**Cohesive Sediment Transport and Behavior, Graduate Course Lectures by Professor Ray B. Krone, 1991**

Playlist

UC Davis Professor Ray Krone was a founder of the field of cohesive sediment transport in the 1960s, related to sedimentation, erosion, and management of mud sediments. His approach is very fundamental, based on the physics, chemistry, and modeling of these processes. This playlist includes 18 UC Davis graduate course lectures on cohesive sediment behavior and transport from 1991 plus one video of an overview lecture at the University of Idaho in 2000 on soil erosion processes.

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| **Number** | **Topic** | **Notes Pages** |
| 1 | Introduction to cohesive particle behavior | 1 - 25 |
| 2 | Physical-chemical basis for cohesive particle behavior | 26 - 43 |
| 3 | Water flow and cohesive particle behavior | 44 - 70 |
| 4 | Cohesive particles in suspension | 71 - |
| 5 | Settling and deposition of cohesive sediments |  |
| 6 | Sediment aggregation, deposition, and the bed |  |
| 7 | Chemical structure of water |  |
| 8 | Water–clay chemistry, erosion, deposition, suspensions |  |
| 9 | Estuary hydraulics |  |
| 10 | More estuary hydraulics |  |
| 11 | Estuary examples, San Francisco Bay estuary |  |
| 12 | Sediment history and management in SF Bay + marshes |  |
| 13 | Modeling, SF Bay examples and harbor problems |  |
| 14 | Waves, incipient sediment motion |  |
| 15 | Tidal marshes |  |
| 16 | More tidal marshes and ecosystems |  |
| 17 | Modeling cohesive sediment transport |  |
| 18 | Modeling applications |  |
| E1 | Erosion of Soils and Cohesive Sediments – U. of Idaho Lecture, 2000 | |

**Some readings:**

Course lecture notes and readings.

Ray Krone’s writings: <https://scholar.google.com/scholar?hl=en&as_sdt=0%2C5&q=Ray+Krone+cohesive+sediment&btnG=>

Mehta, AJ, EJ. Hayter, WR Parker, RB Krone, & AM Teeter, “[Cohesive Sediment Transport. I: Process Description](https://ascelibrary.org/doi/abs/10.1061/(ASCE)0733-9429(1989)115:8(1076))”, J. of Hydraulic Engineering, Vol. 115, No. 8, 1989,

Mehta, AJ, et al. (1989), [Cohesive Sediment Transport II: Application](https://ascelibrary.org/doi/abs/10.1061/%28ASCE%290733-9429%281989%29115%3A8%281094%29),” J*ournal of Hydraulic Engineering*, Vol. 115, No. 8, August, 1989