



Capacitação para a Rede Hidrometeorológica Nacional: Introdução à Hidrometria

Streamgaging 101

Monday, May 14

8:00am-9:00am	Introductions Instructors, Attendees, Class Expectations
9:00am-10:00am	USGS Streamgaging Basics -This presentation will concentrate on stage/discharge relationships with a large focus on controls and how they affect that relationship.
10:00am-10:30am	Break
10:30am-11:30am	Changing controls -Discussion of changing control conditions over time to emphasize scour and fill.
11:30am-1:00pm	Lunch
1:00pm-2:00pm	Gaging station site selection -Site selection for a new gaging station. Particular emphasis on the importance of controls and locating gaging stations at bridges.
2:00pm-3:15pm	Measuring stage -Types of non-recording gages, sensors, dataloggers. This discussion will include explaining the differences in reference gages and sensors.
3:15pm-3:30pm	Break
3:30pm-4:45pm	Measuring discharge -Presentation will discuss the different methods of collecting discharge data with an emphasis on controls.
4:45pm-5:45pm	Streamgaging Safety – Importance of safety in the field and how to approach field work in a safe manner.
5:45pm-6:00pm	Questions and discussion -This period will be led by the instructors and will be based on observations obtained by the instructors during the day's discussions.

Tuesday, May 15

8:00am-8:30am	Review of Monday topics
8:30am-10:00am	Datum and Levels -Presentation will concentrate on the importance of verifying the base





Capacitação para a Rede Hidrometeorológica Nacional: Introdução à Hidrometria

gage and the theory behind proper gaging station levels.

10:00am-10:15am	Break-Set up at least one gun and place rods during break. Leave these up through end of day on Wednesday. Attendees can practice leveling and focusing the guns and reading rods during breaks and lunch.
10:15am-11:30am	Datums and Levels-presentation continued.
11:30am-1:00pm	Lunch
1:00pm-4:30pm	Field Exercise: USGS and Brazilian Leveling Procedures (including peg test exercise) – near the classroom at the ANA's Headquarter.
4:30pm-4:45pm	Break
4:45pm-5:00pm	Field day prep -Divide into groups, review expectations and safety procedures.

Wednesday, May 16

8:00am-8:15am	Load for trip to field site.
8:15am-8:30am	Travel to first field site
8:30am-12:30am	<u>Field Exercise</u> -Wading discharge measurements and proper measurement section location selection.
12:30am-2:00pm	Travel back to ANA Headquarters/Lunch
2:00pm-3:30pm	Field data entry/processing discharge measurements -Presentation will stress importance of documenting field issues and providing a mechanism for recording the issues. This will also include a discussion of the proper rating of discharge measurements.
3:30pm-3:45pm	Break
3:45pm-5:00pm	Processing Gage-height and Discharge records -Brief overview of the processes that USGS uses to process their records quickly and efficiently.



Capacitação para a Rede Hidrometeorológica Nacional: Introdução à Hidrometria

Thursday, May 17

7:45am-8:00am	Load for trip to field site.
8:00am-9:30am	Travel to field site.
9:30am-9:45am	Prepare at field site, including talk about field safety.
9:45am-12:00am	Discharge measurements and <u>Field Leveling</u> – the instructors will teach the students to choose the proper discharge measurement location, talk about the different types of discharge measurement devices and techniques. In addition, if the groups wish, they can level in staff gages of the station.
12:00am-1:00pm	Lunch
1:00pm-4:30pm	Continue Discharge measurements and <u>Field Leveling</u> .
4:30pm-6:00pm	Travel back to Brasilia.

Friday, May 18

8:00am-8:30am	Review of previous day's discussion.
8:30am-10:00am	USGS QA/QC Techniques -USGS practices for gage to page and discussion of the techniques the USGS uses to quality assure data.
10:00am-10:15am	Break
10:15am-11:30am	Wrap-up -Instructors will query the students to determine changes in the class going forward. Also presentation of certificates.