

Project : The effect of distance from the center of curvature on water quality and heavy metals in Chien Yai river, Nakhon Si Thammarat, Thailand.

Students: Jiranan Jansod, Satayawan Khwanmaung , Poomin Chumpoo and Akkarapon Chuprasut

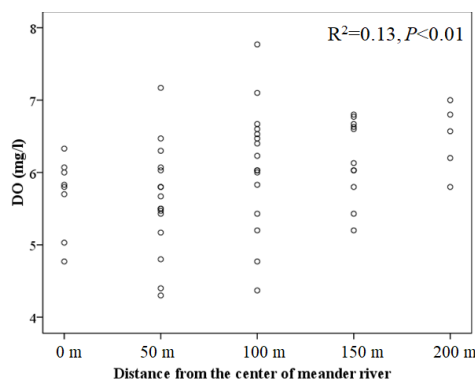
School: Princess Chulabhorn Science High School Nakhon Si Tammarat

Teacher: Mrs.Kanokrat Singnui,Mr. Thapanawat Chooklin and Mr.Thanet Sadan

Table 1 show the value of water quality in loop curve,Chain-Yai canal. Latitude: 8.06-8.56 N, Longitude: 100.96-100.19 E

Water quality	Distance from the center of loop curve river(Mean±SE)					One-way ANOVA
	0 m	50 m	100 m	150 m	200 m	
DO (mg/l)	5.62±0.19 ^{ab}	5.69±0.19 ^b	6.09±0.21 ^b	6.19±0.17 ^a	6.47±0.21 ^a	$F_{4,51}=2.35$, $P<0.05$
Temperature (C)	31.80±0.29	31.81±0.16	31.85±0.17	31.83±0.22	31.92±0.36	$F_{4,51}=0.03$, $P>0.05$
Conductivity (µs/cm)	92.67±0.17	92.92±0.21	92.90±0.17	92.67±0.30	93.33±0.26	$F_{4,51}=0.80$, $P>0.05$
TDS (ppm)	39.88±1.01	40.69±0.85	35.75±5.15	41.82±0.69	42.40±1.17	$F_{4,51}= 0.67$, $P>0.05$
Nitrate (ppm)	20.59±1.31	21.21±0.62	21.04±0.46	20.61±0.53	21.07±0.93	$F_{4,51}= 0.16$, $P>0.05$
pH	7.76±0.12	7.76±0.08	7.71±0.05	7.64±0.04	7.74±0.07	$F_{4,51}= 0.47$, $P>0.05$
Transparency (cm)	91.13±1.78 ^b	92.89±1.94 ^b	94.35±1.43 ^{bc}	100.64±3.82 ^{ac}	104.27±6.45 ^a	$F_{4,51}= 3.04$, $P<0.05$

The amount of oxygen dissolved in water and the transparency of each point at 150 meter and 200 meter, the DO content is greater than 50 meter and 100 meters, and the center of the river's loop has the lowest dissolved oxygen content. Transparency, The distance 200 meters. There is a difference in transparency. (Table 1).



(a)



(b)

Figure 1 Shows the relationship between the value of DO with distance from the center of the river loop curve.