150   1.440   0.181   3.9940   3.1.425   77.214   3.934   3.15.84   3.041   0.150   1.440   0.095   0.004   3.040   3.771   77.284   3.935	H				-	30	0.211	-0239	1.391	0.979	29.197	31.614	16.750
1942   25.00   11.05.194	- 1		27.00	04.04.1952	25.406	31	0.290	-0.212	1.409	0.981	29.461	31.914	27.008
1998   25.00   0.01.994   31.584   34   0.339   0.131   1.65   0.191   30.24   31.771   1.731   1.952   2.000   11.01.900   31.684   35   0.329   0.107   1.690   0.996   2.9309   31.990   10.911   1.952   2.000   11.01.900   31.684   35   0.329   0.107   1.690   0.996   2.9309   31.990   10.911   1.952   2.000   2.00.3297   31.586   3   0.334   0.055   1.531   1.005   31.531	H	_	28.00	11.01.1984	20,495	. 32	0,260	-0.185	1.425	0.364	29722	37.165	27.262
1932   2660   11.01.3860   31.584   26   0.329   0.167   1.486   0.597   30.200   31.596   78.211   1.595   1.595   1.586   2.505   31.586   2.505   31.586   2.505   31.586   2.505   31.586   2.505   31.586   2.505   31.586   2.505   31.586   31.585   3	-	1942	29.00	12.05.2942	31,584	33	0.310	-0.159	1.441	0.181	29.983	32,452	27.514
1975   2500   21.05.975   31.586   38   0.188   0.058   1.085   1.095   1.095   31.590   1.095   1.0	-		25.00	05.02.2945	31.584		0319	-0.133	1.469	0.391	30.242	32.721	27.764
1004   1206   1210   1200   1226   13   0.348   0.355   1.355   1.055   1.355   1.05	ŀ		29.00	11.01.1952	31.584	35	0.329	-0.107	1.480	0.996	50.500	32.990	18.011
1969   1960	-	1975	29.00	23.05.1975	31.584	36	0.338	-0.081	1.511	1.000	30.758	33.259	19.257
1977   3000   220,1392   32,674   39   0,357   0,369   1,575   1,474   11,121   3,470   38,98   1,577   30,00   0,91,949   12,674   46   0,376   0,023   1,591   1,423   1,379   3,484   1,577   3,484   1,577   3,484   1,577   3,484   1,577   3,484   1,577   3,484   1,577   3,484   1,577   3,484   1,577   3,484   1,577   3,484   1,577   3,484   1,577   3,484   1,577   3,484   1,577   3,5	H	$\overline{}$	29.02	26.10.2004		37	0.343	-0.055	1.533	1.005	31,015	33.528	28.501
1977   2000   05.01.294   12.571   46   0.375   0.232   1.691   14.52   31.274   29.275     1664   1600   24.1.1951   32.697   41   0.386   0.048   1.628   1.620   1.2241   39.65   39.65     1600   2002   1606.2008   32.89   41   0.466   0.676   1.628   1.620   1.2241   39.65   39.65     1500   2002   1606.2008   32.89   41   0.466   0.676   1.628   1.620   1.628   1.628   1.628   1.628     1500   24.1.1951   13.175   41   0.465   0.006   1.628   1.620   1.628   1.628   1.628   1.628     1500   24.1.1951   13.175   41   0.465   0.006   1.690   1.662   1.622   1.621   1.622     1501   2.600   1.102.224   13.524   46   0.131   0.125   1.796   1.662   1.2413   35.642   39.18     2501   2.600   1.102.224   13.644   46   0.431   0.125   1.796   1.660   11.13   36.660   39.46     2505   1.100   22.1.1.196   13.763   46   0.431   0.075   1.796   1.660   11.13   36.660   39.46     2505   1.100   22.1.1.196   13.763   47   0.441   0.05   2.795   1.080   31.99   34.56   39.57     2505   1.100   1.002.196   13.371   48   0.651   1.252   1.886   1.077   38.18   1.975   31.17     2501   1.100   1.00.196   13.871   59.0   0.651   1.252   1.886   1.077   38.18   1.795   31.18     1501   12.200   1.00.1102   1.4851   50   0.477   2.255   1.891   1.077   34.89   1.775   31.18     1501   12.00   1.00.1101   14.851   50   0.477   2.255   1.992   1.107   34.89   1.775   31.18     1501   12.00   13.1111   15.272   52   0.090   0.336   1.691   1.18   34.69   37.90   31.18     1502   12.10   1.00.1101   1.851   51   0.046   0.431   1.077   1.18   34.69   37.90   31.18     1502   12.10   1.00.1101   1.851   55   0.050   0.387   2.000   1.18   34.69   37.90   31.18     1502   12.10   1.00.1101   1.851   55   0.050   0.377   2.000   1.18   34.69   37.90   37.90     1502   12.10   1.00.1101   1.851   55   0.500   0.370   2.000   1.18   34.69   39.81   39.57     1502   12.10   1.502.1106   27.606   17.7   5.599   0.400   2.112   1.116   36.07   36.64   36.000   37.90   37.90   37.90   37.90   37.90   37.90   37.90   37.90   37.90   37.9	-		29.90	04.07.2009	,82565	31	0.357	0.925	1.556	1.011	21.272	33,799	28,744
1954   1959   24,11,1956   22,677   41   0.366   0.048   1.628   1.601   1.705   2.746   3.655   36,451   3.601   3.602   1.602   3.	-		30.00	22.02.1937	32674	. 39	0.367	-0.003	1.579	1.617	31.526	34,010	28.166
1008   3020   1100   121819   31.715   41   0.405   0.702   1.606   0.712   1.604   1.204   1.204   2.355   1.316   2.302   1.202   1.202   2.302   2.302   2.302   1.202   1.202   2.302   1.202   1.202   2.302   1.202	Н				32.674	40	0.376	0.023	1.603	1.023	31.784	34.342	29,227
	-				32.674	41	0.386	0.048	1,628	1.030	32.041	34.615	29.467
1872   1866   1611.1821   18322   44   0.13   0.112   1.07   1.62   2.53   1.818   1.828   1.838   1	$\vdash$			10.01.2008	32.891	41	0.195	0.074	1.654	1.037	32.250	34.019	29.704
1034	Н	$\overline{}$	-		33.175	43	0.405	0.100	1.680	1.044	32.555	35.165	29.945
	Н		-7		13.3.27	44	0.424	0.125	1.707	1.052	32.813	35.442	30.183
1996   1.00   310.1989   33.76   41   0.41   0.50   1.79   1.078   31.92   34.66   31.87   1.00	$\perp$		1		33.654	45	0.121	0.253	1.736	1,060	33.672	35.722	32.4Z2
	$\vdash$	- /		27.11.1965	33.763	46	0.433	0.179	1.765	1.069	33.121	36.003	30.660
2016   13.00   1305.2016   13.377   69   0.65   15.38   15.58   10.07   13.15   16.95   13.15   16.95   13.15   16.95   13.15   16.95   13.15   16.95   13.15   16.95   13.15   16.95   13.15   16.95   13.15   16.95   13.15   16.95   13.15   16.95   13.15   16.95   13.15   16.95   13.1	$\vdash$	7	31.00	31.01.1981	33.763	47	0.443	0.205	1.795	1.078	33.592	36.286	30.196
1961   12.00   13.01.1502   14.851   50   0.472   2.255   1892   1.107   34.850   17.75   32.016   1984   12.70   1901 1000 1000 1 55   51   0.401   3.132   12.75   3.105   37.405   31.857   1982   37.405   3	1			02.01.2003	33.761	dR.	0.451	0.222	1.826	1.037	33.854	36.572	51.157
1984   1720   1891   1896   14.855   51	$\vdash$	$\rightarrow$			33.872	49	0,462	1.258	1.858	1.097	30.118	36.899	81.376
D31   12:20   33113913   15:176   52   0.000   0.333   1601   5138   1605   7740   16:57   20:00     2011   32:00   10:124712   53:070   38   0.900   0.307   2000   160   33:76   38:003   13:41     2010   22:41   22:00.200   23:41   34   0.900   0.307   2000   16:00   33:69   1846   13:85     2021   12:00   15:20:200   23:41   34   0.900   6:307   2009   13:14   36:79   36:69   1846   13:85     2022   12:00   15:20:200   25:541   56   0.959   6:479   20:90   11:4   36:79   82:44     2020   13:40   20:20:200   25:44   56   0.959   0.400   21:21   13:8   36:00   1845   13:20:200     2021   23:40   23:20:200   23:40   23:40   23:40   23:40   23:40     2021   23:40   23:20:200   23:40   23:40   23:40   23:40     2021   23:40   23:20:200   23:40   23:40   23:40     2021   23:40   23:20:200   23:40   23:40   23:40     23:40   23:40   23:40   23:40   23:40   23:40     23:40   23:40   23:40   23:40   23:40   23:40     23:40   23:40   23:40   23:40   23:40   23:40   23:40     23:40   23:40   23:40   23:40   23:40   23:40   23:40     23:40   23:40   23:40   23:40   23:40   23:40   23:40   23:40     23:40   23:40   23:40   23:40   23:40   23:40   23:40   23:40   23:40     23:40   23:40   23:40   23:40   23:40   23:40   23:40   23:40   23:40     23:40   23:40   23:40   23:40   23:40   23:40   23:40   23:40   23:40   23:40     23:40   23:4	$\vdash$	$\rightarrow$		13.01.1162	34.851	50	0.473	9.285	1.892	1.107	34.383	37.150	31.616
2011   32.00   10.12.011   55.070   55   0.500   0.807   2.000   1.00   1.00   1.000   18.100   77.50   31.000	$\vdash$	-		1901.1998	14.851	51	0.401	0.312	1.917	2.117	34.650	37.443	31.857
2006   22.41   22.09.2005   23.131   54   5.210   6.300   2.000   2.000   1.010   3.500   38.000   1.010   3.500   3	$\vdash$	$\rightarrow$			35.070		0.490	0.339	1.963	1.178	31.919	37.730	22.098
1921   13.70   15.02   1288   25.516   55.5   5.516   6.437   2.095   1148   5.576   1891   15.755     1390   25.40   39.22   1570   55.541   16   9.529   6.430   2.121   1156   36.017   1895   13.077     1314   33.48   13.21   13.21   13.21   13.21   13.21   13.21   13.21   13.21   13.21   13.21   13.21   13.21     1355   3.30   99.21   155   71.60   18   18.21   18.21   12.21		$\overline{}$			35.070	53	0.500	0.367	2.000	1.140	35.290	38 039	32.311
1976   55.00   030.21970   55.41   160   95.79   64.00   2.021   1166   56.07   8945   13.077   1346   13.08					25,513	54	0.510	0.394	2,039	1.151	35,463	18.341	31,585
1846   33.58   19.21.1916   37.406   37   3.538   3.478   2.165   3.191   3.192   32.77   31.306   3.192   3.192   3.271   31.306   3.192   3.192   3.271   3.192   3.271   3.192   3.271   3.192   3.271   3.192   3.271   3.192   3.272		-					0.519	0.422	2.079	1,164	35.799	18,641	32,690
1955   34.00   99.27   955   37.680   18   5.648   6.597   2.211   3245   5459   59.976   33.976   2111   3245   5459   59.976   33.976   2111   3245   5459   59.976   33.976   2111   3245   2111				$\overline{}$		-	0,529	0.490	2,121	1,116	36 017	38 951	31.077
1719 36.60 (412.1919 17.883 19 9.557 0.516 2.796 1277 18.471 19.373 13.879 13.47 2.796 13.79 13.						57	0.538	0.478	2.165	1.189	36.299	39,271	31,326
1944 35.00 13:11.1944 30:119 90 9.357 0.546 2.908 1.211 37.852 40:235 34.034					37.6300	SR	0,548	0.507	2.211	1263	36,513	19,590	52,378
1603 2500 2500 2500 2500 2500 2500 2500 25					37.68:3	59	9.557	0.516	2258	1217	36,971	10,011	33,829
1957 35.00 14,82.1957 38.31-9 61 0.576 0.515 2.360 1,246 37,657 40.171 34,342		_			30.11.9	60	9,567	0.566	2,308	1.231	37,152	40 235	34,084
	_	1957	35.00	24,02.1957	38,11-9	61	0.576	0.515	2,360	1,246	37,457	40.171	34,342

1980	25.90	01.11.1930	39.099	62	0.586	0.626	2,414	1.261	37.756	40.909	34,603
1956	36.00	14.07.1956	39.208	63	0.595	0.656	2.471	1.277	38.950	41.251	34,369
1995	36.00	04.08.1990	39.208	64	0.505	0.687	2.530	1.292	18.164	41.600	35.131
1983	36.00	25.05.1983	20.209	65	0.534	0.719	2.593	1.310	38.579	41,955	35.403
1924	37.00	07.05.1924	40.297	66	0.524	0.751	2.658	1.328	\$8,997	41.316	35.677
1989	37.00	19.10.1939	40.297	67	0.533	0.784	2.727	1.146	19.321	41,685	15 955
1994	37.01	19.05.3991	80.297	68	0.643	0.837	2,100	1.365	39,549	43,050	16.237
1985	38.01	01.05.1985	41396	69	0.652	0.851	2.177	1.384	19.384	43,444	36.524
1915	58.56	01.12.1935	41.911	70	538.0	0.885	2.150	1.404	10.326	43,935	26.916
1914	39.16	11.12.1910	42.585	71	0.671	0.920	3.043	1.424	40,575	41.236	37.114
2010	39.20	15.08.2010	42.653	72	183.0	0.956	3.134	1.446	41.031	44,646	37:417
2011	35.60	16.12.2011	43:119	73	0.650	0.993	2.231	1.168	41.396	45.066	37.725
1936	40.00	03.12.1936	42.565	71	0.760	1.131	3.333	1.491	41.769	45,496	38.042
1986	40,00	03.04.1986	43.565	75	0.710	1.070	3,443	1.515	42.151	45.538	38.345
2000	40.00	01.03.2000	43,363	75	0.729	1.107	3,322	1,527	42544	46,302	10.696
1920	40.50	12.01.1920	46,109	77	0.729	1.150	3.484	1.565	42.947	46.859	39.035
1935	41,00	01.12.1935	44.654	78	0.738	1,192	3.111	1.592	43.3E2	47.340	39.385
1950	42.00	17.11.1990	45.743	79	0.748	1.235	3.562	1.519	43,789	47.037	39.741
1977	42.00	31.07.2977	45.713	80	0.757	1.279	4.118	1.541	64.229	48.349	40,109
1988	43.00	21.03.1988	46.832	81	0.767	1.325	4.286	1.673	44.685	48.880	40,489
2002	43.00	17.30.3002	45.832	3.5	0.716	1.373	4.458	1,719	45.156	49.430	40,862
1996	44.00	09.67.1956	47.923	- 83	0.716	1.422	4.667	1.742	45.644	53.600	41.288
1995	45.00	Ct. 66.1945	49.010	84	0.795	1.474	4.884	1,777	46.152	50.594	41,709
2006	45.04	10.04.2006	49,054	85	0.805	1.527	5.121	1.013	46.680	\$1,217	42.147
2013	45.20	11.05.1012	45,228	16	0.814	1.583	5.385	1.851	47.231	51.160	42.603
1959	45.50	24.08.1959	49.555	- 87	0.824	1.541	5.676	1.891	47.868	52.537	43,080
1968	45.50	21.09.1968	49,555	18	0.855	1.702	6.009	1.934	48.434	53.149	43,579
1552	46.00	06.01.1902	\$0.000	19	0.843	1766	6.361	1.979	49-051	53,998	64,164
1999	45.00	22.02.1999	50.039	50	0.852	1.834	6.774	2.027	49.714	54.792	44.657
1923	45.30	28.12.1923	50.426	91	0.862	1906	7241	2.078	50.438	55,634	45.243
1158	49.30	13.96.1938	50,614	52	0.871	1.963	7.771	2.133	51.199	56.532	45.866
2015	47.50	01.05.3015	51.297	93	0.881	2.066	8.400	2 193	52.014	57.495	46.532
1931	47.70	25.18.1931	51.951	94	0.890	2.154	9.130	2.257	52,871	38.534	47.249
2001	41.00	25.84.2001	52.278	95	1.900	2.250	10.000	2.327	53.844	59,962	48.016
1991	49.00	68.12.1981	53.367	96	6.910	2.356	11.053	2.405	54,886	60.898	48.875
1990	49.00	14.02.1990	53.367	97	0.919	2.472	12.353	2.491	56.038	62.263	45.811
1973	50.50	23.06.1973	55.000	38	0.929	2,602	14.000	2.568	\$7,318	63,798	50.858
1978	\$0.50	60.00.1978	55.000	39	0.938	2.750	16,154	2.659	58.795	65.543	52.047
1946	53.00	13.06.1946	57.723	100	0.948	2.922	19.091	2.829	60.499	67.572	53.426
1940	55.00	15.09.1940	59.501	191	0.957	3.125	23.333	2.906	62.535	69.399	55.071
1940	55.00	05.07.1948	59.901	102	0.967	3.354	90000	3.192	65.072	13.021	57.118
1387	65.00	16.09.1987	70.793	103	0.976	3.726	-	3.445	68.452	17.065	59.839
1991	65.00	12.12.1991	70.793	104	0.986	4241	70.000	3.846	73.558	83.174	63.943
2107	75.04	09.08.2007	81,725	105	0.995	5.345	210.000	4.734	84.415	96.268	72.701

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### **A éviter**

Nous cherchons à savoir quel débit prendre en compte pour le dimensionnement du seuil et des vannes ainsi que pour la protection des berges.

Pour cela, nous utilisons le tableau ci dessous qui donne les débits sur lesquels se baser en fonction des installations environnantes.

/ Source Catágorie d'objets Paysages naturels Agressiture extensions Pretoctom comption Productous Sambée Profestion envisionities Agricultury sutomores Editionwest & money. unth astroctures focates lede active tures true probable powered to preduce ou litro depossão en moyembo 1 figuif importance nationals forms has most zon, borne compromisted area ayant bou ters do estudique hydro-Adolesses stude lagrages of methodologiques extrêmes Midwellines. erun manenale probable (probable meetings fleed) Oligan's semediers & debermmer ou say per tax Pringuit's spinosaure

- Par email
  - CC Meghan Irving et Romain Van Mol